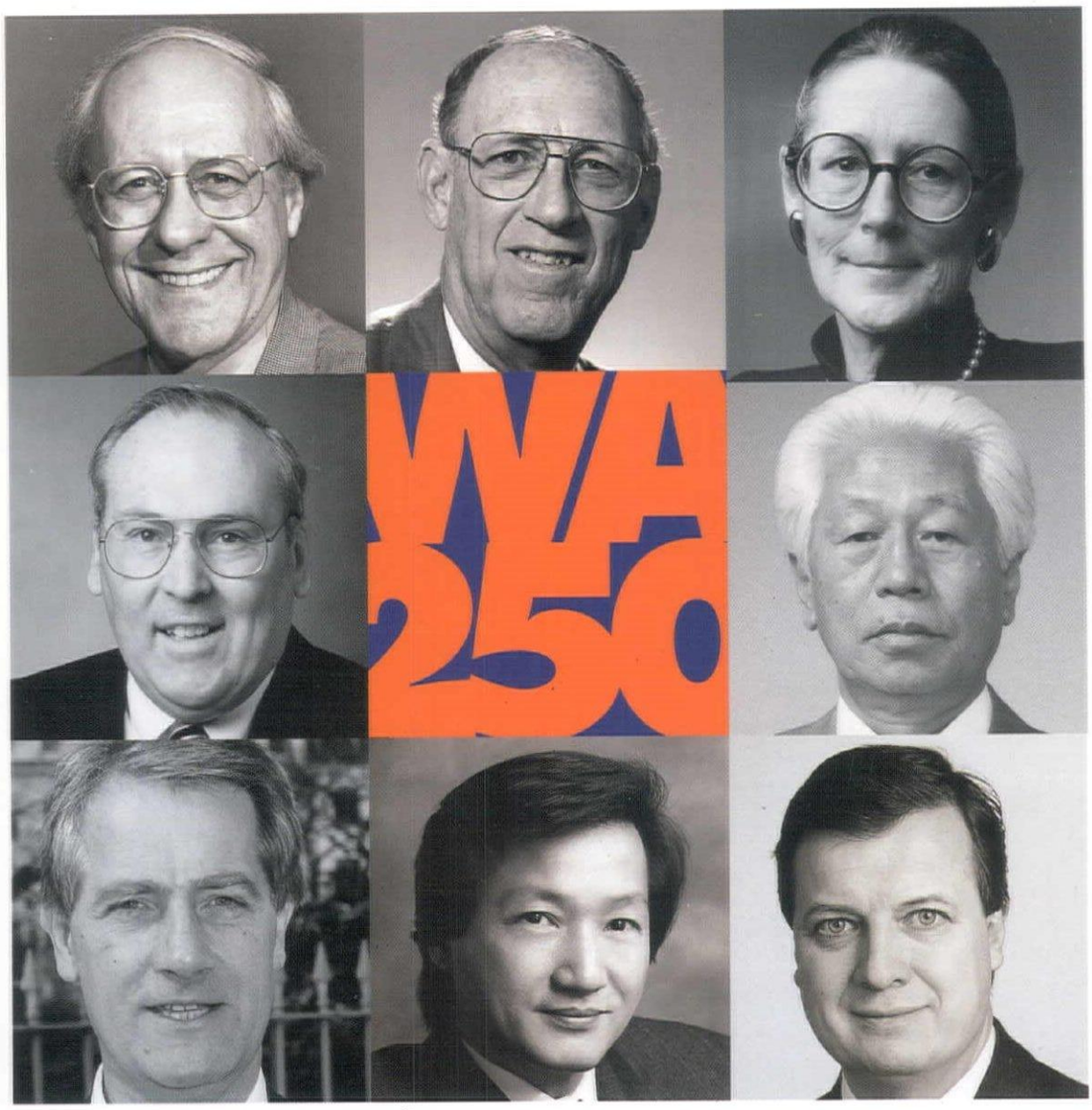
WORLD ARCHITECTURE

ISSUE NO. 52, DECEMBER 1996/JANUARY 1997 US$14.95 UK£10



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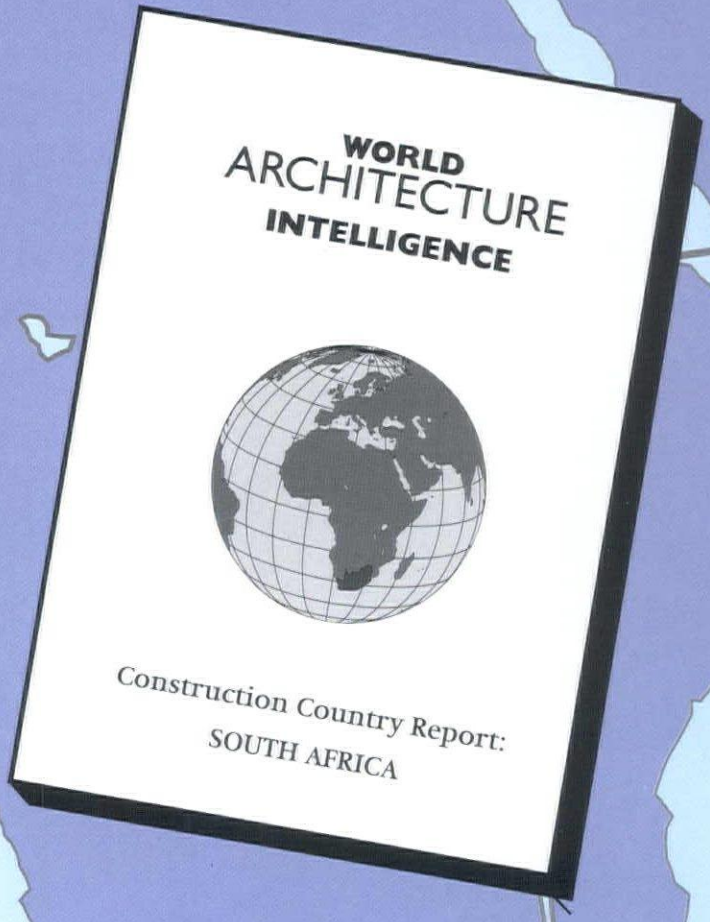
THE WORLD ARCHITECTURE SOUTH AFRICA CONSTRUCTION COUNTRY REPORT

SOUTH AFRICA
FROM THE GROUND UP



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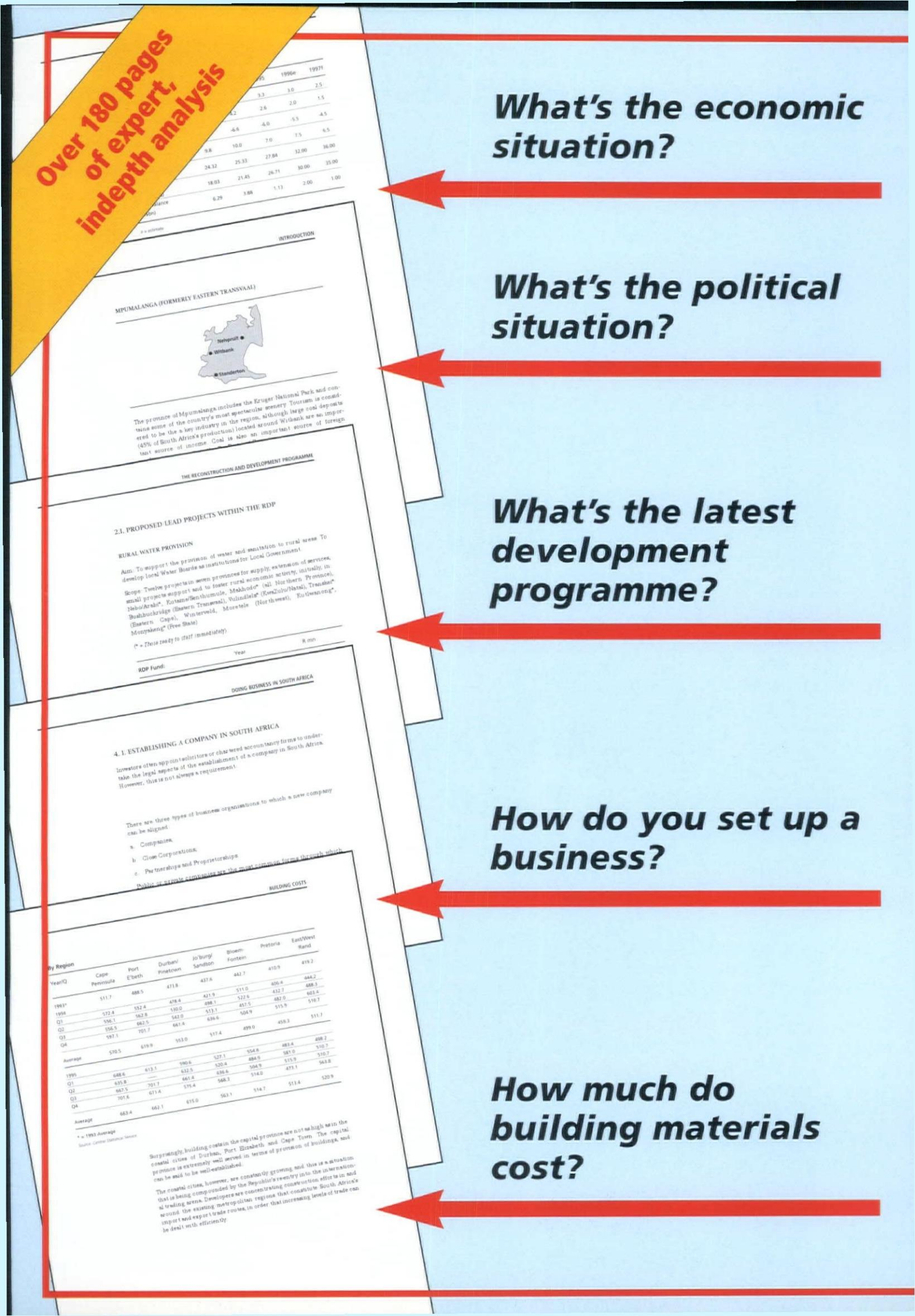
What's the latest development programme?

How do you set up a business?

How much do building materials cost?



CONSTRUCTION COUNTRY REPORT SOUTH AFRICA

- EXECUTIVE SUMMARY -

The Republic of South Africa has the largest and most developed economy in Africa, and it is a country rich in both natural and human resources. South Africa is the world's leading producer of gold and has enormous deposits of coal, diamonds, platinum, uranium and other minerals.

Business confidence in the Republic, both domestic and international, is at its most buoyant for many years. Economic growth currently stands at its highest level since 1972, and inflation at its lowest level since 1972. These factors, combined with the abolition of the apartheid regime, opens up the Republic to potential investment on a huge scale. South Africa has been internationally derided for its segregation policies since 1948, when the apartheid regime was first introduced. Calls for an end to the regime have, in the past, been futile. However, President F.W. de Klerk, Nelson Mandela's predecessor did most to banish apartheid and, with the release from prison and subsequent election of Mandela as President, South Africa has, once again been welcomed back into the international arena.

The increase in domestic and international business confidence will provide a strong investment-led base for future growth.

At the centre of the Government's development policies lies the Reconstruction and Development Programme (RDP) which has, since its inception, been a target for much criticism. Three years on, and the programme has experienced unacceptable delays in releasing budget allocations, resulting in a backlog of some R2 billion in public investment. The RDP focus remains on job creation, land distribution, housing, water. electrification, communications, health and education.

In order to redress the balance, the Government has been forced into fast-tracking many of the RDP's components through a disbursement programme which, if successful, will result in all but 10 per cent of the 1995/1996 allocation being spent. The biggest beneficiaries of this fast-track programme will be urban renewal and municipal upgrading.

The prospects for the building and construction industry are better now than they have ever been, and the Republic is being cited as the next 'boom' market for construction.

According to the Building Industries Federation of South Africa (BIFSA), industry turnover could, realistically, increase from R15 billion per annum at present to R24 billion per annum by the year 2000. However, to achieve these goals, the Republic will have to invest in its human resources through an intensive training programme that will provide a highly-skilled and proficient workforce to ensure continued development. Opportunities for consultants in this area, therefore, will be rich.

continued over ...

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... continued

Industry analysts are predicting that the South African building sector will grow by 10 per cent in 1996, with particular growth being experienced in the town-house and high-rise sectors. The low-income housing sector, which currently accounts for just 7 per cent of building activity, is also expected to be an area of significant growth.

The success of the 1994 election that swept Nelson Mandela to power has boosted the South African property market and, according to the country's leading property development companies, the property cycle is on an upswing. The following is a summary of the country's current requirements within the various property sectors:

- Housing Sector - it has been estimated that ten million South Africans currently live in shanty settlements, and estimates of the housing shortage stand as high as 2.6 million units in the low-cost housing sector alone. Gross Domestic Fixed Investment in the residential sector is forecast to increase by 5.9 per cent in 1996, and a further 10.1 per cent in 1997 to reach R6,882 million.

- Office Sector - the office sector is currently characterised by a move away from the traditional central business districts (CBD) to suburban locations. Construction of office space in the country's major CBD's is forecast to fall 37 per cent by the end of 1996 (on year-end 1995 figures), whilst construction of office space in suburban areas is expected to increase by 36 per cent on 1995 levels.

- Industrial and Commercial Sector - according to the Central Statistical Service, building plans passed within this sector have been increasing since the last quarter of 1994. The Republic's economic upswing is having a positive effect on demand for space; some 57 per cent of plans passed in the last quarter of 1995 were within the industrial sector.

- Retail - due to the fact that the consumer base is expanding rapidly to encompass all non-white consumers, analysts are predicting a boom in the construction of shopping centres, especially within the, previously unexploited, township locations.

- Hotel Sector - much emphasis is being placed on the hotel sector due to an increase in tourism, both domestic and international. The tourism industry is worth some R10 billion per annum, or 3 per cent of GDP. The industry employs 45,000 people and is considered to be the most developed and sophisticated on the African continent.

The country's short-term future (to 1999) looks healthy with high levels of investment boosting the economy, stepping up construction and creating jobs. The Republic's long-term future, however, remains clouded by a lack of international confidence in Mandela's probable successor, Thabo Mbeki (Mandela has already stated that he will not be running for a next term). It is important that the country achieves its immediate objectives quickly to provide a solid springboard for development into the next century.

• • •

In fact, every question you've ever asked yourself about doing business in South Africa is answered in the new World Architecture South Africa Construction Country Report.

In over 180 pages of expert, in-depth analysis, we tell you exactly what's happening today in government, commerce and population, and bring you right up to date on every architectural sector including housing, offices, industrial and commercial, retail and sports stadia.

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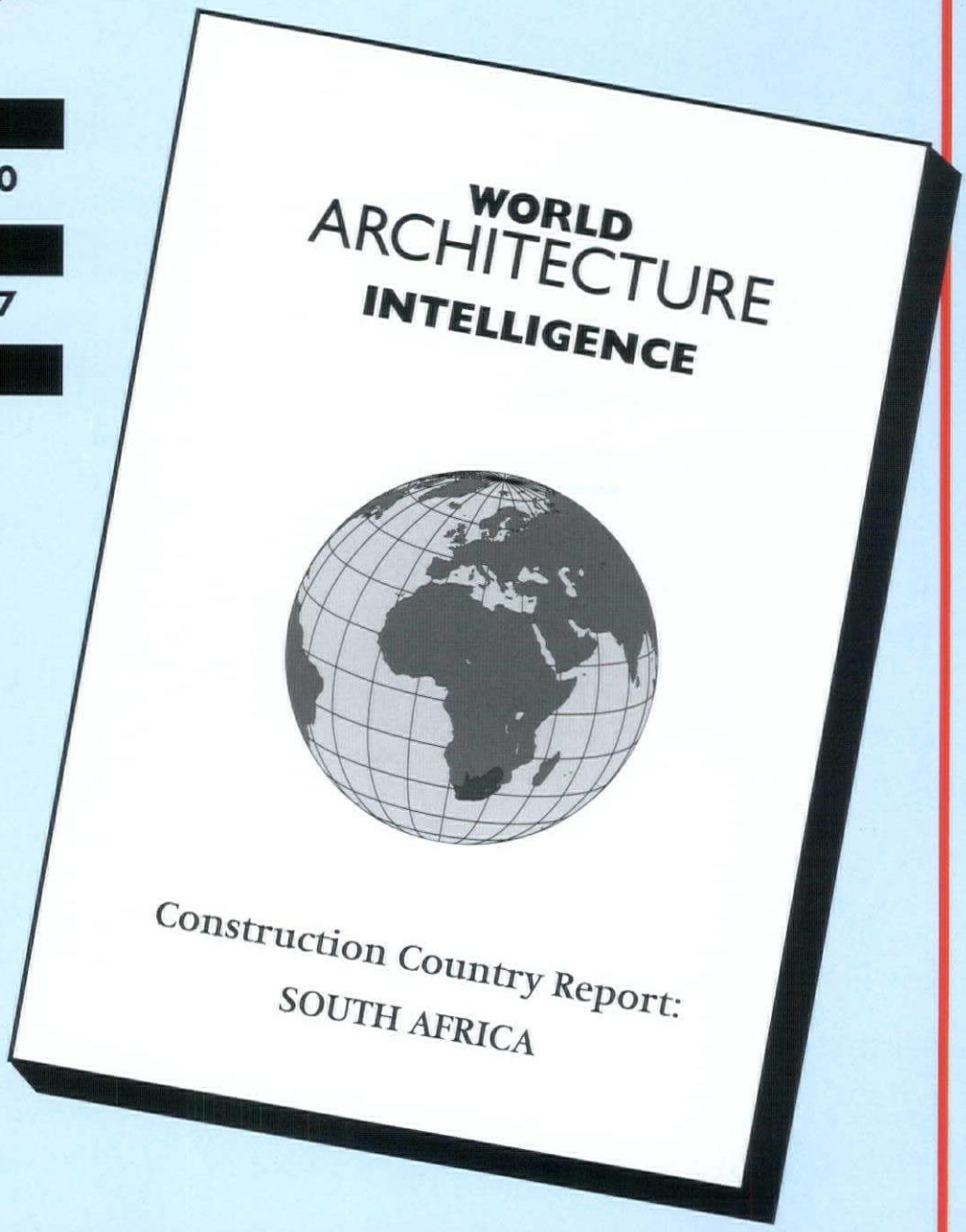

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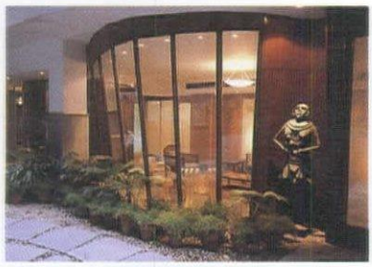

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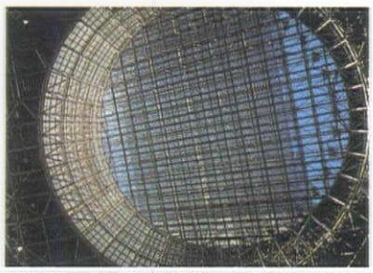

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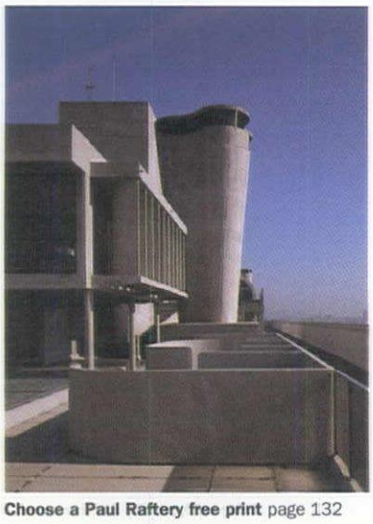

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Cover — Clockwise from top left: Brian Bowen of Hansomb; Arthur Gensler of Gensler; Margo Grant of Gensler; Takashi Nakajima of Kajima; Leif Åberg of FFNS; Binh Vinh of Kling Lindquist; Duncan Michael of Ove Arup; Harold Parmelee of Turner Construction.

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Project reviews — Including the Götz headquarters by Webler + Geissler; Reichen & Robert's Nestlé France headquarters; McKinsey & Company in New Delhi by Batliboi Currimbhoy Design & Architecture; Ricardo Legorreta's office building in Monterrey, Mexico; the MCI headquarters in Colorado Springs by Gensler and the Tokyo Telecom Centre by a joint venture partnership of HOK and Nissoken.

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WORLD SURVEY — ***bound-in supplement***

135 ***WA250*** (page 3-94) — *World Architecture*'s exclusive annual survey of the world's largest architectural and design firms is featured within the pages of the magazine for the first time. This year the survey has expanded to include the top 250. We offer facts, figures, details and data unavailable from any other source.

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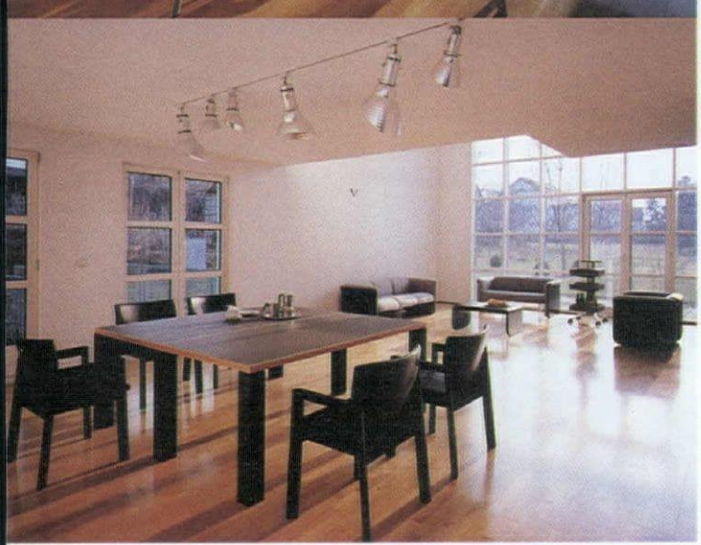
Below from top *Confair folding table, Confair servers and Modus visitors chairs; Confair folding table and Modus visitor chairs, Cubis fully upholstered range and Confair server; Palette table and Linus chairs, Programme 800 fully upholstered range and Confair server*



Wilkhahn

Wilkhahn was founded in Bad Münder, near Hanover, Germnay in 1907. After World War II the company's philosophy was moulded, above all by Fritz Hahne. By the 1950s the company was already developing a reputation for high quality, modern product design. Fritz Hahne found product designers who developed optimal solutions based on new materials and manufacturing techniques.

Wilkhahn became pioneers of modern furniture design. In the 1960s the move towards Industrial Design methodologies was facilitated through close collaboration with the College of Design in Ulm, Germany. The College sought to emphasise the "moral principles of things". This has remained the company's guiding principle ever since. Wilkhahn products are rational in both form and function ensuring both their longevity and the companies contribution to the culture of the modern era.

In the view of Wilkhahn as we approach the end of the Millennium, ecological responsibility is one of the great social tasks. The company have worked out an ecological controlling system which covers all fields concerned, from product development – choice of materials, energy saving, selection of subcontractors, production processes – to transport concepts and services, such as customer service and environmentally friendly recycling. In fact this leads us back to where we started. In 1952, the College of Design demanded that designs be durable, in order that their practical value be increased and that unnecessary waste be avoided. This was the starting point for the company's subsequent developments in ecological management, recognized when Wilkhahn won the German Ecology Prize 1996, awarded by the German Federal Foundation for the Environment.

All Wilkhahn ranges have been developed for high quality, design oriented tender furnishings, as in this field functionality, material quality and finish has to meet high standards. However, Wilkhahn also seek to take these design qualities into the private home. An example of this is the Palette table system: an ingenious connecting hinge between the table leg and the tabletop, of slim yet rigid laminboard, ensures that modular table systems can be extended very easily without using any tools. Added to this different colours, finishes and upholstery fabrics make personalised interior concepts possible.

Mobility and ease of handling is the fundamental idea behind the folding table, designed by Andreas Störiko for Wilkhahn. In no time at all the beautiful, 260 centimetre-long table can either be unfolded – when a large tabletop is required – or folded away when space is restricted. The mobile server trolleys from the Confair range are designed by Wiege. Open trays, boxes and drawer elements can be hung inside the mobile frames. This ensures that all necessities are ready at hand.

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SOLUTIONS for constructive glass in building are best presented by the functional glazings of FLACHGLAS. The huge glass dome of the Mineral Bath at Cannstatt (Germany), for instance, invites the visitor with its playful visual dialogue between sunlight, shade and water. FLACHGLAS products are responsible for a comfortable climate all through the year, due to their low emissivity and solar control functions. Safety against breakage was included by adding laminated panes to the glass units and, according to the architect's choice, coloured surface coating was applied.

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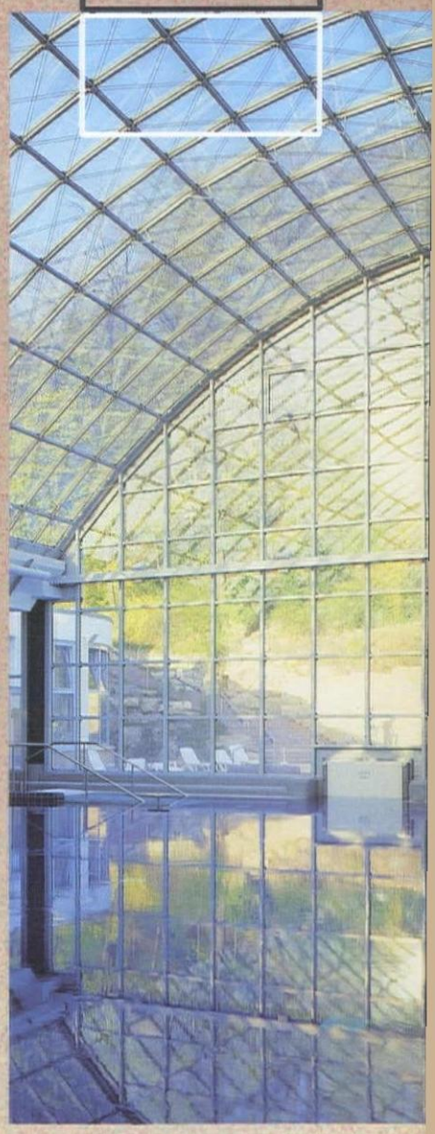
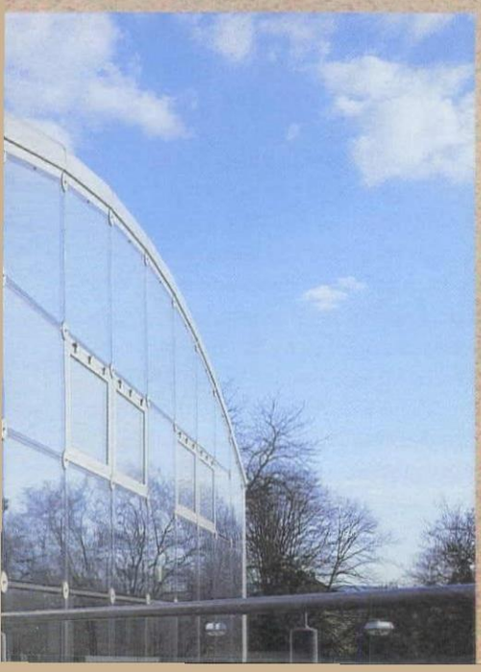


Light and water effects of Mediterranean reminiscence: The silver-blue coloured solar control insulating glass INFRASTOP® and the filigreed dome construction "Liteshell" are in harmony with the interior design.



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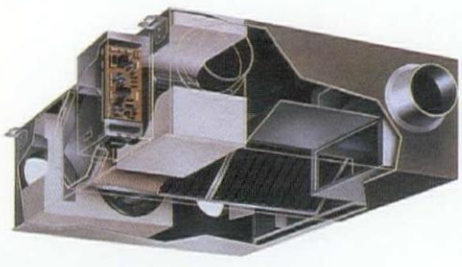
Improved Indoor Air - Hand in Hand with Energy Efficiency

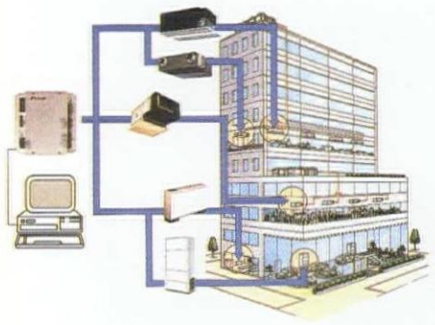
Indoor air quality is now well and truly under the spotlight and industry and governments alike have begun at last to react to the potential health problems posed by inadequate ventilation – in the UK for example, the extension of the Workplace (Health, Safety and Welfare) Regulations, 1992 to include existing commercial and industrial buildings now places the responsibility for maintaining the quality of indoor air firmly in the hands of the builder, owner, operator or his facilities manager. A great deal of behind the scenes work is also being carried out into the effects of poor ventilation, with no less a body than the World Health Organisation sponsoring research into the causes of "sick building syndrome" (SDS) and the broad spectrum of respiratory complaints that increasingly plague modern life.

The fact is, the air we breathe, already an unpleasant cocktail of organic and inorganic pollutants such as carbon monoxide and carbon dioxide, formaldehyde, nicotine, airborne dust and microbes, is deteriorating fast and if taken in combination with inefficient ventilation looks to be a likely cause of SBS - an ephemeral and difficult to locate complaint -yet one which in America is automatically investigated as a possible culprit whenever five percent or more of a workforce is sick at any one time.



Dailin HRV Heat Exchanger

Dailin D-BACS Control System



Fresh air of course is a key component of a balanced and equable indoor environment but its provision via often complex ventilation arrangements can have dramatically adverse effects on the efficiency levels of air conditioning systems which need to allocate cooling load to temper it. Leading air conditioning manufacturer, Daikin Europe however, has addressed this problem with the introduction of HI-VRV, a complete environmental system, combining VRV air conditioning, HRV heat reclaim ventilation and D-BACS dedicated control and monitoring, offering potential reductions in energy consumption of up to 23 percent.

The impact of Daikin VRV air conditioning on the European commercial building services market is already well documented and needs no amplification here: suffice to say that the 25,000 plus successful European installations stand as a testament to its technologically advanced concept and exceptional efficiency. Widely accepted by architects, consulting engineers, property developers and contractors alike, Daikin VRV air conditioning can now be found in a wide range of commercial and public buildings. Not surprisingly , the VRV has undergone considerable development and can now be had in cooling only, heat pump inverter, heat recovery and heat reclaim ventilation forms - all designed specifically to provide efficient and flexible comfort cooling and/or heating via up to 16 indoor fan coil units. The HI-VRV, however, takes VRV technology several stages further.

The heart of the VRV system is a high efficiency heat exchanger which continually modulates the humidity and temperature of incoming fresh air to match the prevailing indoor conditions. A balance is thus achieved between indoor and outdoor ambients, enabling the cooling load placed on the air conditioning system to be reduced. Some 17 percent of this reduction is the result of lower energy losses, the remaining six percent being recovered from operating air conditioning and ventilation in combination.

Time moves on however and advances in data processing have enabled Daikin engineers to improve the system's heat reclaim capabilities still further by the use of an upgraded heat exchanger. The utilisation of high volume data processing has improved the transmission speed of the combined control system to a level 40 times higher than conventional systems. Combining this new HRV with a Daikin VRV or Skyair split system employing the same transmission system, enables sophisticated control of both air conditioning and ventilation to be provided via the fan coil remote controller.

The third vital constituent of the HI-VRV is the D-BACS dedicated, computerised central control and monitoring system, produced by Daikin in answer to the need for improved air conditioning management and higher system efficiencies. The application of D-BACS to any Daikin VRV system will provide end users with vital air conditioning performance and comfort or efficiency. D-BACs in fact, can control up to 24 VRV outdoor condensing units and 48 indoor fan coils simultaneously and if connected up in parallel, can enable as many as 1,000 fan coils to be controlled from just one personal computer. Custom designed management facilities plus the indication and recording of malfunctions or installation faults can be highlighted - and software functions can be used to cover centralised management, timing, demand and service facilities, thereby providing the most comprehensive overview of the VRV operational pattern and status.

Like the VRV, D-BACS has been refined and updated to offer ultra precise control over running costs and energy usage to both building owners and tenants. The latest D-BACS system applied to the HI-VRV has many improvements which include a pug in board to provide the PC with direct access to pulses from a kWh metre, enabling energy consumption per unit, room, tenant, floor, zone or for the entire building to be measured and logged every five minutes. External signals indicating doors to be opened or closed, fresh air fans or lighting to be switched, gas detection, air conditioning emergency shut down etc., can also be handled from the same PC. Also, its new remote temperature sensing pack with calibration box indicating outdoor temperature on an LED can be located up to 1,200 metres away.

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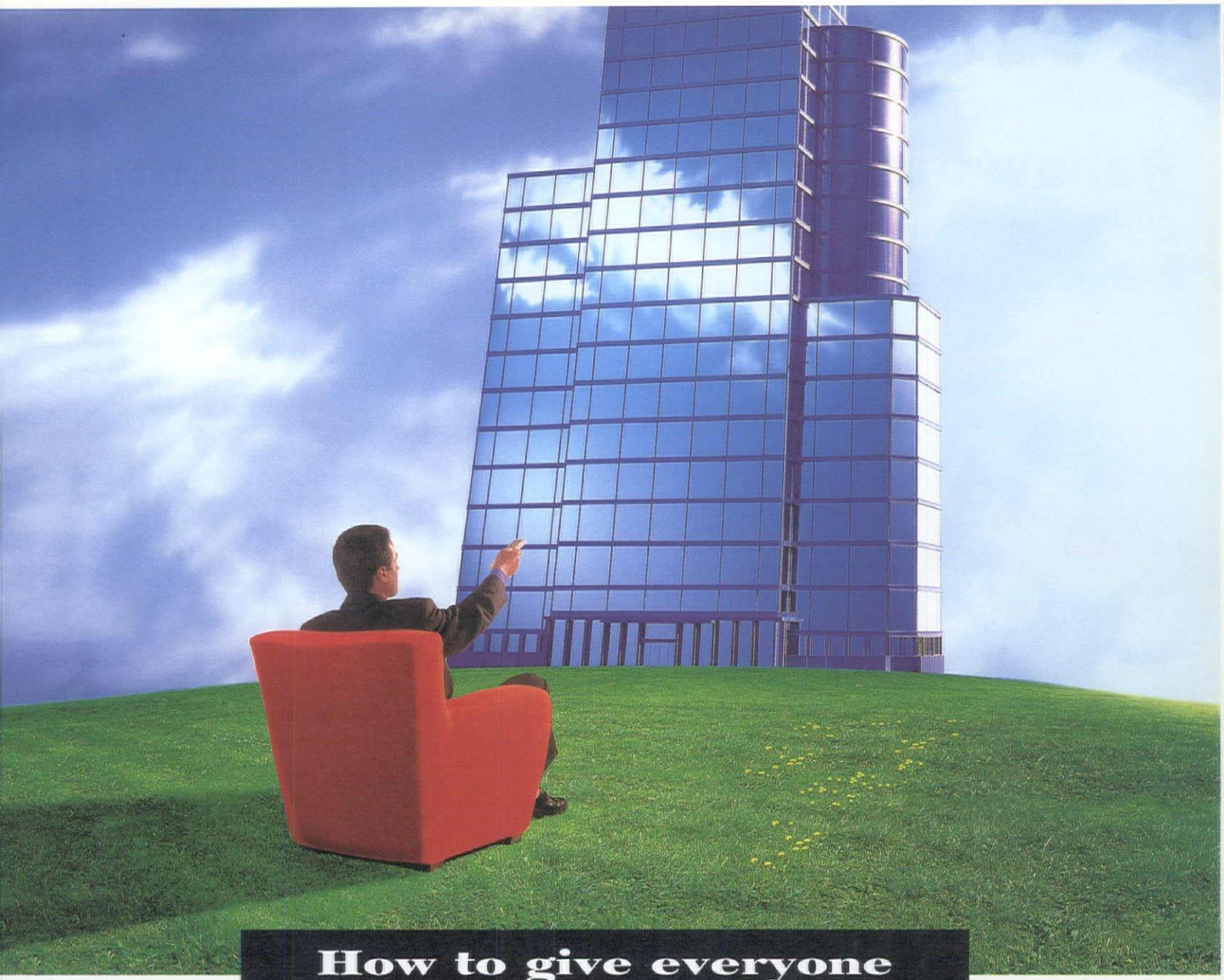

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2250m² of stainless steel strip provides impermeability that lasts

Klaus B. Maier

On the A45 autobahn, south of Siegen, is the exit to Haiger-Burbach. Less than 60 minutes drive from the big cities of the Rhine-Main and Rhine-Ruhr areas, located in the geographical centre of the old Federal Republic of Germany, is the old town of Haiger, which is typical for its framework construction.

The 1,200 year-old town has a colourful history. One of its principal attractions is the Church of Haiger. Built in 1408, the church is notable for the magnificent paintings in its choir hall. Next to the church is a three-storey building, a lovingly restored framework construction. Today it houses the museum of local history (above).

The seventies-style town hall and municipal hall, as well as the activities of the 19,000 inhabitants demonstrate the cultural diversity of Haiger.

The renovation work

The municipal hall of Haiger was inaugurated on 10 January, 1974. The exterior (picture 1) is a strictly delineated construction, broken up by glass windows and faced with natural stone. The building has a flat roof, which is poorly insulated. When exposed to extreme conditions over a number of years – such as the presence of 600 people – the concentrations of vapour produced, as opposed to the periods in-between functions when humidity remains normal, causes the roof to leak. The NIROSTA® Metal Roof System by ESTA* – based in nearby Wilmsdorf – was chosen as the most appropriate solution to the problem given that the existing roof could be conserved and used as the substructure. The only requirement was the removal of the old gravel layer.

Once cleared the roof was ready for the laying of a sloping insulation covering – the slope was achieved by laying insulation slabs of different thicknesses. Walk-on type rock wool insulating slabs were overlaid (picture 2). Contractors, Kentzler made the decision to utilise this slope solution in order to enable swift rain removal via round drains of 100 millimetre in diameter (picture 3). Due to the existing parapet walls, the use of gutters was superfluous (picture 4). The roll seam welding of the stainless steel ensures that the stainless steel roofing system is absolutely water-tight, even on 0-degree roofs.

The handling

Stainless steel strips are usually supplied with a width of 625 millimetres x 0.4 millimetres in thickness, on coils of approximately 200kg. For the Haiger municipal hall renovation 1,200 millimetre wide coils were used (pictures 5/6). The roll-seam welded sheets has to be loaded with gravel, which counteract wind suction loads, thus bypassing the need to use cleats. In order to protect the roof cover from wind-action, prior to the application of the gravel, barrels of water were distributed at premeditated intervals on the roof (picture 7).

On site, the coils were cut to the required sheet lengths and the long seam edges were folded vertically to a depth of 28 millimetres. In the folds, approximately 18 millimetres from the surface, the two sheets were joined using special roll seam welding machines. By the subsequent unilateral folding down of the welded seem through 180° minor welding distortions are compensated and a heavy duty lock seam is created – this procedure does not contribute to the water tightness of the roof cover.

Testing

ESTA-Gesellschaft fur Edelstahlverarbeitung mbH is the owner of the quality seal for the NIROSTA® Metal Roof System. The seal comes with a 10-year guarantee – to a maximum of DM2,000,000. If between the eleventh and thirtieth year, after installation, damage is caused by the corrosion of material, re-installation is provided free of charge. This warranty extends beyond the existence of the original installing company. Membership of the Association of Quality Seal is obligatory for all installation companies, in the interests of the client.

On completion of the renovation work at Haiger Municipal Hall a water-tightness check was carried out by the TUV (Technical Checking Organisation), Nordrheim-Westfalen. This test involved flushing-out the stainless steel roof installation, from below, with helium (pictures 8 - 11). The helium will pass through any unsealed joint due to its low density. For this procedure the TUV have developed a U-shaped plexiglas probe, which fits over the joint. In this instance the tests proved satisfactory, despite the numerous complicated claddings of air shafts, water drains and light domes (pictures 12 and 13).

Conclusion

The highly corrosion-resistant stainless steel, combined with roll seam welding, provides a roof of almost unlimited life expectancy. Even entirely flat roofs can become entirely water-proof using this system. The NIROSTA® metal roof system requires no modification to the existing structure. The existing roof construction, with the exception of the gravel, can be preserved in its entirety, thereby avoiding the problem of waste disposal.

Both ESTA and Kentzler believe that the renovated roof of Haiger Municipal Hall is now water-tight and will survive the ravages of time.

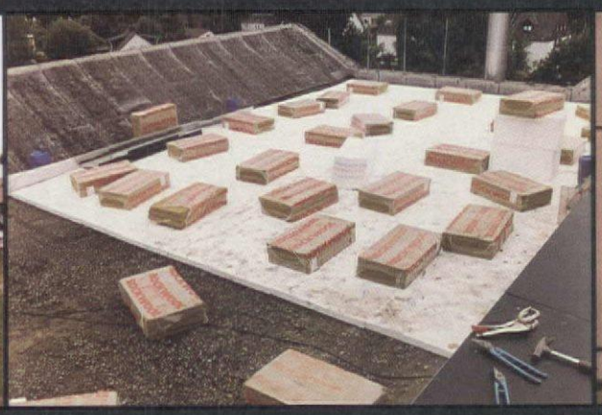
NIROSTA® is a registered trademark of the Krupp-NIROSTA GmbH

ESTA GmbH
Flocksdorfstrasse 4
57234 Wilnsdorf-Anzhausen
Tel: +49 (0) 2737 500 93
Fax: +49 (0) 2737 500 97/500 80

Project data:

Client	The town of Haiger
Constructor	Kentzler, D - 44145,Dortmund, Germany
Roof surface to be redeveloped	2250 square metres
Sub-structure	Single sheet flat roof with heat insulation

1



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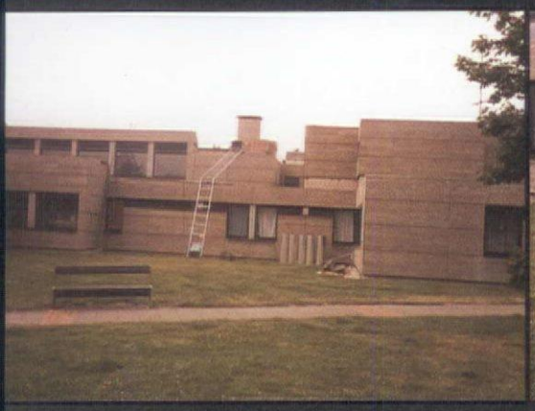

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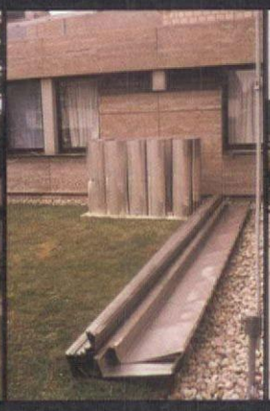

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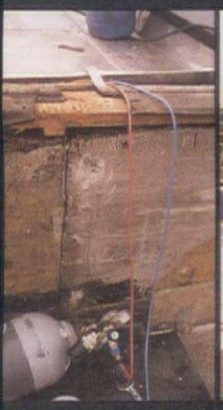

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11

12

Opposite page

Haiger Church, built 1408. The town museum can be seen in the foreground

This page

1 *The Municipal Hall, built 1973*

2 *For the swift drainage of water polystyrene sheets were applied to the faulty flat roof. Walk-on rock-wool insulation sheets were overlaid*

3 *Rainwater is quickly drained by circular drainage pipes, 100 mm in diameter*

4 *The parapet walls limit the roof surface,meaning that gutters cannot be installed. Also shown are the stainless steel strips that replaced the gravel*

5 *Partial view of the municipal hall with hoist*

6 *1200mm wide coils supplied to the site. Pictured in the foreground are folded cleats for the cladding of the parapet walls*

7 *The stainless steel sheets are held down by 50 litre water barrels. A layer of gravel will provide storm protection at a later date*

8 *Preparations for the Nordrheim-Westfalischen test*

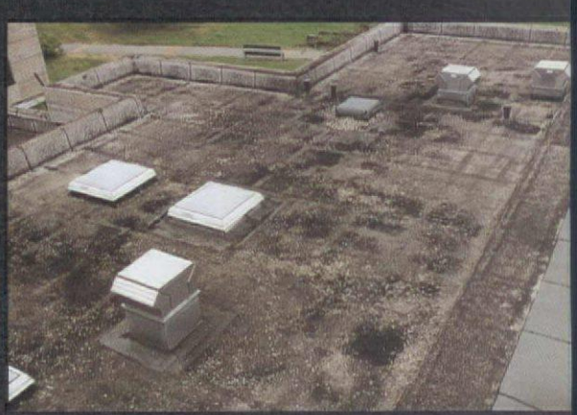
9 *The stainless steel roof surface flushed from below with helium*

10 *The TUV test equipment with its sniffing probe*

11 *The true tightness of the folds can be established with the aid of special devices*

12 *Special care was necessary to realise the expert cladding of the elements that penetrated the roof*

13 *Light domes, air shafts and water inlets projecting from the existing roof structure*



13

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Data and Facts

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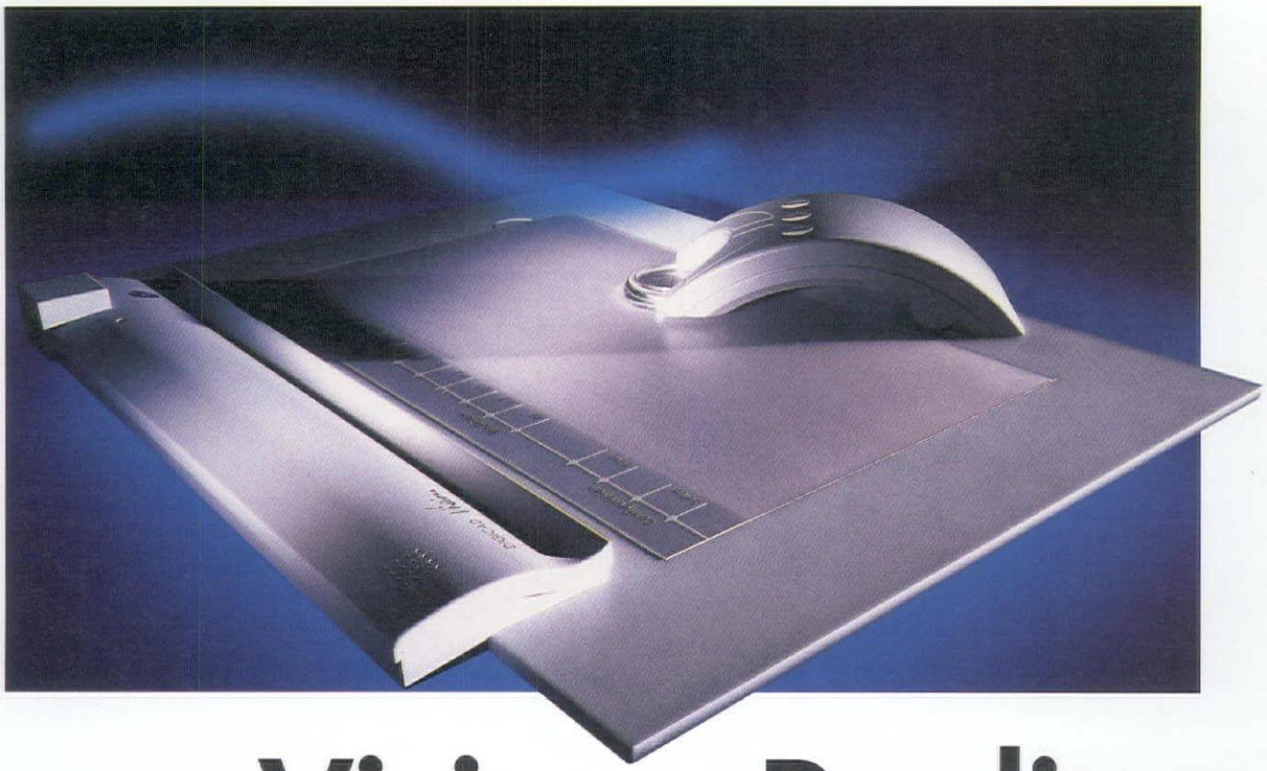

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ArchiCAD in Practice

Philip Johnson, Ritchie & Fiore Architects

New York, NY

A New Office Standard

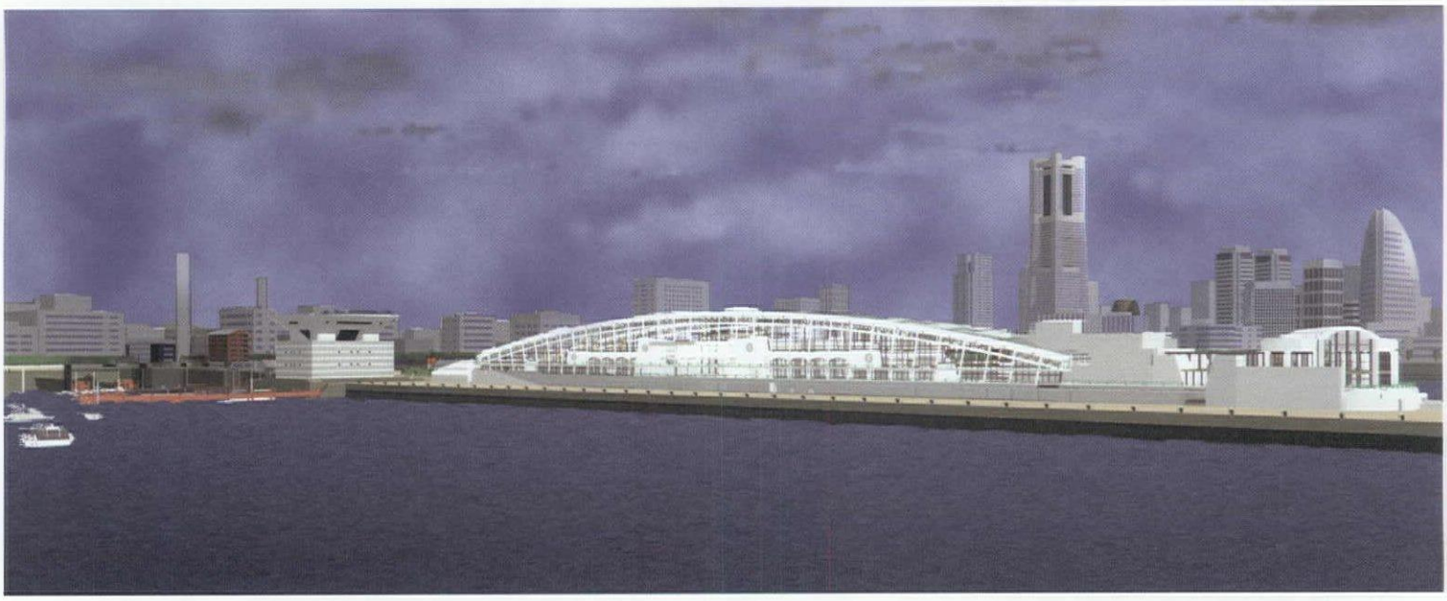
When two architecture firms merge, they must decide how to manage their differences in working methods. When they choose between two different CAD systems, the software they select should reflect the character that they want to emphasize in the newly formed company. Two years ago, the offices of Philip Johnson Architects and Alan Ritchie/David Fiore Architects merged to form Philip Johnson, Ritchie & Fiore Architects. At the time of the merger, Ritchie/Fiore had been using ArchiCAD for two years, while Philip Johnson's office had been on a modular CAD system. As might be expected, ArchiCAD was put to the test in the process of deciding which program would become the new office standard.

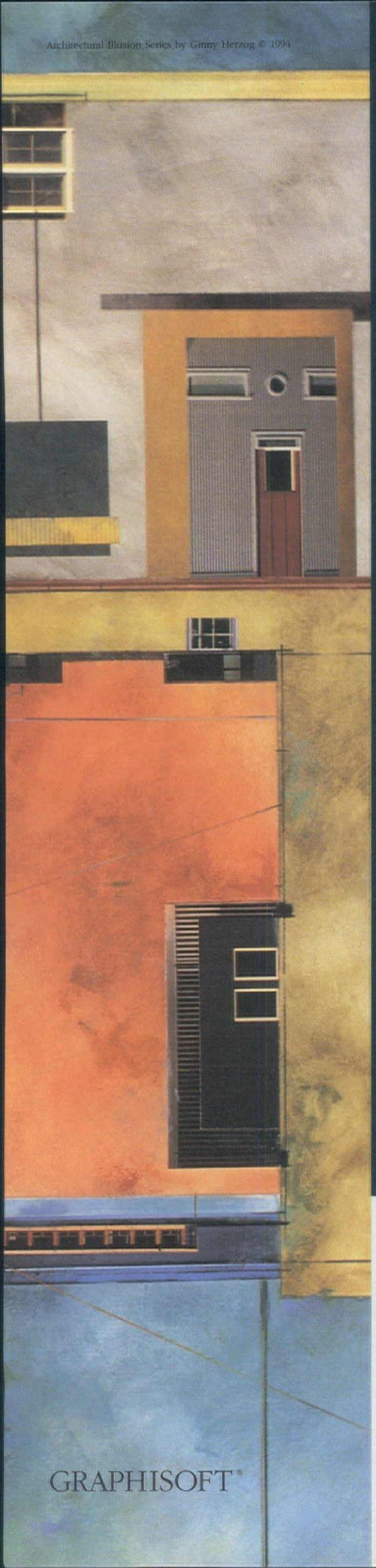
Douglass Alligood, a project manager with the firm, explains why ArchiCAD passed that test: "One of our goals here is for all the staff to be well rounded. Each individual must become as proficient as possible in all areas of executing a project. We especially want to avoid the traditional separation of design and production staff. ArchiCAD is making it possible for the more senior people to develop designs and manage them on the computer, then to usher them through the construction-documents phase."

Speaking of other key reasons behind their decision to adopt ArchiCAD as the main office CAD software, Alligood cites ease of use, better coordination, and superior working-drawing capabilities. "ArchiCAD is unique in the way it handles multiple stories of a building within the same file," says Alligood. "For instance, I can view all columns and slabs of an eleven-story building from any given floor, then simultaneously rearrange any line of columns or stair or elevator openings. We have found this to be tremendously important in managing multistory projects. Alligood also notes that ArchiCAD makes it easier to produce construction documents that look the way they used to. "Using composite walls," he says, "the different layers of materials that compose the wall are shown with differing fill patterns, an effect we used to achieve with Zipatone and colored pencils. This is easier with ArchiCAD because of the way it handles doors and windows; the fills are automatically adjusted when a door or window is moved."

Regarding compatibility between ArchiCAD and other systems, Alligood remarks that ArchiCAD integrates seamlessly with other software using industry standard file formats.

About the images:
Manila Master Plan, Manila, Phillipines (above)
Yokohama Port Terminal Competition, Yokohama, Japan (below)
Projects of:
Philip Johnson, Ritchie & Fiore Architects
Designed & Illustrated by:
Nick Buccolo, The Drawing Studio





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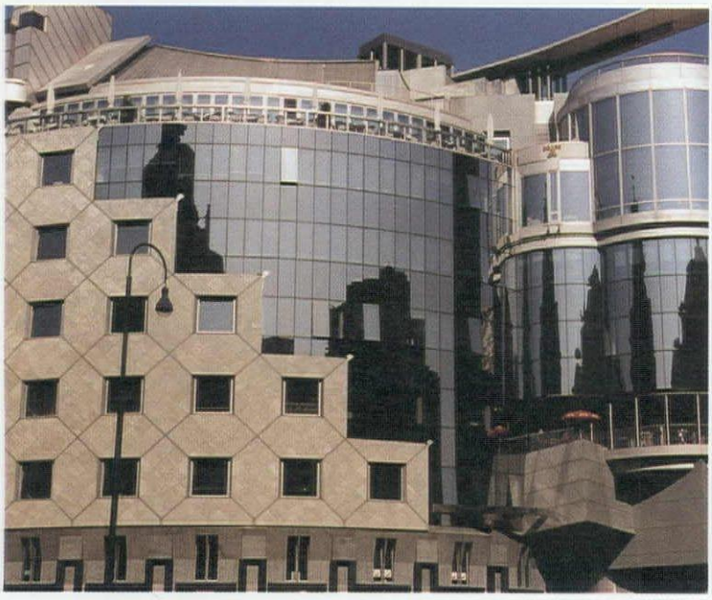
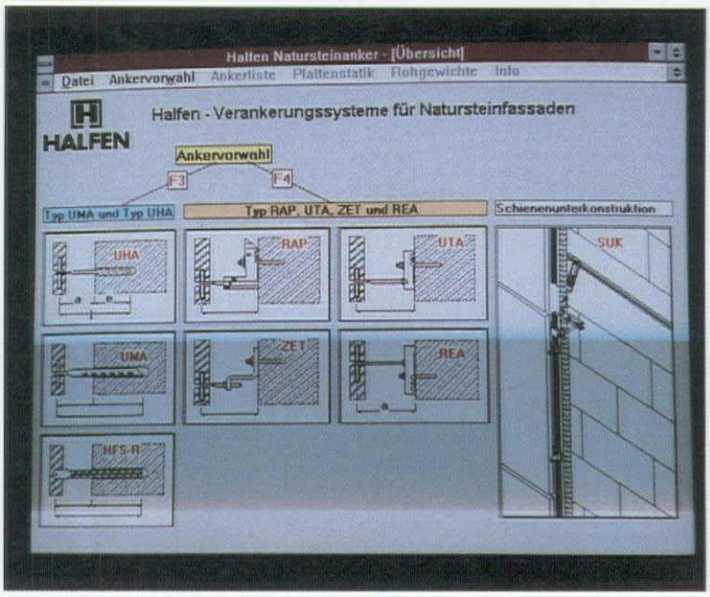


The Haas-Haus building, Vienna, Austria



Halfen's PC-programme for stone facade fixings

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The range of products is mainly used in precast concrete work, commercial and industrial building as well as in civil engineering, highways and infrastructure.

The basic philosophy of the company is to create fixings for the construction industry that are safer, easier to assemble and more economical to use. The success of the Halfen group is the best proof that this philosophy has gained acceptance.

Today Halfen ranks among the world's leading enterprises in the field of fixing systems.

The company group has its origin in Düsseldorf where in 1929 the founder Josef Halfen established his company for the manufacturing of cast-in channels.

There was a constant growth resulting from the continuous expansion and improvement of the product range and the development of a distribution network, at home and abroad, leading to a completion through the merger and integration of the Frimeda-Unistrut group at the end of 1991.

Halfen has been a part of the Haniel Group, Duisburg since 1991. In 1993 the Halfen group had approximately 1,300 employees in Germany and five other European countries. Haniel holds significant market positions in various segments of the construction supplies industry with production of construction materials, additives and concrete products under the roof of "Haniel-Baustoffindustrie GmbH".

Nowadays the Halfen product range comprises the following:

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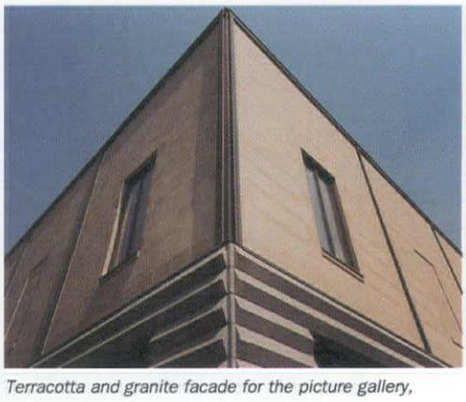
- Framing systems

The key markets in Germany, Europe and overseas are being covered and supplied by own branches, factories and affiliated companies in more than 20 locations as well as by distributors in approximately 30 countries.



Terracotta and granite facade for the picture gallery, Berlin, Germany

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Railway station Rotterdam Blaak, the Netherlands, Architect: ir. H.C.H. Reijnders, Holland Railconsult, Photographer: Frank van Dam

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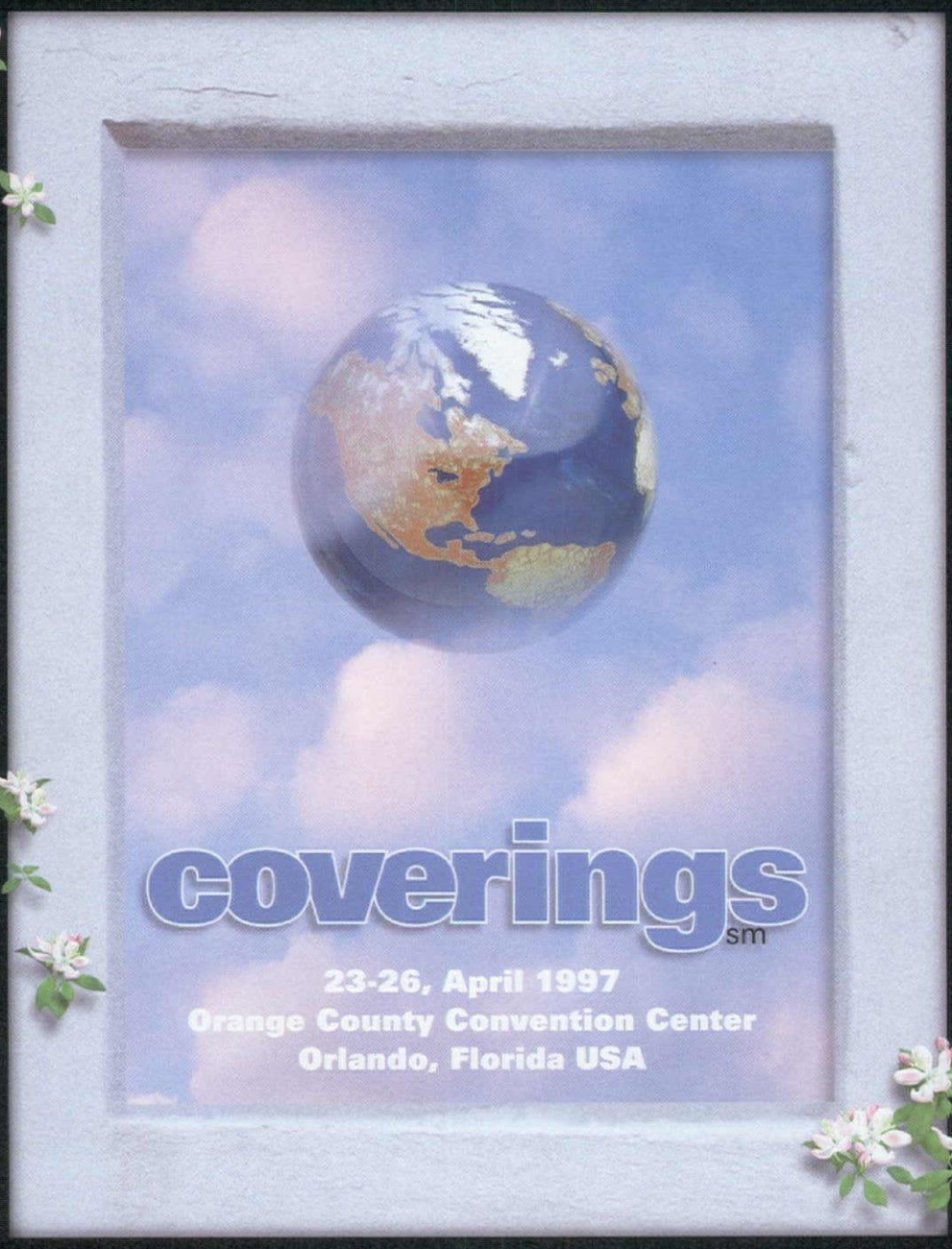

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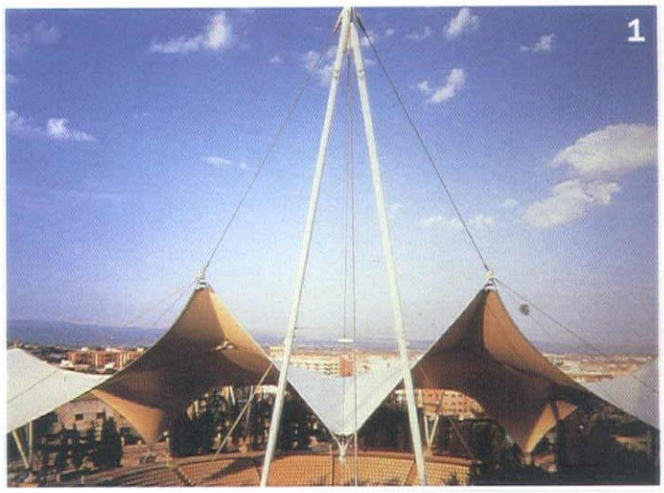

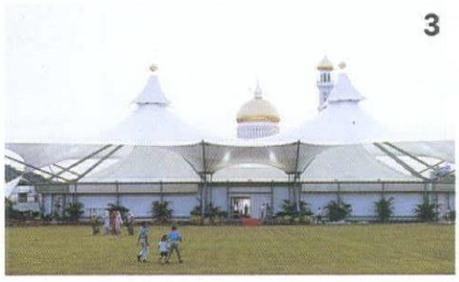

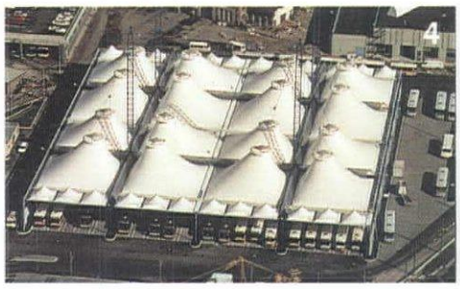

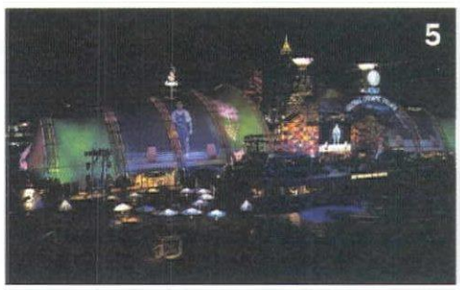

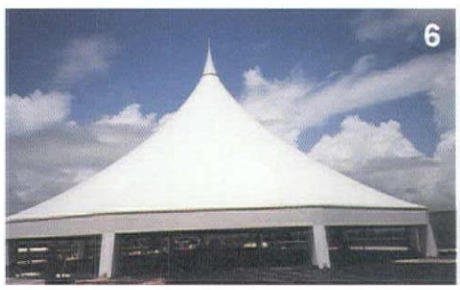

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   Fabricator: Landrell - (UK)
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4. *Bus terminal*
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   Fabricator: Walter
   Architect: Jean Kronenberger.

5. *The AT&T Global Olympic Village - Atlanta USA*
   1996 - Précontraint 1202-S
   Fabricator: Birdair Inc.
   Tensile structure Design & Engineering: FTL/Happold
   Overall Project Designers: The Last Design Co.

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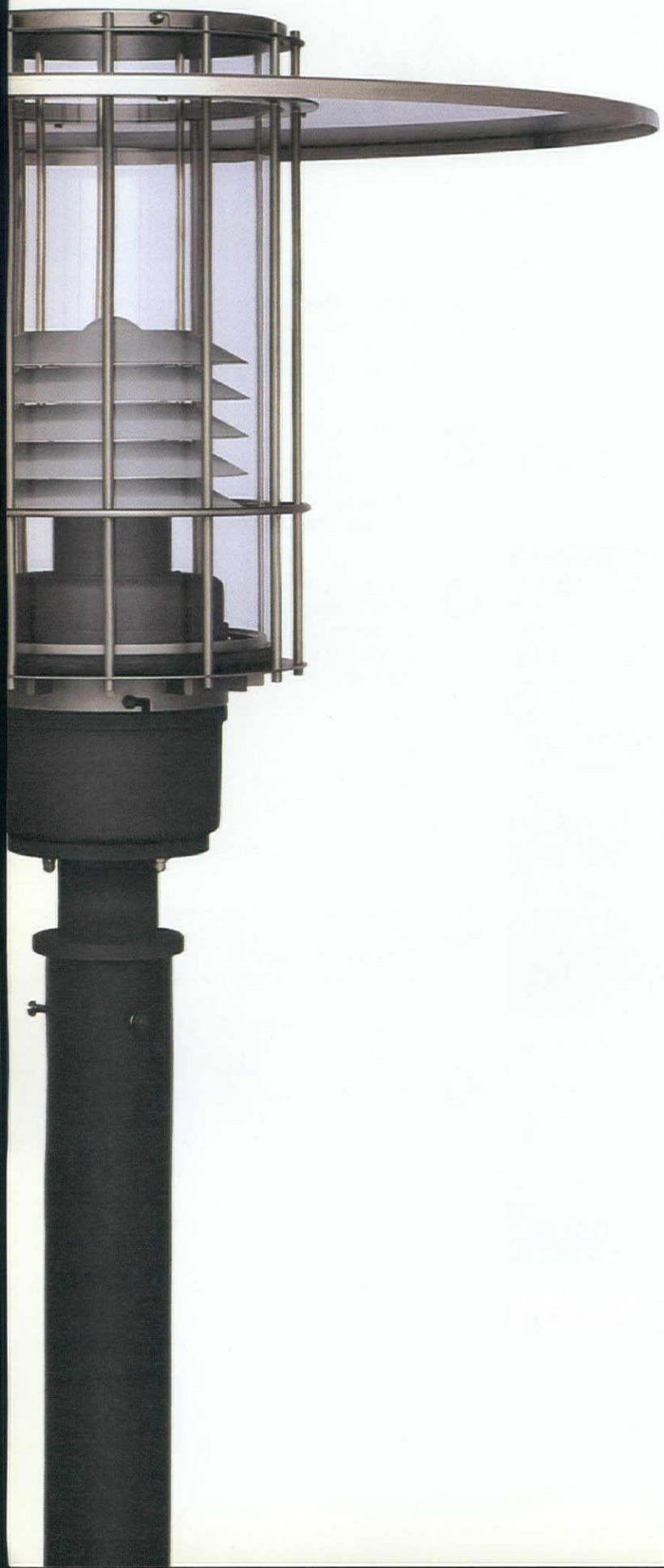

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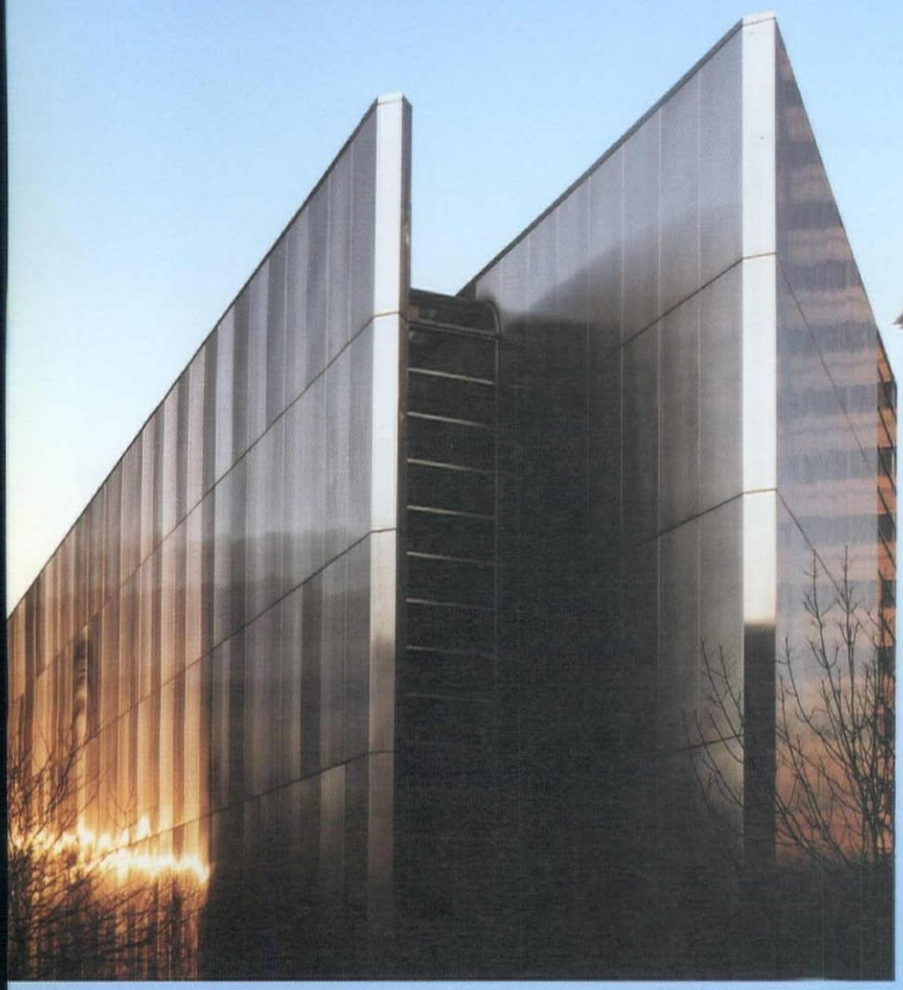

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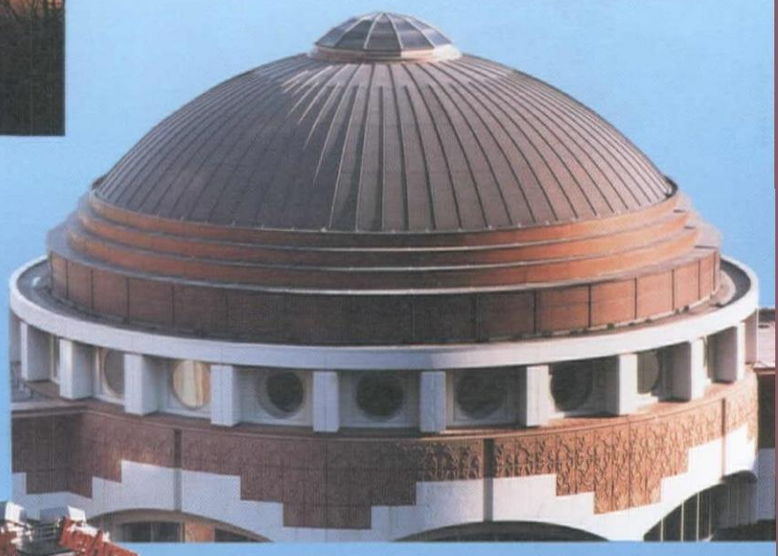

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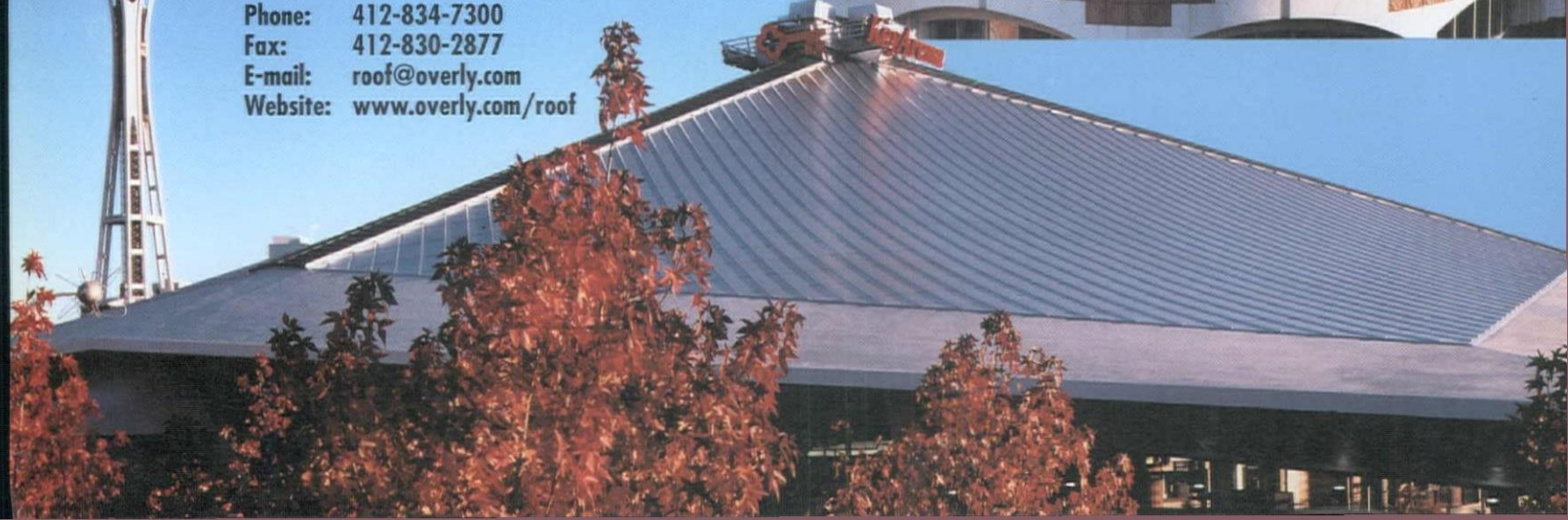

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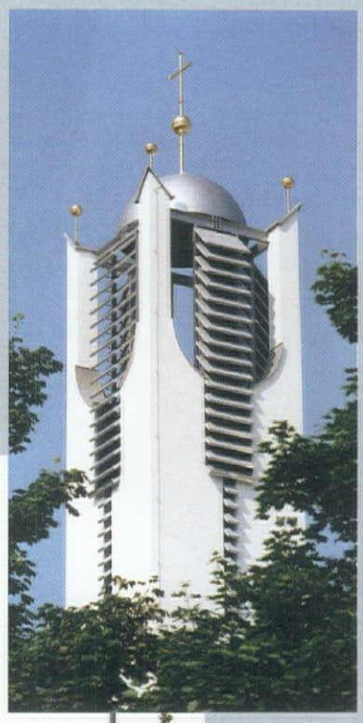

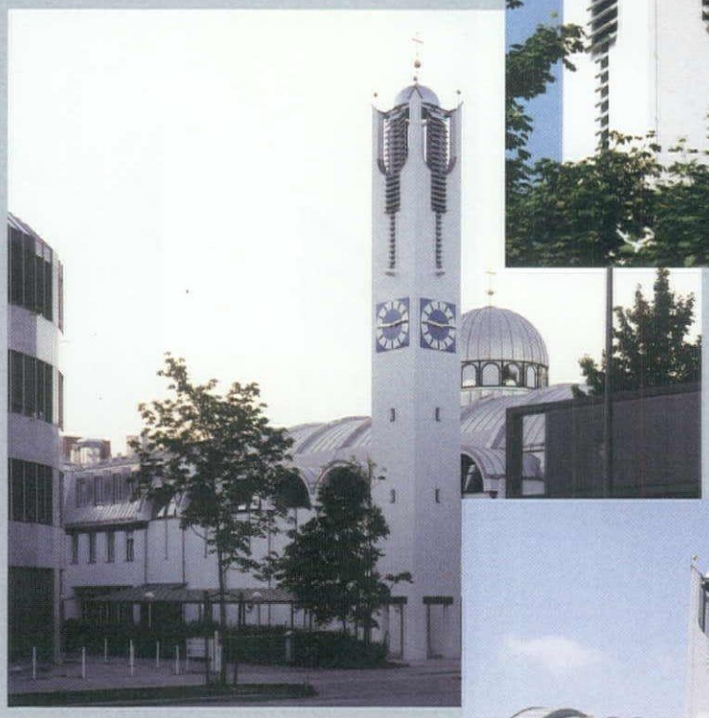

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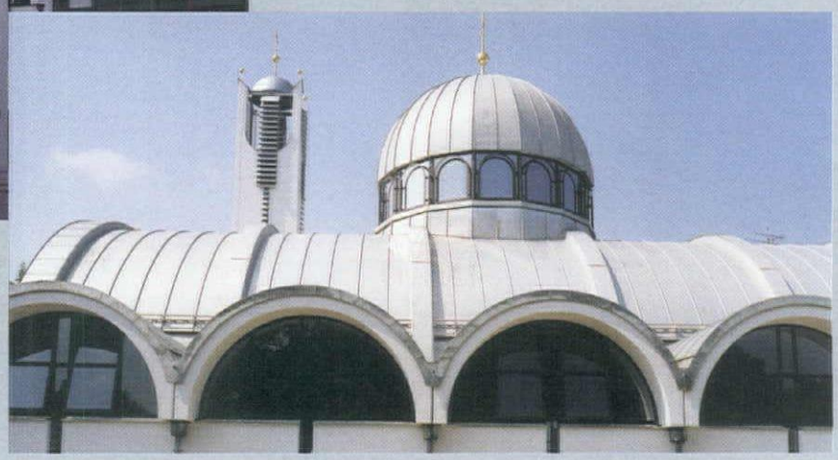

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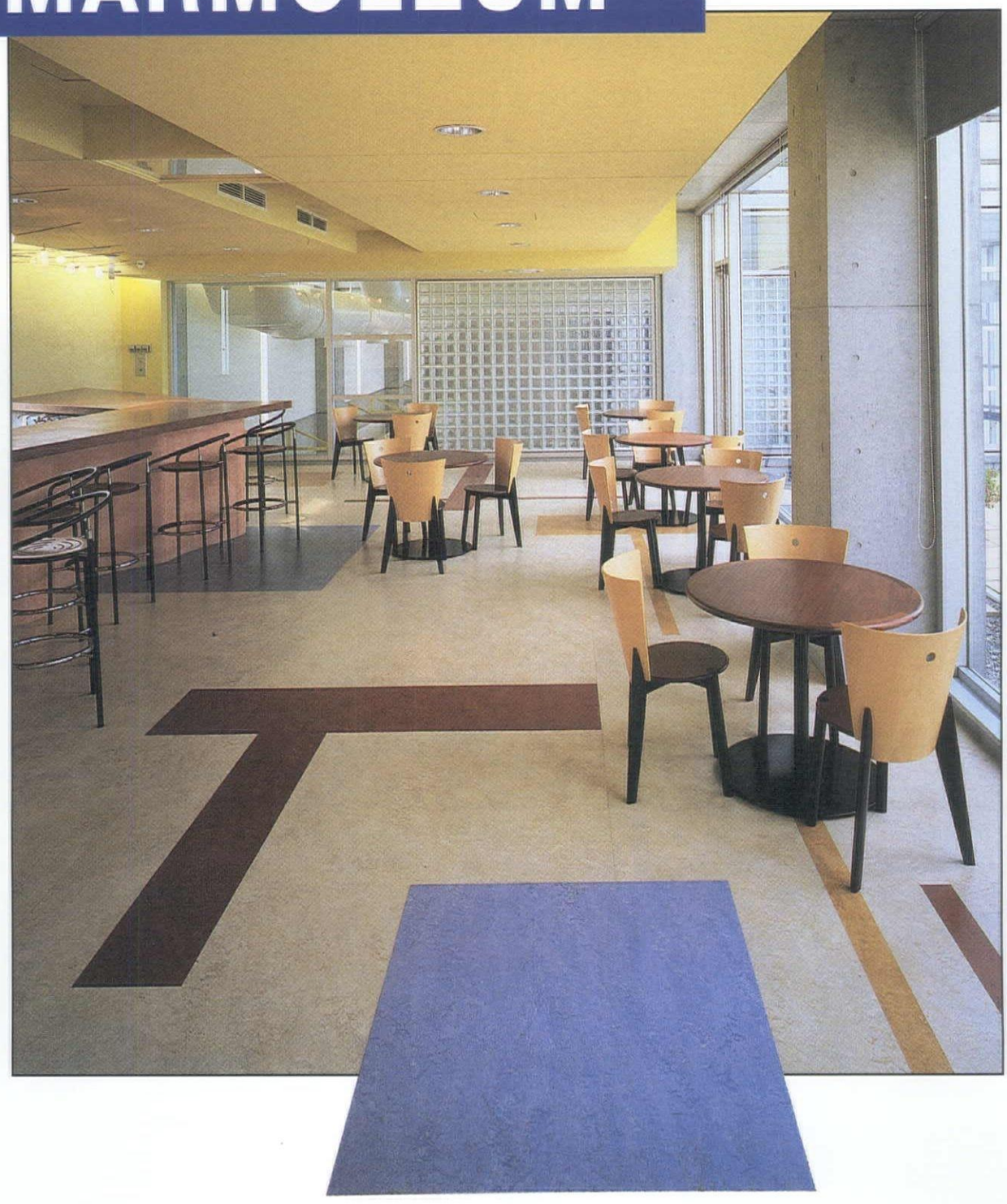

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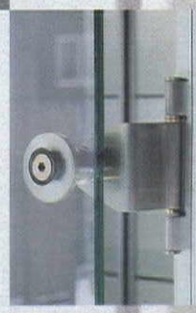

"It always does seem to me that I am doing more work than I should do.
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I can sit and look at it for hours. I love to keep it by me;
the idea of getting rid of it nearly breaks my heart".

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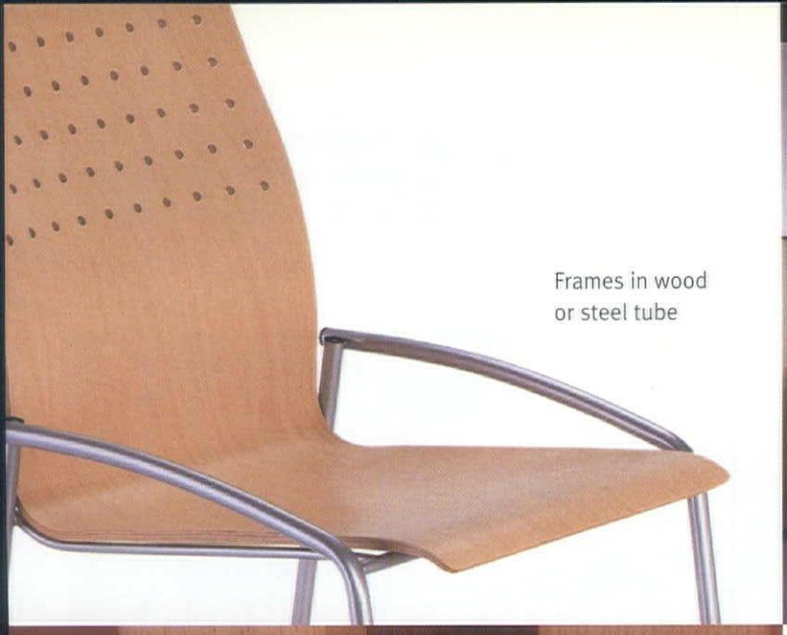

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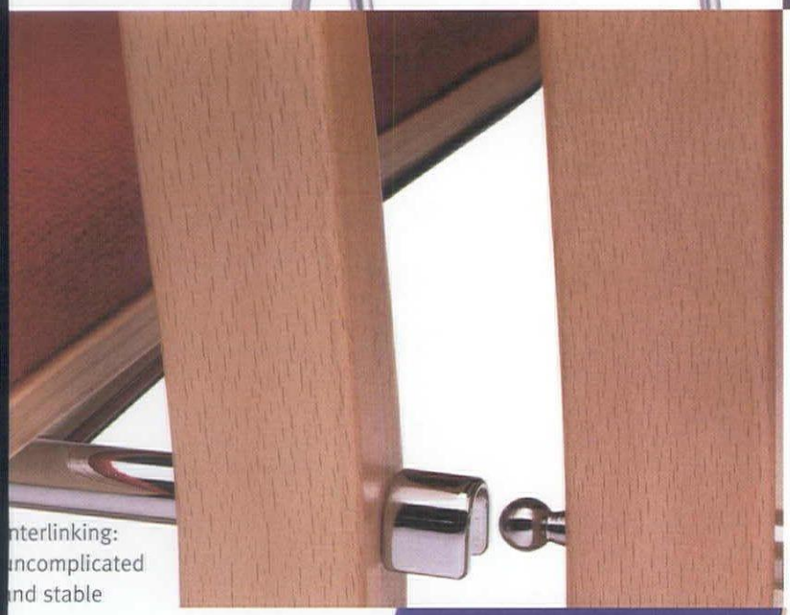

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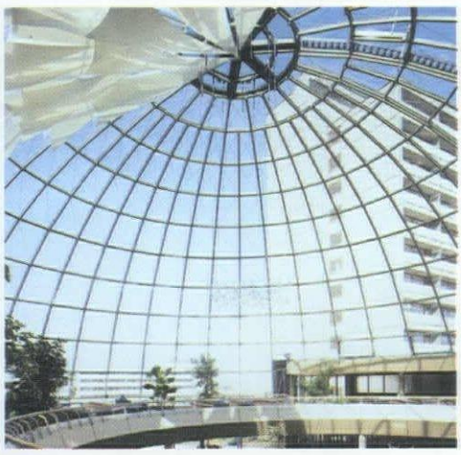

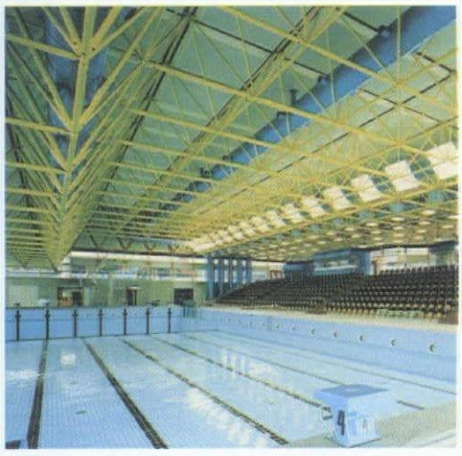

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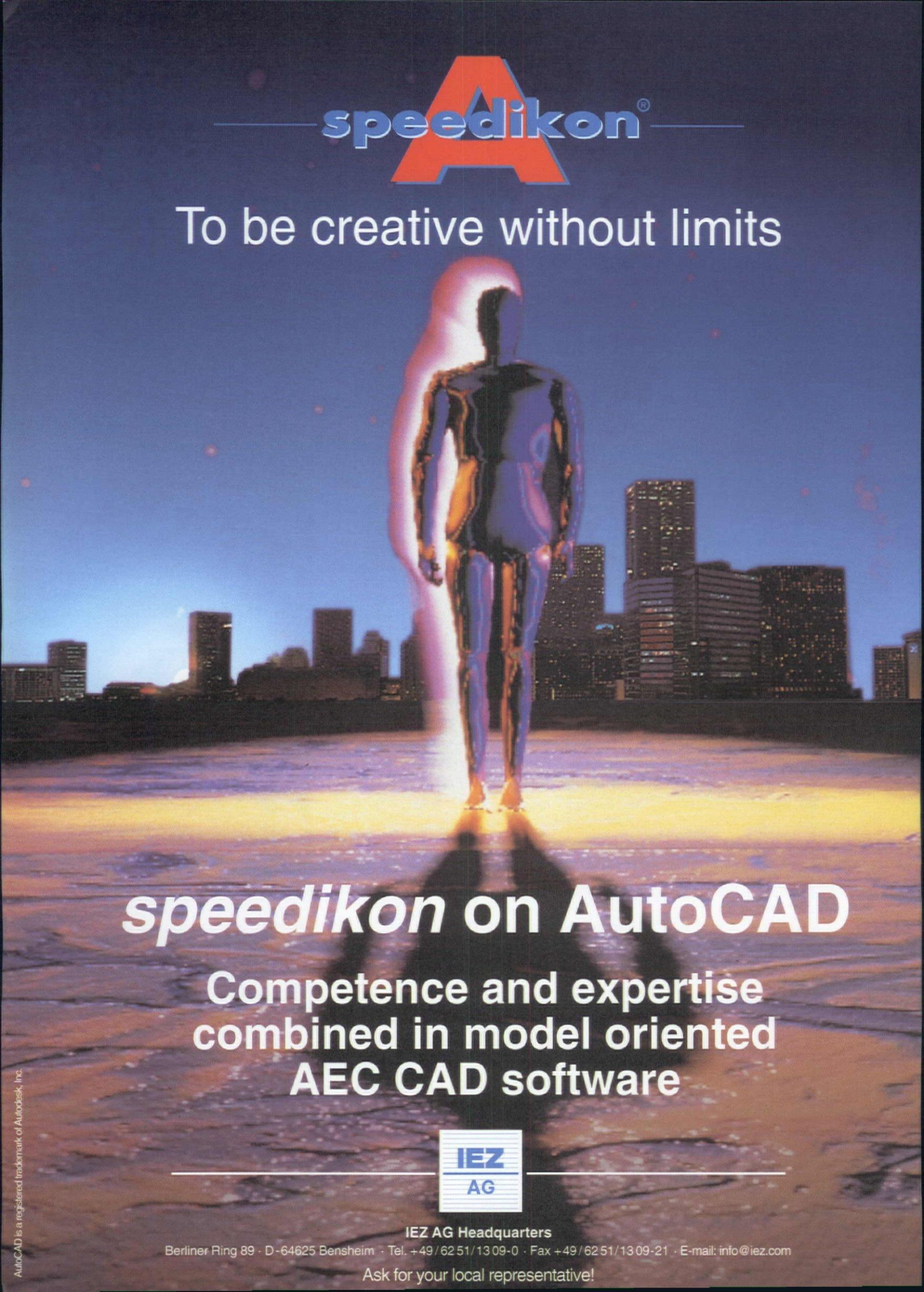
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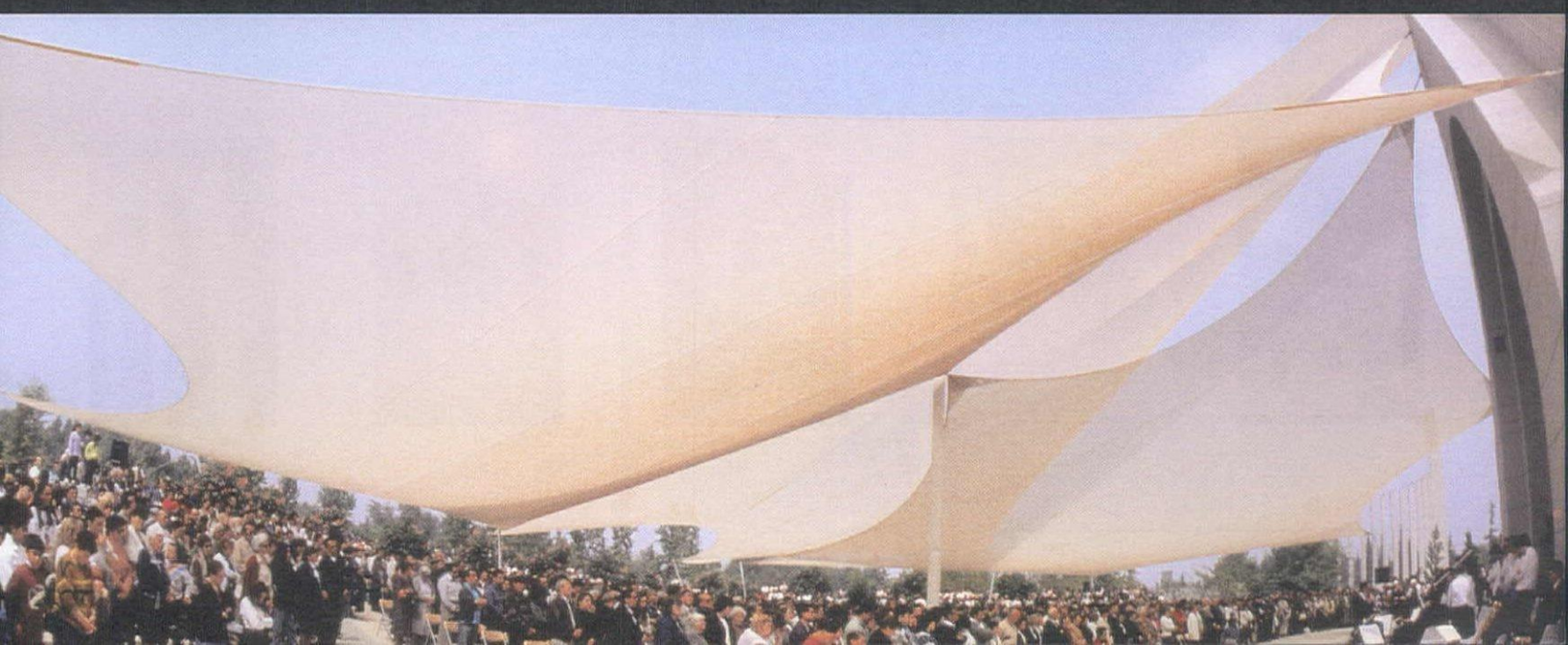

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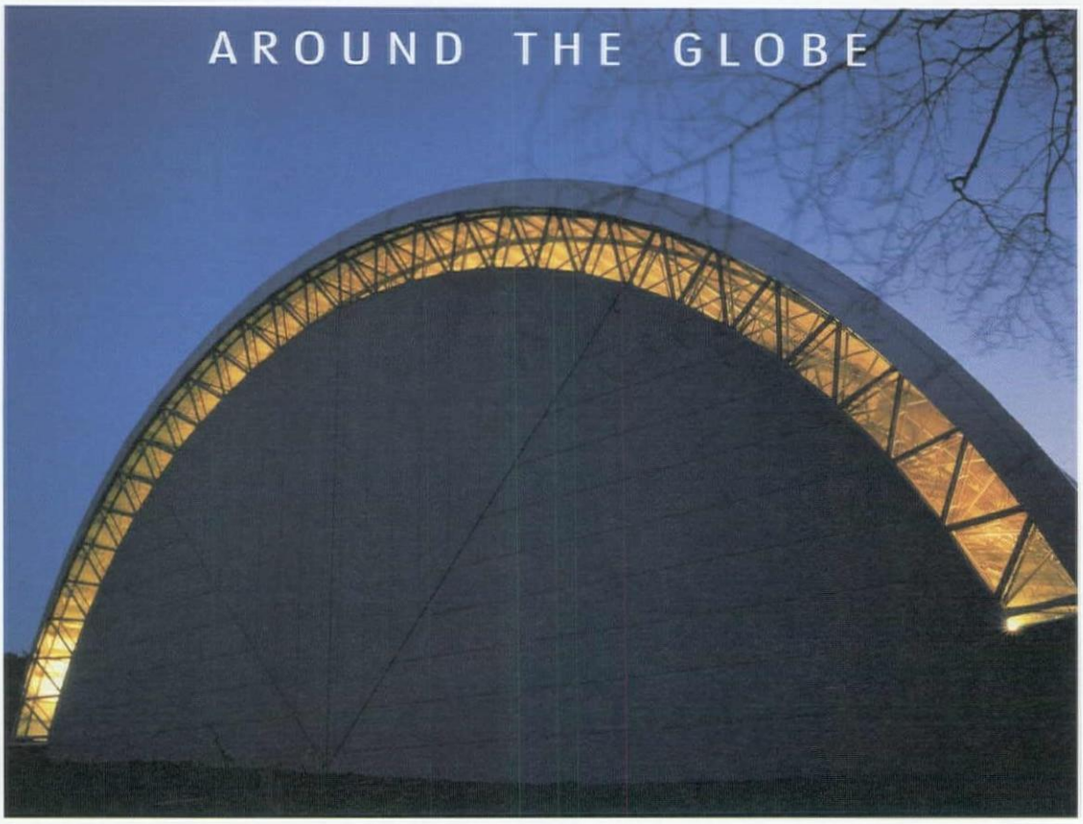

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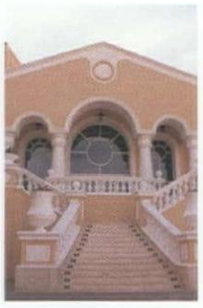

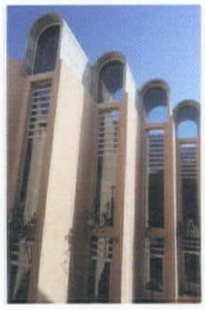

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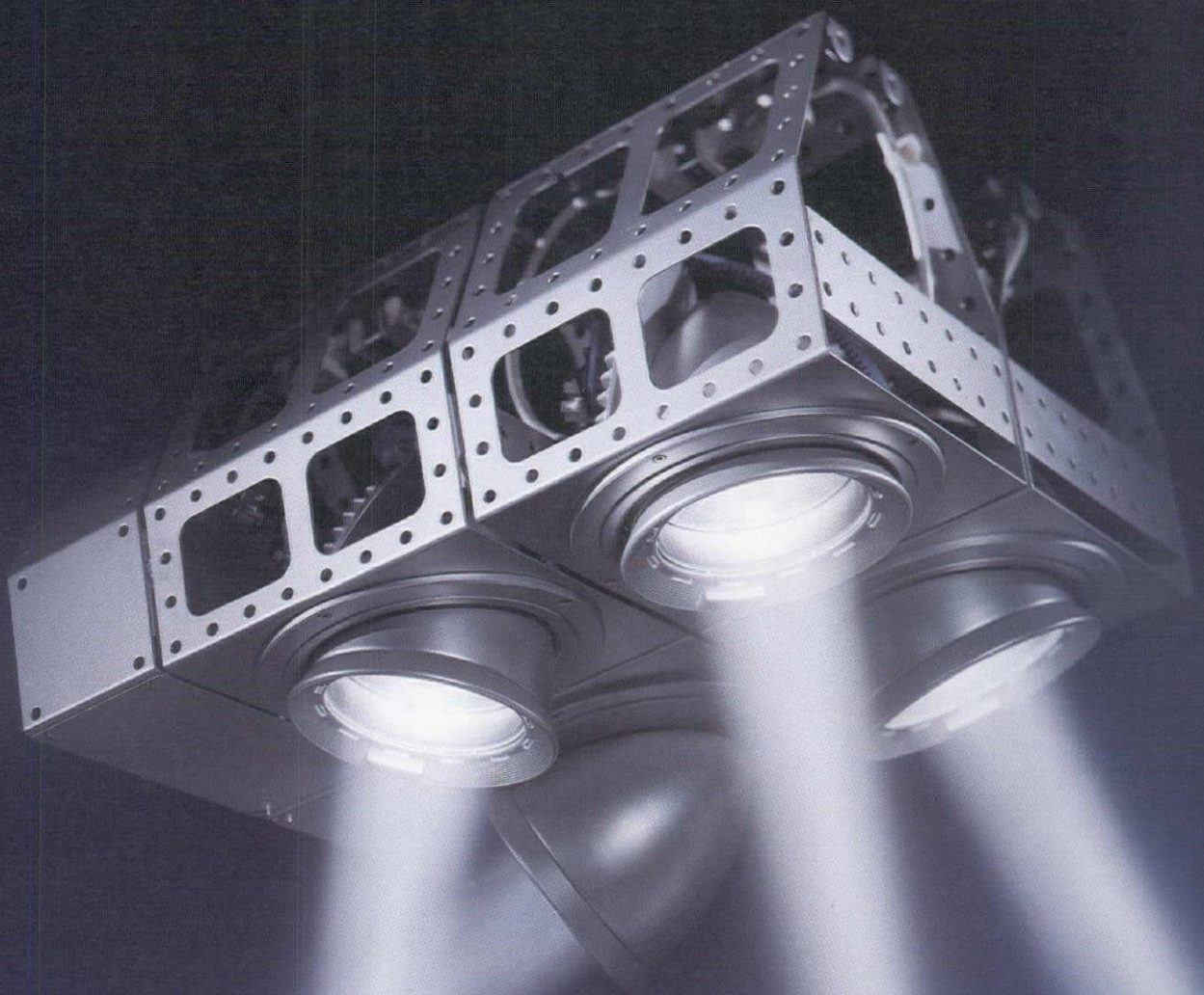

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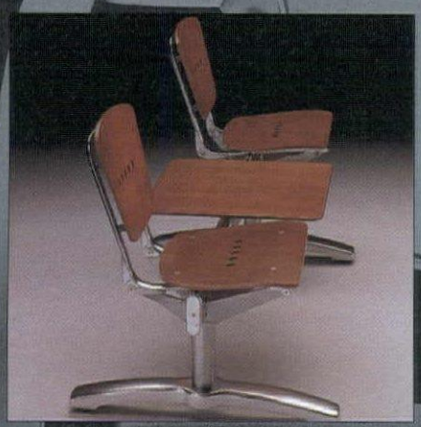

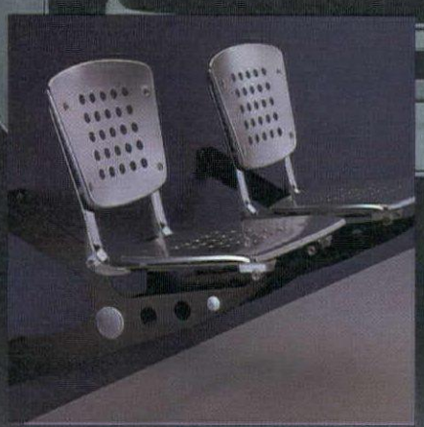

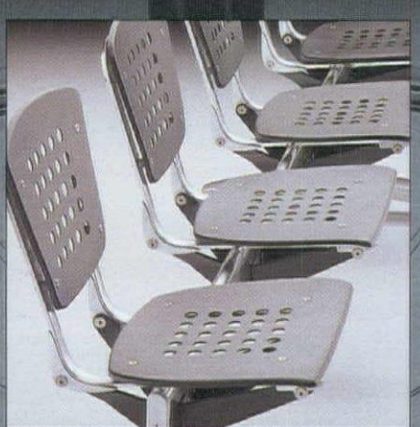

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Austrian encore for Hewlett-Packard

HP DesignJet CAD Printers Take the Vienna Opera by Storm

With opera and stage productions becoming more ambitious and complex in terms of special effects, scenery and props, the Austrian Federal Theatre Association (AFTA) in Vienna has turned to a Hewlett-Packard DesignJet 750C to satisfy its expanding printing requirements.

The AFTA includes the Staatsoper, Volksoper, Akademietheater and a number of production workshops, all of which previously used a Hewlett-Packard DesignJet 650C for printing technical, large-scale stage drawings and plans. As their needs expanded, however, a more powerful printer was needed.

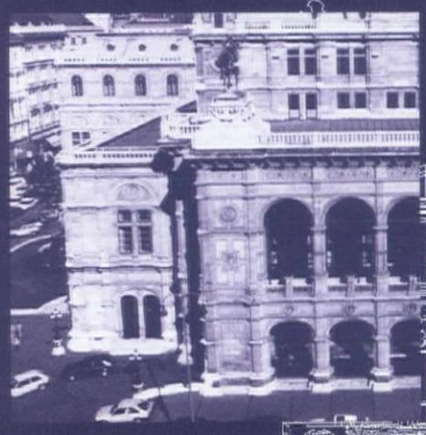
The HP DesignJet 750C provided the right solution. According to Manfred Truley, Communications and Networking Technology Manager, "In addition to the artwork quality, the HP DesignJet offers exceptional software compatibility, ease-of-use and price:performance ratio."

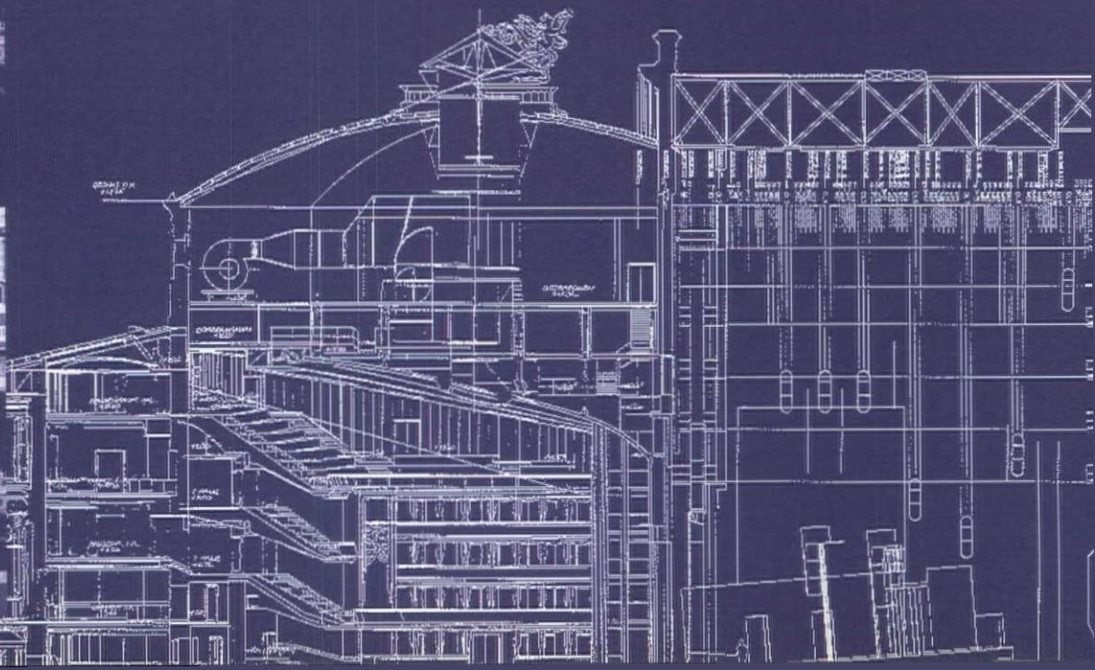
The three-dimensional printing capability of the HP DesignJet 750C enables set designers and technicians to see their ideas clearly, and in colour, in the way the actors and audiences will see them. Its large format output, ability to print on a variety of media and HP ColorSmart technology (providing brilliant, consistent colour even in large blocks) further enhance presentation.

"Increasingly set designers and props suppliers are coming to us with designs already created in Auto CAD, and we can quickly and easily produce large format, high-quality printouts," said Manfred Truley. "The DesignJet's razor-sharp black-and-white output (with precision lines as fine as 0.07 mm), and bitmap graphics and text have made it indispensable to the Association's members."

The arrival of the HP DesignJet 750C has expanded the function of the administrative office's function considerably. In addition, the office is now being used to output construction plans for new buildings, such as the rehearsal stage for the Volksopera and structural modifications elsewhere.

For further information on HP Design Printers and the new HP DesignJet 750C Plus, contact HP on +41 22 780 8111.





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Giving power to the people

1996 witnessed new strides in the world of architecture, many of which were reported in these pages. At last a corner of the veil is being lifted from a global recession that has kept the construction industry down for so much of the 1990s. Even architects, developers and clients in Europe and the US are showing signs of optimism, many involving themselves in monumental celebratory architecture to herald the millennium. This has been most evident in Britain, with plans for the biggest exhibition ever to be held – in Greenwich, London – and schemes afoot for a radical new masterplan for central London by the country's most successful architect, Sir Norman Foster (inspired no doubt by his work with Pasqual Maragall, Mayor of Barcelona, earlier in the decade). Others are continuing the contest for the accolade of "tallest building" – currently held by Cesar Pelli, as his Petronas Towers for Malaysia's oil empire rise above the cranes in Kuala Lumpur – and recently won on a European scale by Foster's Commerzbank in Frankfurt.

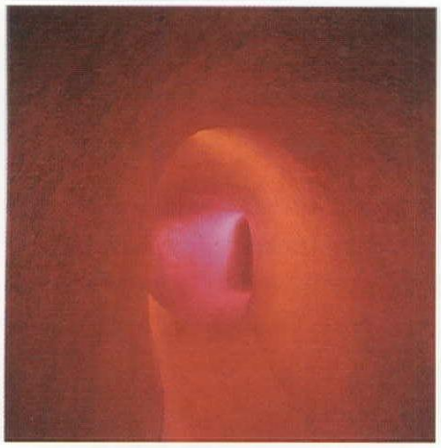
From the perspective of architects and subjects covered in *WA* in 1996 it is perhaps most revealing to note the speed with which developing countries such as the Czech Republic *WA 46*, Chile *WA 48* and Malaysia *WA 51* are producing architecture of astonishing quality, given the economic and labour constraints with which they are forced to contend. In the coming year comprehensive reports on the construction industry in Mexico, India and Russia will be included alongside countries already widely recognised for their international design reputation, such as Italy, and commercial prowess, such as Singapore. In addition to the coverage given to projects in 1996, this year at least one project featured in each Country Report will include interviews with clients, contractors, engineers and end users.

This emphasis on the people behind the buildings is reflected in *The 1997 Survey of the World's 250 Largest Architectural Practices /Design Firms* published in this biggest-ever issue of *WA*. This is the most comprehensive survey of its kind available to the international profession, and it is the inspiration for a further series of surveys in 1997, including a ranking of the largest, and most successful, firms of structural engineers – without whom the architecture would never be built.

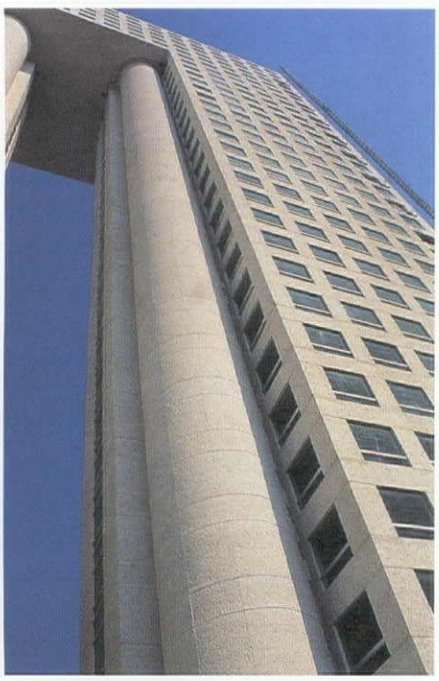
Nicola Turner

After setting up a trial site WA is now officially launching its World Wide Web site. Find us at: http://www.world-architecture.co.uk

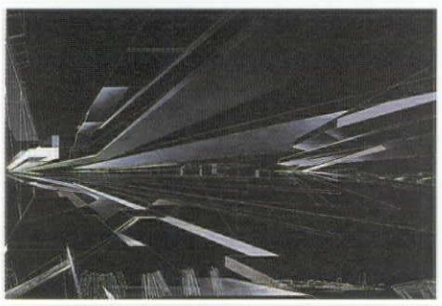
In next month's World Architecture



The Mexican organic architect Javier Senosian"s psychedelic troglodyte dwellings



Los Arcos by Teodoro Gonzalez de Leon and J Francisco Serran, Mexico City



Zaha Hadid's design for an inhabitable bridge across the Thames in London, UK

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COUNTRY REPORT – Mexico

World Architecture visits Mexcico to find out what effect the devaluation crisis has had on the construction industry and to see how firms are positioning themselves to take advantage of the recovery. The competition has fled and the remaining players are able to secure disproportionately large chunks of future deals. For example, Paul Reichman, the Canadian real estate tycoon, has plans to develop a substantial area of the Zocalo, Mexico City's central plaza, and has commissioned an impressive list of international signature architects to help him. Paul Sherman, *Time* magazine's Mexico correspondent, provides an in-depth economic and political analysis, and an interview with HOK, one of the few international practices to have retained an office in Mexico, reveals that the firm have begun exporting services to take advantage of the relatively cheap labour situation.

The first of *WA*s Country Report "blow up's" provides a detailed analysis of the gigantic Los Arcos project by Teodoro González de León and J Francisco Serrano appraised by Miguel Adria, the country's leading architectural critic. This is followed by projects illustrating the nature of work outside the capital: the Monterrey Library by the prolific "Mexicanidad" architect, Ricardo Legorreta; the new Cancun airport by Augusto Quijano; a metro station in Guadalajara by Alejandro Zohn; a spectacular hotel at the tip of the Baja California by José de Yturbe and Sordo Madaleno and finally, returning to the capital, an extension to the Televisa offices by the young innovative hi-tech/Az-tec architectural practice, TEN. *Concept* looks at the soft but psychedelic troglodyte dwellings of the Mexican organic architect, Javier Senosian.
Future Country Reports will feature Italy in March; Israel in April; East coast US in May and Singapore in June.

SPECIAL REPORT – Bridges

World Architecture focuses on the architecture of the bridge with an introduction by David Brown, author of *Bridges*. Brown looks at state of the art engineering technology in projects from the biggest movable bridge in the world, crossing the Suez canal in Egypt at El Ferdan, by the British consulting engineers, Halcrow; to the Venetian sculptor Luciano Vistosi's proposal for a 35 metre all-glass footbridge over the Arsenale Canal, Venice, Italy. The French architect Alain Spielman talks to Graham Vickers about his recent projects in the Loire valley. *WA* takes a look at the legacy of the famous Spanish engineer/architect Santiago Calatrava; the controversial US$2 million bridge between Israel and Jordan; the German architects Schlaich Bergermann und Partner's second Hooghly Bridge in Calcutta, India; Akashi Kaikyo's record 1,990 metre long suspension bridge spanning Japan's inland sea and finally, *WA*'s Canada correspondent, Albert Warson, charts the progress of a 12.9 kilometre bridge, the first fixed link between Prince Edward Island Island and New Brunswick, Canada.
Further Special Reports will cover industrial buildings in March, museums in April and libraries in May.

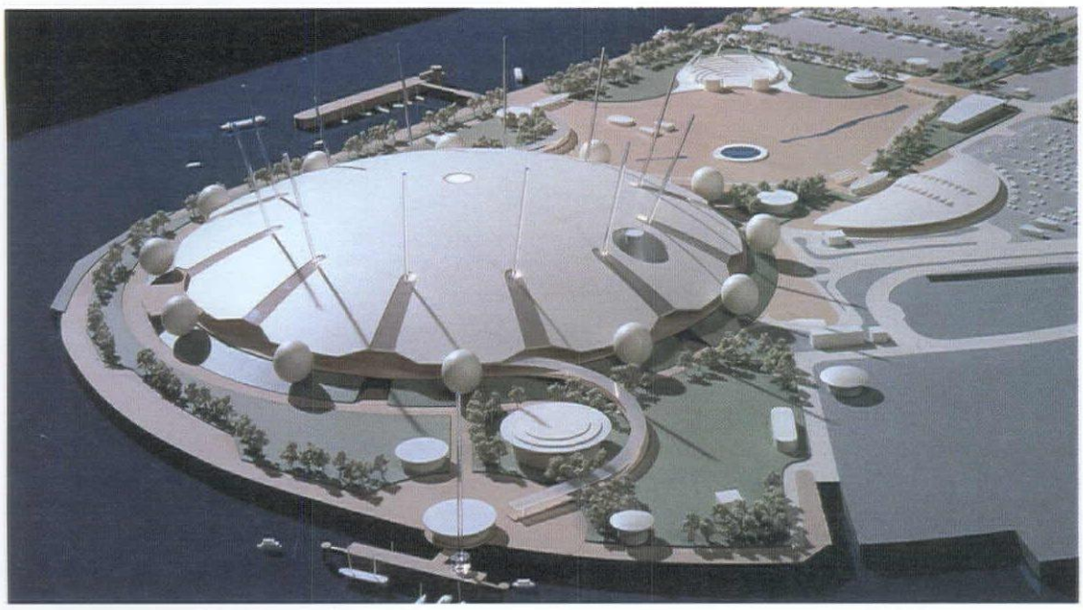
PRODUCTS – Building Services

Tim Ostler asks how the quest for height in architecture will effect building services. *WA* outlines developments in elevator technology focusing on the new Otis range, and looks at airconditioning units specifically at King Miranda and the innovative Paul Priestman range of heating equipment.
In subsequent issues, Products will focus on interior finishes in March and hard flooring in April.

News Review

WA's News and Business round-up

UK's "top two" for world-beating exhibition



Both Foster and Partners and the Richard Rogers Partnership, British architecture's "top two", are heavily involved in the UK's Millennium Exhibition, to be based in Greenwich, London. The Richard Rogers Partnership have applied for planning application to redevelop the Greenwich Peninsula, a disused and contaminated industrial zone in south-east London. If successful the developed area – the site of nineteenth-century gas works – would play host to the largest millennium exhibition in the world.

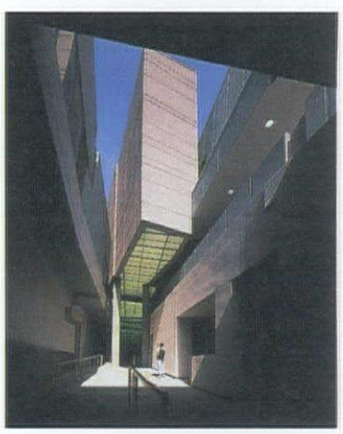
The nature of the site makes the exhibition a "green issue". However, perhaps its principle long-term attribute is the effect that the infrastructure required to hold a year-long exhibition – one that is expected to attract 100,000 visitors per day – would have on reintegrating the peninsula into London's urban fabric. Rogers' proposal centres around the Millennium Dome (above top), engineered by Buro Happold, which with a ground area of 1.4 million square feet and a circumference of one kilometre will be the largest dome in the world. The structure will be temporary, although it will be built with permanent potential. The site will also feature an open-air plaza capable of holding 20,000 people, car and coach parking areas and a park. Both the designers and architects are at pains to emphasise that above all the development is about the exhibition, the building is of secondary importance.

The principal means of access to the site will be via the Jubilee Line underground extension. Foster and Partners have received planning permission for a major transport interchange (above below), located next to the Dome in the heart of the peninsula. The structure is dominated by a 160 metre wide wing-like roof – perforated to allow natural illumination – which will be supported by a steel, tree-like structure. (Work is due to commence on site in April 1997, with completion the following March.) There are also plans to maximise the site's unique location next to the Thames: two piers will facilitate access from the river. Other unconfirmed possibilities include the introduction of a cable-car, a tram system and bus links. The site will not be developed for use by private vehicles.

Imagination, the promoters and designers of the exhibition, have proposed a plan for 12 time zones to be housed in pavilions throughout the dome. It is intended that the exhibition will "evolve" daily ensuring that the visitor will feel part of an "event" rather than a static experience. The presence on the site of both Meridian Point, the point from which Greenwich Mean Time (GMT) is measured, and the historic Greenwich Observatory (1675) offer two natural time-related landmarks, which Imagination may be able to make use of in terms of theming the exhibition. Given that there are less than 1,000 days until opening, time is very much of the essence.

Big names and big ideas at Cincinnati

The cabinet of the University of Cincinnati, USA, headed by Joseph A Steger are beginning to see the first results of their ambitious master-plan for the university. The principal intentions of the plan – to unify the university's east and west campuses and to provide approximately one million square feet of academic and research space – has been overshadowed by the architects connected with the project: David Childes, Henry Cobb, Frank Gehry and Micheal Graves are just some of the names involved. The most recent building to have been completed is Peter Eisenman's Arnoff Center for Design and Art which opened in October. Eisenman's design reorganises the existing 145,00 square feet of the College of Design, Architecture, Art and Planning (DAAP), housed in three separate buildings; provides a further 150,000 square feet of new exhibition, library, theatre, studio and office space and presents the College as a unified whole.



Eisenman's Arnoff Center for Design and Art

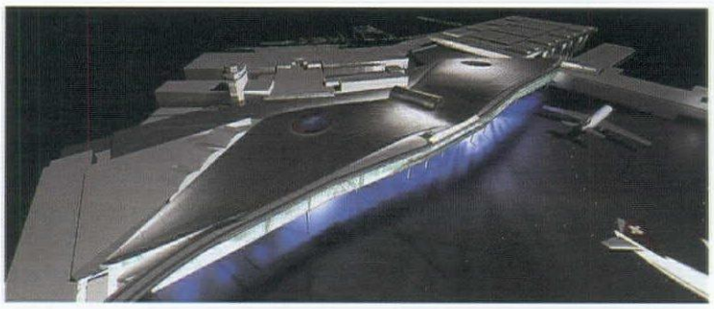
Grimshaw on the international stage

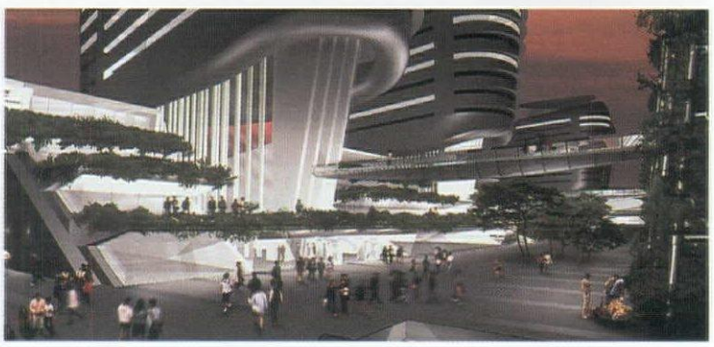
British practice Nicholas Grimshaw & Partners, largely known for their work at home, have won two major overseas competitions, one in Switzerland and the other in South Korea. The plans for Flughafenkopf Zurich Airport 2000 (right, top) seek to unify a currently disjointed facility into a coherent whole "in the belief that airports should be places of clarity and comfort rather than of confusion and dismay". This will be achieved through placing the airport's amenities under one sweeping roofscape.

The two pier entrances are major features of the site and will be visible from everywhere in the space. Retail outlets will be increased in volume but dispersed throughout the complex. This will provide the city of Zurich with a major "all-hours" retail centre and limit the potentially oppresive and distracting presence of a "shopping area".

Grimshaw's second venture, in association with the Seoul firm Kunwon, is the design of a high speed rail terminus in Pusan, South Korea (right, bottom). The winning master-plan, which includes a two-kilometre stretch of railway adjoining Pusan's harbour and a 16-platform station, treats the site as an "edge", mediating between the mountains and existing street pattern on one side, and the sea on the other.

A principal feature of the master-plan is the "Eye of Pusan", the station itself. Its form is derived from the concourse below, but its nickname comes from its tilted and domed honeycombed structure.





In brief

BOSNIA AND HERZEGOVINA

Reconstruction is not a selective matter

A World Bank-European Commission has announced that funds to rebuild Bosnia and Herzegovina are being successfully turned into contracts and construction. Approximately US$880 million of the US$1.9 billion of pledged aid is already under construction, under contract or out to bids. However, whilst significant strides have been taken in the housing sector, infrastructure development is still lagging some way behind. With the onset of winter this trend was inevitable but Bosnia and Herzegovina's Prime Minister, Hasan Muratovic wants to ensure that funds be spread out over a broader building spectrum in the future.

FRANCE

Pomp and circumstances

The Pompidou Centre, Paris – designed by Richard Rogers and Renzo Piano – has closed for repairs and internal reconfiguration. Both halves of the original duo are involved in the US$15 million project, which includes a new basement cinema and reworking of both the gallery and library floors. The Pompidou is expected to reopen by 2000.

INDONESIA

FRCH renovation in Jakarta

The renovation and expansion of Plaza Indonesia, Jakarta has been undertaken by the Cincinnati office of Fitzgerald Roche Cicio & Hambert (FRCH). The four-level, 650,000 square-foot mall will be enlarged to one million square feet on six levels. The project is scheduled for completion in 1999.

LAOS

Dam over troubled water

The Asian Development Bank has approved a loan of US$52 million to partially fund construction of an earth embankment dam on the Leuk river, Laos despite pressure from environmental groups. Located 80 kilometres north-east of Vientiane, the US$112 million dam will divert water into the Man Ngum Reservoir. The 45 metre - high, 800 metre-long dam will have a capacity of 185 million cubic metres of water. Beca Worley International carried out the preliminary engineering.

UK

Stockley Park has another phase

The Stockley Park consortium is planning the third and final development phase of Stockley Park business park, near Heathrow, England.

Building tender prices gain ground

Davis Langdon & Everest (voted top construction cost consultants in *WA's World Survey* featured in this issue) have announced that in the third quarter of 1996 building tender prices jumped by three percent, after two successive quarterly falls. Prices are now back to where they were at the end of 1995.

AMEC seek a European alliance

AMEC, UK-based contractors, are in discussion with French electrical and contracting construction group, Spie Batignolles about the possibility of purchasing a stake of up to 40 percent of the companies which constitute Spie. If the move were to take place the combined turnover of the two companies would be approximately £4.4 billion/US$6.6 billion, making the alliance the seventh largest contracting group in Europe.

USA

RTKL preserve us

RTKL Associates have formed a preservation studio, to focus on the firm's preservation, restoration and rehabilitation projects. The move has come about in recognition of the increasing demand amongst building owners to hold on to their identity through historical preservation, and the subsequent financial viability of the market sector to even the world's leading architectural firms.

Architectural Alliance

Minneapolis-based Architectural Alliance have been commissioned by the State of Minnesota to design a new 430,000 square-foot office, distribution and parking facility for the Minnesota Department of Revenue.

AND FINALLY...

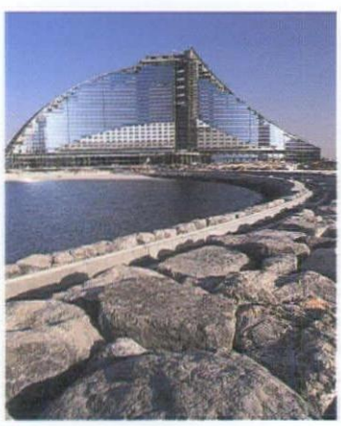
Make a date with WA

The 1997 *World Architecture* diaries are now available. Also now out, the first in the *World Architecture* series of *Special Construction Country Reports: South Africa from the Ground Up*. The reports, which are published independently to the Country Reports within the magazine, are an essential practical guide to the construction business in each country.

Contact Peter Gilbert on tel: +44 171 470 7000, fax: +44 171 470 7007, for further information.

Milestone in the Middle East

Dubai is an unlikely location for architectural innovation. However, 15 kilometres south of the capital of the United Arab Emirates the tallest building in the Middle East is under construction. The Chicago Beach Resort Development is comprised of two principal elements: the Tourist Hotel and the Tower Hotel. The former – due to open in late 1997 – is situated on the shore of the Arabian Gulf. Its 26 storeys, and dramatically curving roof line will eventually be overshadowed by the Tower Hotel. Reaching 321 metres in height, the 200-suite, luxury development is situated on a triangular, man-made island, 400 metres into the Arabian Gulf in 7.5 metres of water. The island is protected by hollow concrete armour units that provide a clear surface, topped with selected natural rocks. It is linked to the mainland by a slender, gently curving road bridge. The Tower's dynamic form is achieved with exposed diagonal steel wind bracing, founded on groups of concrete piles which penetrate the sea floor to depths of 25 metres. The accommodation wings enclose an immense triangular atrium, over 170 metres high, which is closed on the land-facing side by a double-skinned, Teflon-coated, woven-glass-fibre screen. The project architects, W S Atkins & Partners Overseas – who have undertaken total construction management of the development – expect the tensile structure to be a world first in both its verticality and extent. The Tower Hotel is due for completion in 1998.



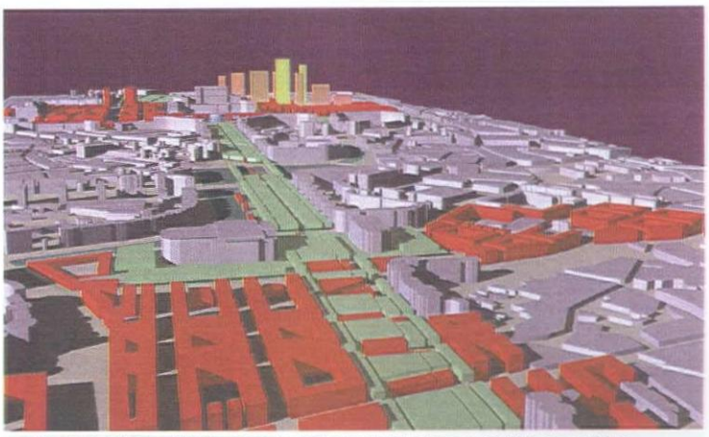
Kevin Phillips. The Tourist Hotel from the man-made island

Face-lift for Bucharest's boulevards

by Layla Dawson, Germany correspondent

The Hamburg architects von Gerkan Marg und Partner, and landscape architects WES und Partner have won a planning competition, held by Bucharest, UNESCO and the Romanian Architects Society, to give the economically and politically wounded Romanian capital a new image for the coming millennium.

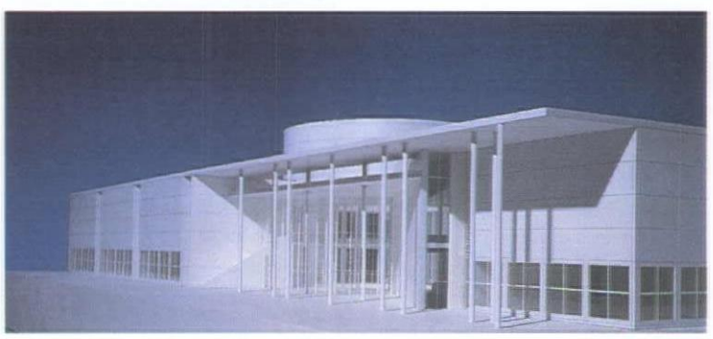
Meinhard von Gerkhan and Joachim Zais have accepted the axial planning of endless vistas and Ceausescu's oversized palace as historical structure, and tried to introduce a new democratic quality within this existing urban plan. Using Romania's national symbol for strength and continuity, the oak, in groves and avenues, empty spaces and straight lines can be softened and the foliage will eventually form a smaller protective canopy in the cityscape. The introduction of the park theme will also keep empty sites available for future development based on a flexible block plan between the principal axis. New buildings, to accommodate democratic functions, will fill the currently open space around the People's Palace while the palace itself will serve as congress centre, museum and parliamentary administration centre. In this way the people who suffered most to finance this monstrosity will have unrestricted access to its marble halls and lobbies.



von Gerkan, Marg und Partner's winning entry in "Bucharest 2000" competition

Whether this plan will ever be realised depends on how much interest the Romanian government and UNESCO can drum up among investors. Architects should also show some initiative by teaming up with investor clients for specific sites. Unfortunately within Eastern Europe as a whole, Romania falls a long way behind other nations as an attractive area for investment.

New Museums in Germany



Model of the Modern Pinakotheks, Munich

by Layla Dawson, Germany correspondent

In spite of cut-backs in the public sector, Germany's museum building programme continues. In Berlin I M Pei, apparently after the personal intervention of Helmut Kohl, has been invited to design an extension to the German History museum in Unter den Linden. Christoph Stölzl, museum director is happy to have won the services of "one of the best modern architects" and sees the project as a plus for the capital. The extension will house temporary exhibitions. In Munich, work began on 9 September 1996 on the Modern Pinakotheks which will stand next to the Old and New Pinakotheks. Costing DM200 million the 21,300 square metre exhibition space will bring together four separate collections; the city gallery's modern art collection, a new design collection, Munich Technical University's architectural exhibits and the city's graphic collection. This will be the largest museum project to date in Germany. At the same time in Nürnberg the DM100 million New Museum has also started on site. Situated near the main railway station in the old part of the city it will show contemporary art and design. Both Munich and Nürnberg are programmed for completion in 1999. In a statement of almost defiance against the waves of budget economies, which have especially effected the arts, the cultural ministry spokesman Toni Schmidt described the new projects as signs for the future.

VOA Hotel in Columbia

US architects VOA Associates Inc are to start work on the new-build Hotel y Centro de Convenciones Chipichape, Cali, Columbia in January 1997. Renaissance Hotels are to handle operational management of the 250-room luxury complex. Located on approximately three acres of Cali's central business district the US$19 million development will feature two 12-storey towers constructed of reinforced concrete and clad in glass and local sandstone. The complex includes a meeting space of 95,000 square feet. The Hotel y Centro de Convenciones Chipichape is one of several VOA hospitality projects in South America.

Music to Bosnian ears

London-based architects, Nicholas Lacey and Partners are collaborating with local architects Strai-Grad on the Mostar Music Centre, Bosnia. Funded by War Child, the charity originally set up to alleviate the suffering of children in the former Yugoslavia, and endorsed by both Luciano Pavarotti and David Bowie (amongst other superstar musicians) the Music Centre is located on the site of a former primary school, built in 1908. Due to bomb damage the only remaining part of the original structure is the Austro-Hungarian facade.

The centre which is set to open next summer will house a music school, a music therapy unit, arts facility and a recording studio. The design scheme has sought to harmonise these elements into a cohesive unit, one that will appeal not only to traumatised children but also to the local community. The Centre has been designed around two courtyards – one covered and the other uncovered – linked by two glazed sliding doors. The courtyards can be used as informal performance areas or as a larger, single performance space.

Upholding law and order in Tucson, Arizona

Norman Pfeiffer, with executive architect Leo A Daly, both of Hardy Holzmann Pfeiffer Associates, are currently designing the new Evo A DeConcini Federal Building and US Courthouse in Tucson, Arizona. The US$65-70 million courthouse is the least expensive, on a cost-per-square-foot basis, of any under the US General Services Administration's (GSA) Design Excellence Programme. Located on the corner of Congress Street and Granada Avenue in Tucson's business district, the courthouse will house the six subdivisions that are presently located throughout Tucson.

The 413,00 square-foot complex is comprised of two towers of six storeys each, clad in plaster, masonry and aluminium curtain-walling and corrugated metal panels. Construction is due to be completed by 1999.

People and Practice

Obituary

David Alsop

David Alsop, Senior Vice President of the Institute of Structural Engineers, UK died on 18 October 1996. Alsop, 60, was director in charge of the structural engineering department at Oscar Faber's headquarters. He had been with the company since 1973.

Institute news

UK

Woman in the race for the RIBA

The election for the 1997-99 RIBA Presidency will be contested by David Rock and Clare Frankl, who is bidding to become the first female president of the institute. She was a vice-president from 1978-80. The results will be announced on Friday 13 December.

Architecture Foundation New Director

Jeremy Melvin has been chosen as the new director of the Architecture Foundation. On the announcement of the appointment he said that he was "looking forward to developing th Architecture Foundation's position as an independent cockpit for innovative and informative ideas about the buildings, public spaces and infrastucture which make up our cities". He replaces Ricky Burdett who has moved to the London School of Economics at the direcor of the new City Policy, Planning and Engineering Programme.

USA

New director appointed for Chicago preservation programme

The School of the Art Institute of Chicago's Master of Science in Historic Preservation programme have named "preserver planner" Vince Michael as director. A member of the board since the programmes's inception in the autumn of 1993 Michael has played an active role in guiding the only preservation programme of its kind in Chicago.

Company news

UK

Paris Posting for Entec Public Relations Manager

Alison Tipping, PR manager with international environmental consultancy, Entec Europe Ltd – a subsidiary of Northumbrian Water Group – is to move to a post with Northumbrian's parent company Lyonnaise des Eaux, Paris-based water and environmental services company.

USA

RTKL into Chicago

RTKL Associates have announced the opening of a Chicago office. Jerry L Quebe and James C Allen will join the company as senior vice presidents and co-directors of the new office, which is located at 515 N State Street, #2640, Chicago, Illinois 60610, USA. Tel: +312 645 1500. Fax: +312 645 1580.

Perkins and Will out of Chicago

Chicago-based firm Perkins and Will have opened an office in Pasadena, California. The office will focus on educational projects and will be headed by Gaylaird Christopher, who recently joined Perkins and Will as principal of its education group.

HNTB think of the environment

HNTB Corporation have named J Lynn Hartford as senior vice president and national chairman of environmental engineering services. Formerly chief operating officer of Brown & Caldwell, the California-based environmental services firm, Hartford will be based at HNTB headquarters.

International construction opportunities in Peru

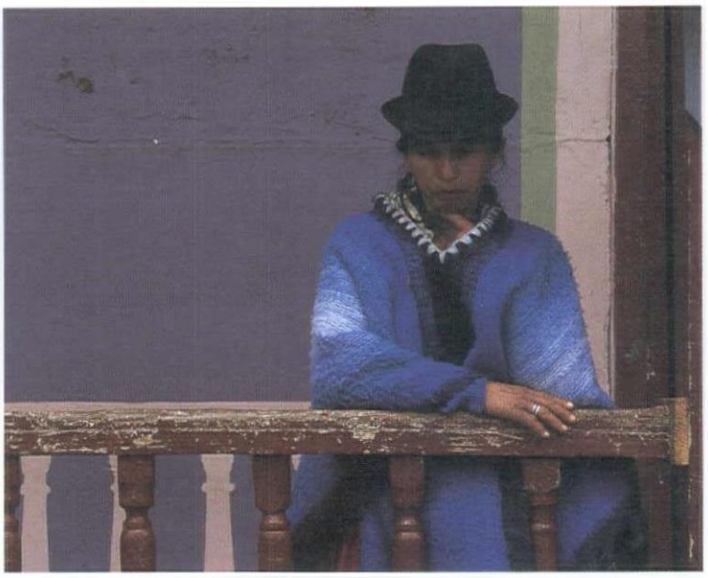
Six years of firm government and strict fiscal control under President Fujimori have re-established Peru as a country with a future. With the capture of the leaders of the Maoist anti-government terrorist organisation, the Shining Path in 1993, the era of widespread lawlessness and near economic dissolution is in remission. Inflation has dropped from 7,500 percent to 10 percent annually.

However, in the wake of a dramatic six year turn around under Fujimori's leadership, a period of consolidation might be appropriate, but it also looks inevitable.

While the reforms and growth are clearly benefiting construction, there remain two viewpoints for the medium-term forecast. One view is that inflation will continue to fall and growth will continue but stabilise. The other is that a time bomb is being generated and that "Tequila will change into Pisco", when a Mexican-style collapse occurs. The overall view however, is that Peru's construction sector will not experience a heavy recession as it has a cyclical past.

Economic advisor, José Marcos Rodriguez, Second Secretary of the Peruvian Embassy in London, claims that Peru needs "sustainable growth" and that the extraordinary growth of 13.1 percent 1994 "was not real". The prediction for 1997 is a percentage growth of between four and five percent according to the figures generated by BCR, Peru's Central Bank.

What does this mean for the construction industry? At the start of the Fujimori administration Peru's physical infrastructure was in an advanced state of decline. From 1993, following an increase in multi-lateral funds and a greater flow of investment aimed at educational infrastructure and the repair and construction of roads, the construction sector has performed well and in 1994 overall growth was 34.5 percent. As a result, the construction industry as a whole has grown by 75 percent since 1991. Disbursements from the World Bank, the Inter-American Development Bank (IDB) and the Andes Development Corporation (CAF) are assisting in the financing of the infrastructure development in Peru. The table below shows the infrastructure investment programme from 1994 to 2003.



Case study of international architectural involvement:

The message is "keep out"

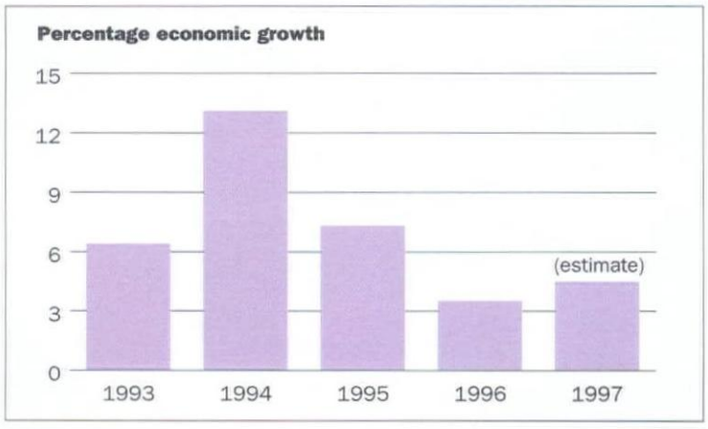
The Miami based, Arquitectonica was based on the principal Bernardo Fort-Brescia's Peruvian heritage. The US commission for an embassy in Lima was actually a mixed blessing because of tensions that then existed between the US and Peru, and because it came at the same time as the US$54-million Peruvian Banco de Credito commission in Lima. At the time that Arquitectonica designed the American embassy in the Monterrico district of Lima, it seemed only prudent to design a building that would meet the strictest security standards. But the Peru that greeted the new embassy is a different place.

In its secure but splendid isolation, the US embassy bears a striking resemblance to the new South African Reserve bank building in Johanesburg designed by Meyer Pienaar architects, which was also conceived in a time of conflict. But in the new circumstances the building now seems to verge on the paranoid. Like South Africa, Peru was plagued by violence but recent events have soothed the situation.

In this context, the Arquitectonia building seems defensive. American embassies everywhere seem to be isolated from their context: in Chile, the monolithic American Embassy built by Leonard Parker Associates in Santiago seems dislocated from the surrounding urban fabric.

This is largely because the Foreign Building Operations' security policy after the US Embassy and marine barracks in Lebanon were attacked by truck bombs in 1986 meant that subsequent American embassies were designed to incorporate security provisions where employee/client convenience was a lower priority.

The design was also shaped by security regulations, for example, Fort-Brescia was not able to realise his "Z" shaped plan for the embassy because "the corner is the weak point" and the stringent guidelines in addition to the 100-foot setback which dictated the percentage of surface that can be devoted to windows virtually pre determines a bunker-like appearance.



Infrastructure Investment Programme 1994 - 2003 (US$ Millions)

Sector	Total	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Roads	5786	345	542	591	530	586	565	672	685	675	595
Railways	42	12	28	2	0	0	0	0	0	0	0
Airports	245	19	54	53	39	20	12	12	12	12	12
Ports	505	0	62	131	146	62	34	32	16	16	6
Progress in residential infrastructure	90	0	10	10	10	10	10	10	10	10	10
Engineering etc.	654	38	68	76	70	67	61	72	71	70	61
Total	7322	414	764	863	795	745	682	798	794	783	68

Ellerbe Becket rallies support to fight ADA disabilities suit

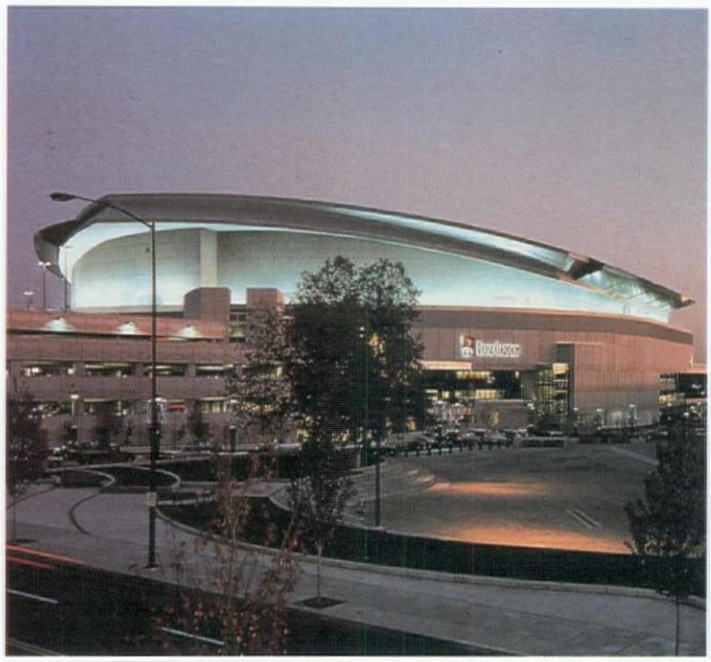
by Katherine Kai-sun Chia
US correspondent

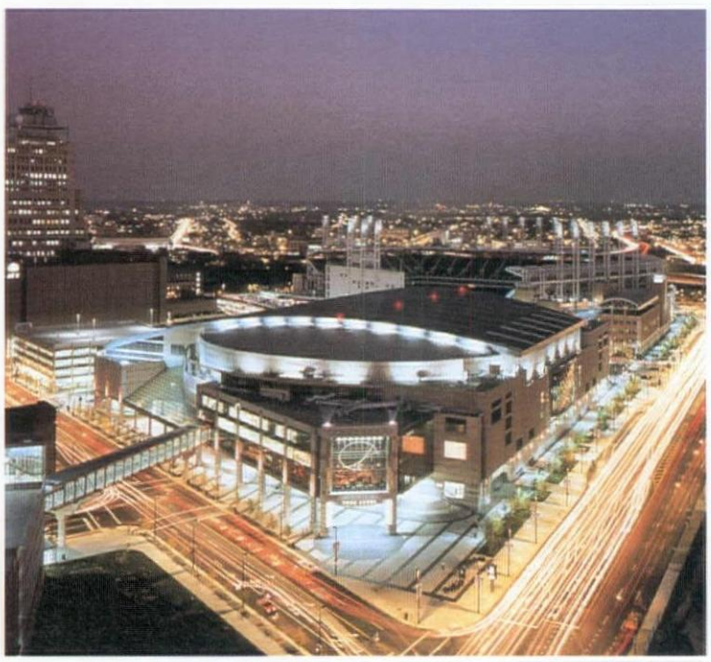
The United States Justice Department has sued Ellerbe Becket for designing inaccessible sports arenas in Boston, Portland, Philadelphia, Buffalo, Washington DC and Cleveland. The suit, filed after eight months of settlement negotiations, charged that Ellerbe Becket designed six new arenas that do not comply with the Americans with Disabilities Act (ADA), a law enacted in 1990 to provide comprehensive civil rights to people with disabilities. It alleges that "the arenas fail to provide spectators with disabilities a line of sight to the playing surfaces that is comparable to that of other spectators, as required by the ADA since 1993".

Ellerbe Becket is fighting the lawsuit, stating that "The Department of Justice, the Paralyzed Veterans Association, and Ellerbe Becket all are focused on exactly the same goal – to have wheelchair patrons in sports arenas have all of their needs met. The issue is focused on the exact interpretation of those needs."

So who is really to blame? Interpretation of the ADA has been a source of much confusion for the architecture profession. Stuart Binstock, the American Institute of Architects (AIA) vice president, Federal Affairs, said, "The ADA is a civil rights law that was not written as a building code but is being treated that way. This, in and of itself, is a problem." The Justice Department is authorised to certify local building codes that meet or exceed the ADA standards. "If architects follow a certified building code, they will know that they are complying with the ADA," said Binstock. However, the certification process has been painstakingly slow – in the last three years only Washington and Texas have received such certification.

The Americans with Disabilities Act's Accessibility Guidelines (ADAAG) provide design guidance and criteria for the design, construction, and alteration of public accommodation and commercial facilities. The Department of Justice publishes a Technical Assistance Manual to attempt to clarify in explicit terms the ADA's design requirements, but the Manual is not a part of the law and is unclear in certain areas of compliance.





***Top** The Rose Garden Arena, Oregon. **Above** Gund Arena, both by Ellerbe Becket*

The suit against Ellerbe Becket arose from the ADA's requirement for "comparable lines of sight" for all spectators in sports stadiums. Under suggested architectural standards incorporated into the ADA, stadiums must set aside at least one percent of all seating for wheelchair users, distribute it throughout the stadium and provide lines of sight comparable to those of other spectators. The Department of Justice interpretation claims that Ellerbe Becket failed to provide a proper line of sight for all spectators in wheelchairs to see over patrons in front of them who stand up. However, neither the ADA nor ADAAG expressly state this "standing patron" requirement. Sports stadiums designed by Ellerbe Becket do provide unobstructed, elevated sightlines for wheelchair spectators so they can see over the heads of seated patrons.

"We believe architects – just like owners – are responsible for designing new facilities so that they are meaningfully accessible," said Deval L Patrick, the Assistant Attorney General for Civil Rights. "In fact, architects are as well positioned as anyone to ensure that the new facilities are designed right from the start."

Yet, is the architect legally responsible for enforcing the ADA? The ADA states that only "owners and operators" of public facilities are legally responsible for ADA compliance. Although the architect advises on ADA issues during the course of a project, owners and operators, with their own legal counsel, often make the final decision on how the architect should proceed based on site, programme, and budget constraints. During construction, the builder is usually contractually bound to the owner, not the architect, and the owner authorises changes in the scope of work. The architect has no legal authority to change the design if the owner chooses to proceed with a design that conflicts with ADA requirements.

Randy Edwards, Senior Vice President of Ellerbe Becket in Kansas City, said that the firm is assembling a forum of architects and engineers doing sports work, team members, disability groups, and the Justice Department to analyse the ADA and reach a consensus on how best to accommodate everyone. In the meantime, the firm has stated it will not stop any work in progress. The Justice Department is currently seeking an order preventing Ellerbe Becket from continuing to design stadiums and arenas that do not provide the proper line of sight. Disability rights advocates in Washington, Boston, Portland, Philadelphia and Buffalo have also filed private suits raising the line of sight issue.

New Urbanism endorsed by HUD

by Kelly Shannon, US correspondent

The United States Department of Housing and Urban Development (HUD) has formally endorsed the principles of New Urbanism for the country's beleaguered urban housing projects. Earlier this year Henry G Cisternos (HUD Secretary) recommended – via a pamphlet, *Principles for Designing and Planning Home Ownership* – 12 principles for public housing officials to begin applying throughout the country. The neo-traditional aesthetic elitism of the New Urbanism has previously been a politically-correct sugar-coating of suburban sprawl (as in Seaside, Florida and Laguna West, California) and it is difficult to imagine how the underlying principles will translate to lower-income city neighbourhoods needing emergency relief.

Picket fences, trees and front porches are among the physical ingredients prescribed by New Urbanism. The reduction of auto-independence to create a charming, mixed-use pedestrian community, is commendable, however, the appropriateness of these policies needs to be raised in cities where affordable public housing is becoming a pipe-dream. Public housing in the US has always carried dismal, physical as well as conceptual connotations. Nonetheless, the new policy of promoting photogenic, award-winning architectural design as a cure to society's ills, is irresponsible and a mask for a government retreating from the public realm. The first opportunities for the principles to be applied will be in Hope VI, a HUD programme created in 1993 "to find innovative means of transforming the nation's most severely distressed housing projects". Two billion dollars has been appropriated for the programme and thus far US$1.5 billion has been awarded to 38 public-housing authorities. However, within the broader perspective, since the Reagan and Bush administrations, HUD's budget has been slashed from US$30 billion to US$10 billion annually, and the Congress is seeking to abolish the department completely. Nonetheless, according to Christopher Horing, HUD's deputy assistant secretary, "Hope VI is the end of public housing as we know it..."

Architects caused more damage to post-war Germany than bombs

Bomb damage in Potsdam Platz, Berlin

by Layla Dawson, Germany correspondent

On 16 October at the Deutsches Architektur Zentrum (DAZ), Berlin Dr Wolf Jobst Siedler was honoured for his life's work in architecture and town planning with a prize presented by Klaus Töpfer, the German Federal Building Minister.

Siedler, who celebrated his seventieth birthday this year, is best known for his book *Die gemordete Stadt (The Murdered City)* in which he came to the tragic conclusion that German cities had suffered more from the work of architects and city planners in the post war era than from the Allies' bombs. However, instead of pleading for an historical restoration he supported a redevelopment which would knit tougher remaining landmarks and patterns with contemporary uses and new buildings.

The occasion for the award was the opening of an exhibition of winning and runner-up entries in the national competition held by the Deutsche Bank Sparbau AG, the building savings arm of the Deutsche Bank, for the design of public open spaces in cities. The competition attracted 150 realised plans and 30 studies from local authorities, schools, city planners and theoreticians. The five man jury which included Jean Christophe Amman, Director of the Frankfurt Museum of Modern Art, Vittorio M Lampugnani, ex-editor of *Domus* and professor for city planning history in Zurich, and Werner Strodhoff, architectural critic, – awarded prizes to ten built projects and seven theoretical works.

Not only expensive and spectacular projects won prizes. Smaller examples, such as the Klosterhof in Pirna or the Rathausvorplatz in Ritterhude, were also winners. The arguments for and against restoration or totally new concepts has lead to continual controversy. In Berlin the development of Potsdam Platz has been radical. In Frankfurt am Main the Römer, a cobbled sloping plaza with fountain, ringed by half-timbered and sandstone buildings, was recreated according to its pre-war design to house post-war offices, shops and tourist restaurants. Some places, like Hilesheim's market, have been through two transformations. In the 1950s a wholesale demolition gave rise to a larger plaza with modern buildings followed in the 1970s by a decision to revert to a policy of historical reconstruction. **WA**

OnScreen

Below left *Still from Raoul Servais's Taxandria, perhaps the last surrealist film.* ***Bottom*** *Schematic diagram illustrating Yamaguchi Lab's sytem for interaction between outworkers and the database*

World Architect? No, world engineer

François Schuiten admitted in a recent *Nov'Art* interview that his ambition is to engineer worlds. The lop-sided city created for the Raoul Servais film *Taxandria* would certainly appear to confirm this. Servais worked with René Magritte and Edouard Delvaux in his youth, and François Schuiten had created a series of impossible urban landscapes for his *Cités Obscures* cartoon books. *Taxandria* is perhaps the last surrealist film, and the first surreal multi-media, made possible by the most recent computer technology. The sloping city, pierced by raw and carved stalagmites, is the menacing backdrop for the strange rituals of the story. Various architects, including Philippe Starck, have talked about their interest in designing virtual environments, and even video game scenarios.

The recent Pixel-Ina Immagina awards in France also highlighted this cult of lost or imaginary cities, with prizes for Christian Boustani's *Brugges* and Caro and Jeunet's *City of Lost Children*. This interest in new urban landscapes is perhaps an aspect of millenarianism – where are we going to live in the twenty-first century? But it is eloquent proof of how contemporary technology empowers the creative imagination to move from one medium to another, from cartoon to video to architecture. And the rules for engineering worlds? "There are none," according to Schuiten, "except to remember that what makes a city beautiful is the accumulation of layers of time and memory".

Software Update

As predicted in *OnScreen WA*49, Fractal Design's merger with Ray Dream has now produced a new 3D graphics product as well as Fractal Expression for 2D graphics, known as Detailer. It uses Fractal's skills at flat surface rendering to provide a large tool-kit for rendering 3D objects and 3D animations. In the words of Fractal Design's CEO, Mark Zimmer, "Detailer takes Natural Media technology [as used in Expression and Painter] into a new dimension". This will also provide a further range of expressive possibilities for architects and renderers already familiar with Ray Dream Studio. Among the range of mapping options are texture, bump, highlight, reflection and glow, and multiple undo – up to 32 instances. Multiple floating selections are also available, in a package that rounds out Fractal Design's product range and crowns the merger with Ray Dream. Detailer is available on both Web and Mac platforms.

Contact Fractal Design via http://www.fractal.com

Designs on your office

If you want to know how you will be working in a decade's time, the Japanese have an answer for you. A research team at the Yamaguchi Lab in the Department of Architecture and Design at the Kyoto Institute of Technology have been analysing working systems using new communications technology and predict that new work patterns will soon emerge in architectural offices. "The next-generation architectural design environment will change largely the work styles of architects." Seeing networking technology as the key to shared work practices and truly digital design, the research team propose a model based on the individual architect's or designer's workstation as one element in a linked structure embracing the whole design team with the concomitant that architectural practice is increasingly a team effort. Thus the Homebase is part of a Shared Workstation which is one of the units in a Collaboration Laboratory. The strength of their solution, which is currently testing on site, is the balance of individual creative space with direct communication with the group. More information at *http://archigraf.archi.kit.ac.jp*

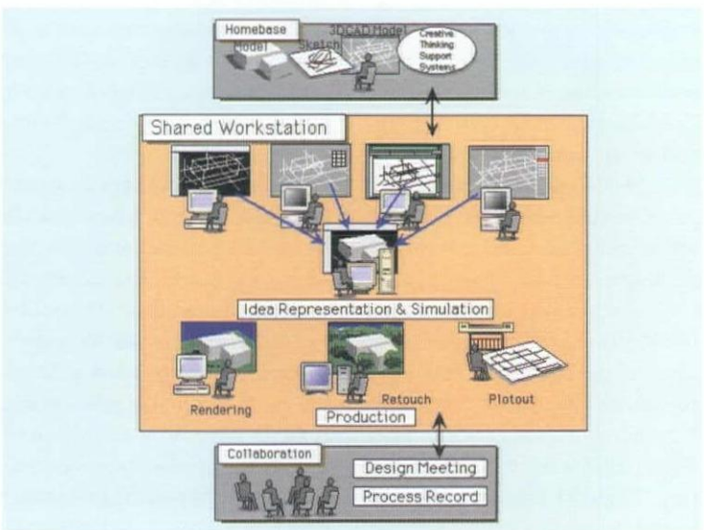
Hound Dog

Need to go fetch but don't know where to look? Autonomy, a British/American research group, claim they have the first commercial autonomous agent program. Autonomous agents (see *OnScreen WA47*) are computer programs that learn from the user's behaviour and experience so as to act on their own initiative rather than just react to specific instructions. Autonomy's hounds can be "trained" by a simple sentence and will then hunt the WWW for sites with related information. Sites that met the criterion can be downloaded into a personal library, which the hound will refer to before going out on the next foray. The advantage of the agent over a standard search program is that it looks for content, not just for matching word strings. This can be useful when an exact term is not known: for example wanting to know about building regulations for hardwood flooring in Canada without trawling through all regulations for all woods. But Autonomy has got some way to go before becoming the Negroponte ideal of a true autonomous agent. *WA* sent the beta hound out with the training slogan "all architectural competitions are impartial", but it hasn't come back yet...

Contact Autonomy at http://www.agentware.com

Web Site of the Month

Nursery rhymes and traditional stories are often politically incorrect, what with lycophagic pigs and cross-dressing cats. Now they are architecturally incorrect as well: straw houses are good for you. They are low-cost, have good insulation and weatherproofing, and do not rot (unlike houses of hay bales). Secondary straw products are also going to be of increasing importance in the construction industry. This news is just one element from *Environmental Building News*, a forum for green ideas, news and issues in architecture and construction. It draws on a wide range of technical expertise to offer practical and well argued solutions, not just enthusiastic opinions. Other features compare wood and steel as materials, and list conferences and events (mainly in the US.) The site is straightforward rather than glamorous, but it is very useful as an information resource. *Environmental Building News* is at *http://www.ebild.com* **WA**



Triumph of the popular image

One of the most interesting things about tourists these days is the way they all take photographs of buildings. Architectural photography used to be a professional matter carried out by experts with very expensive equipment, but not any more. Today equipment is cheap and amateur photography magazines with very large circulations are so interested in architectural photography that they feature collections of readers' architectural photographs, inviting guest experts to comment on their quality. As a result – if we set aside the whole other world of computer-generated images – the difference between the best amateur and the worst professional architectural photography is down to time and weather.

This development is important in a number of ways, not least because it suggests that the whole public perception of architecture might be changing. Certainly in recent years it has become clear that popular architectural photography is one facet of the process of consumerisation that the whole subject of architecture is undergoing in the developed world. In Europe and North America professional deregulation, advertising, celebrity competition judging and public participation programmes have created a new climate in which, far from being regarded as near Gods – as were the giants of the modern movement 50 years ago – today's successful architects are seen as performers whose work is as instantly accessible as popular music. In Europe a lecture by Frank Gehry will be a sell-out, not so much among practicing architects as among students who are uncritical fans, attending in the same spirit as they might attend a concert by Mariah Carey. In the United States a lecture by Philippe Starck will attract the same massive throng, with the same chemistry at work. This mystery, how the perception of architecture in the public mind moved from the complexity of brain surgery to the instant accessibility of singers and bands, has never been properly explained. Is it not at least possible that it was the massive popularity of photography that brought it about?

Today everyone takes photographs of buildings and – as was once believed by aboriginal peoples the world over – the effect of taking a photograph of something is that the camera steals its soul. If, therefore, everybody starts taking photographs of architecture, architecture will belong to everybody. The consumer logic is simple. Visit a city, photograph interesting buildings, get told who designed them, look at your prints with a critical eye, become an expert on architecture.

There is something else interesting about the phenomenon of mass architectural photography. Unlike the parallel consumerisation of architectural ideas – which can be redirected by opinion-formers into a celebration of heritage values and a rejection of practical modern design – the treatment of architecture in popular photographic magazines is not at all judgmental. The "how-to" features and "photo-clinics" they present are extremely catholic in their representation of architectural styles. For every columniated classical facade shadowed into three dimensionality by sharply raking light, there is at least one modern office block or hi-tech shed to provide an abstract composition.

Clearly, as far as amateur photographers are concerned, architecture is still what Le Corbusier called it more than 50 years ago: "the magnificent display of forms under light", not the ideological and technological battleground of critics and practitioners. Thus when a well-known architectural photographer (never featured in *WA*'s *Gallery/Free print offer* spot, I hasten to add) informs the readers of a popular weekly photographic magazine that, "Ninety percent of architecture fails because planners and architects produce pustules on the landscape, monstrosities that I shoot just to keep a record of what they are doing" his tone is not at all typical. Far more common is the type of modest, value-free instruction that comes from another photographer who suggests that "A modern silver building with red stripes will often look better under harsh light with a bright blue sky, whereas an old church will look best in soft light." Or another, who simply describes his job as being to make a building look as attractive and interesting as possible, who opines thoughtfully; "If the building to be photographed has integrity in its design, then I think the architecture is as I neatly expressed in a five-foot patch of wall as it is in the whole structure."

In the long run photographs of buildings by amateurs may not reflect "architectural quality" in the sense that academics and arts administrators understand the term, but they certainly reflect a surprising grass-roots appetite for all styles. Amateur photographers not only seem to like new buildings just as much as old ones, they also like commercial buildings as much as they like cultural ones, and big buildings best of all. They also adhere to a kind of honesty that professional photographers have left behind them, committed as they are to digitising and the old darkroom tricks that remove scaffolding, graffiti and litter in a flash. In this way it can be said that amateur photography still represents a kind of truth, unable as it is to rewrite history with its images, as has been routinely done by architectural writers in the past, to preserve the pristine image of a building that, in reality, has either been disfigured or demolished.

But it should not be assumed that amateurs have all the answers. Would it really have been better for the history of architecture if the 1929 Barcelona Pavilion, designed by the great German modernist Mies van der Rohe, had not been painstakingly re-created in replica in Barcelona in the 1980s? If not, it wasn't amateur photography that saved it, but the way that the photographs of the pristine original, taken by the professional Herbert Matter, were reprinted in a ceaseless cascade of images long after the building had been dismantled. As far as I know, there has never been a comparable movement to re-create the same architect's virtually unphotographed monument to the German revolutionary socialist leaders Karl Liebknecht and Rosa Luxembourg.

Martin Pawley

"Amateurs adhere to a kind of honesty that professional photographers have left behind them"

Events

LECTURES, CONGRESSES AND CONFERENCES

CHINA

8th International Federation of Landscape Architects Eastern Regional Conference 11-14 December 1996. Hong Kong Convention and Exhibition Centre, 1 Harbour Road, Wanchai, Hong Kong. For further information contact Valerin Yung, Conference Co-ordinator. Tel: +852 2528 6136. Fax: +852 2865 1528

JAPAN

Le Corbusier in Japan An international meeting about the architect's relationship with Japan. 7-10 February 1997. Contact the Museum of Modern Art, Yasuto Ota, 2-1-53 Yukinoshita, Kamakura, 248, Kanagawa, Japan. Tel: +81 467 225000. Fax: +81 467 232464

NETHERLANDS

Series of lectures at the Berlage Institute, Amsterdam Evening Lecture (starts at 20:00 hrs): Rem Koolhaas discusses his recent work, 3 December1996. Studio Presentations (start at 10:00 hrs): "Urban Conflict 1", Raoul Bunschoten, 12 December 1996. Graduation Presentation, 13 December 1996. (An exhibition of 10 graduates work is on show at the Institute until 13 January 1997). For further information contact the Berlage Institute, Marxixstraat 317, 1016 TB Amsterdam, Netherlands. Tel: +31 20 428 5080. Fax: +31 20 623 7614

ARCHITECTURE AND DESIGN COMPETITIONS

GERMANY

Architecture in Black and White European Architectural Photography Prize. Deadline 7 January 1997. Contact db architekturbild 1997, Neckarstrasse 121, D-70190 Stuttgart, Germany. Fax: +49 711 2631104

Techtextil 1997: Textile structures for new building The working Group for Technical Textiles, in connection with the International Trade Fair for Technical Textiles (13-15 May 1997) are holding a competition open to students of architecture and construction engineering. Entries must be submitted by 7 March 1997. For further information contact Mr Michael Jänecke, Ludwig-Erhard-Anlage 1, D-60327 Frankfurt am Main, Germany. Tel: +49 69 7575 6578. Fax: +49 69 7575 6710

GREECE

The Cultural Capital of Europe, Thessaloniki 1997 A competition requiring European professionals in the fields of urbanism and architecture, under the age of 45, to design modern architectural and landscape projects to be inscribed within the existing cityscape of Thessaloniki. Registration until 21 February 1997. Contact EUROPAN/THESSALONIKI 1997, the Organisation for the Cultural Capital of Europe, 105 Vassisissis Olgas av, 546 43 Thessaloniki, Greece. Tel: +30 93 268143. Fax: +30 31 86 7870

JAPAN

8th International Design Competition In the quest of spiritual comfort and relaxation of the mind. Total prize money US$71,000. Deadline for preliminary screening 2 December 1996. Preliminary screening 5-7 March 1997. Citation ceremony and exhibition October 1997. Contact Mr Fukunaga and Ms Sako, Japan Design Foundation, Osaka Ekimae Dai-ichi Building 8F, 3-1-800 Umeda, Kitaku, Osaka 530, Japan. Tel: +81 6 346 2611. Fax: +81 6 346 2615

USA

1996 Paris Prize in Public Architecture Proposal for a temporary building in Wall Street. Open to recent/prospective graduates of US architecture courses (1988-97). Jury includes Jacques Herzog and Toshiko Mori. Submission deadline January 1997. Results/ Exhibition February 1997. Contact the Van Alen Institute, 30 West 22 Street. New York, NY 10010, USA. Tel: +202 924 7000. Fax: +202 366 5836. e-mail: vanalen@designsys.com. Web: http://www.vanalen.org

BIGFOOT Architectural Design Competition An ideas competiton, open to all – organised by the Academy of Architecture Arts and Sciences – seeking proposals for a new football stadium in the Los Angeles metropolitan area. The jury includes: Richard Meier, Eugene Kohn, Jon Jerde, Alan Ritchie and Thom Mayne. Programmes published 1 December 1996. Questions due 1 February 1997. Registration closes 1 May 1997. The jury will make its decision in late May 1997. For further information write to Competition Clerk, BIGFOOT, Academy of Architecture Arts and Sciences, Box 10662, Beverly Hills, California 90213, USA. Fax: +619 299 0957. e-mail: bigfoot@frank.org Web: http://frank.org

Rudy Bruner Award for Excellence in the Urban Environment Submissions for the bi-annual award are due on 13 December 1996. For further information contact Bruner/Cott & Associates, 130 Prospect Street, Cambridge, MA 02139, USA. Tel: +617 492 8400. Fax: +617 876 4002

EXHIBITIONS

AUSTRIA

The Turning Point An exhibition/project by Philip Johnson. 5 December 1996 - 23 March 1997. Austrian Museum of Applied Art (MAK), Stubenring 5, A-1010 Vienna, Austria. Contact Christina Werner. Tel: +43 1 7113 6233. Fax: +43 1713 1026

BELGIUM

Victor Horta An exhibition organised by the Fondation Europalia International, offering a detailed examination of the architect's work. Held in Horta's own Palais des Beaux-Arts, Brussels, the exhibition closes on 5 January 1997. For information Tel: +32 2 507 8594. Fax: +32 2 513 5488

CANADA

Viewing Olmsted An exhibition of photographs by Robert Burley, Lee Firedlander and Geoffrey James. Until 2 February 1997. Contact the Canadian Centre for Architecture, Montréal, Canada. Tel: +514 939 7000. Fax: +514 939 7020. e-mail: mleblanc@cca.qc.ca

DENMARK

Integrated Art At the Egebjerggård housing scheme, in suburban Copenhagen, under the auspices of "Copenhagen 96", a group of artists will create permanent works of art for squares and other public spaces in the area. Until 31 December 1996. Contact Copenhagen 96 Information Department, Amagertorv 21, DK-1160 Copenhagen K, Denmark. Tel: +45 33 77 96 33. Fax: +45 33 77 96 01

GERMANY

Design of the 50s, 60s, 70s and 80s A retrospective look at design over the last four decades, covered in four separate installations in

four separate rooms. The exhibition will remain on view until 31 December 1996. Contact Ms K Takvorian. Vitra Design Museum, Charles-Eames-Strasse 1, Weil am Rhein, Germany. Tel: +49 7621 702200

HONG KONG
Cities of the Future: towards a new urban living An exhibition of new buildings by British architects working all over the world, in advance of Hong Kong's return to Chinese rule. The exhibition will take place at the Pacific Place Concourse, Queensway, Hong Kong and runs from 29 January - 1 February 1997. A half-day symposium will precede the opening of the exhibition. For full details contact David Blagbrough, British Council, UK. Tel +44 171 389 4940. Fax: +44 171 389 4058. e-mail: david.blagbrough@britcoun.org

THE NETHERLANDS
The Netherlands Goes to School Two centuries of Dutch school construction. Until February 1997. Netherlands Architecture Institute (NAI), Museumpark 25, 3015 CB Rotterdam, The Netherlands. Tel: +31 10 440 12 00. Fax: +31 10 436 69 75

UK
Living Bridges A proposal for a new habitable bridge for the River Thames, London forms the centre piece of the exhibition which illustrates the contribution that inhabited bridges have made to the development of the urban landscape. Until 18 December 1996. Royal Academy of Arts, Piccadilly, London, UK. Tel: +44 171 494 5615. Fax: +44 171 439 4998

Charles Reilly and the Liverpool School of Architecture 1904-33 Until 2 February 1997. Under the professorship of Charles Reilly (1875-1948) the Liverpool School of Architecture became internationally renowned. This exhibition profiles his work and the work of the pupils that studied under him. Walker Art Gallery, William Brown Street, Liverpool, UK. Tel: +44 151 478 4614

The Architect of Floors First retrospective of the American born modernist designer Marion Dorn(1896-1964), whose relocation to the UK, in 1923, helped shape British attitudes towards design. Until 21 December 1996. RIBA Heinz Gallery, 21 Portman Square, London W1, UK. Tel: +44 171 307 3641

Charlotte Perriand: Modernist Pioneer Retrospective of the influential French designer's long career. Until April 1997. The Design Museum, Shad Thames, London SE1 2YD, UK. Tel: +44 171 378 6055

USA
Building for Air Travel: Architecture and Design for Commercial Aviation Until 7 January 1997. The Art Institute of Chicago, 111 South Michigan Avenue, Chicago, Illinois 60603-6110, USA. Tel: +312 443 3600. Fax: +312 443 0849

Between Fences An exhibition examining the role of fences in defining the American landscape and culture. Until 5 January 1996. Contact: Public Affairs, National Building Museum, 401 F Street NW, Washington DC, USA. Tel: +202 272 3606. Fax: +202 272 2448

Humane Technology: The Eames Studio and Beyond Until January 1997. MOMA 151 Third Street, San Francisco, USA. Tel: +415 357 4000

Three Buildings by Frank Lloyd-Wright American spirit alive in Japan. Until 19 January 1997. National Building Museum 401 F Street NW, Washington DC, USA. Tel: +202 272 2448

An American Embassy in Berlin An exhibition examining the recent competition for a new American Embassy in Berlin. The exhibition will focus on the winning entry by Moore Ruble Yudell and Gruen Associates. From 15 November 1996 to 23 February 1997. Contact Elly Muller or Lisa Eddy at the National Building Museum, 410 F Street NW, Washington DC 20001, USA. Tel: +202 272 3606 or 272 2448. Fax: +202 272 2564

The Architecture of Santiago Calatrava An exhibition of the Spanish architect's major works, at the Milwaukee Art Museum (MAM) – the site of Calatrava's first US project, an extension of the MAM due to open in 2000. Until 12 January 1996. Tel: +414 224 3240

A Place For Us: Vernacular Architecture in American Folk Art How eighteenth and nineteenth-century Americans recorded the built world around them, illustrated through original artefacts, including: needlework, quilts and tin boxes. On show at the Museum of American Folk Art, New York, USA. Until 5 January 1997. Tel: +212 595 9533

TRADE SHOWS

CHINA
CHINABEX
Fourth international building/construction exposition. 3-6 December 1996. Shanghai International Exhibition Centre, Shanghai, China. Contact Catherine Leong. Tel: +852 28240 330

GERMANY
DOMOTEX 97
World trade fair for carpets and floorings. 11-14 January 1997. Messegelande Hannover, Germany. For further information contact Tel: +44 181 688 9541. Fax: +44 181 681 0069. Local contact Deutsche Messe AG. Tel: +49 511 890

POLAND
BUDMA 97 Building and construction exhibition. Pozan International Fair, Pozan, Poland 21-24 January 1997. Contact John Cash, JC Exhibitions. Tel: +44 1223 233 952. Fax: +44 1223 234 537

SWITZERLAND
Swissbau 97 20 January 1997-1 February 1997. Schweizer Mustermesse, CH-4021 Basel, Switzerland. Fax: +41 61 6862188

UK
ICAT 97 – Integrating CAD-CAM (formerly the CADCAM show. Application areas include mechanical, manufacturing, process, electrical, electronic, architecture and construction. 4-6 March 1997. NEC Birmingham, UK. For further information contact Lisa Parrett. Tel: +44 171 208 5020

USA
COVERINGS Four-day event encompassing three separate expositions and conferences – the International Flooring Exposition, the International Tile & Stone Exposition and the International Wall Coverings Exposition – running from 23-26 April 1997. For further information contact COVERINGS, 900E Indiatown Road, Suite 207, Jupiter, FL 33477, USA. Tel: +561 747 9400. Fax: /9466.

"I want one like that"

In the last decade office building worldwide has progressed beyond recognition, with an increased appreciation of climatic considerations, and technological advances in air conditioning, frame construction, size of floor plates and elevators. But physical considerations are just the tip of the iceberg. Jeremy Melvin surveys the world scene from the perspective of the international business capital of London. Efficiency, coupled with asset value and image are considerations architects ignore at their peril.

All attempts to prove that architectural history is cyclical have failed and will continue to fail, but it is nonetheless notable that the story of modern office design shows two distinctive parallels with the expectations medieval clients had for their buildings. The chairman of Ohbayashi who commissioned the Century Tower in Tokyo from Sir Norman Foster & Partners, was rumoured to have requested "something like the Hong Kong & Shanghai Bank, only better" – a form of words frequently found in the contracts for building fifteenth-century churches in East Anglia, UK. And when Skidmore Owings & Merrill's Gordon Bunshaft designed Lever House on New York's Park Avenue in the late 1940s, he not only produced the prototype for a million podium-and-slab offices across the world: he also established the corporate power of Unilever by the height of a tower and the podium as a territorial marker, exactly the same formal tactics used by northern Italian merchants and their builders before Alberti and Michelozzo developed the Renaissance palazzo type in the fifteenth century.

Choosing the architect

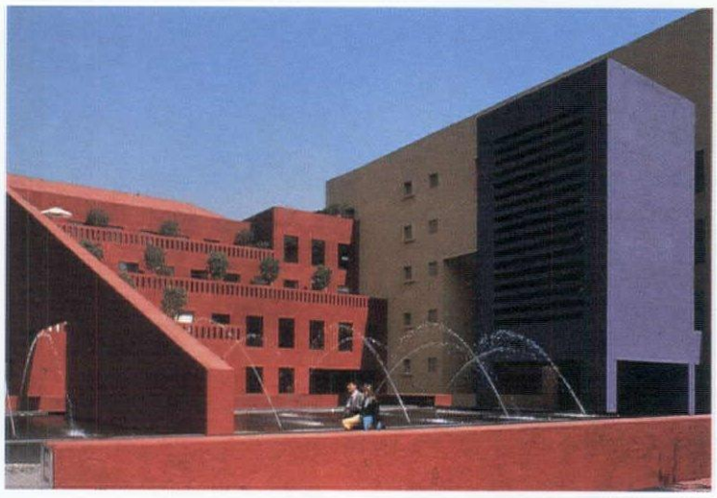
Of course these themes are not exact repetitions of their medieval counterparts. Building "the same only better" than something ten miles down the road is a different proposition to repeating and improving the same process in Hong Kong and Tokyo. A ten mile distance is unlikely to be a different climatic zone; patterns of use are probably similar and it is improbable that the move will change the seismic design criteria. All vary between Hong Kong and Tokyo. Frame construction, elevators and air conditioning mean that a tower can now contain workable offices whereas for medieval merchants it was little more than a status symbol with any practical use limited to sanctuary from jealous rivals. But rather as the new palazzo type represented the use of design skill to enhance its owner's status, so recent developments in office design represent a more subtle understanding on the part of clients of what architecture can do for them.

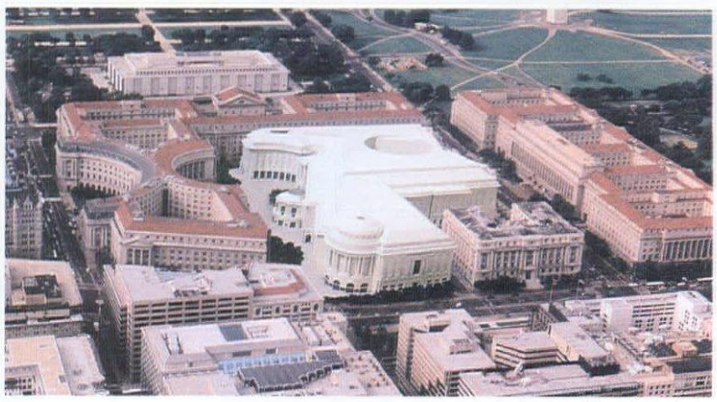
Steven Levy/Photographics Studio

Left *The combination of owner occupation with architectural image at Richard Rogers' Channel 4 building is unusual in London, but the building represents a considerable asset, and reflects the company's creativity.* ***Right*** *Ellerbe Becket's Moscow Bank and Commodity Exchange in Moscow, transforms an existing building using contemporary forms*

▲ Morley von Sternberg

Tim Griffith





Carol Highsmith

*Sudirman Tower, Jakarta, Indonesia, **(left)** by RTKL, one of the top US-based firms specialising in office buildings on an international scale, also architects with Pei Cobb Freed & Partners of the Federal Triangle Building in Washington DC **(model above)**. This office and mixed-use complex will be the largest building to be contructed in Washington in 50 years. **Top** In Mexico one of the leading designers of purpose-built offices, such as this one in Mexico City, is Ricardo Legorreta*

For years commissioning a celebrated architect for an office building was assumed to be tantamount to disaster. Nowhere illustrated the power of this nostrum more than the London office market, where for decades a clique of "commercial architects" and developers cornered the market with depressing results. Architects with design ambition were limited to public commissions, while they lasted. Simon Harris of BH2, one of London's leading office agents, is keen to dispel the myth. "You can get both an architectural image and an efficient building", he says. Striking this balance needs a strong client with a tight brief, and the client needs to be treated as part of the design team. And it depends on imaginative and skilful architecture.

Image, efficiency and value

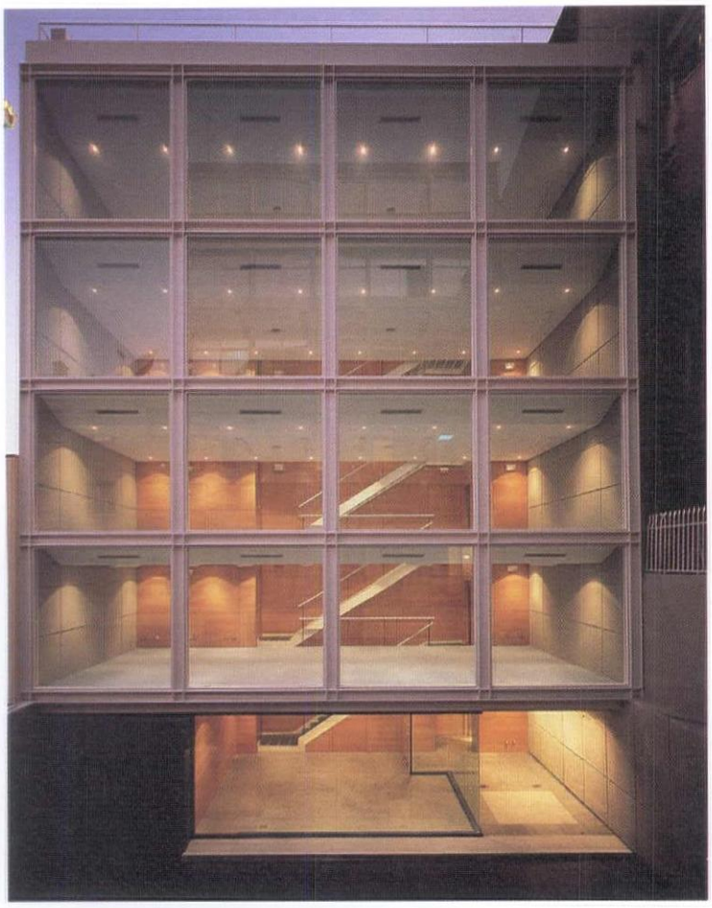
Harris cites the Channel 4 building by the Richard Rogers Partnership which was completed in 1994. "It could be occupied by anyone", he says. Two wings with the standard office floorplate width of 18 metres run away at 90 degrees to each other, leaving the dramatic glazed entrance and lift core at the centre. This architectural device, says Harris, would "probably make the building more lettable" but would not increase the rental it might command. Keeping the actual office areas as standard as possible was crucial, as "bespoking has a detrimental effect on value". Symmetry, says Harris, "is constipation". A flexible floorplate needs to have a variety of configurations which are limited by a central lift core and entrance.

The combination of image, efficiency and value was crucial to Channel 4. Perhaps surprisingly, Britain's most avant-garde television station started life in a motley collection of speculative office buildings in Charlotte Street, the heart of London's media and advertising district. Success meant they outgrew their original home, selected partly because it was a cheap option. Meanwhile a change in government regulations required broadcasters to hold realisable assets of a certain value of their turnover. Although this could have been in various forms of investment, the coincidence of the regulatory change and need for new premises led Channel 4 to choose real estate. Hence the building is at once an image of the station's creativity, a machine for working in and broadcasting from, and a measurable asset which must have measurable value.

Channel 4 had a clear reason to combine owner occupation with architectural image. This is not common in London offices, where the division between owner occupation and rental tenure tends to follow different business sectors. Banks, says Harris, favour owner occupancy because the building represents an asset, and because it is easier to change, not necessarily because they want to register as architectural patrons. UBS, Bankers Trust and Goldman Sachs are all owner occupiers in buildings without great architectural distinction.

Purpose-built offices

The strength of the British development industry, especially in areas where demand is likely to be high, means that purpose-built owner-occupied offices are rare. An exception is British Airways' office complex at Prospect



Luis Casals

Richard Davies

A Martinelli

Above *3AC Architects' contemporary, open plan office building in a restricted site in Madrid, Spain. The stairs are positioned at the back of the building to retain the uninterrupted geometry of the glass facade.* ***Top right*** *Photomontage of the Commerzbank, Frankfurt, by Foster & Partners, architects of the Hong Kong & Shanghai tower and one of the biggest names in signature office building. The Commerzbank is the tallest building in Europe, officially opened this summer.* ***Right*** *The Lilleurope Tower by Claude Vasconi in the urban scheme Euralille straddles the TGV station and provides 28,500 square metres of office space over 25 floors*

Park outside Heathrow airport. The Norwegian architect Niels Torp won an international design competition with an extension of the themes he developed for the SAS headquarters outside Stockholm. As BA is a publicly owned company, the value of the building on the open market is an important factor in the design. A large street, offering various opportunities for planned and unplanned contact between staff members links six U-shaped blocks, each focused around its own courtyard. Each block could be let separately, and despite the irregular-looking shapes, can be laid out extremely efficiently. Standard office floorplates were achieved by exercising considerable care over the positions and sizes of lift cores and service risers. The architecture is recessive to the point of modesty; from no single position can the entire size of the complex be seen, and it is located within the centre of a large landscaped park. Torp's design gives BA what they want: flexible but easily identifiable working areas with opportunities for easy contact, but it also works as a commodity.

Law firms are among those who favour renting. As private partnerships there is no need to prove solubility to shareholders through an annual report, and owning a building would tie up capital which would be hard to extract when partners retire. But this does not stop them finding distinctive premises, in line with the image they wish to promote, in speculatively developed property.

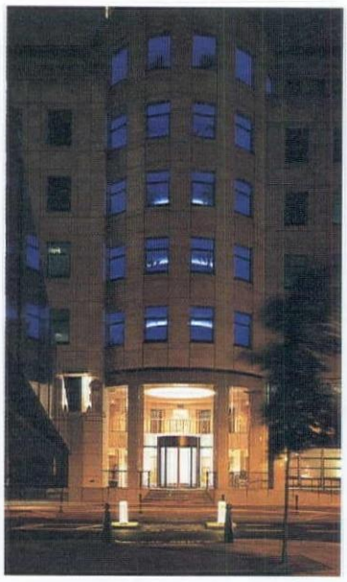
Choosing the right image

Corporate ethos and ambition are not new factors in selecting office space. But businesses are becoming more sensitive to the implications particular types of space have on their operations. An upper floor in a landmark tower might have all sorts of benefits, a tower floor plate is of necessity peopled more sparsely than a ground scraper, with obvious effects. And the design challenge of making the two types of building work economically is also different. Both need a healthy nett to gross ratio of floor space, but in a tower the lift strategy is vital, where in a ground scraper understanding how the floorplate can be made usable in as many ways as possible is important.

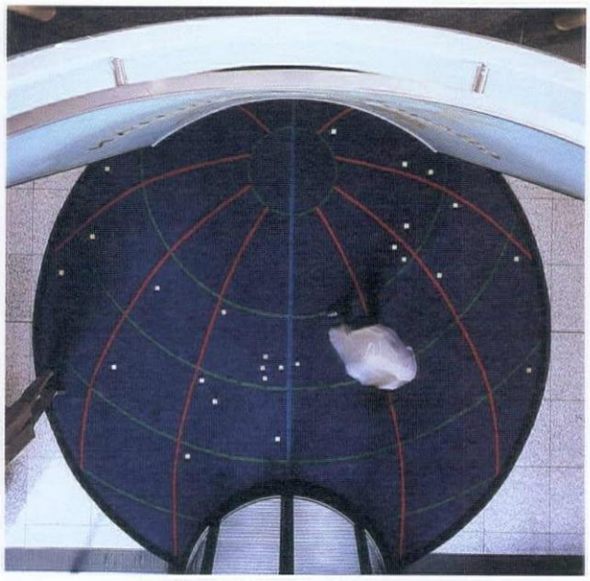
Fluctuating forces in office design

Two separate motors of change ensure that office design never remains constant. The first is change over time, best summed up by the realisation that business operations change and consequently offices have to be flexible to accommodate change. The second force for dynamism is another realisation that is constantly gathering momentum – regional variation. The first is a relatively straightforward function of the latest Business School thinking, whose gurus are Tom Peters, Peter Drucker, and their representative in office design, DEGW's Frank Duffy. The second has less easily identifiable roots. At one point it is driven by the insanity of not recognising the importance of climate in building design; but it also takes account of local differences in social structure, economics and land values. These two strands are far from being either directly contradictory or totally compatible. Wrongly interpreted though, the first could

Developers ING built Henrietta House in London with Building Design Partnership in the early 1990s as a speculative development. It has since been fitted out by office specialists DEGW as the headquarters building of Grand Metropolitan. ***Right*** *South elevation at night showing the blue-lit coffee meeting points on each floor, designed to bring the different offices together.* ***Far right*** *Dramtic overhead view of the entrance lobby showing the specially designed globe carpet and curved glass screen.* ***Below*** *1996 research from property consultants Jones Lang Wootton, illustrating that the construction and occupation of offices is perhaps one of the most sensitive indicators of the economic health of a country*



Chris Gascoigne



Chris Gascoigne

seem to lead to a centripetal urge for similarity, the second to a celebration of variety.

The "hive", "cell", "den" and "club"

Reality is rather more complex. Duffy suggests a useful taxonomy for the evolution of the concept of offices. Two models characterise early offices, the "hive", where rows of clerks sit in regimented order with status defined by space; and the "cell", were individual or small private offices occupy the perimeter of a building. The first model was common in companies with numerous clerks – its first great monument was Frank Lloyd Wright's Larkin Building in Buffalo, but it persisted for decades.

The second model is still favoured by professional firms such as law practices. Even now newly qualified lawyers expect a private room, partly justifiable by confidentiality but partly out of habit. Neither model allows for interaction, but the cell obviously devolves more autonomy to the individual workers.

Duffy argues that these stereotypes are breaking down. In the early 1970s Hermann Hertzberger redefined the nature of clerical work in the Centraal Beheer insurance office in Apeldoorn, Holland. Repetition of the same standard cell led to more interaction and the rise of the idea of a "den", where the establishment of a working group was reflected in the shape of space. Difficulties arise should groups need to dissolve and reform with different personel or in different sizes.

The most recent phase in this evolution is the idea of the office as a "club". Lacking overt formal prescriptions encourages participation and communication without forcing rigid patterns on staff. Autonomy and interaction can both be accommodated, and where someone would work depends on the nature of the immediate task rather than status or length of service. Examples can be found across the world: at Sol in Helsinki, Digital in Stockholm, Chiat Day in Los Angeles or New York, or Andersen Consulting in Chicago. All are typified by strong architectural statements – Chiat Day's famous LA building is not just designed by Frank Gehry, but has sculpture by Claes Oldenberg too – which work well for their organisation.

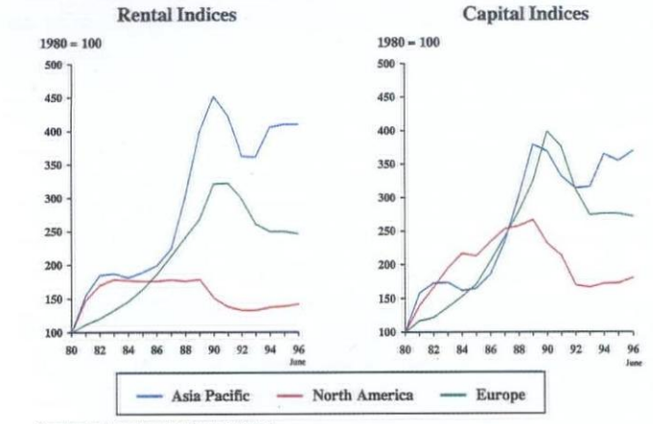
SOM and DEGW at Andersen Worldwide

A less visually glamorous but possibly even more effective office is 225 North Michigan Avenue, Chicago, originally designed by Harry Weese, and where about 22,000 square metres are being converted by SOM for Andersen Worldwide's headquarters. Andersen Worldwide is the overarching organisation including the accountants Arthur Andersen and management consultants Andersen Consulting. Unlike the consultants or accountants many of the employees work in their offices a great deal so there is little opportunity for desk sharing. With DEGW on the project team as programmers it is an opportunity for Frank Duffy to put his ideas into practice.

When the project started a year ago the intention was to turn the organisation on its head. Duffy identifies three main shifts, in resources configuration and allocation of space, and from single to plural forms of working. The nett result is a reduction from 33,000 square metres to 22,000 for the same number of people – about 1,600. There is, for example, far more space than is normal for support activities – machines, filing, meeting and social intercourse. The stress is on encouraging communication.

For Duffy it marks an important shift in the way organisations think about their space needs. He credits Andersen Worldwide for taking themselves and the design process "seriously" and recognising the value of making "business culture, IT and spatial design fully

INTERNATIONAL OFFICE INDEX



Source: Jones Lang Wootton International Research, October 1996

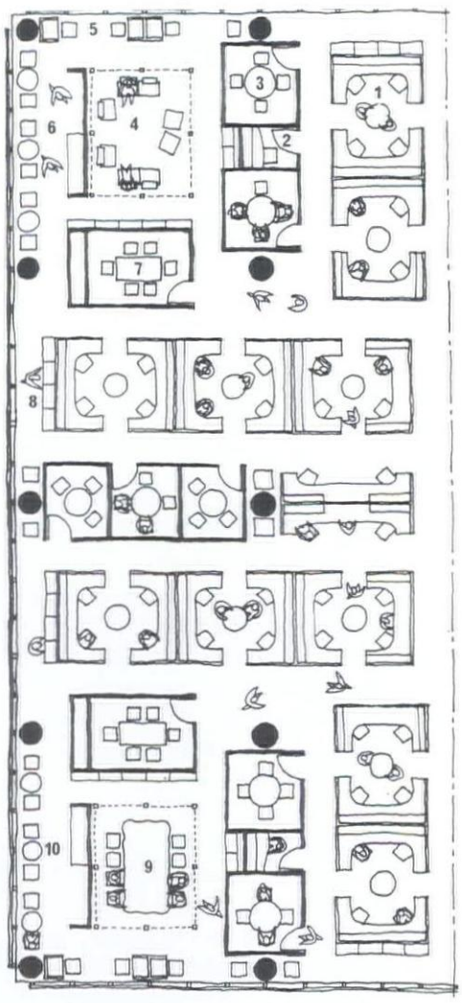
Jones Lang Wootton

DIVERGENT ECONOMIC FORTUNES

REGION	GDP CHANGE (% p.a.) 1991 - 1995	1996 - 2000
China	11.3	9.3
South Eastern Asian 'Tigers'	7.0	7.0
Indian Sub Continent	4.2	5.5
Eastern Europe	-0.4	4.7
Latin America	3.3	3.8
Australasia	2.6	3.5
Japan	1.3	3.0
Russia	-12.1	2.8
North America	1.9	2.3
Western Europe	1.5	2.3
AVERAGE	2.2	3.1

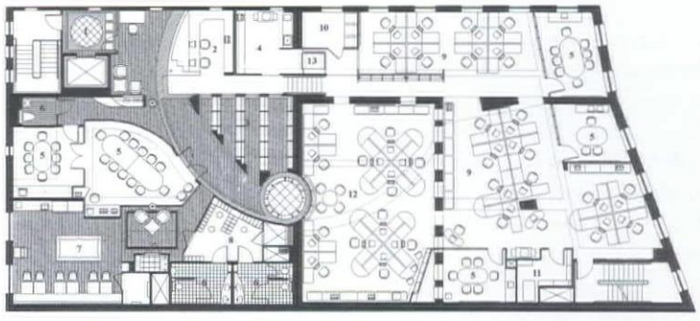
Note: Western Europe excludes Turkey
Source: Economic Intelligence Unit, Qtr. 3, 1996

Jones Lang Wootton



Above Left *Floor plan of 225 North Michigan Avenue, Chicago originally designed by Harry Weese and converted by SOM for Andersen Worldwide's headquarters.* ***Right above and below*** *Interior and floor plan respectively of Alan J Feltoon & Associates design for the Hamilton Securities Group's financial securities office in Washington DC*

Peter Aaron/Esto



Key to plan, *above*

1 Individual home base for process and collaboration
2 Small booths for computer or phone work shared by team
3 Enclosed space for concentrated and collaborative work Intermittent use of PC and phone
4 Reference library located adjacent to meeting/interaction areas. Mobile tables and carts support quick changes
5 Partially enclosed space for concentrated PC or phone work – collaborative space immediately adjacent
6 Copier, fax, storage and supplies adjacent to collaborative areas
7 Conference or meeting areas for more formal meetings
8 Team storage
9 Team project areas with easy access to materials and storage
10 Coffee, vending and informal area

Key to plan, *above*

1 Vestibule
2 Reception
3 Library
4 Copy room
5 Conference room
6 Restroom
7 Kitchen/lounge
8 Locker room
9 Open office plan
10 Mechanical/electrical
11 UPS room
12 Trade floor
13 Handicapped lift

integrated". A new office is created in "a perfectly good" existing building, but the real point, thinks Duffy, lies in the process, especially the detailed work DEGW did in identifying how people actually work, and enthusing the workforces for a change. So the final shift he identifies is a reduction of the design process to allow more weight to understanding the organisation and its operation.

Regional considerations

Regionalism imposes some clear constraints on design. It is rare that they are as visible as the difference between the bold sculptural frame of the Century Tower in Tokyo, designed to resist earthquakes, and the delicate trusses which characterise the Hong Kong & Shanghai Bank; more likely they are more subtle ways of manipulating different climatic conditions. Ingenhoven, Overdiek & Partner's RWE tower in Essen, Germany, effectively has an external sleeve which acts as a buffer zone between the outside and inside. Ken Yeang's work is as much tuned to the hot and humid Malaysian climate as the RWE tower is to the extremes of temperature of continental northern Europe.

Regional variation, though, is as much about cultural difference as it is about topography and climate. Working patterns and expectations differ as much as planning regulations and land values. In Germany, for instance, powerful white collar unions insist that all desks should be close to a window. Complicated perimeter shapes ensue and atria, as can be seen at KBB in Düsseldorf designed by Kohn Pedersen Fox. In Malaysia, though, Ken Yeang points out that the glare from sunlight has exactly the reverse effect, leading to deeper floorplates. The task of satisfying the 60 percent of office users who express a wish to have control of their ventilation is just as pressing, but demands different solutions.

Designers and building users, whether in Germany or Kuala Lumpur, may both try to achieve the effect of Frank Duffy's office-as-a-club. But cultural differences demand different strategies to foster the optimum creative mix of autonomy and interaction. In northern Europe, coffee facilities can be placed strategically as informal meeting areas, but Yeang points out that the low cost of labour in much of Asia means that refreshments are often brought around on a trolley. Instead the lift lobby becomes the carefully designed zone for structured interaction.

Business organisations are complex social organisms and fed as much by local natural and cultural conditions as by corporate ethos. Inevitably achieving the same nett effect on working patterns requires a different approach to design according to area. But the basic need for efficiency coupled with asset value and image are universal. It is a foolhardy architect who would ignore the need to strike this balance. WA

Office building costs
Hanscomb Associates

An examination of office construction in both Europe and the US demonstrates that whilst cultural, civic and legislative issues are primary concerns whatever the context, new methods of doing business may make life more complicated in the future.

Comparison between Europe and the US

Although the basic tasks carried out in offices in Europe and the US are relatively similar, firms such as Kohn Pederson Fox (KPF) and Helmut Obata & Kassabaum (HOK) have had to adapt their designs and thinking to meet the challenges of the cultural, civic and legislative differences that occur both within Europe, and between Europe and the US. At least one thing to be grateful for when designing in Europe or the US is that the architects do not have to contend with *feng shui*, the Chinese practice of studying buildings for good and bad luck influences.

The Differences

- Because of daylighting requirements, European buildings are generally narrower than their US counterparts. For example, due to the power of the white collar unions in Germany everyone has to sit within 6.5 metres (20 feet) of a window, leading to lease depths of 5.5 to 6 metres, rather than the 12-13 metres found in the US. In order to comply with daylighting requirements many offices are built around an open courtyard or have an enclosed atrium. This can result in a wall-floor ratio of up to 80 percent greater in Europe than the US. However, the introduction of perimeter green spaces on the upper floor of some German offices can persuade the unions to accept greater depth spaces.
- The stringent requirements in Germany regarding "green" areas means that on many occasions the roofs of buildings are grassed and/or landscaped.
- Generally European office blocks are lower in height (not that there are many high rise office blocks on the drawing board or CAD systems anywhere in the US). For example, in Berlin since that fall of the Wall, the building height for offices has (apart from a few exceptions) been restricted to 22 metres to eaves and 30 metres to ridge. In addition, the office blocks are required to have a 20 percent residential component.
- In Europe many, if not most, tenants prefer manually operated windows and look on air-conditioning as wasteful (ie not "*green*"). Quite often there are double windows with the inner part operable and the outer part fixed with louvres top and bottom. The operable windows are even used on high rise offices but are linked to a control system that automatically closes them in cases of severe weather.
- European lobbies are generally far less grand than the three storey marble and stainless steel examples found in the US.
- Tenants in Europe take smaller floor areas which result in poorer net-gross factors and more core areas.
- In some Eastern European countries sprinkler systems are not provided as building codes do not call for them or provide credits for their use. In addition, there is also a concern that even if installed they may not work. There is also more reliance on manual systems rather than technology. Elevators and mechanical/electrical equipment is often imported but there are servicing problems.
- Construction quality improves as you move westward from Moscow across Europe.
- Due to the number of financial institutions in London many of the offices there have large floor plates more in keeping with the US. Moscow also follows the US in terms of floor plate size.

Air conditioning

During the boom years air conditioning in Europe became almost as popular as it is in the US. But today, with increasing environmental awareness, air conditioning systems, such as fan coil assisted variable air volume, are becoming less attractive and heating based on natural or mechanical ventilation is becoming popular. In Europe, many countries have adopted a policy whereby it is not allowed to cool an office below 26°C (79°F). The higher cost of energy coupled with tax incentives makes it attractive for a developer to look to other options to heat and cool their buildings.

One option currently in vogue is to use displacement air which passes through a raised floor, picks up heat as it rises and finishes up in returns in the ceiling. A second is to use the thermal mass of a building – during the night the floor slab is cooled in the summer and heated in the winter. Throughout much of Europe you only need to heat and cool for two of the four seasons.

Electrical installation

With the recent advances in information technology the average cost of electrical installation for offices has increased. For example, in London this increase is from 50 percent of the mechanical installation costs to almost 66 percent.

This is due to a number of reasons, including increased carcassing for voice and data cabling; higher quality luminaries with high frequency ballasts, to reduce strobe effect; higher quality lenses to reduce glare on workstation screens; increased power requirements at each workstation; clean power outlets and all the consequent down-the-line implications on mains and switch gear.

Cost analysis for typical UK electrical costs for an office

	£ per m²
Mains and switch gear	20
General motive power	8
Small power	25
General lighting	40
Emergency lighting	6
Voice and data wireways	6
Voice and data cabling	12
PA system	2
Fire alarms	8
Security	6
Lighting protections	1
TOTAL	134

Tenant fit out

- Developers in the US generally leave most of the office fit out to the tenant. The rentable space will have a bare floor, no ceiling, no partitions – other than those diminishing the space – no doors, a ring duct with VAV boxes, no light fixtures or power outlets, electric

power to a distribution panel, and the sprinkler heads to a minimum standard – with heads turned up. For the sake of the external appearance of the building the developer will provide the window blinds. He will also set the standards for materials and workmanship, and in some instances may even stipulate that the tenant stays with the original building, mechanical and electrical contractors. This last stipulation obviously reduces the level of competition. In times gone by the developer allowed the tenant a standard allowance on a certain number of linear feet of partition per rentable square foot of area; a certain number of light fixtures per square foot etcetera. But that disappeared with the downturn in the market and the negotiations now depend on how much the developer needs tenants. In many instances the developer pays for the whole of the tenant's fit out according to the tenants wishes.

- Developers in Europe tend to be less co-operative with their potential tenants than those in the US and in some instances less creative – although UK developers are getting closer. In Germany, for instance, the tenant areas come complete with ceilings, light fixtures, mechanical systems and due to the fire regulations are difficult and expensive to change. This reduces the flexibility of design.
- In the UK the typical developers fit out provision – known as Category A – is worth around £22-£27 per square foot. The provision includes suspended ceilings, diffusers, light fittings and air boots, access floors, painting, sprinklers, ductwork, grilles, controls, heating pipework and electrical floor tracks and boxes.
- Hot desking, teleworking and other new ways of doing business are likely to have a significant impact on office blocks and office layouts in the future and will draw on the architect's creativity to plan for two or more types or organisational systems within one company. **WA**

Credits for assistance with this article are due to architects Lee Polisano of KPF, London, Michael Bennett of HOK, Berlin and Danica Farran of MACE, London.

North American Speculative Office Block Costs

Typical construction costs for a 30 storey plus basement shell and core office building in downtown Chicago, of approximately 54,850 gross square metres.

Element	Cost US$ per square metre	Percentage
Substructure	44	4.3
Superstructure	300	29.6
Exterior closure	258	25.4
Roofing	6	0.6
Interior construction	51	5.0
Conveying	71	7.0
Mechanical		
Plumbing	20	2.0
HVAC	92	9.1
Fire protection	19	1.9
Electrical	53	5.2
General conditions,		
Overhead and profit	100	9.9
TOTAL US$ per square metre	**1,014**	**100**

London Office Block Costs

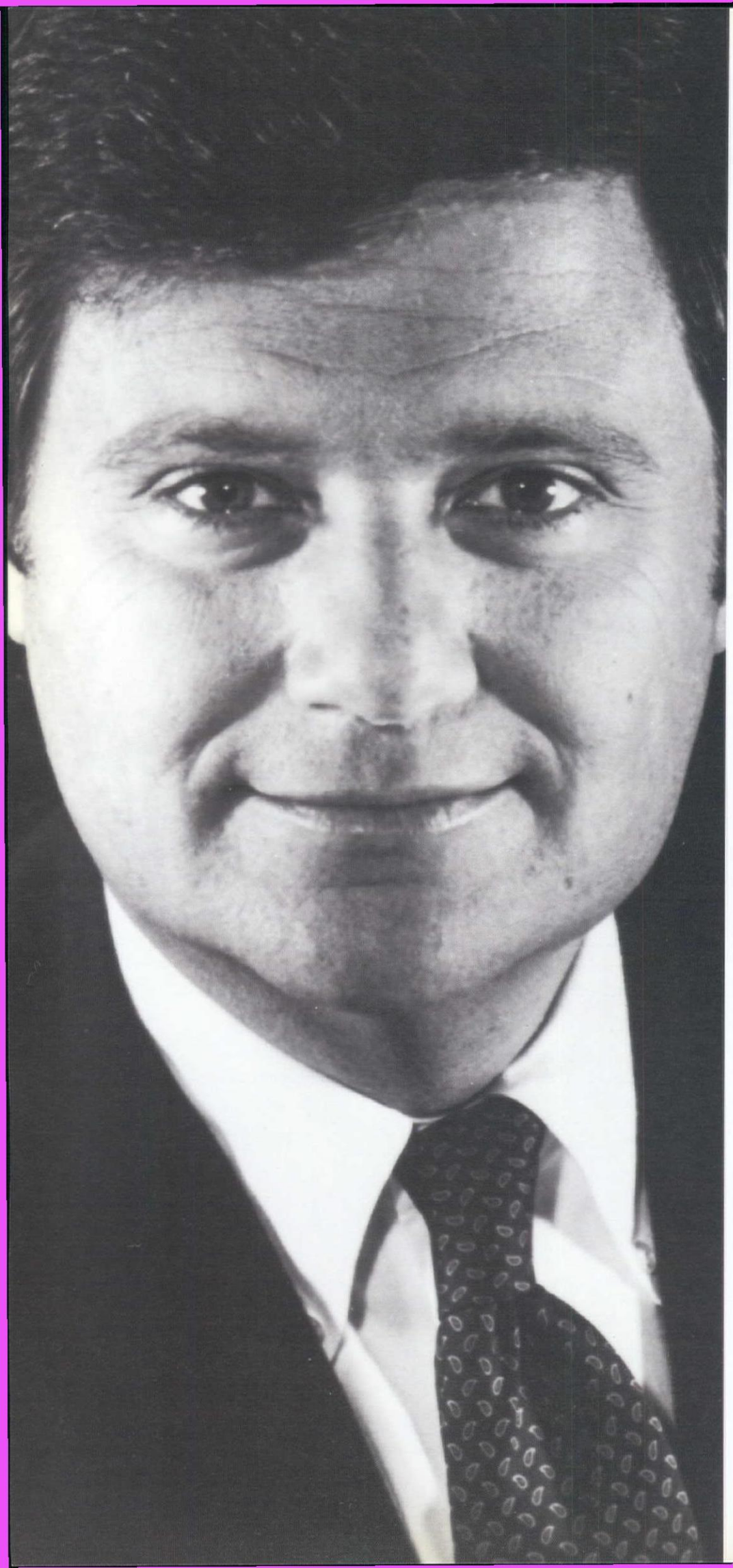
Typical construction costs for a seven storey plus basement shell and core office building in central London with approximately 2,000 square metres gross per floor. The building includes an atrium but excludes category A developers fit out.

Element	Cost £ per square metre	Percentage
Substructure	90	9.5
(including basement)		
Superstructure	115	12.2
Exterior closure	215	22.8
Roofing	22	2.3
(including skylights)		
Interior construction	155	16.4
(including atrium glazing equal to £20 per square metre)		
Conveying	44	4.7
Mechanical		
Plumbing	25	2.7
BMS	20	2.1
Space heating and air treatment	106	11.2
Fire protection	10	1.1
(excluding tenant areas)		
Electrical	55	5.8
General conditions,		
Overhead and profit	86	9.2
TOTAL £ per square metre	**943**	**100**
Developers category A fit out	230	

North American Corporate Office Block Costs

Campus style, low rise Chicago suburban office block of approximately 65,000 square metres, including all tenant fit out work. No basement.

Element	Cost £ per square metre	Percentage
Substructure	42	3.2
Superstructure	226	17.0
Exterior closure	107	8.1
Roofing	49	3.7
Interior construction	225	17.0
Conveying	30	2.3
Mechanical		
Plumbing	23	1.7
HVAC	288	21.7
Fire protection	20	14.8
Electrical	196	14.8
General conditions,		
Overhead and profit	121	9.1
TOTAL US$ per square metre	**1,327**	**100**



The gentle touch

Jerry Speyer, partner of the US developer giant Tishman Speyer Properties Ltd, and winner of the tightly contested race for the world-famous Rockefeller Center in New York, talks to Peter Slatin, New York property writer, about his plans. In contrast to the more theatrical personalities in the world of real estate, such as Donald Trump, Speyer comes across as measured, and even distant. But his results are no less impressive.

Ask mega-developer Jerry Speyer, proud new co-owner of the Rockefeller Center, what he plans to do next, and the reply is a simple, characteristically blunt, but unyielding retort: "Does Coke tell Pepsi?"

The answer is revealing, though, because it betrays the breadth of Speyer's *Fortune-500* ambition. Speyer, 56, is at the crossroads of a power-driven career. He won a tremendous victory over several formidable rivals this summer when he completed the purchase of the Rockefeller Center. His company, Tishman Speyer Properties Ltd joined forces with Goldman Sachs, David Rockefeller, and the Agnelli and Niarchos family fortunes to beat back high-stake bids from crude Chicago developer and investor, Sam Zell. Zell allied himself with the seemingly unbeatable Walt Disney Co and General Electric, but Speyer's savvy won the day, even quelling a threatened revolt by shareholders in the real estate investment trust that held the mortgage on the historic property. The price: US$1.2 billion.

Now the international real estate industry is watching closely to see if he can turn the bankrupted landmark into a profitable enterprise by fulfilling his plans to jazz up the Center's generous but juiceless retail spaces. That will be no mean feat, especially since it must be accomplished without alienating existing or prospective office tenants. In other words, he has to make it lively and inviting, but not a circus. One ingenious plan that fits the bill and is currently being weighed is to snare Christie's, the auction house, from its crowded Park Avenue home, installing it in a large block now taken up by a garage.

Another Rockefeller Center challenge, and one Speyer welcomes, is making the 60-year-old office buildings fit for the next century. "With the exception of major trading floors that require unique sightlines, old buildings can be reused and adapted to modern-day requirements without any problem whatsoever," says Speyer, who earlier in the decade transformed a long-abandoned turn-of-the-century department store in Manhattan's Chelsea section into a thriving retail and office centre. "I see no problems with doing that, and in fact I've encouraged my partners to find as many older buildings that are well located, and can be renovated, as possible."

In other words, find opportunities – Speyer isn't sitting still. He has major projects in Frankfurt and Berlin as well as in Sao Paulo, Brazil. But unlike more colourful real estate personalities, such as Donald Trump, he likes to stay in the background. It's not shyness, because he takes on high-profile projects. It's more in keeping with his self-image as a power builder and power broker.

And though he is a tough character he also has a reputation – rare in real estate circles – for straightforward business dealings. Speyer startled a luncheon group of young real estate professionals this spring when he chose to speak about ethics. "They didn't expect to hear that," he chuckled.

Speyer is a mainstream developer with a difference: his vision is global and monolithic: he sees a one-world office market, with minimal variation in building design or office needs. He is not looking to break ground with dramatic design or explosive new building technology. Instead, he sees his role as holding the status quo to a somewhat higher standard. Thus, instead of great new shapes or environmental breakthroughs, he sees more responsible building practices, more responsive to each situation yet at the same time adaptable to a world business culture.

"We have to be more responsive, more flexible, more energetic and surely a lot more creative than ever before in order to accommodate the speed at which things happen today. And that adds a level of risk to the real-estate business."

"We bought land in June... and expect completion within 30 months. That's South America. That's a wow by any description"

To illustrate, Speyer describes his firm's Sao Paulo project, a 1.3 million square foot office building with a 900-car garage. The building is going up speculatively something that just isn't happening in the US or Western Europe. "We bought the land in June, started excavation in July, foundations in November and we expect completion within 30 months," he says excitedly. "That's South America. That's a wow by any description. The world has changed."

For Speyer, design is driven by a combination of economics and his taste for established big-box architects – he favours bombastic designers such as Swanke Hayden Connell and Helmut Jahn – and construction capabilities. Design fads are of no consequence. "The technology of construction has improved a quantum leap in the last 20 years. We are getting better and better at building things more quickly, even though we are stocking the inventory – which is the building – with much more technological equipment," he notes.

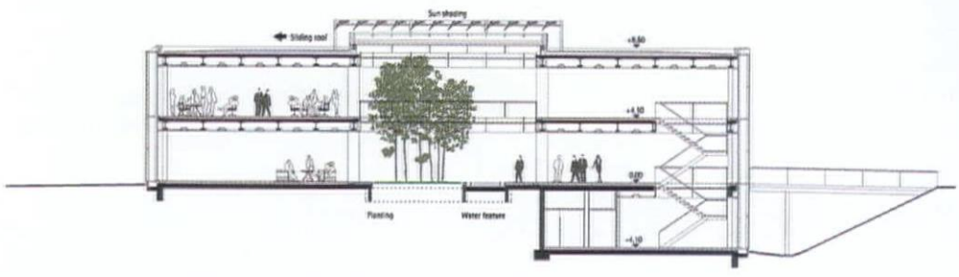
What has grown along with the technology "is the notion that companies need to be flexible and have space that's flexible. That is a critical part of what you put into these buildings today."

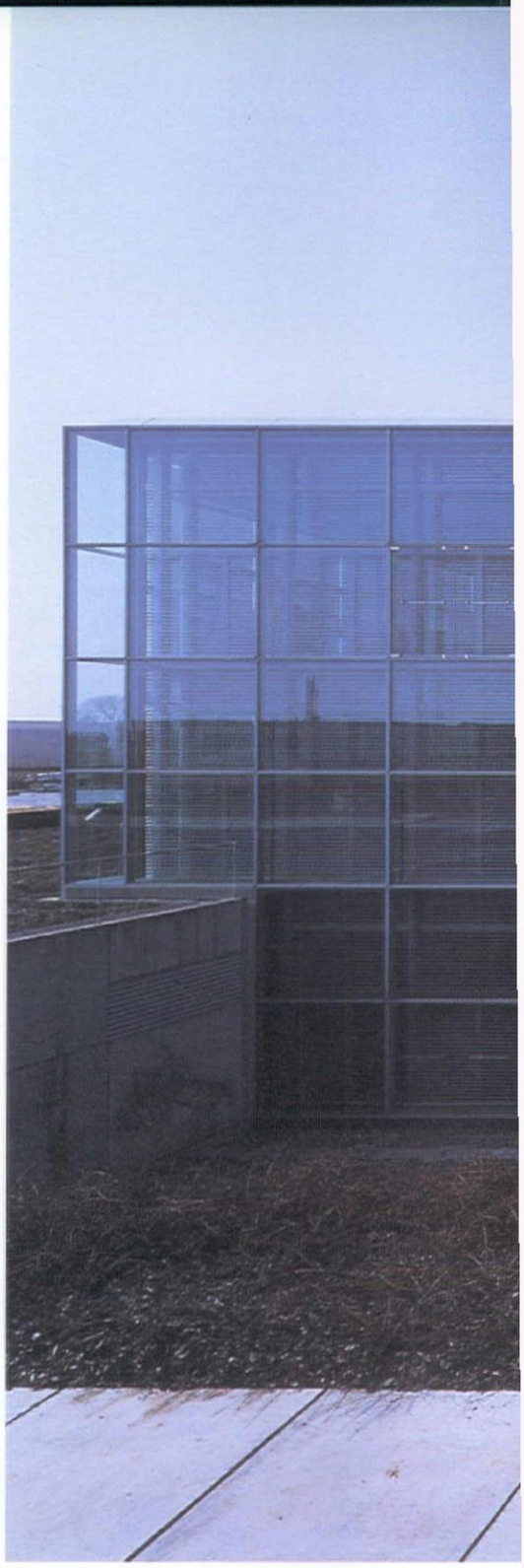
Speyer is not concerned as much about adapting to a locale as to a user, although he clearly favours the current trend toward open-plan floors, which invite corporate investment upon leasing and allow the builder some freedom as well. "Clearly, the demand for the open floor, or open-space planning has shifted dramatically. It's not yet accepted in the same fashion in Europe as it is in the Americas. On the other hand in Asia we're beginning to see a lot of open space planning". In Europe, he sees regulations governing daylight in offices as a potential barrier to large-scale development, although he indicates that such rules may change as development pressures increase.

"Change is always something some people fear and other people get very excited about" says Speyer. "It depends on your perspective." **WA**

Götz headquarters
Würtzburg, Germany

Architects Webler + Geissler, Dipl. Ing. Architeckten BDA
Photography Roland Halbe, Stuttgart





In their Götz Headquarters project in Würzburg the German architects Martin Webler + Garnet Geissler have risen to the challenge to design a building which uses environmentally friendly technology, reduces both pollution and running costs and simultaneously offers the building's users more light, comfort and a feeling of well-being.

Mr Michalski of Götz says that Webler + Geissler's energy efficient design saves them money. Götz is a curtain wall cladding and plant manufacturer, so the architects have worked within a brief that demonstrates a broad knowledge of the subject.

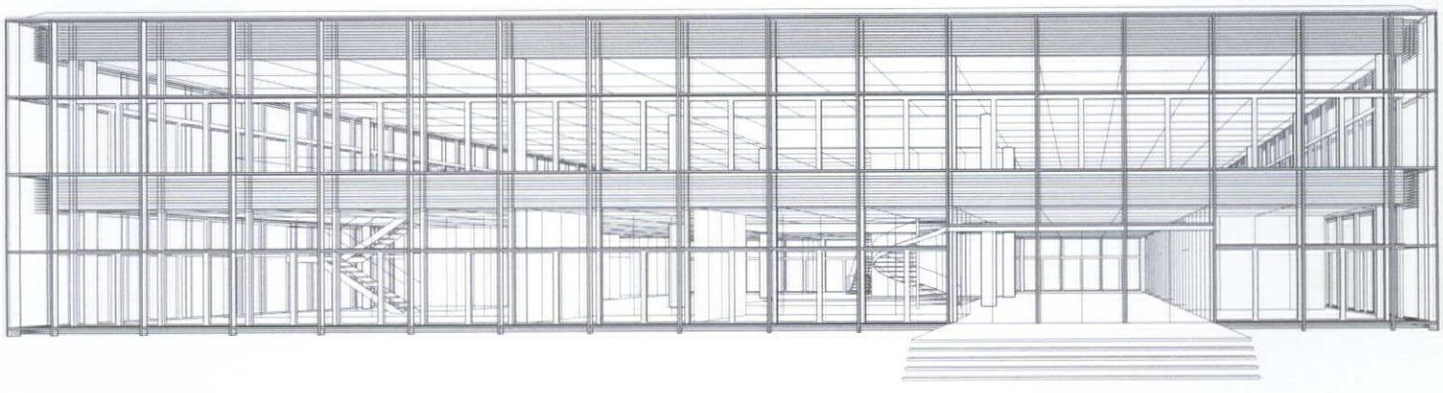
The Götz offices are located within a transparent cuboid incorporating an open atrium. A "half-tropical" tree from Florida has been positioned by a rectangular pond in the atrium. Although in the early stages the light was too strong for the tree and caused some damage, Michalski confirms that sunshading was part of the original design, and has now been installed.

Lighting is controlled by two independently adjustable louvred elements: reflective upper elements which scatter light deep into the building, and dark coated elements which absorb light to protect against glare, although perforations maintain visibility. These louvres are located on the roof and between the curtain walls, and are positioned by the computer according to the calculated angle of the sun at any time of year.

To satisfy the requirements generated by changeable work group sizes both floors are open plan. Götz's employees claim that the openness creates a comfortable and positive working and social atmosphere and that, despite the large open space, there are no acoustic problems.

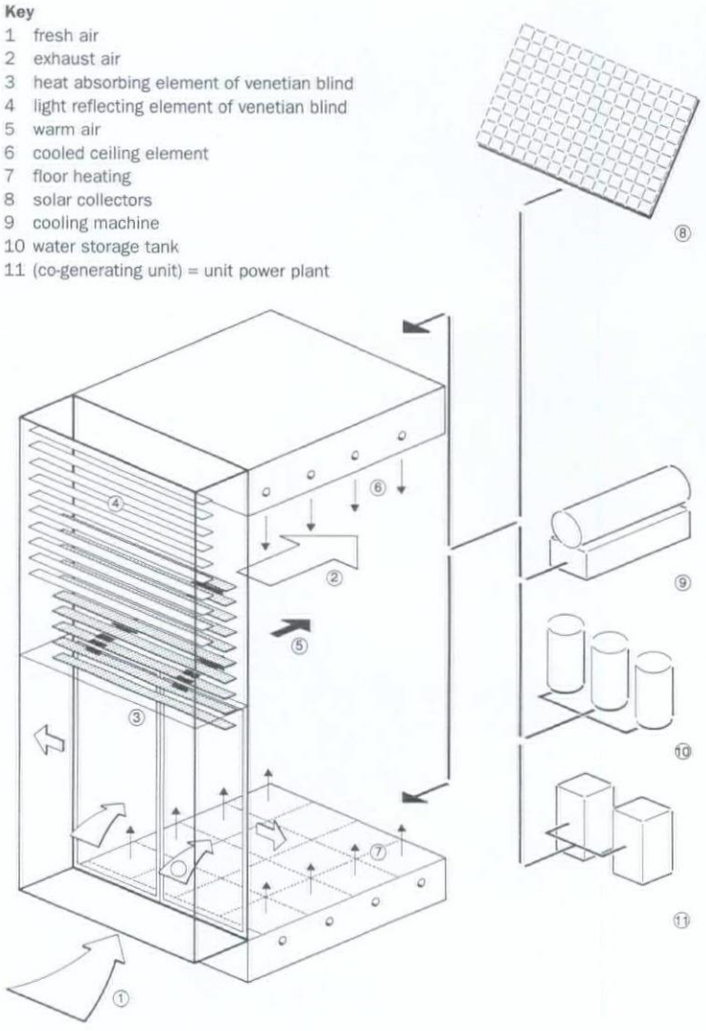
The 40 x 40 metre two-storey envelope structure is composed of five simple elements: a 12 x 12 metre frame structure, simply-supported main beams on circular hollow section columns secondary beams at 2.4 metre intervals and rigid slabs. Barely-visible fully-glazed partition walls, doors and stairs emphasise this impression of openness and light in the building's volume.

Opposite *Section showing tree in double height atrium, and below-bridge level.* ***Above*** *Facade of Götz headquarters showing the bridge to the entrance.* ***Below*** *Diagram showing essential structure*

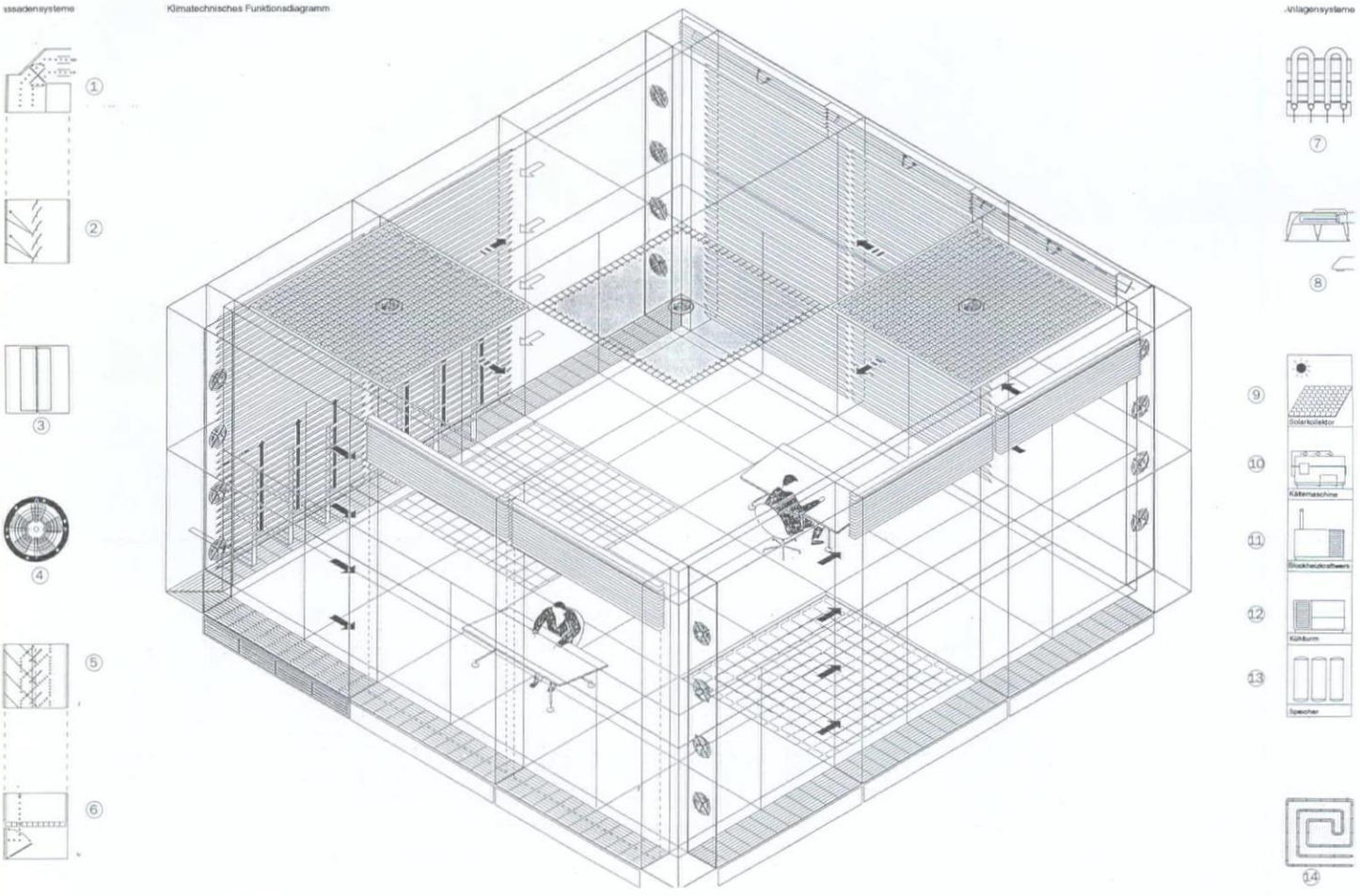


Right *Diagrammatic representation of the energy concept. Venetian blinds installed in the area between the inner and outer curtain walls act as light reflecting devices in summer time, and over a selective coating (dark coloured surface) as a heat absorbing device on cold sunny days. Absorbing the sun's heat on cold sunny days increases the air temperature between the curtain walls thus decreasing the thermal energy flow from inside to outside.* ***Below*** *A three-dimensional plan showing the climate control diagram. Fresh air flows over the lower ventilation flaps into a 25 inch space between the outer and inner curtain wall which, because the air is not restricted, provides a natural convective upstream created by the sun's irradiation. An exchange of air occurs with air supplied over the sliding doors of the inner curtain wall and it can be increased by lifting or moving the roof of the central atrium*

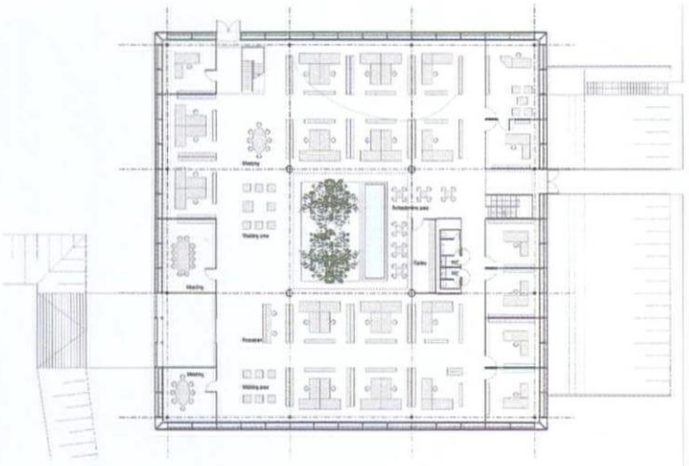
Key
1 fresh air
2 exhaust air
3 heat absorbing element of venetian blind
4 light reflecting element of venetian blind
5 warm air
6 cooled ceiling element
7 floor heating
8 solar collectors
9 cooling machine
10 water storage tank
11 (co-generating unit) = unit power plant



Key
1 upper exhaust air outlet
2 reflecting elements of venetian blind
3 sliding door
4 blower for vertical air flow
5 absorbing elements of venetian blind
6 lower venetian flap for incoming fresh air
7 cooled ceiling
8 compact fluorescent light
9 solar collector
10 cooling machine
11 co-generating unit
12 re-cooling tower
13 storage tanks
14 floor heating



Above left *A typical office floor plan showing views from the ground floor through to the tree and the rectangular pond in the atrium. The staff cafeteria is on the right.* ***Above right*** *The staircase in the central hall with glazed banisters allows maximum light penetration and does not obstruct the view.* ***Right*** *Double height space around the staircase shows the two floors. To satisfy the requirements generated by changeable work group sizes both floors are open plan.* ***Below*** *Ground floor plan. Götz's employees claim that the openness creates a comfortable and positive working and social atmosphere and that, despite the large open space, there are no acoustic problems*



Contrary to traditional approaches to energy saving buildings – the design is determined not by huge thermal reservoirs but by large areas of glass which utilise all incident energy for lighting, heating and ventilation.

The ventilated double facade minimises heating requirements. The architects have designed the building so that heating is only required when the outside temperature falls below zero degrees centigrade. Internal heat gain maintains a minimum of 20 degrees within the building. Michalski confirms that the inside temperatures are comfortable under all weather conditions – "It is never too hot or too cold".

Energy for underfloor heating is provided by 200 square metres of solar collectors. When low levels of sunshine prevail the thermal energy can be boosted to a usable temperature level of 28 to 30 degrees centigrade by means of a heat pump driven by natural gas.

Additionally and complementarily the building is also cooled using solar energy which drives warm water pumps. This is combined with the use of ceiling cooling units which control the stack effect produced in the facade, and by the reflection of energy.

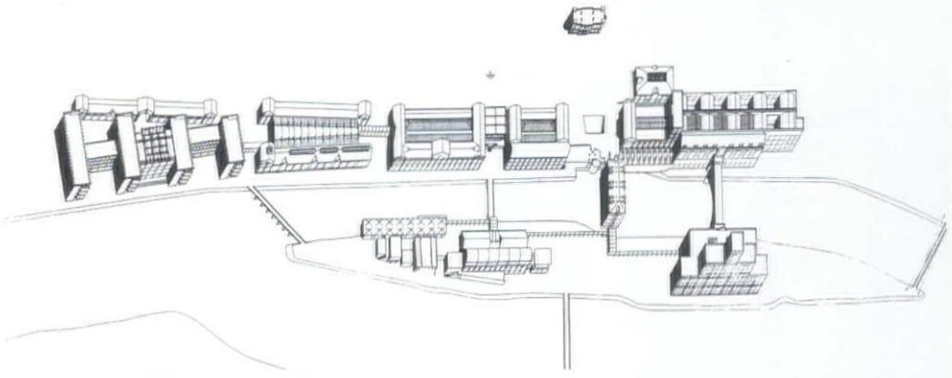
Many of the regulatory systems are operated by a sophisticated electronic control system which uses fuzzy-logic and information processing networks to relate the information received from 250 sensors. Despite the use of the most up to date technology, Webler + Geissler have created a straightforward, user-friendly building in which technology, although apparent, is not over-emphasised aesthetically, but rather presented as an equal partner in the total building concept. **WA**

Client	Götz GmbH, Metall-u. Anlagenbau
Architects	Webler + Geissler, Dipl. Ing. Architeckten BDA
Structural engineer	Ing. Büro Rudi Wolff
Energy concept consultant	Loren Butt
Engergy management systems	Marcus Püttmer
Contractor	Götz GmbH Bereich Generalbauunternehmen

USINE HYDRAULIQUE DE NOISIEL

Nestlé France Corporate Headquarters
Noisiel, France

Architects Reichen & Robert

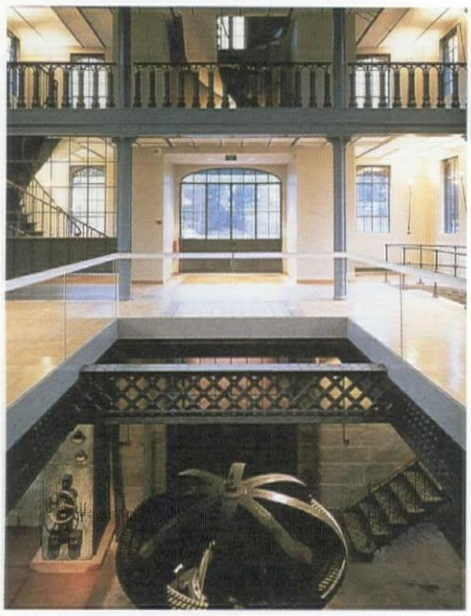


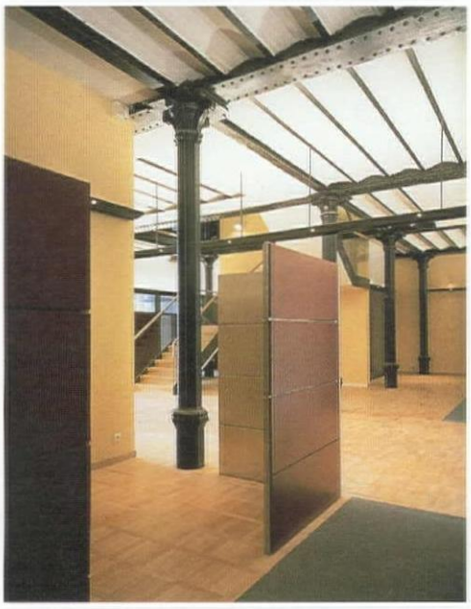
Nestlé France became the owner of the old Menier chocolate factory at Noisiel in Marne la Vallée in 1988, when the company acquired Rowntree Mackintosh. The principal attraction of the site, in terms of its potential as Nestlé's headquarters, is its campus-style layout, which provides the different departments with a certian degree of autonomy. In the planning stages this was particularly significant given that since 1993 Nestlé have being bringing together all their operational units and divisions in order to achieve greater company coherence. Of the 13,810 people employed by Nestlé in France, 1,750 administrative staff are now based at Noisiel.

The entire 60,000 square metre redevelopment took just two and a half years to complete – including staff relocation.

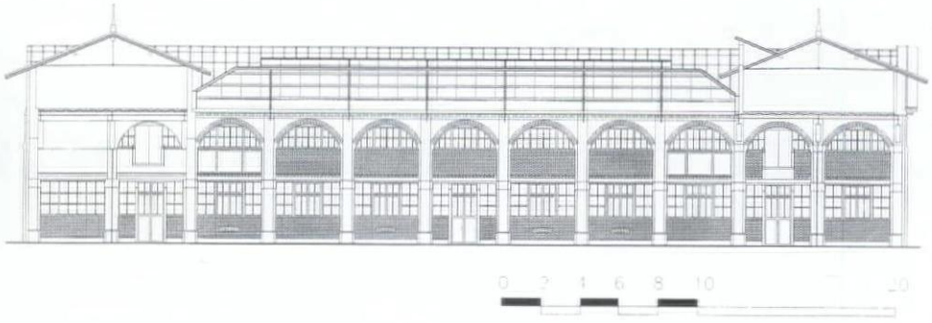
The original Menier chocolate factory site was noted for experimentation and inventiveness – Jules Saulnier, Gustave Eiffel and Stephen Sauvestre, amongst other notable nineteenth century architects and engineers,

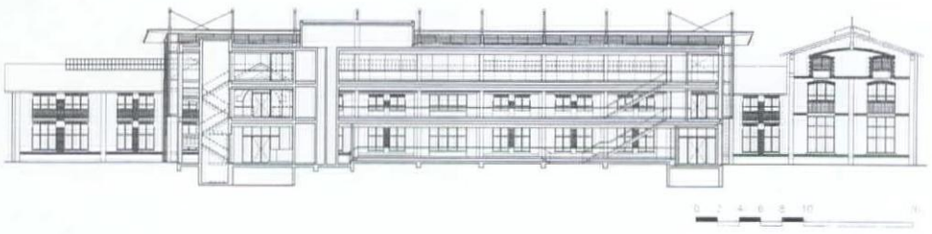
Opposite page *Le Moulin, originally designed by Jules Saulnier, was completely restored.* ***Top*** *Overhead plan of the Noisiel site, Marne la Vallée.* ***Right*** *View of La Verrière from the reception pavilion*

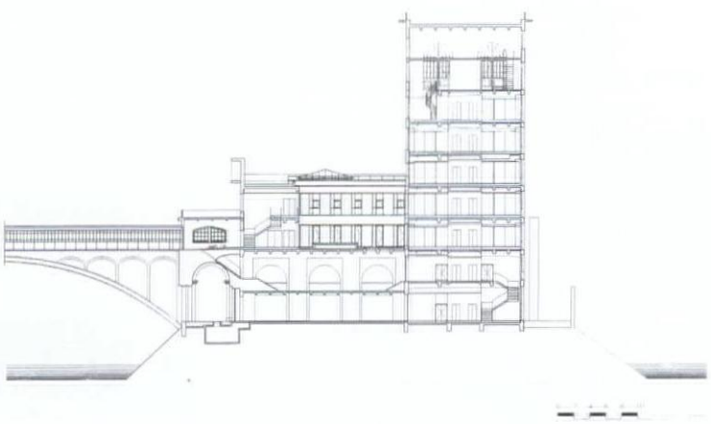




Top *View of the interior of Le Moulin, the reception lobby of the executive offices. A central opening allows a view down to the old turbine engines at river level.* ***Above*** *Interior view of the hallway in La Colonnade, with exposed metal, in original style.* ***Drawings clockwise from top right*** *North elevation of Les Patios building; Section through La Verrière (the glass-roofed building); North elevation of Les Nefs; Section through Les Nefs; North-south section through La Cathédrale; South elevation of La Cathédrale*







Top *Entrance hall to Les Patios.* ***Centre*** *La Rue Gallerie (Arcade passage) in La Colonnade.* ***Bottom*** *Covered alley leading to Les Nefs, typical of the network of covered streets connecting the separate buildings*

all contributed to the site. The buildings were conceived as a series, built along the Marne river. The industrial site was well suited to the creation of a "quarter", consisting of a network of streets, public squares, gardens, galleries and bridges. Today Noisiel is articulated along an axis parallel to the Marne, made up of covered streets and galleries, places of exchange and meeting, which all combine to connect the different operating units of Nestlé France. To the east of the site a group of new buildings inserts itself within the urban plan of the adjacent historic workers' housing. The built area is complemented by the presence of water in an environment dominated by vegetation and woods.

The redevelopment of both the built and the landscaped areas required careful reference to history. The design approach at Noisiel was not one of "restoration" but rather reinvigoration. In the Nestlé headquarters, a dialogue between old and new has been founded on truth to materials, contemporary expression of structure and detail, and the complementary properties of form and line. The landscape design involves both the management of an existing green patrimony and the contemporary task of plant usage.

The urban planning concept has retained the original axis so that from their arrival on site visitors can understand the spatial organisation of the project. The second important axis, after the entrance axis, is that running from the small square in front of the Mill, to the Petit Château. The new buildings to the east of the site have been arranged to prolong the general plan of the exisitng worker's housing permitting views which appear to lengthen the three principal streets. **WA**

Client	Société Immobilière de Noisiel (Nestlé)
Architects – outdoor areas, interior design and signage	Reichen & Robert
Interior design	Anne Carles-Stefano
Assistant engineers	Bovis
Engineering installations	O T H
Landscape architect	Florence Robert
Structures and external works	GII-SIBAT
Restoration	Restauration Conseil
Inspecting Authority	Socotec

Left *The interior of McKinsey & Company's Headquarters in New Delhi is divided into private offices using glass walls, combined with translucent rice paper and soft wood panneling. The interior decoration and furniture contribute to the lightness of the space*

McKinsey & Company Headquarters

New Delhi, India

Architects/Designers Batliboi Currimbhoy Design and Architecture

A poorly lit hotel basement with an uneven ceiling and limited means of access was the unlikely location chosen for the new South Asian headquarters of McKinsey & Company, the largest management consultancy in the world. Given that the brief was to create an international office with state-of-the-art communications and security systems, with scope for acoustical and visual privacy, and maximum natural lighting, the site represented a mighty challenge.

Located beneath the parking ramps of the Taj Mahal Hotel in New Delhi, the conversion of the basement into 17,000 square feet of office space required a three-pronged design approach. The project was undertaken by Batliboi Currimbhoy Design & Architecture – a collaboration between Ratan J Batliboi, Mumbai-based architects, and Tariq Currimbhoy Design & Architecture, a New York-based design firm.

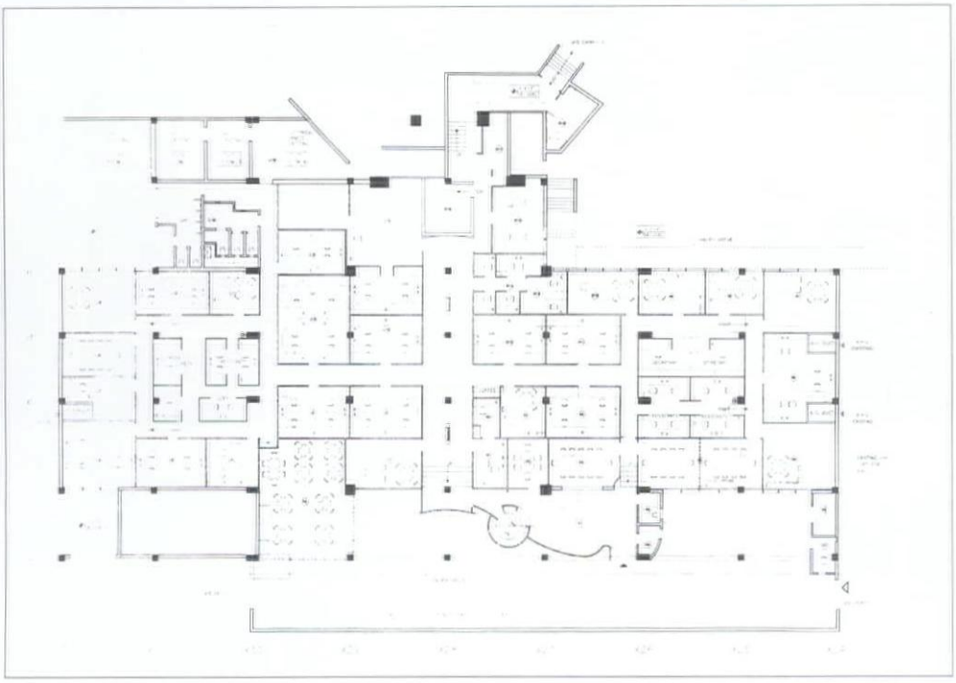
The site was only accessible from the hotel parking lot. The radical solution to this problem was the re-orientation of the office by closing off the hotel access, and creating an entrance through a disused passageway along the back of the site.

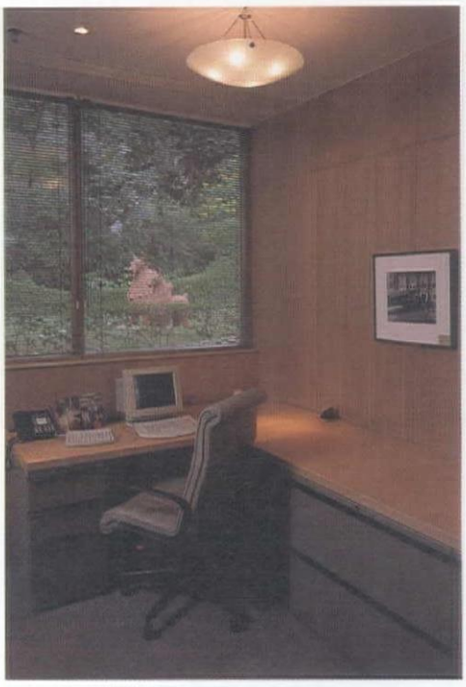
The ceiling was vaulted to take advantage of its high sections, which in turn facilitated the inclusion of high-silled windows, in order to make maximum use of the available light.

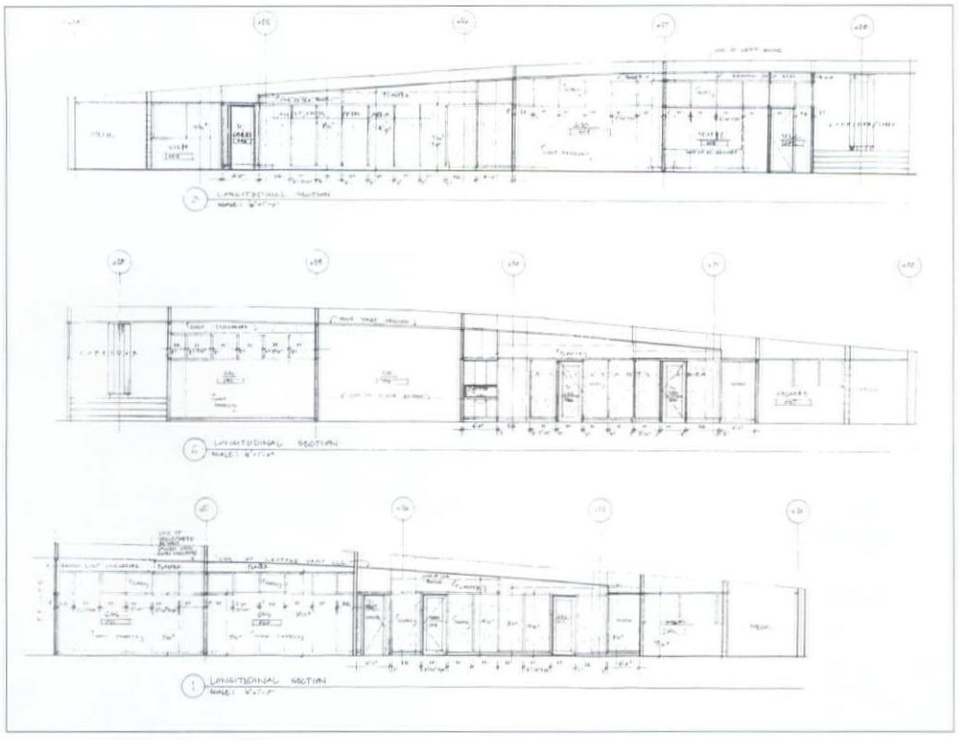
The introduction of glass walls into the facade further "opened up" the space. The passageway leading up to the entrance – which was redesigned as a landscaped sculpture garden – leads to a serpentine glass wall that opens into the reception area.

Privacy in the interior, an unusual feature in Indian office design, was achieved through the use of glass partition walls, combined with sheets of translucent Japanese rice paper sandwiched between two sheets of glass. The furniture systems chosen contributed to the lightness of the space through their colour.

Abstract Indian forms in the light fixtures, and antique Raj furniture in the lobby/public areas add an Indian atmosphere to an otherwise "international space" – a feeling enhanced by the inclusion of a collection of contemporary Indian painting, sculpture and photography in the lobby area. **WA**







Clockwise from top left *The use of a glazed serpentine curve in the entrance area "opened up" the space, maximising natural illumination; view of the sculpture garden from the reception area – abstract Indian forms in both the exterior and interior are the only visible signs of the office's location in a third-world country; state-of-the-art communication systems and natural illumination were two prerequisites of the design brief; longitudinal sections; floor plan*

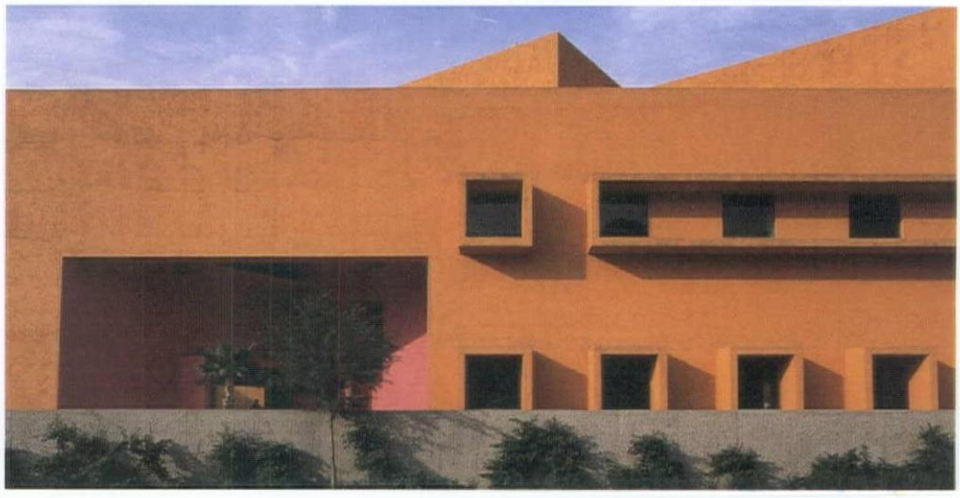
Project	McKinsey & Company Headquarters, New Delhi, India
Client	McKinsey & Company, New Delhi, India
Architects/Designers	Batliboi Currimbhoy Design & Architecture (BCDA)
HVAC and Electrical Consultants	Spectral Services Consultants Ltd
General Contractor	B L Kashyap & Sons Ltd

Office building
Monterrey, Mexico

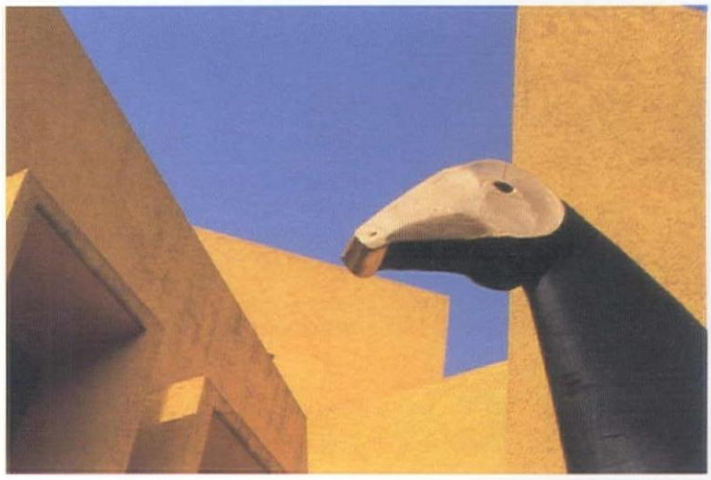
Architect Legorreta Arquitectos

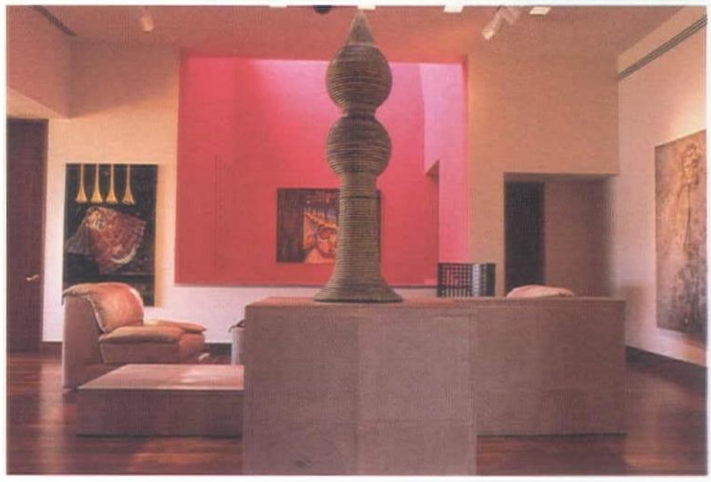
The prolific Mexican architect Ricardo Legorreta has considerable experience in office design: the Plaza Reforma in Mexico city, completed in 1993, covers 20,000 metres square, the Chron Corporations biotechnology research center in Emeryville, California 260,000 feet square and his most recent design is about to go on site for the Televisa headquarters in Mexico City.

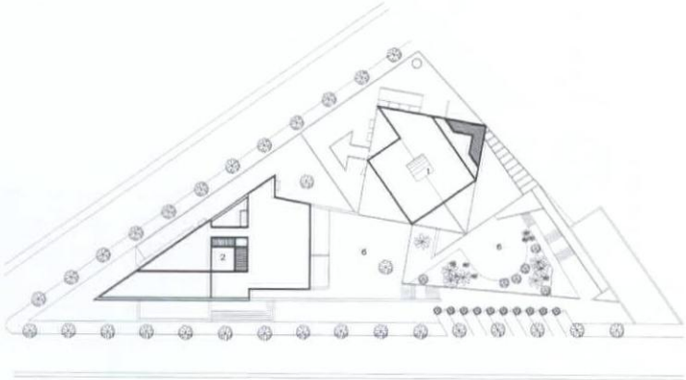
This office building in Monterrey, the financial capital of Mexico, is unusual both in the context of the Manhattan-esque skyline of the city and in the nature of Legorreta's commercial projects. This project was commissioned by a successful Mexican businessman with a priceless private collection of Pre-Colombian art.

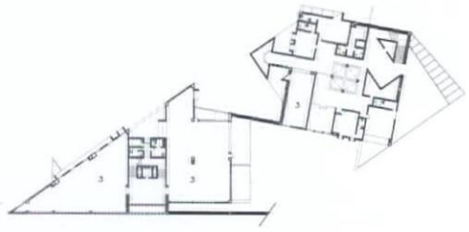


Opposite above *The tailor made yellow museum/office building in the foreground with the orange second office building behind it and the spectacular mountains around Monterrey as the backdrop. Legorreta's terraces has views towards the mountains while the courtyards are orientated towards the city.* ***Opposite below*** *The facade of the second building showing Legorreta's palette of bright colour and strong light and shade.* ***Right from the top*** *Courtyard spaces showing the influence of colonial hacienda massing and the use of shadow to provide a dynamic; the courtyard showing the architectural techniques used to display the client's private art collection; interior office space showing the connection between the art collection in the centre and the office space to the right.* ***Left from the top*** *Floor plans from ground to second floor*









Key

1 Office building A
2 Office building B
3 Offices
4 Gallery
5 Office
6 Patio

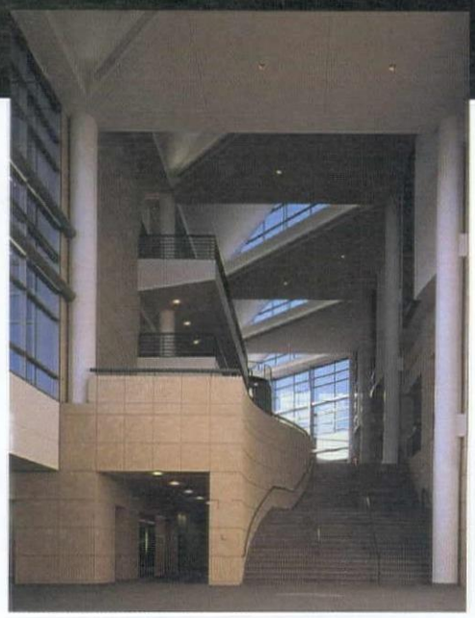
Miguel Adria, one of Mexico's foremost architectural critics, has described Legorreta's colourful nationalistic style as the epitome of "Mexicanidad". It draws both on the indigenous tradition of colour, formularised by the Mexican master, Luis Barrigan, and a distilled form of the hacienda architecture of the colonists.

The brief required two distinct but complementary buildings, the first as an integrated art museum and office, and the second as a rental space. The triangular shape of the site generated the sculptural plans and forms of the building which is integrated into the urban context by the scale and by the use of patios and terraces.

The building is designed as a cube with a central atrium space which rotates at each level allowing natural light to penetrate into the interior spaces. Legorreta is keen to create pleasant, human space and his use of light is practical as well as creating an atmospheric space for the exhibition area. He argues that in Mexico they have such strong light that despite his use of saturated bright colours, light and shade are the most important shades in his palette. The facade of the second building along this street has a series of projected cubes which cast shadows across the facade providing protection from direct sunlight and using light and shade with colour to break up the mass.

The interior spaces are open plan in order to enhance a feeling of space and to make the second building flexible for possible tenants. Interior and exterior space are continuous following Barrigan's tradition of outside rooms. **WA**

Architect	Legorreta Arquitectos
Project	Office building, Monterrey, Mexico
Structural engineer	DYS, S.C.
Service engineer	Hecnie y Asociadaos, SA
Cost consultant	Planeacion Tecnica, Mexico
Electrical engineer	Architectural Lighting Design, New York
Building contractor	Centro de Construccion



MCI Communications Corporation Headquarters

Colorado Springs, USA

Architects Gensler
Photography Marco Lorenzetti, Korab Hedrich-Blessing

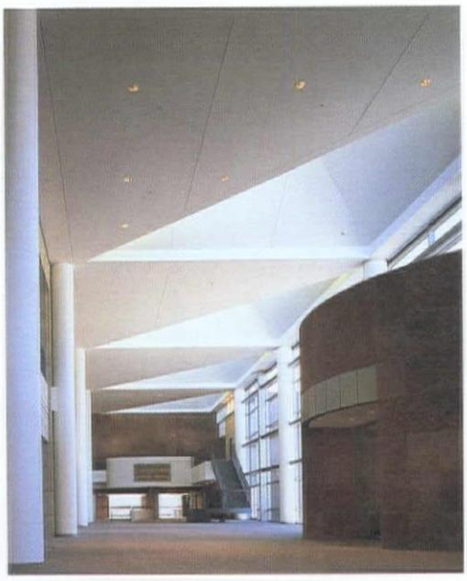
Gensler were given a very specific brief when they were chosen to be the architects for MCI Telecommunications' new world headquarters at the foot of Pikes Peak, Colorado Springs – an area known locally as "the Garden of the Gods", at the point where rolling foothills move into the Rocky Mountains. At the time (1991) MCI were based in Washington DC. Gensler were required to construct the new headquarters facility – for 3,500 staff – whilst the relocation process was in progress.

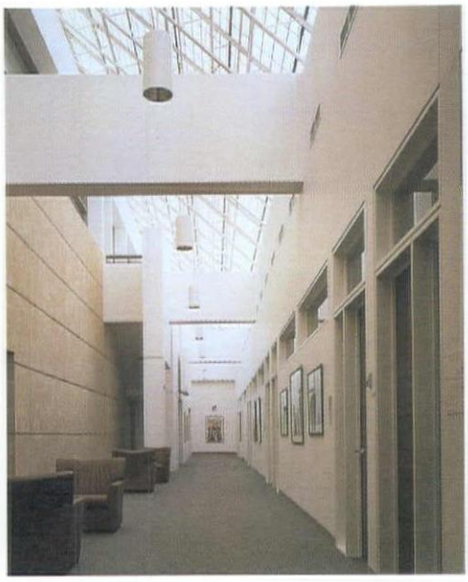
Two existing light industrial assembly buildings on the 164-acre site were remodelled into temporary work space for MCI employees. It was originally intended that Gensler's construction work would take place in phases, the first of which would be fast-tracked in order that further buildings could be added when required. However, the projected series of phases evolved into one continuous phase as MCI's time-scale for relocation process became clear.

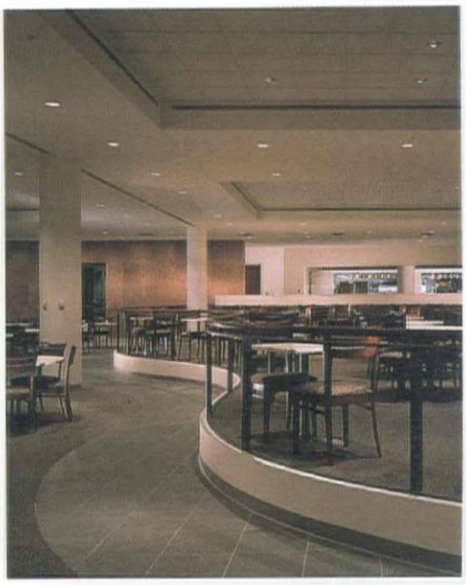
The existing buildings comprised 200,000 square feet of space. This area was to be integrated into the final 850,000 square feet of the first phase. Another major design consideration involved making optimal use of the surrounding landscape, both in terms of the overall layout and in terms of bringing views "into the buildings". The latter requirement was achieved by locating core elements in the ends of each floor, providing a broad expanse of unobstructed views in principal work areas. (MCI have recently acquired a 60 acre tract of land between the site and the mountains in order to protect these views.)

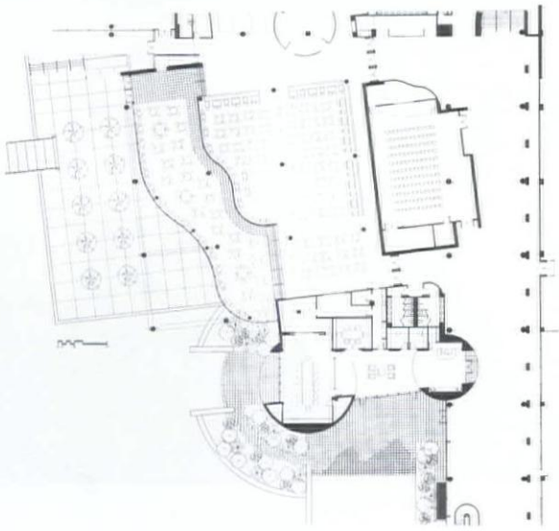
The building elements are located around "the reserve" – an open area the size of two American-football fields. The three and four storey buildings around this area are linked by "the spline", a 485-foot long, multi-level organisational space housing the entrance to the complex, the major elements of the facility – training rooms, briefing centres, dining rooms. The spline provides a smooth transition between the existing and new buildings. It also harmonises the site's 35 foot camber – the height of one wing – into the overall layout. The natural slope also helps to disguise the 2,500 space parking area, at least when approaching the site from the main entrance.

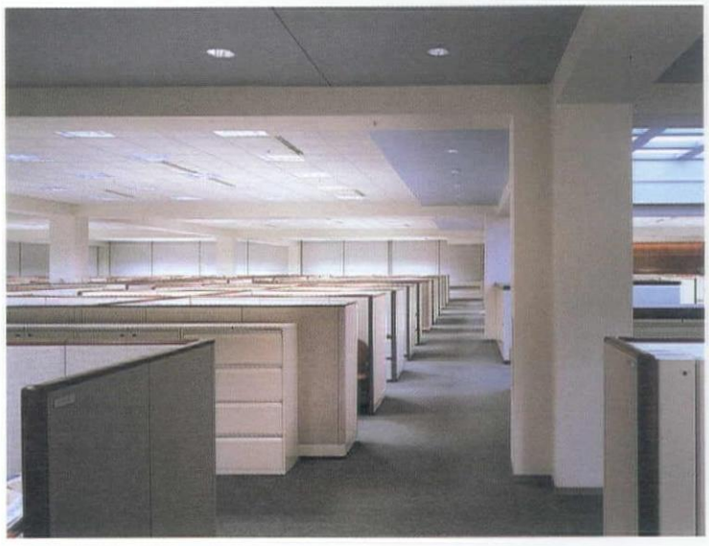
The exterior of each building is native Colorado rose sandstone, combined with blue glass. Two devices ensured that the existing structures were integrated into the new scheme; they were stripped of their exterior skin and clad in the native coloration, and skylights – accessing maximum views of the landscape – were added. WA











Architect	Gensler
Project	MCI Telecommuications Corporation Headquarters
General contractor	Weitz-Cohen Construction Company
Project management	Woziwodski Group
M&E consultants	ABS Consultants
Structural engineers	Martin/Martin Consulting Engineers
Civil engineers	KLH Engineering Inc
Landscaping	Civitas Inc

Opposite page above *The site of the MCI Headquarters showing the monumental massing of the interior atrium space,* ***(opposite inset)****.* ***Above photographs clockwise from top left*** *Generous circulation space enclosed in a geometry of triangular, circular and rectilinear forms; natural light enters through the abundant skylights; curvilinear walkways dispel anonymous corporate image.* ***Centre left*** *Organic shape of the site plan integrated with surrounding landscape.* ***Above*** *Space planning in the main office building*

Tokyo Telecom Centre

Tokyo, Japan

Architects Hellmuth, Obata and Kassabaum in joint venture with Nissoken Architects/Engineers

Project	Tokyo Telecom Centre
Client	Tokyo Telecom
Architects	HOK/Nissoken
Design director (HOK)	Ernest Cirangle
Project manager (HOK)	Dennis Cope
Project architect (HOK)	Jim Kellogg
Landscape designer (HOK)	Steve Terusaki
Engineers	Nissoken

The Tokyo Telecom Centre offices was part of the "Major Projects Arrangement" or MPA of the late 1980s, between the governments of Japan and the United States which allowed for the co-operation of American firms in the design and construction of major projects in Japan. A total of 34 Japan-based projects resulted from the agreement of which 17 involved architecture. Of these 17 four were won by Hellmuth, Obata & Kassabaum (HOK): Sendai International Airport, Fukuoka International Passenger Terminal, Fukuoka Airport Cargo Facility and the Tokyo Telecom Centre.

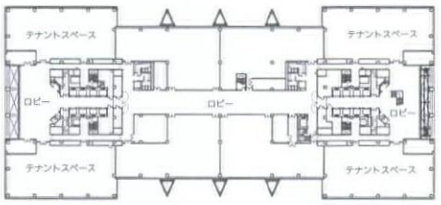
Working on this joint venture project with Nissoken was, according to HOK's Ernest Cirangle, Design Director for the Tokyo Telecom Tower, a harmonious experience. "Americans think of things bolder and simpler, Japanese are more complex but the blending of these two approaches produced a design that is entirely appropriate for a high-technology company: bold but complex" – a basic grid geometry fragmented by the Japanese partners to accomodate the Telecom corporation's requirements.

Cirangle found that the amount of design work that continued on site after the plans had been approved was unusual for an American practice and the quantity of amenities provided by a Japanese firm for their employees is more extensive: "each floor has a lounge area for example".

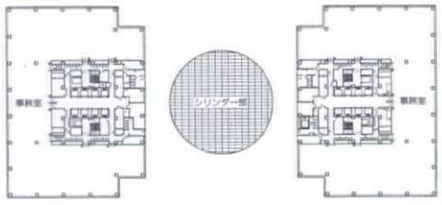
The site of the Telecom Centre is at the centre of an urban plan for Tokyo Teleport Town. HOK did not want to have two individual towers, as were originally requested. To provide a coherent design they used the "cube solution" as an appropriate centrepiece to the overall urban scheme.

In Japan, buildings employ two alternative methods of resisting seismic forces: to make the building "soft", allowing it to "roll" with the seismic "punches" or hard in order to resist these forces. The Telecom Centre is "hard" and rests on piles on the site which is surrounded by a retaining wall sunk well below ground level.

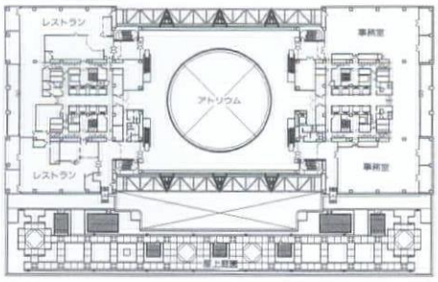
From the outset the brief indicated that 12 large dish antennae were anticipated. The connecting bridge functions not as a seismic resistance between the towers, but as a platform for satellite link dish antennae. The supporting trusses reinforce the structure and are incorporated into the design scheme. WA



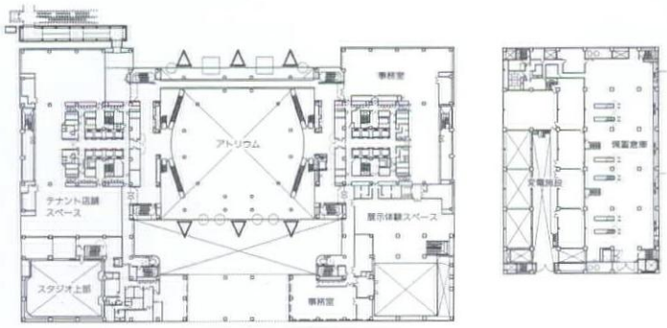
Nineteenth floor plan



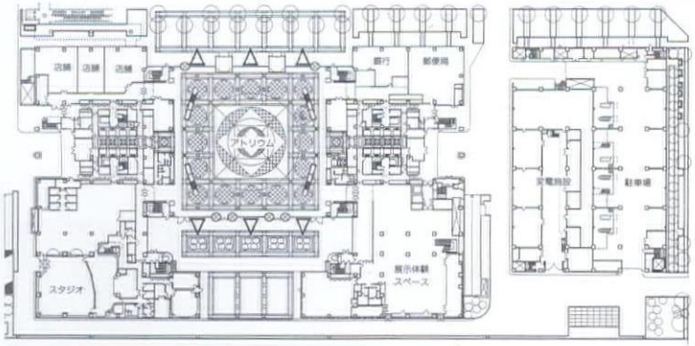
Typical floor plan



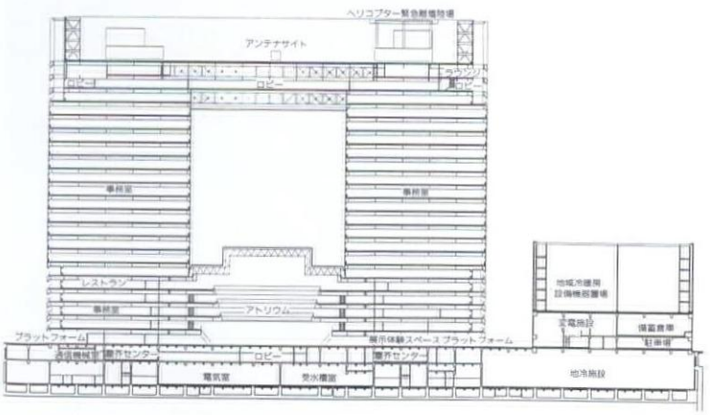
Fourth floor plan



First floor plan



Ground floor plan



Long section

Opposite *The cubic form was the answer to the practical problem of providing a platform for satellite link disk antennae within the structure.The vertical brackets across the surface of the "bridge" provide structural support and lend a strong rhythmic nature to the geometric design.* ***Above from top to bottom*** *The tower was conceived as the centre piece of an urban plan for an undeveloped area on the outskirts of the city; the atrium space is a public area using open space and top lighting with the office floors above it. (The "Major Projects Arrangement" of the late 1980s has now run its course and is currently being replaced by a new programme between the US and Japan)*

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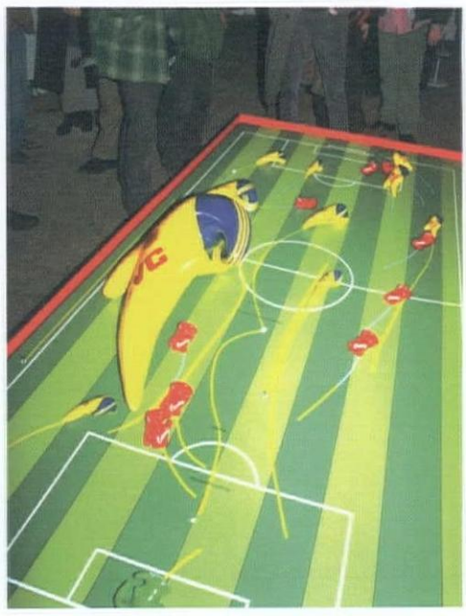
Above *Exhibition No. 32 "Love Parade. Aspects of a contemporary urbanism", Berlin 1996. Provisional linearities. An urbanism of oscilating and vibrating lines.* ***Left*** *Plaster maquettes, 1993. Hybrid objects posing as architectural elements.* ***Below*** *Model project for the final seconds of a football match examines the dynamic territories and spatial flux of the game during the move that produced the winning goal*

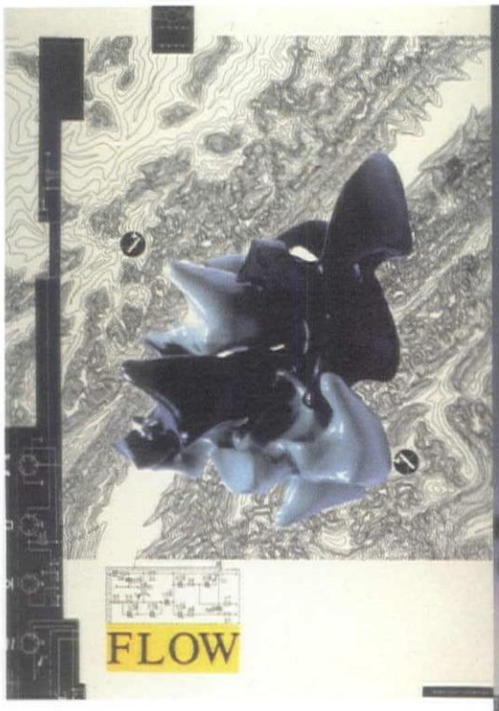
A guide for "any budding avant-gardist"

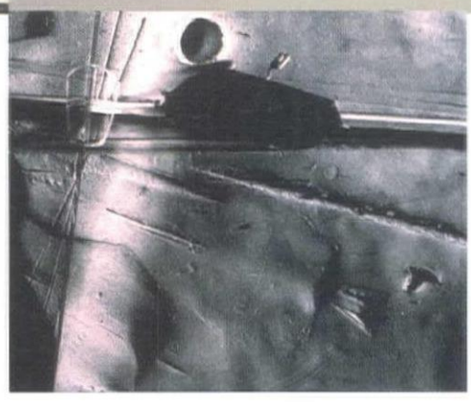
"No rights reserved. All parts of this book may be reproduced stored and transmitted in any form and by any means, including electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission." This inscription, on the last page of Kevin Rhowbotham's *Form to Programme*, confirms that this book is free from categorisation both in the nature of its publication genre, and in the concept of its author's discourses on architectural experimentalism. In the following interview with Georgi Stanishev Rhowbotham offers advice to "any budding avant-gardist".

Georgi Stanishev: Which genres does your book belong to?
Kevin Rhowbotham: Architectural discourse is a process of structuring meanings, and this is not and cannot be objective or benevolent because it is a process for the reproduction of the relations of power. This is why systems of architectural meaning are masked or obscured from immediate comprehension, not because they are erroneous or irrelevant but because their *raison d'etre* is to articulate these relations whilst presenting them as natural, normal and as a matter of common sense. When producing work about architecture therefore, it is necessary to engage in the discourses of architecture itself, but without being subsumed by them. In order to achieve this, the form of production of the book *Form to Programme*, willfully disavows the familiar formulas of architectural commentary, historiography, illustration and critique. There is no central narrative to the text nor to the images which accompany it, only an entirely contrived chronology which I have willfully distorted. It was never my intention to present yet another easy formula for a commodified style, but rather to construct a scenography of formal differences. A territory of multiple strategies and processes of production which offered a critique of current architectural preoccupations, by example.

Do you expect that the inversion of the conventional pattern of form and programme interrelations will lead to the redefinition of the design process itself?
When I devised *Form to Programme*, I asked a simple question, "What if form came first?", which was like asking, "what if I discovered a cave, with a series of discrete spatial volumes, could I re-conceive it as a house?" Could I, in fact, re-conceive this object as dwelling rather







Above left *Photo collage, 1994. Architectonic bodies combined in non-geometric associations from alternative massing strategies.* ***Above*** *Gellcoat maquette, 1994. "Bloidism", the use of CAD/ CAM hi tech facilitates the construction of a balloon frame with panelled skins with non-reiterated elements.* ***Left*** *Clay press box, 1994. An example of an auto-dynamic machine manufactured to produce an extended series of compositional iterations*

than natural form? If I could do this was it also possible to conceive new spatialities against "found" objects? That is to say, could one produce the art of architecture and then apply the programme to it?

But the history of the adaptation of certain spatial structures to different programmes gives good examples of such processes. Take, say, the Basilica: it was a public court building in 100BC, while 200 years later it became a Christian temple.

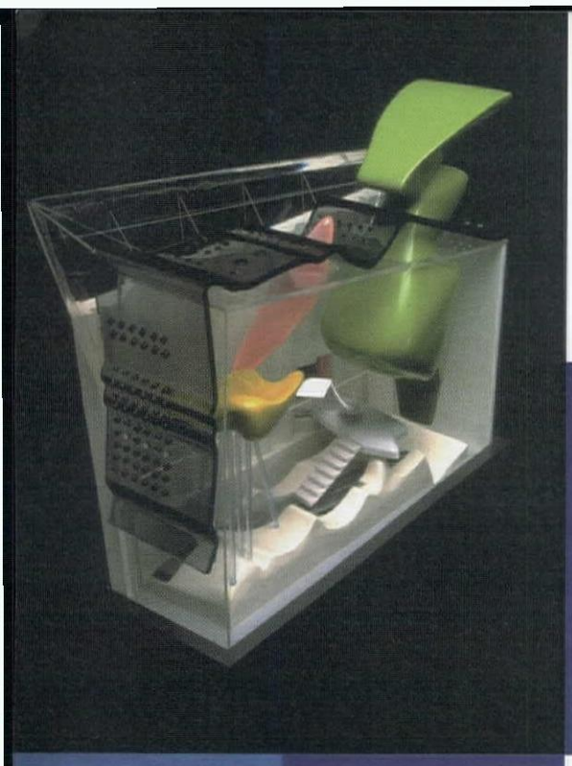
Yes, but the question as to the priority of form or function is entirely contrived. It is a false question. What remains interesting to me is precisely why this formulation holds sway over the consciousness of architects. In order to examine this I began a series of experiments. By treating the designed object as separate and not contingent, the instrumental relationship between form and programme can be dissolved. From this perspective, form emerges as a consequence of experiment and refinement, whilst programme is introduced after formal experimentation is compositionally resolved; at the end rather than at the beginning of the familiar project cycle. Hence, issues of form can be examined beyond the closing prejudices of the profession which influence architectural production by determining its conditions of legitimacy. Once released from its instrumental relationship with programme, form and its dependency on conceptual strategies can be placed at the centre of architectural production.

What are the functions of the manifesto-like rhetoric of your writings: to inspire and decanonise the students' imagination, to awaken architects' potential for rebellion, or just to express yourself in an angry way?

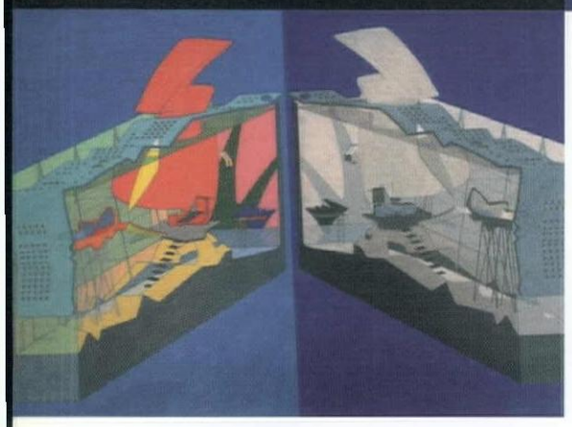
My own taste for things inspires me to reject and undermine all that grovels after the rational. If there is a crime more odorous than bad taste it is rationalism and an odour more criminal than even this, it is quietism. When poetic opportunities are spurned by a lack of nerve, there is always one irreducible recourse – that baleful tendency of mind which maps into abstraction all that cannot be immediately comprehended. This habit of rational reflection, enervates all attempts to obtrude the immediacy and the immanence of existence. In the face of such as this, one cannot be quiet. He lives best who has no respect for existence. One can master life by holding it cheap. The weight of what has passed bends the form of social being. Even the image of death which offers the living an absolute release from moral structures is devalued by history and its projection. Choose sides. Let the lions escape.

The visual impact and the seductive power of your visual production is very strong, but it carries its *raison d'etre* hidden in a riddle, with no clear answers. Why?

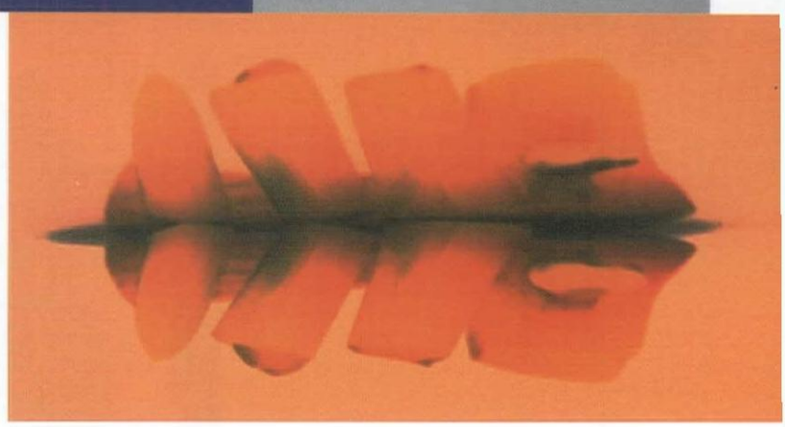
It was always necessary to produce work which established a visible position within the existing discourses of the London avant-garde. To do this I constructed a principle of operation called "surface", over and against which a critique of the seductive power of the super-ficial, the arti-ficial aspects of work could be brought under conscious control. Once this had been achieved the work could be used as a "site" for the delivery of political content in the form of multiple strategies of production. My central conviction is that "life", in and for itself, not architecture, constitutes the only value thereby rendering architectural ideas which are divorced from life and from the immediacy of existence, precarious at best and altogether valueless at worst, certainly equivalent and subject to political analysis. It was always, and still remains, my intention to foster multiple critical strategies, since this very multiplicity of alternatives, forces a crisis of confidence in the singularity and contrived certainty of bourgeois views of the world. For the bourgeois the world is naturally ordered. It reflects



"House for a Standard Georgian Frontage", 1993-95. ***Left*** *View of the model.* ***Below left*** *Interior and exterior axonometric drawings. Ink and coloured crayon on mylar.* ***Below*** *Ground and upper deck plans. Ink and coloured crayon on mylar.* ***Right*** *Mapping study of the extemporised territories of the interior of the house*



Right *Pre-tectonic formal hybrid exercise, iteration "4" from a series of 20, 1993. Wax on glass maquette*



the conceit of a meaningful and value laden environment of rationally congruent events and objects. It is consequently unnaturally disordered by the non-rational and the terrifying. From this political perspective no explanation is necessary beyond the presentation of the work.

To what extent do these statements refer to a neo-dadaist formula of transition from a calculated meaning, to a non-deterministic and immediate act, from speculative discourse to the spontaneous gesture?

Tristan Tzara proposed the following recipe: "Take a newspaper. Take a pair of scissors. Choose an article as long as you are planning to make your poem. Cut out the article, then cut out each of the words that make up this article and put them in a bag, shake it gently. Then take out the scraps one after the other in the order in which they left the bag. Copy conscientiously. The poem will be like you."

Exploiting random, chance associations Tzara's "cut-up" method attempts to elevate the influence of established canons of taste from a kind of coincidence beyond conscious control. The film cut is certainly another powerful example. Surrealist "objective chance" adds a post factum conscious control to the work, coming under Breton's general category of "objective chance". Certainly the production of formal and programmatic strategies from this perspective are non-deterministic. But for me these strategies remain merely techniques. I was much more interested in their effects on the consciousness of students and on the possibilities they offered for extending the scope of a conceptual vocabulary.

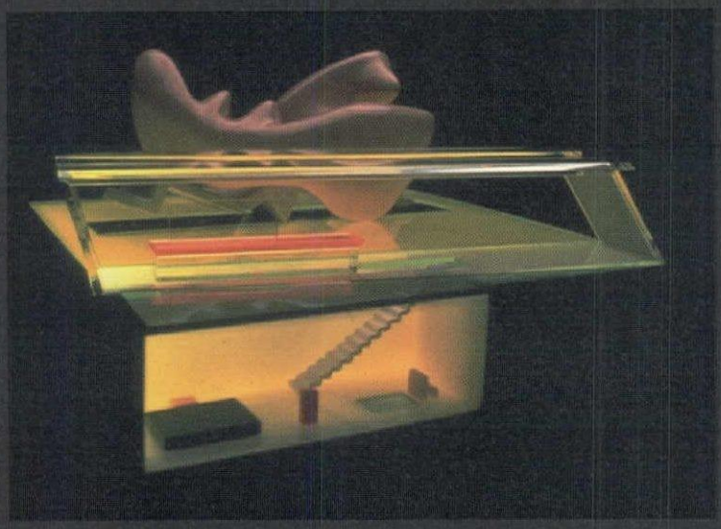
Is your work in any way associated with fine art production? What is your view of the nature of art production and its influence on architecture?

One can no longer ask whether life imitates art since the arts, to which architecture retains only a most slender connection, in their current commodity structure have drained from themselves those fetid crepuscular remnants of life which gave them potency. And this not as any consequence of the effort of the artist to produce life enhancing progeny. What calls itself art, what is at the borders of human speculation in the arts, finds no outlet whatsoever, since the markets of legitimate production have claimed only the lifeless for themselves. All legitimate art is first official art, claimed, coded, criticised and reviewed, its products, in-so-far as they are visible at all, appear pre-contaminated, stained and poisoned by the refusal to refuse the terms of market recognition. This step, a recognition of the vitality of counter production is now regarded with dismissive indifference as insouciant naivety. To be an artist, and most certainly an architect, proceeds these days from the perspective of a career plan. When life is no longer the focal issue for the production of art, when the vital sources of rejuvenating criticism are severed from the body of a culture, when the negotiation of administrative structures becomes the primary focus of production, when strategy succeeds adventure and history closes all avenues of refusal, then what remains ambulant to be called art, is always and already a walking lie.

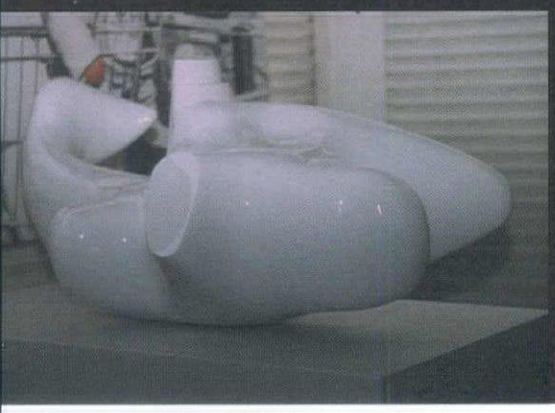
What would be your message to architecture students and young architects that are now browsing for adventurous paths in the profession?

By way of an answer I offer the following suggestions to any budding avant-gardist:

1. Construct your own marginalities, micro-landscapes and trajectories. This is an easy task requiring one difficult step. You must forget the Oedipal imperative in every institutional connection. Become an orphan and a nomad.



Above *House of the Future: The Anti-Oedipal House, 1993. The parental (social) and the child's (anti-social) models are expressed in two patterns of dwellings in the house. The parental one performs as an exhibition of social grace, while the children's one is a "womb" and a bulwark of resistance*



Left *The Bloid as spectral skin, 1994. High level of sculptural articulation in a project for a leisure space*

Ubiquitous Roof Project: Total Preservation by Force 1995

Above *Project over Bologna. Computer collage.* ***Left*** *Project over the Glienike Park, Berlin. Computer collage*

2. In a world where the majority seek their own repression do not seek instruction. All you can be taught is ignorance, inadequacy and deference.

3. Style is identity and signature. It is the antithesis of critical adventure. Celebrated architects are failures in this regard. If they were truly creative their first act would be to dispense with such redundancies and change their own work. Ignore them they are the dispossessed.

4. To become successful you must acquire the means of action. These are not talent, initiative, drive and ambition. They are influence and prestige. These are at your disposal through the manipulation of existing institutions. To begin you must become a self propagandist and adapt to what follows.

5. Do not fear the rejection of a critical elite. You can be certain that they will reject your work out of hand since they operate paranoically. Acquire the means of reproduction and proselytise your work. Its growing popularity will provide opportunities.

6. Laugh at all talk of authenticity. This is the language of the State and is fraudulent. Its goal is the suppression of all creative initiatives in the arts.

7. Cultivate a heated rhetoric and do not fear public rejection. This will establish your reputation more rapidly than liberal equanimity will.

8. Construct multiple initiatives for the publication of your work. One will never do since you will need 100 possibilities to secure one certainty.

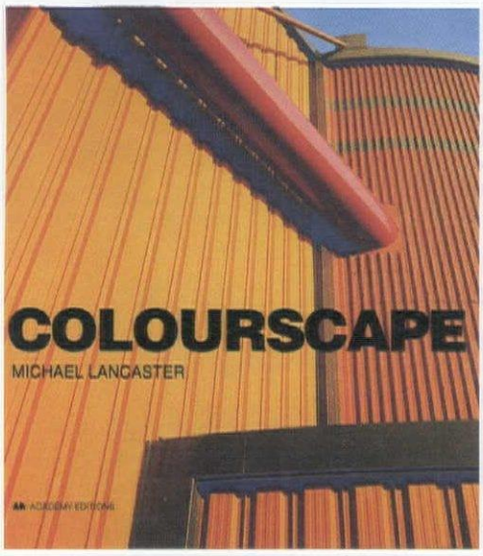
9. Avoid the authenticating drivel of critics, historians and other rag pickers of the miserable. Since distortion and idealism are their economy, they will transform your creative initiatives into banalities for the blind consumption of the State. Deal with them in their own terms, invert their craving for certainties with false information.

10. Make no easy drawings. All demands for lucidity, clarity and transparency are acts of suppression. In the face of difficult work the reactionary squirms.

Which past or present cultural traditions are the most appropriate context for understanding what you are doing in architecture in both theoretical and visual aspects?

Camus' *L'Etranger*, Ward's "outsider" and Neitszche's "ubermench". Raskolnikov, Baron van Frankenstein, prefigure the role of the avant-garde modernist adventurer; a romantic epistemologist, asserting a sense of anarchy in the face of bourgeois complacency. It is not merely a need to cock a snoot at respectability that provokes this position but a veritable obligation to "tell the truth at all costs", even if this leads to the Nietzschean admission that order and chaos are merely poles in a universe of morally equivalent possibilities. What damnably marks out the marginalist, and makes her fascinating from the perspective of a putative production, is a refusal to turn away from the self-defeating tendencies of her conviction. To pursue the immediate of existence and to accept the terrifying consequences of a naturalism unfettered by the recuperating mythologies of bourgeois rationality. My attempts to examine the unexamined in architecture, to effectively broaden its conceptual scope has resulted in a kind of production which is difficult to categorise, not because it lacks meaning or significance but because the categories which exist for its historiographical "interpretation" are inadequate and reflect only those terms and political conditions which are congruent to a specific ideological view. I am of course indifferent to any historiographical "interpretation", or classification of the work; indifferent but nevertheless fascinated. **WA**

Books



SHADES OF CONFUSION

Colourscape. *Michael Lancaster. Academy Editions. 128pp, fully illustrated throughout. £21.95*

Reviewed by Hugh Aldersey-Williams

Colour and architecture are strange bedfellows. Or to be more exact, they sleep together but seldom talk about it. Colour is inherent in materials, and a tenet of modernism is truth to materials. Yet one aspect of the modernist agenda has been a tendency to a kind of purism and hence to an architecture that is rather colourless. The licence to colour, in turn, has been grabbed by post-modernists. Architects today can be divided broadly into colourists (Graves, Isozaki, Rossi, Stirling/Wilford, Outram, Farrell...) and purists (Foster, Pei, Ando, Meier, Chipperfield, Mather...).

Of course, there are modernists who use colour (Alsop) and post-modernists who don't much (Venturi). But the trend acts to reinforce this false dichotomy.

So what went wrong? The real modernists, now often supposed to be colourless, never were. Many of the examples in Lancaster's book seem a little out of date. But this turns out to be no bad thing, serving to remind us of this fact, with colourful illustrations especially of the work of Le Corbusier.

Lancaster shows how colour can evoke place with selections of photographs organised by palette. Try this test: a page showing buildings in Mexico, Hungary and Denmark covers the... yes, red end of the spectrum. But the appearance of buildings in Newcastle, UK and London's Docklands on the same page shows that colour can be arbitrarily introduced.

Technology and globalisation have now eroded our ability to associate colour with place. Instead, architects have used colour to code function or simply as a cheap means of decoration. Their usage is often garish or unimaginative. The Centre Pompidou must be the prime (and primary) example in the first category. Lesser buildings have used the same obvious primary colours, with results little more distinguished than the branding by colour of petrol stations. One problem with colour is surely our lack of vocabulary with which to describe it. The reason brands – Shell, McDonald's, Coca-Cola – stick so rigidly to primary colours is that they can claim "ownership" of red or yellow. Perhaps something similar limits conversations specifying architectural colour.

The new colour possibilities of modern materials promise to resolve the false dichotomy between the modernist/purists and the post-modernists/colourists. But architects must keep pace with developments. Colours need not appear "synthetic" even if they are artificial, as John Outram demonstrates with his spectacular use of coloured concrete. Once this is understood, the way will be open to use colour both more boldly and more sensitively than has been the case to date.

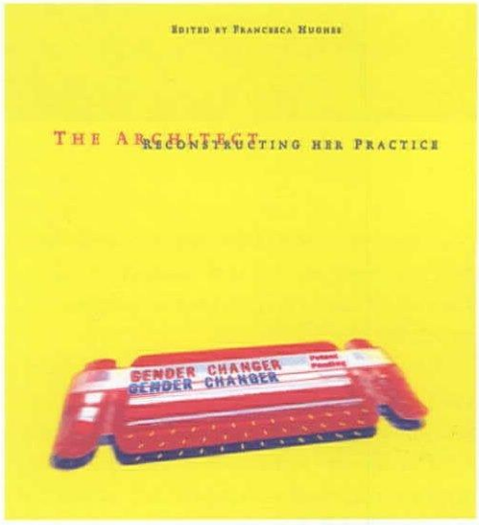
REASON MADE VISIBLE

Minimum. *By John Pawson. Phaidon. 272pp, b/w and colour illustrations throughout. £60 (hardback)*

Reviewed by Bob Bigg

In his book *Minimum*, John Pawson's avowed purpose is to "assert the idea of the 'minimum' as a way of thinking, working and living". The book itself is beautifully produced and succeeds in being true to his basic theme of simplicity in its presentation of images and text. Leafing through the compilation of images ranging from neolithic standing stones, Cistercian abbeys and traditional Portuguese grain stores, through Japanese pots, Shaker interiors and a painting by George Stubbs to Donald Judd sculptures, the architecture of Mies van der Rohe and Le Corbusier – even radio telescopes and the B2 stealth bomber – one cannot but be impressed by the strength of Pawson's argument. It is refreshing to find an architect who is prepared to build bridges between architecture and art, and admit that art may inspire architecture. Through both this book and his work Pawson is encouraging us to look beyond the incoherent clutter and babble of our late twentieth-century world to a simpler, more structured and, it must be said, more rigorous, way of living. Sadly, however, "man's desire for that freedom that comes with order and calm" has, to date, been overshadowed and outweighed by his fear of that very freedom.

FEMALE VOICES THREATEN STATUS QUO



Gender Changer, Patent Pending: The Architect: Reconstructing Her Practice. *Edited by Francesca Hughes. The MIT Press, Cambridge, MA & London, UK. 250pp, illustrated throughout. US$35.00/£24.95 (cloth)*

Reviewed by Kelly Shannon

The Architect: Reconstructing Her Practice examines, via a collection of essays by 12 American and European female architects, how inclusion of the multiplicity of "sexually-marked voices" may radically re-define contemporary architectural practice. Juxtaposing the views of "theorists" and "builders", the selection of contributors map the range of practices: from the mainstream to the marginal; from the intersection of architectural theory and philosophy to the inter-

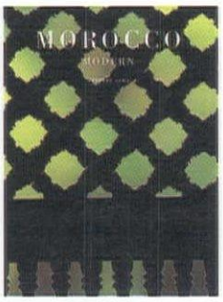
section of the building process and technology. The structure, rhythm and assertions of the book simultaneously embrace two diametrically opposed strategies – of being outsiders (by their "difference" and gender-related experiences) and insiders (by their education and adoption of, and by, certain professional institutions) in relation to the practice of architecture.

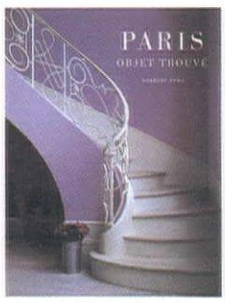
The first group promotes the difference of women. The authors of this camp advance an (intellectual) call-to-arms. The polemics of this "feminist" perspective are, by far, the most persuasive in the book. Recalling strategies of both deconstruction and feminist criticism, five American "theorists" pose potent critiques and provocative questions to the architectural discourse they have inherited. They speak of the evolution of a new "language", the intimate relation between language and identity, and insist that women have a special and particular contribution to architecture. The aggressive, often cryptic writing of these essays demands insightful decoding to access the "inside" secrets, the hidden knowledge.

The second group of contributors, although all showing a willingness to transgress the various mediums and territories of architecture, primarily appear to support the argument that women can do architecture just as men do. Their arguments were diluted in comparison to the hard-core defence of the "feminist" group. In fact, several of these authors present projects that have been done in collaboration with their respective male partners, who are also often quoted – for example, Françoise Hélène Jourda addresses the issue of practising complexity via a series of buildings made in partnership with Gilles Peraudin.

The three remaining contributors – Martine De Maeseneer, Dagmar Richter and Nasrine Seraji-Bozorgzad – do not so easily fit into the above prescribed categories but rather into the mainstream theoretical genre, with all the appropriate and fashionable "catch-words" and ideas.

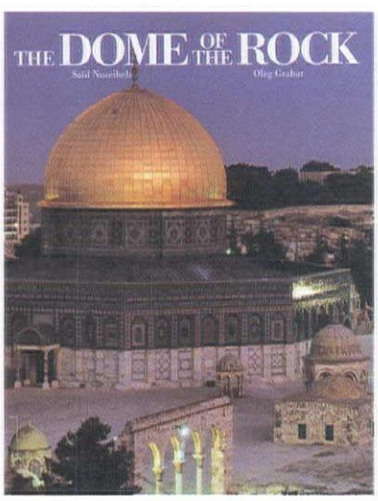
The Architect: Reconstructing Her Practice projects a massive plurality of architectural meanings in the field, the discipline, the building and beyond. The strength of the book is in its collectivity, in its fuelling of a new critical practice, through a series of individual statements. It has been cleverly crafted, from design to its imbedding of "insider" codes.





Morocco Modern *and* **Paris Objet Trouvé.** *Both books by Herbert Ypma. Thames and Hudson. 157pp, colour illustrated throughout. £16.95 (paperback)*

Two new titles in Thames and Hudson's *World Design* series. The two books are visual sources for designers, architects, students and anybody with an interest in interior design/decoration. Focusing on indigenous design in different cities and regions throughout the world, Ypma attempts to define the visual and creative identity of the location by placing all images within their historical and cultural context.



The Dome of the Rock. *Saïd Nuseibeh and Oleg Grabar. Thames and Hudson. 173pp, 200 illustrations, 150 in colour. £38 (hardback)*

Nuseibeh and Grabar's book profiles one of the most revered religious monuments in the world, the Dome of the Rock, Jerusalem. Oleg Grabar, an Isalmic scholar, details the cultural significance of the building, whilst Nuseibeh's photographs illustrate the lavish exterior and interior decoration.

BOOKS RECEIVED

Architecture after Modernism. *Diane Ghirardo. Thames and Hudson. 240pp, b/w and colour illustrations throughout. £8.95 (paperback)*

The Elements of Style: An Encyclopedia of Domestic Architectural Detail. *General Editor Stephen Calloway. Mitchell Beazley. 568pp, b/w and colour illustrations throughout. £45 (hardback)*

The Lost Buildings of Frank Lloyd Wright: Vanished Masterpieces. *Carla Lind. Thames and Hudson. 140 illustrations, 29 in colour. £19.95 (hardback)*

Santiago Calatrava: Architectural Monograph. *Dennis Sharp. Academy Editions. 120pp, illustrated throughout. £21.95 (paperback)*

Softdesk Solutions: The Essential Guide to Auto-Architect. *Dennis Nealey and B Robert Callori. John Wiley & Sons Inc, New York. 456pp, includes CD-ROM. US$32.95/CAN$46.50/£27.50 (paperback)*

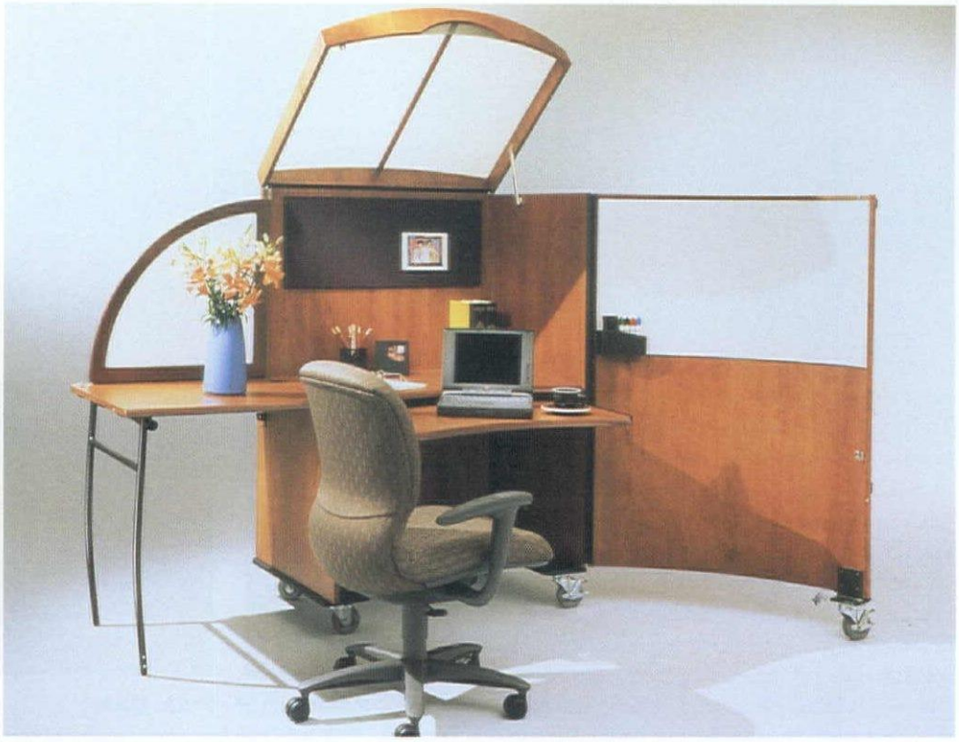
Multimedia Marketing for Design Firms. *Curtis B Charles and Karen M Brown. John Wiley & Sons, New York. 222pp, includes CD-ROM. US$44.95/£34.95 (paperback)*

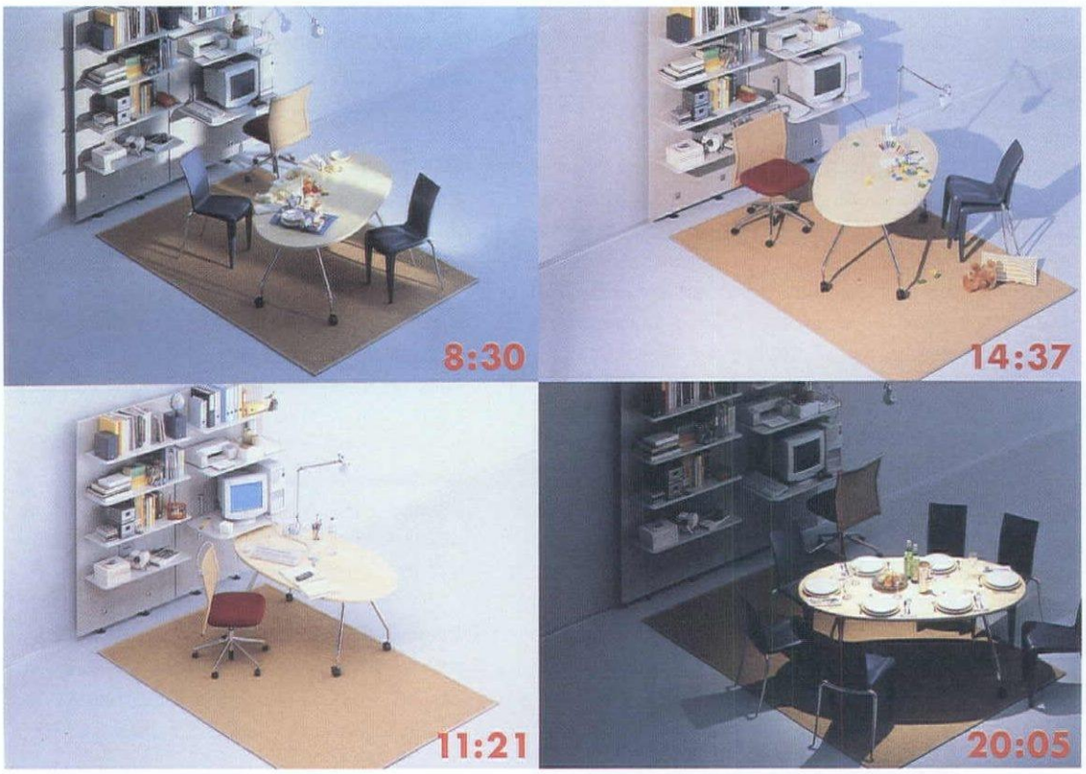
Concerning Buildings: Studies in Honour of Sir Bernard Feilden. *Edited by Stephen Marks. Butterworth Heinemann. 352pp, 130 b/w and 70 line illustrations. £40 (hardback)*

Chora L Works: Jacques Derrida and Peter Eisenman. *Edited by Jeffrey Kipnis and Thomas Lesser. Introduction by Bernard Tschumi. The Monacelli Press. 208pp, 60 illustrations. £27.50 (paperback)*

Enric Miralles Works and Projects 1975-1995. *The Monacelli Press. 272pp, 100 colour and 300 b/w illustrations. £27.50 (paperback)*

Building for Air Travel: Architecture and Design for Commercial Aviation. *Edited by John Zukowsky. Prestel Verlag, Munich. 256pp, 103 colour plates, 51 duo tone plates and 216 b/w illustrations. US$65 (hardback), US$34.95 (paperback)*





Left *Ad Hoc Home, designed by Antonio Citterio and Glen Oliver Löw for Vitra, allows different configurations to be realised during the day.* ***Above left and above*** *Correspondent self-contained portable work unit by American giant, Haworth, shown open and closed*

The home office

Quite what the office of the future is going to be is anybody's guess. Some see it as the team office, others as the lean office. New products introduced at Cologne's Orgatec exhibition also indicate that the home-office is gaining ground with compact systems being designed to integrate neatly into the living environment. The result is a flexible and mobile workplace offering space saving solutions. Nicky Churchill reports.

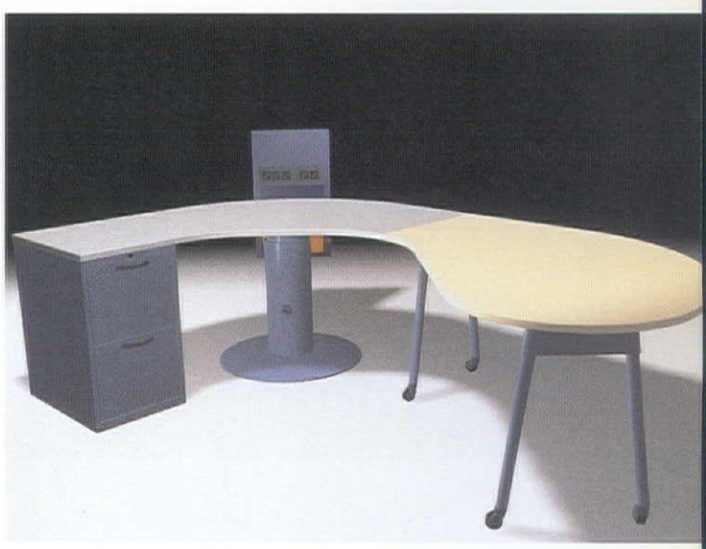
The Office

The buzz phrase at this year's Orgatec was "new ways of working" which judging by the diversity of the exhibits, is still open to question. There were very few real innovations with most manufacturers catering for hotel-ing and the home office in one form or another. The result? Smaller workstations and castors on everything.

The "kiosk" look is one solution for the home worker, providing a self-contained work unit which when closed becomes a decorative piece of furniture. At the top of the range is Correspondent by Haworth, a portable office

Below left *The Logon table system designed by Andreas Störiko, continues Wilkhahn's commitment to conferencing.* ***Below*** *The multifunctional and mobile King Aera, from König + Neurath*

Below *Tecno's Computer Accessory Trolley (CAT), designed to serve both the cellular office and the homeworker.* ***Below right*** *Maximum planning efficiency is the focus of the Compas programme designed by Crinion Associates for Tecno*



designed in-house by Ronna Jacobs and first launched at Chicago's Neocon show. Inside the cherry veneer cabinet is a fully functioning all-in-one office containing three worksurfaces, pinboard and markerboard, accompanying mobile pedestal and side screen, all topped off with a translucent acrylic lid to diffuse the light. It is easy to move with both free and locking castors, and beautifully finished, but approaching US$5000 a piece, it may be more suitable for the mobile executive rather than the mobile home worker.

König + Neurath also explored the "closed" workstation with three prototype designs which may or may not go into production. A safer bet was the King Aera workstation, which focuses on the leaner look for the team office and is based on a "no-frills" single workstation on castors. The simplicity of this design is carried through to other components which can be linked to provide an increase in working area and organisational space.

Mobile designs were also evident on the Unifor stand with new pedestal additions to the LSS system designed by Jean Nouvel, and the introduction of a neat semi-circular unit called Move aimed at the home office (see *Product Review*). Tecno's answer to this trend is the versatile Computer Accessory Trolley (CAT), which can either be used as a side unit in the cellular office or as an independent workstation in the home. Also of note was the Compas furniture system with its curved, flowing worktops designed by Canadian practice, Crinion Associates. Maximum planning efficiency is the focus here, with flexibility provided by the many different components and a castor base option allowing easy reconfiguration.

Other manufacturers chose to extend their existing ranges to accommodate the ever changing workplace. Vitra decided to play it safe, introducing new elements to its Ad Hoc system to suit a multitude of working scenarios. Designed by Antonio Citterio with Glen Oliver Löw, this colourful range now includes Multi Tables and Uni Tables for computer work – the latter being height adjustable – mobile tables, and two office trolleys called Pick-Up and Caravan. These pedestal units are aimed at the non-territorial office, and accommodate the Ad Hoc Box, a personal file that fits into the Storage Wall. The Spatio table programme by the same designers also now links up with the Ad Hoc system, providing further flexibility within the office.

Left *Voko's Cyberoffice, a futuristic study by Michael Englisch.* ***Below*** *Although not directly aimed at the office, the new Hola chair by Jorge Pensi caused a stir on the Kusch + Co stand*

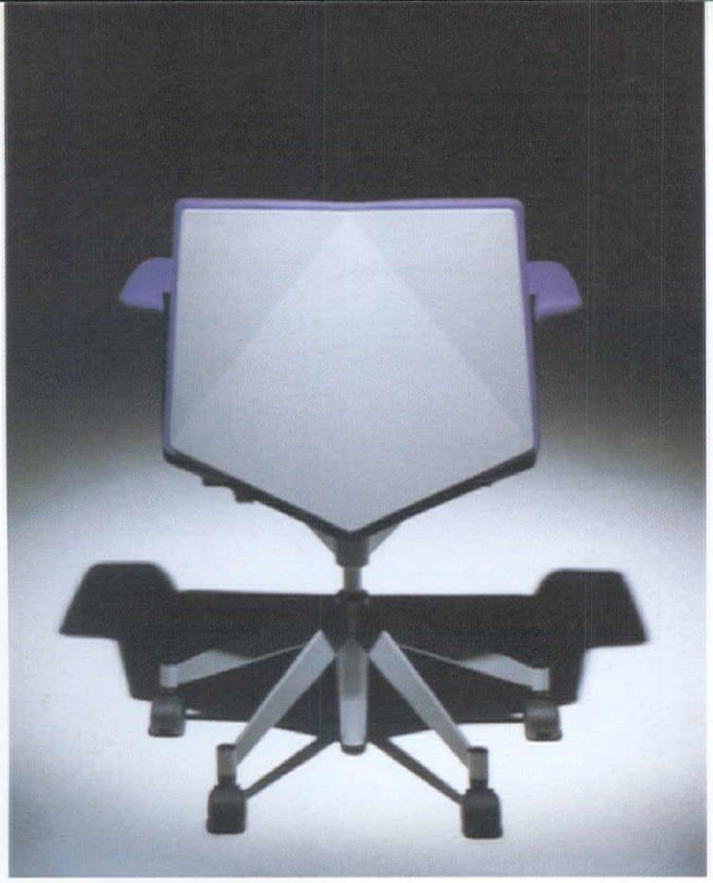
Left *Castors have been added to Voko's E-100 range first shown two years ago and now in production*

The evolving workplace was also the emphasis of the Wilkhahn stand who has extended its commitment to conferencing with the Conrack shelving programme (see *Product Review*) and the Logon table system, designed by Andreas Störiko. Logon offers a wide range of coordinated table shapes and sizes for either freestanding use or as system elements, all of which coordinate with the flipchart pin-boards and lecterns from the Confair range launched two years ago. The industrial-looking aluminium modesty panel doubles up as a cable tray, for ease of change, and the tables can be supplied with lockable castors.

Castors have also been added to the multifunctional E-100 range from Voko, first seen in prototype at Orgatec 94. Since them, it has been awarded the iF Seal for Design Excellence by the Industrie Forum Design in Hannover and will go into production early next year. But what really drew the crowds on this stand was Cyberoffice, Voko's interpretation of "the working environment of the future". This two person workstation caused much amusement as visitors toyed with the keyboard, joystick and trackball while lying in a horizontal position – no privacy here as the results get displayed on a large format spherical projection screen nearly two metres wide. It should be emphasised however that, for the moment, Cyberoffice is just a futuristic study undertaken by Voko designer Michael Englisch. He holds the belief that as work and leisure become increasingly difficult to separate, there needs to be a strict division. Perhaps he is a little ahead of his time but Englisch justifies his study by saying that "Cyberoffice is an open question, and a platform for a discussion on the design of the workplace of the future". Time will tell.

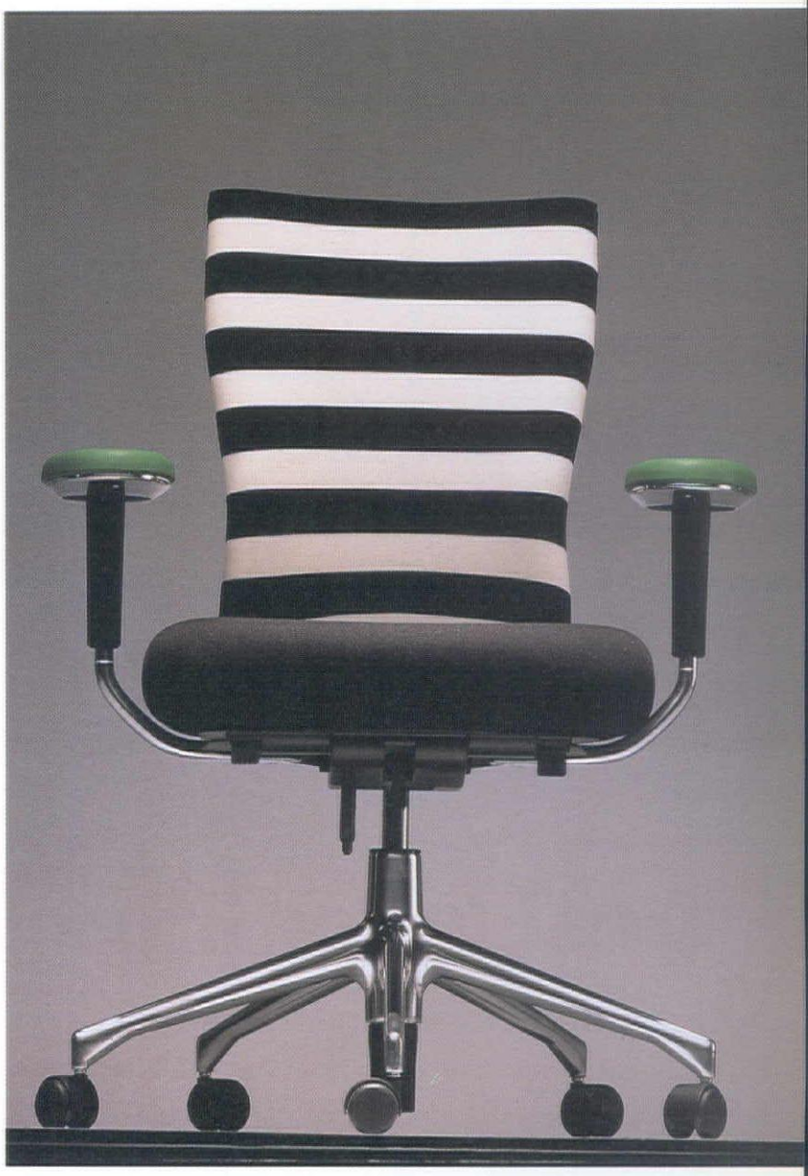
Seating

In the office seating sector, the star of the show was to be seen on the Vitra stand – providing you could get through the crowds. The attraction was the new Alberto Meda chair which takes the office chair back to the style era of Charles and Ray Eames, minus the mechanical parts – but more of that later (see *Product Review*). Vitra also introduced new fabrics and coloured armrests for the T-Chair, and new colours and finishes for the popular Visavis collection. Elsewhere, Ahrend celebrated its centenary with the all-singing, all-dancing Centennial office chair (see *Product Review*). And Foster and Partners resumed its association with Tecno and launched Kite!, a new chair collection which takes its name from the shape of the back (or did the name come first?) There is no doubt that it is aesthetically different from most office chairs and it may be efficiently engineered, but the metal construction makes it incredibly heavy. Of more interest was



Left *Xerra for Girsberger addresses the concern for ergonomics at an affordable price*

Left *Kite!, by Foster and Partners in association with Tecno.* ***Below*** *New fabrics and coloured arm supports serve to jazz up Vitra's T-Chair, so named because the cover slips off like a T-shirt*



the news that Tecno has acquired the production and sales licence of some of Marcatré's office products including Mario Bellini's Extra Dry and King Miranda's Territorio ranges.

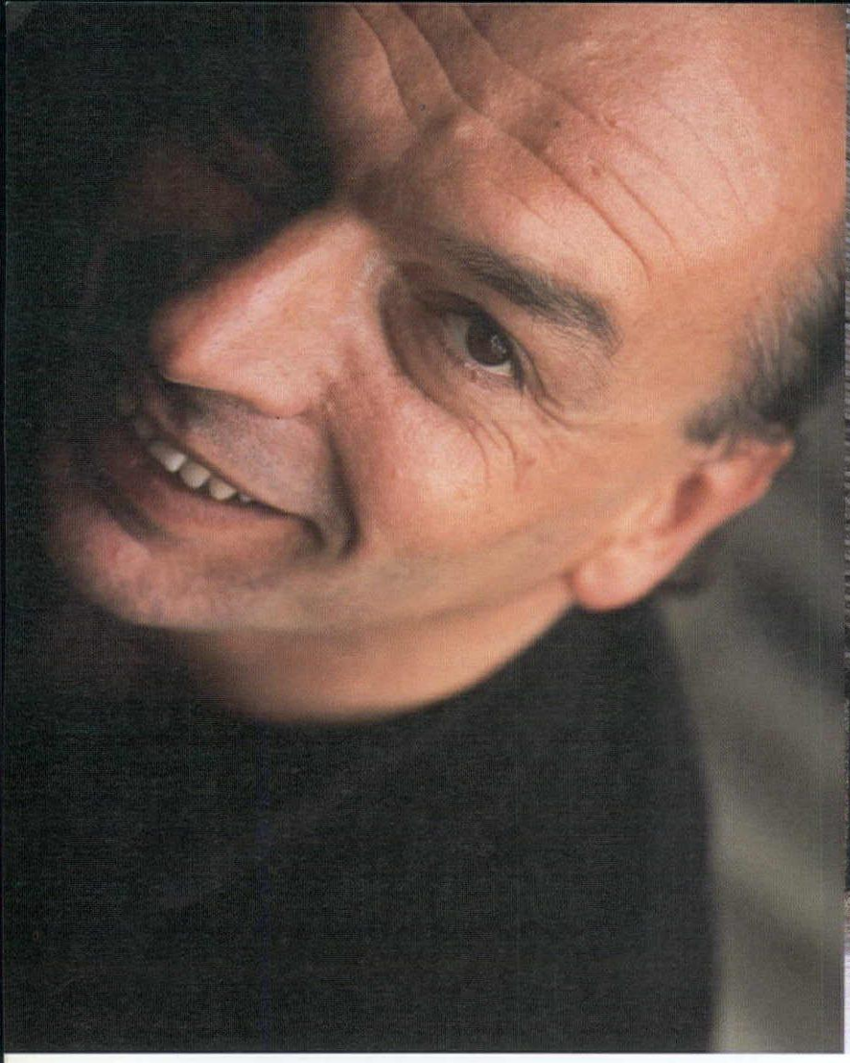
Reinventing the chair

There were a few startling introductions once again this year, particularly from König + Neurath who this year decided to reinvent the chair to fulfil a number of roles. First on show, the Tandem model from Ito-Design, a sitting-standing chair designed so that the top part of the backrest folds horizontal to create a lean-to seat. Then came the bizarre Tria chair by Simon Desanta which attempts to be three chairs in one. Here, the seat and back have been designed to be in two parts so that the chair can be converted either into a tall stool, via the gas lift, or into a kneeling chair for working at the drawing board. This is achieved by bringing the back of the chair forward through the seat to become the lower leg support. Tria is claimed to provide "an ergonomically ideal combination of sitting and standing options", but what it provides in terms of function, it lacks in pure aesthetics.

With more and more manufacturers becoming conscious of customers wanting affordable office seating, it was no surprise to see Herman Miller's follow-up to Aeron addressing this concern. The Ambi chair, by Richard Holbrook, (see *Product Review*), has been designed with corporate specifiers in mind and supports both general office functions and computer-intensive work. Also new from Herman Miller is the Limerick stacking chair designed by Tom Newhouse, which is made from 100 percent recyclable materials and can be linked together for conference use.

Competitive pricing was also recognised by Girsberger who launched Xerra with its new dynamic synchronic seat mechanism. Dubbed as a "youthful" chair, it is comfortable and ergonomic, with a height adjustable backrest, optional armrests, easily removeable upholstery – and an affordable price tag.

And finally, although not directly aimed at office use but in keeping with the trend for versatility and low cost, Kusch + Co launched two new chair designs by Jorge Pensi – Capa and Hola. Both ranges are multipurpose, stackable and come with optional linking devices hidden under the seat. Capa is the more upmarket of the two with its shaped aluminium frame influencing the price tag. But it is the elegant Hola chair of which Pensi is justifiably proud. "The challenge with this chair was to design something in the mid-priced bracket" he says. With a price point of around 280 DM (under US$200) and Pensi's typical attention to detail, Kusch are almost certainly on to a winner. **WA**



Design for life

Jean Nouvel, the French architect and furniture designer, is producing products of impressive functional and aesthetic value despite an architectural-downturn in post-Mitterrand France. Conway Lloyd Morgan met him at home in Paris.

"What I have always sought in my furniture design," declares Jean Nouvel, "is what I would call certain qualities of absence. Elementary forms are important, not for themselves, but so as to furnish spaces in a calm, neutral way. Otherwise the cult of the object takes over, dominating or modifying the space, denying choice".

Post-Mitterrand French architecture is also limited for choice: President Jacques Chirac has neither the temperament nor the money to follow in his predecessor's *grand projet* footsteps: Dominique Perraud's office, for example, at present has no work in France, except for the *Bibliothèque Nationale de France.*

Jean Nouvel's response to this little local problem has been two-fold. He is increasingly called on to design projects in eastern Europe and the Far East, something he ironically calls "the East Rush, like the Gold Rush, and just as fraught". He has also created a new company, Jean Nouvel Design (JND), for his furniture design work, which had previously been produced either in response to manufacturer's commissions – such as his jokey reworking of the Barcelona chair for Sawaya and Moroni – or for the needs of specific buildings – such as his designs for the Hotel St James (now also marketed by Ligne Roset.) The formation of JND has allowed Nouvel to bring in specific furniture designers, such as Luc Vincent, who heads the new organisation.

The first series of Nouvel-designed-office furniture, a series of ultra-thin desks and tables in grey sprayed metal, with matching, rotating vertical filing cabinets – now marketed as LSS by Unifor – was for his Cartier building in Paris. The furniture matched the invisible premise of the glass fronted building. The successive glass planes, from the transparent street frontage through the rising layers of the building, were intended to dematerialise it against the urban garden in which it is sited. The use of neutral greys and narrow profiles in the furniture is a deliberate reflection of this visual impermanence. A new chair and drawer unit were presented at Orgatec in 1996 to complete the range. On seeing the first production versions, at the opening of the Cartier building in the Avenue Raspail, *World Architecture* was amused by the staff comments that "It's pure Tati" (only the French could

From left *Portrait of Jean Nouvel; Quasi Normal, marketed by Bulo in Belgium, notable for its sense of completeness and concentration; LSS, Nouvel's first series of office furniture, was designed for his Cartier building in Paris. The thin, metallic forms match the invisible premise of the glass fronted building; Box Office, Nouvel's latest project, is a metaphor for power. All the desk's features are hidden within a massive black slab*

unhesitatingly find a historical cinema metaphor of Jacques Tati's films for an office environment). Nouvel likes the comparison. "A minimal solution to a space gives room for personality. LSS was designed to match the building, so it is visually discrete, and in particular it was created so that there would be no furniture against the walls. But if you look at the building now, two years on, you can see how the office spaces have become individual. I hate the idea of the formal office, measured out in millimetres and with fixed furnishings." The concept of the office and home melding into one applies to LSS, as domestic versions of the tables and desk are available in different colourways from Molteni.

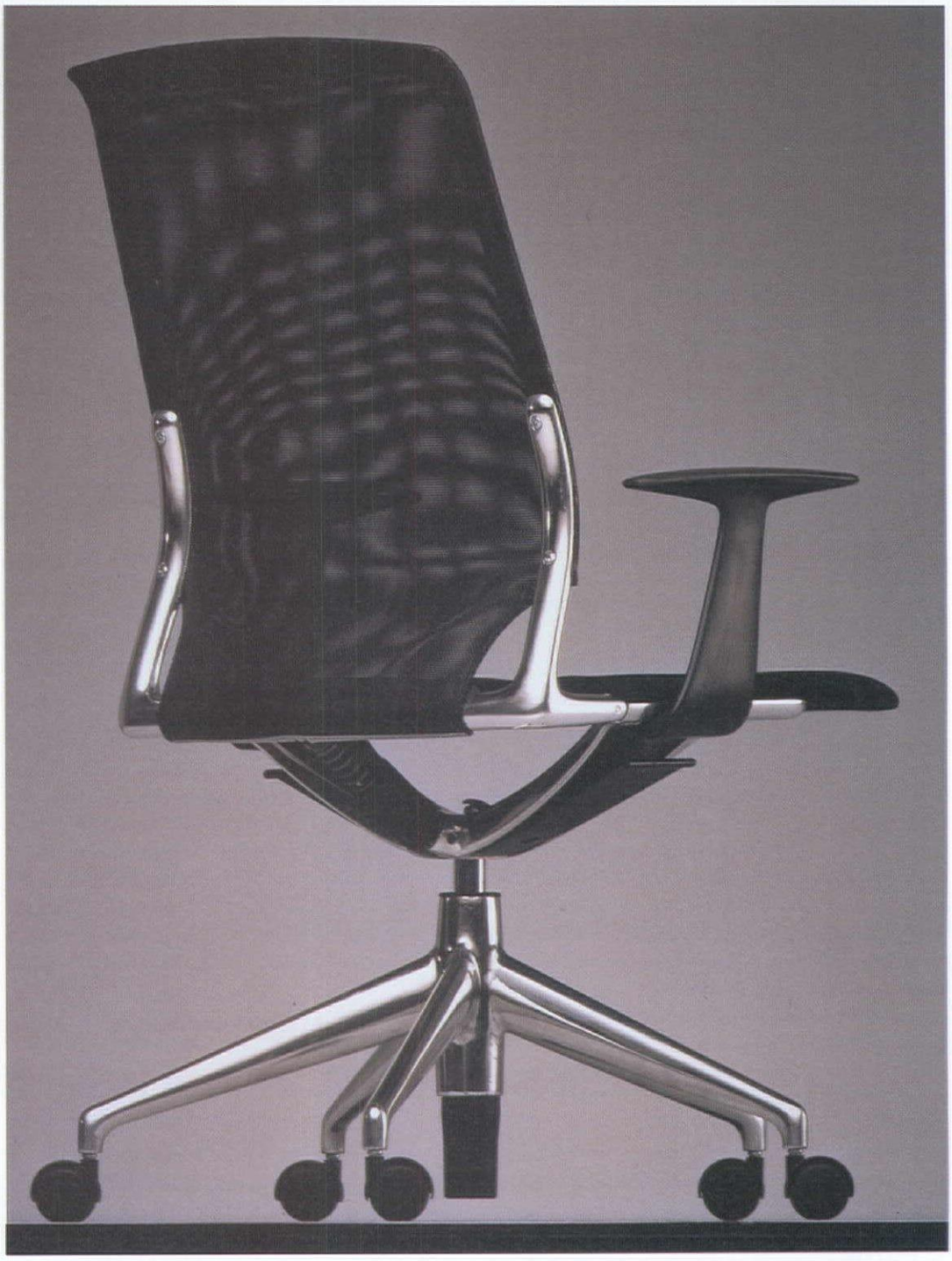
Nouvel's second major project is a desk/workstation, designed for and marketed by Bulo in Belgium under the name Quasi Normal. Bulo's original invitation was to design the desk Nouvel would most like to have in his own office. Since Nouvel has no office, preferring to move from desk to desk or use communal spaces, this was something of a problem. The result is personable rather that personal. At first it appears reminiscent of the cells of a monastery, not so much for its austerity – which is undeniable, but for its sense of completeness and concentration. "I began by thinking of necessities – a flat surface at the right height, with a slot for papers, a trough for pens, and some storage below. But the storage space is deliberately adaptable: the deep drawer units are on almost invisible rollers around a central pivot on each side. Invisible because I find the current fad for putting furniture on pram wheels absurd" Nouvel explains. The desk can be used with the drawers forward to enclose the user, by two users with one unit to each side, or as a table with the units together in the middle.

"There are two approaches... one is to supply the minimum, the other is to integrate a maximum"

Nouvel's latest project comes from Mobilier International under the title Box Office. If LSS was minimalist and Quasi Normal generalist, Box Office is blatantly about power. It is intended as a complete working environment for a company president or CEO, with installed units for monitors, computer hardware, phones and fax, cigar lighter and ashtray, all hidden within a massive black slab and accessed by sliding covers that fit flush into the top. Such metaphors for authority have been explored before, notably in de Lucchi and Castiglioni's unbearably elegant San Girolamo desk and shelving system, a design that really puts power into the power office. Nouvel's black box (literally in that only the user knows which bits of kit are hidden where) is both a stronger and more minimal solution. The choice of features is left to the purchaser, and Nouvel admits that there is a certain childish pleasure in exploring the desk's hidden features. "Though getting the concept to work efficiently demanded great technical skill from Mobilier International, designing it was great fun." The resulting object is both *wunderkammer* and workstation, a rolled-flat roll top. Such contrasts – the matt black surface opening onto a rare hardwood cavity –run through the whole ideology of the desk and the matching shelving panel system. "There are two possible approaches to furniture design: one is to supply the minimum. The other is to integrate a maximum" says Nouvel. "With LSS I looked at a minimal solution that would enable personal space. With Box Office I was interested in articulating authority, within the necessary anonymity of a formal piece of furniture."

Nouvel's new adventures on office furniture echo the design pattern of his architecture: complex thinking about function and purpose expressed in minimal, adaptable forms. Box Office is an intelligent response to change: the increasing miniaturisation of technology in the office combined with the traditional totems of image, dignity, hierarchy and control. But the control is cool. "After the last few years", Nouvel comments, "we need furniture that offers a certain calm". **WA**

Vitra
Meda
Design: Alberto Meda



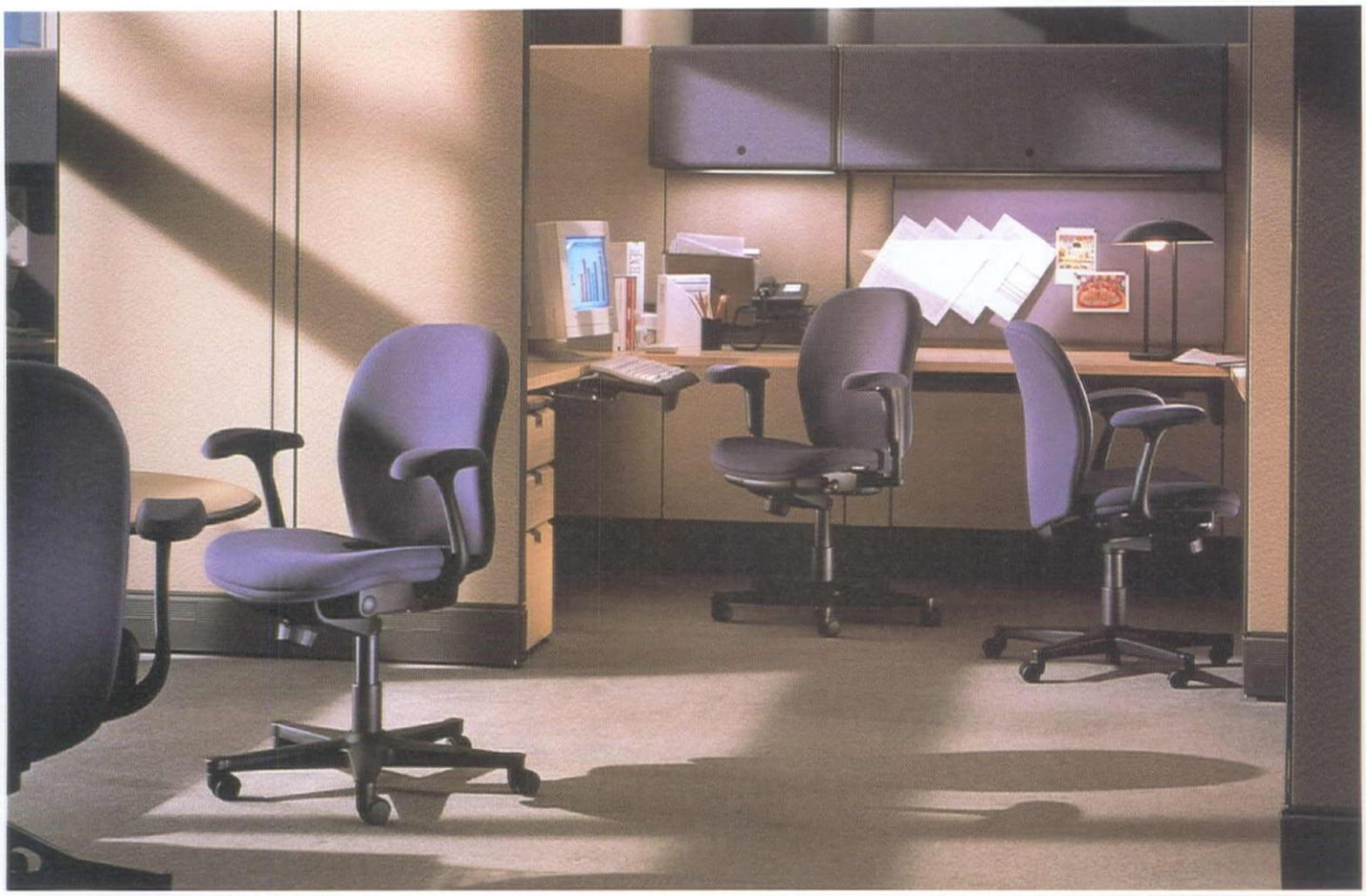
Right *Back view showing slim function controls and double open-weave fabric backrest.*
Above *Side view showing hinged backrest and combined pneumatic and coil spring system*

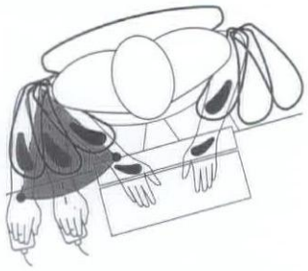
Vitra's new Meda chair, designed in collaboration with Italian engineer and designer Alberto Meda, is a conference and office chair with all the signs of a future classic. This is not only due to its pleasing aluminium construction but also because Meda has dispensed with the unsightly mechanical parts typically found in office seating and suggested a new approach to ergonomics and comfort. He has incorporated the mechanics into the structure of the chair, using a hinge in the seat to provide flexibility to the backrest and a combined pneumatic and coil spring system to give the desired tension. The tension of the spring is simply adjusted by turning the sleeve so that the resistance of the backrest can be set to suit the user.

Everything has been specially designed and nothing is hidden. The slim function controls protruding from each side of the base of the seat are both easy to reach and operate. Partly upholstered optional armrests simply slot into the aluminium frame. Upholstery has also been considered, with a choice of leather or fabric seat combined with a double open-weave, leather or fabric backrest.

This is Vitra's first collaboration with Alberto Meda, and the product looks set to join the ranks of other classic chair designs such as those by Charles and Ray Eames. **WA**

Herman Miller
Ambi
Design : Richard Holbrook





Above and below *Richard Holbrook's Ambi workchair, aimed at the budget conscious specifier.* ***Left*** *Drawing showing pivoting armrests, which help to maintain the correct position for computer work*

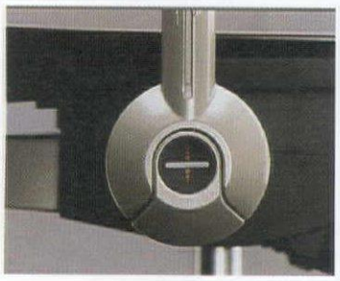
Following the success of Aeron two years ago, Herman Miller has now introduced the Ambi workchair, designed by Richard Holbrook and aimed at the budget-conscious specifier. Like Aeron, Ambi offers cross performance capabilities supporting both general office functions and computer intensive work, and comes with a number of special ergonomic features.

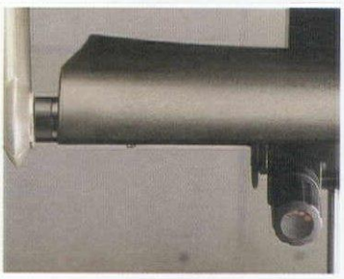
As well as the normal seat and backrest adjustments, a standard feature of this new chair is a specially designed CoActive™ tilt mechanism, which is weight dependent and separates the pivot points for the seat and backrest. As the occupant leans back, the synchronised action reduces pressure on the lumbar region of the spine and transfers the weight to the upper back. A tilt-tension knob adjusts the amount of resistance in the backrest.

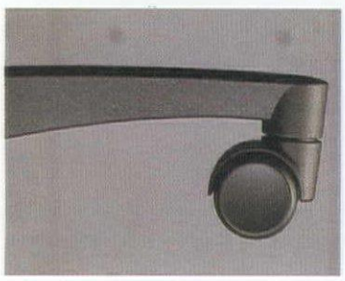
Further options include seat depth adjustment within a 50 millimetre range, and height and angle adjustable armrests, designed to support the forearms and maintain the correct position for computer work. These pivot 20 degrees inwards for keyboard work and 10 degrees outward for operating the mouse. The armpads themselves are soft and contoured to eliminate pressure points on the wrists and arms.

All this ergonomic adjustment is activated by easy-to-reach controls which feature raised touch points and icons for quick reference. As with Aeron, Ambi is available in two sizes and options can be selected in any combination to provide as much adjustability as required. It is all part of Herman Miller's continuing commitment to provide seating for every size and shape of office worker. **WA**

Ahrend
Centennial
Design: Frans de la Haye







Above from top *Detail of seat adjuster; detail of shock absorber; wing-like stabiliser, "style in motion".* ***Main picture*** *The controls are integral to the overall design, and perform a multitude of functions*

New from Ahrend is the hi-tech Centennial office chair, launched in celebration of the centenary of this Dutch company. Designed by Frans de la Haye, Centennial brings a new shape to the office chair with the clearly pronounced and very thin backrest being the main feature.

Despite its slim structure, this is an "all-singing, all-dancing" chair with the carefully engineered controls being integral to the overall design. The synchronised back and seat follow the movement of the body to provide good lumbar support. Everything can be adjusted from the seating position to suit the individual: reach behind the chair to move the backrest up and down; stretch underneath to adjust the depth of the seat, and put your arms to your sides to operate the gas lift or activate the synchronous mechanism. The armrests can also be adjusted in width and height. An upholstered version is also available by way of a thin covering which follows the contours of the back and seat, in keeping with the overall aesthetics.

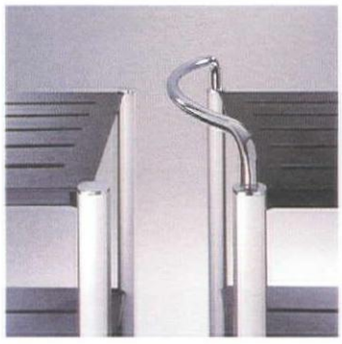
Centennial works both technically and visually and in keeping with the company's environmental policy it is made entirely from environmentally-sound materials. **WA**

Wilkhahn
Conrack
Design: Wiege, Fritz Frenkler, Justus Kolberg

Two years ago, Wilkhahn launched Confair, a range of individual furniture components directly aimed at conference interiors. Confair's innovative folding table, associated desks and servers introduced a new concept into the office, one of mobility, functionality and ease of change. This year, the company continues its commitment to this sector with the introduction of Conrack, a flexible shelving system designed to work independently or alongside Confair.

The construction of the system is simple and modular consisting of vertical aluminium profiles and black textured shelves available in a number of widths and depths. As with most systems, the shelves simply slot into grooves in the uprights and lock into position. The basic components are available in eight different heights, three shelf widths, and three module depths to accommodate a range of media equipment and paper sizes. These can be used not only to create shelving but also to assemble mobile servers and towers for audio visual systems. But it is the detailing and the high quality finishes of Conrack which are so pleasing. Chromium-plated end caps or curved handles top off the rounded aluminium profiles; the shelves incorporate black polypropylene profile strips moulded on to the surface for protection; adjustable glides or double swivel castors can be fitted to the base; and aluminium drawer units with a recessed grip or slim handle can be integrated into the system.

Although primarily aimed at conference applications and the flexible working environment, this attention to detail and use of materials make Conrack equally suitable for the cellular office or the home. WA



Unifor
Move
Design: Luciano Pagani, Angelo Perversi

Above *Three versions of the multi-purpose Move mobile unit, on show at Orgatec.*
Right *Demonstration of Move's two standard heights, and optional back panel*

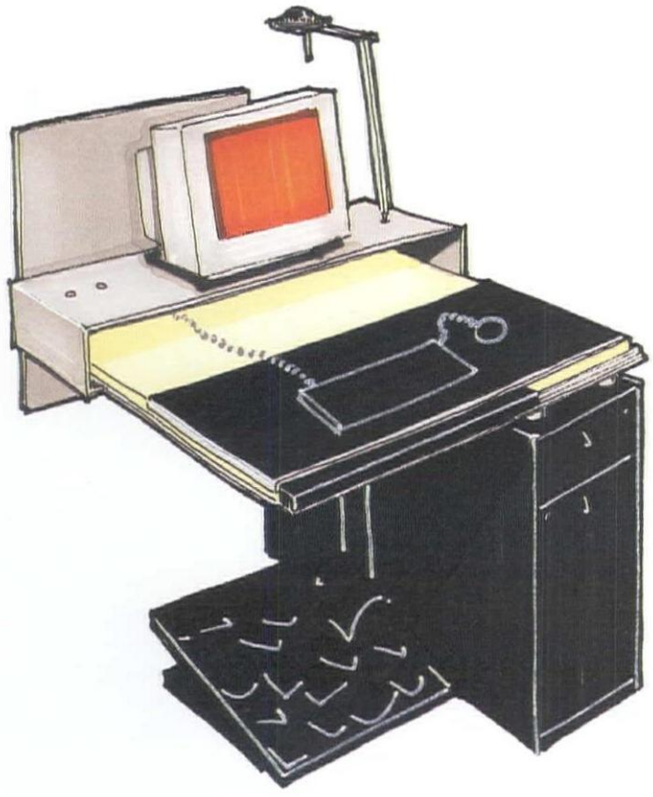
Move is a new multipurpose mobile unit from Unifor designed to accommodate both multimedia equipment in the office and computers in the home. First seen two years ago, Move has now been refined to incorporate smooth running wheels and height adjustable shelves.

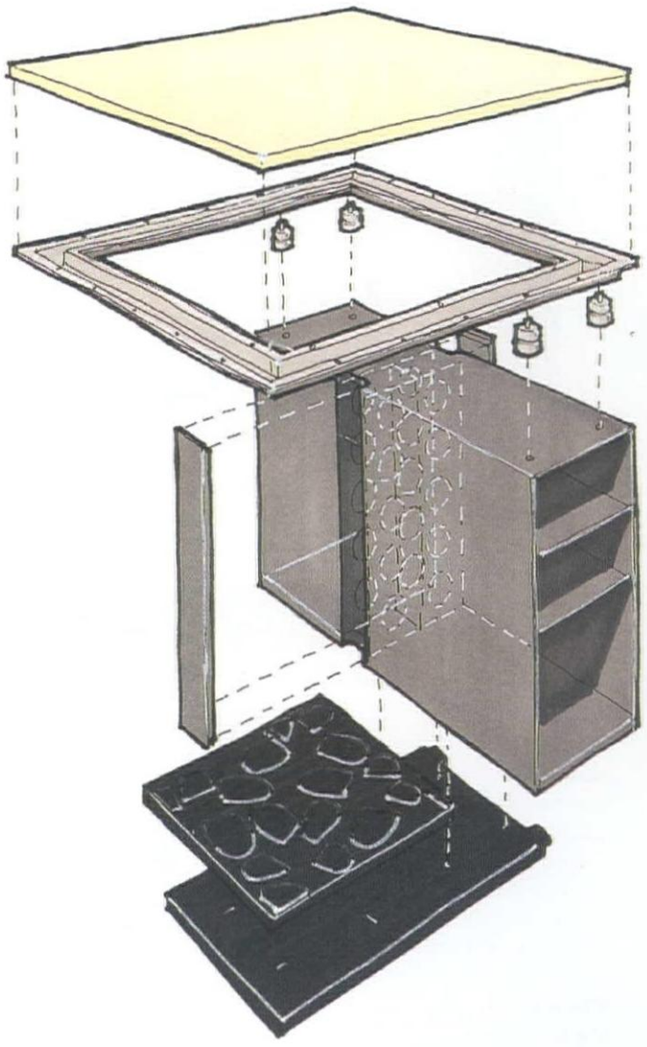
Essentially it consists of an aluminium base unit and end panels for wire management, and shelves in post-formed particle board. (The entire structure is finished in a light metallic green, not to everybody's taste although apparently other colours can be manufactured to order.) The shelves are easily height adjustable, even when fully loaded, and can be extended to accommodate keyboards. There is also a separate back panel and demountable doors equipped with a blackboard. Two standard heights are offered – the smaller could typically be used as a computer workstation while the taller unit becomes a multimedia cabinet – and three standard widths.

Move is a compact unit which benefits from Unifor's precision engineering. But perhaps what is so remarkable about it is that its slim construction and fine detailing is capable of supporting heavy equipment and even when fully loaded, it is incredibly easy to manoeuvre. Combined with Unifor's new Flipper tables, by the same designers, it offers a "laid-back approach" to the trend for office lightness. WA

Bulo
M2
Design: in house

Below left *Drawing showing M2 with second level working, integral wrist rest and mouse pad.* ***Below*** *Drawing showing the simplicity of the construction.* ***Bottom*** *Bulo's M2 in action*





M2 is the latest design from Belgian manufacturer Bulo and one that involves a new concept in working. The range is based on a one metre module, and aims to incorporate all the necessary working tools into one piece of furniture. The result is a definitive work area and maximum efficiency.

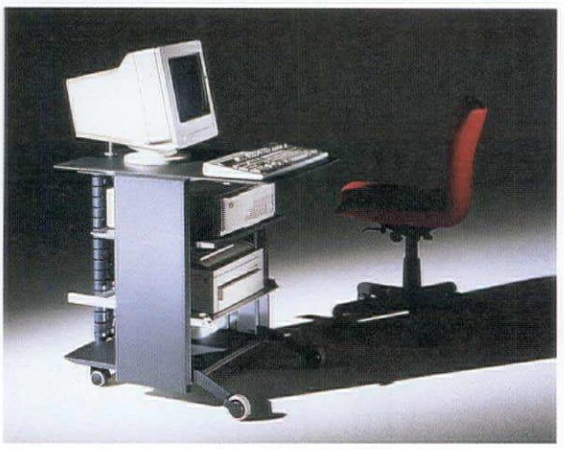
The basic unit consists of a one metre floating table top supported by a metal frame, which can be adjusted in height or levelled by means of metal rings under the work surface. A storage unit and a metal floor plate with rubber foot rest form an integral part of the desk. From this compact structure, a second level or metal shelf can be added to house the computer screen, with the CPU and the cabling tucked away in the unit below. Other accessories, such as a foam pad for wrist support and mouse mat, simply attach to the metal frame in the allotted space. The supporting pedestal unit is a solid core construction and can be placed on either the left or right side of the desk. Inside, a simple clipboard for personal effects slots into the door of the unit accommodating the transient office worker.

The basic M2 workstation can be extended using the same size module with either a laminate or etched glass table top. Occasional tables for conference and presentation work are also available in four different shapes and six different finishes. Overall, it is a well considered design both in terms of ergonomics and flexibility and one that should suit the various functions of both home working and office use. **WA**

Portfolio

Tecno SpA

C.A.T. (Computer Accessory Trolley) is an independent mobile computer cabinet designed to service managerial workstations and cater for the home office environment. In its basic format, it is a rectangular cabinet for a standard CPU and printer but with the addition of doors, it also accommodates storage and becomes a lockable, personal unit.



Plank srl

Inspiration for the new Diana bar stool designed by Rudolf Weber has come from Diana, goddess of hunting. The result is a bow-shaped chrome-plated metal base which supports a circular seat in solid beechwood or upholstery. Great for bars and bistros.

Plank srl
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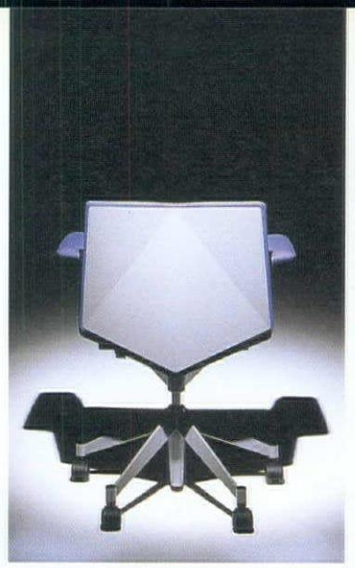
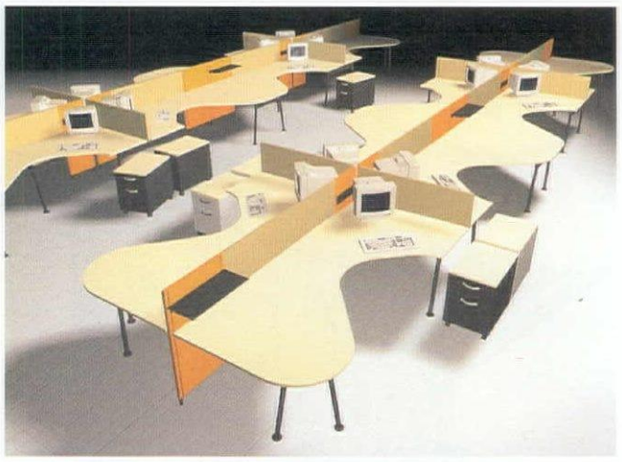
Fax: +39 (0)471 803599



Tecno SpA
Via Bigli 22, 20121 Milano,
Italy
Tel: +39 (0)2 760 20 341
Fax: +39 (0)2 784484

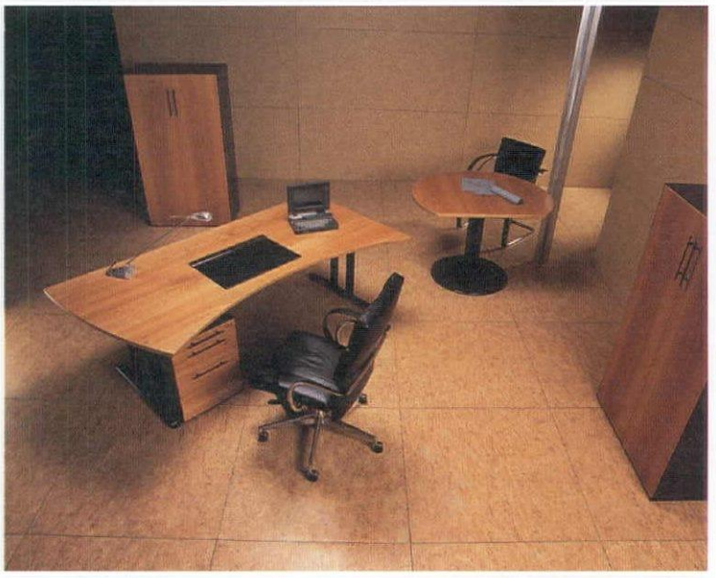
Tecno SpA

Kite! is a new chair collection designed by Foster and Partners for Tecno. The range is aimed at both the office environment and public areas and includes task chairs on a five star base, a visitors chair and a beam mounted version. The simple yet efficiently engineered design takes its name from the shaped backrest.



Tecno SpA

Crinion Associates in collaboration with Centro Progetti Tecno have produced Compas, a new furniture system offering maximum planning efficiency. Designed to cater for both the team office and the individual worker, Compas allows group areas to be created by combining the curved shapes with cable managed screens, while also providing elegant workstations for the cellular office.



Kemen Industrial S.A.

K-net is a new working concept from Kemen, designed by Daniel Korb. The design keeps components to a minimum providing economic flexibility in the construction of the workstation. Different configurations evolve on all three planes, using vertical space to regular worksurface height and growth of specific levels.

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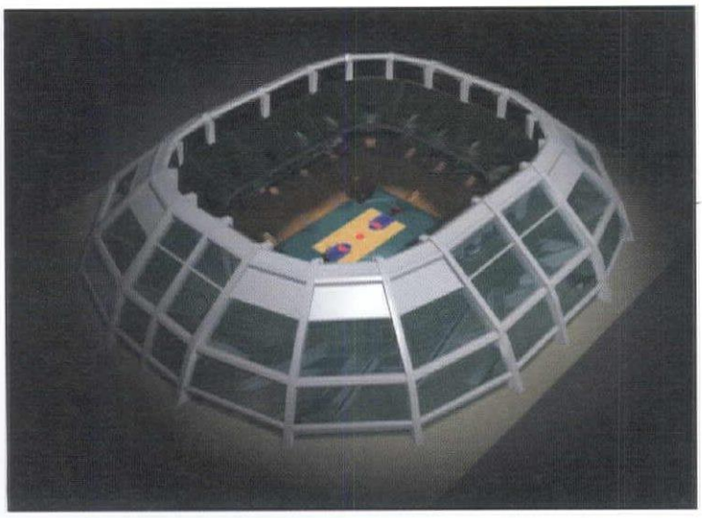

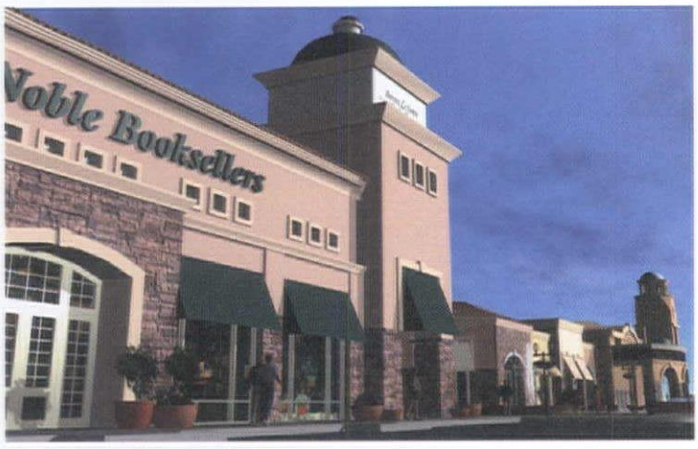

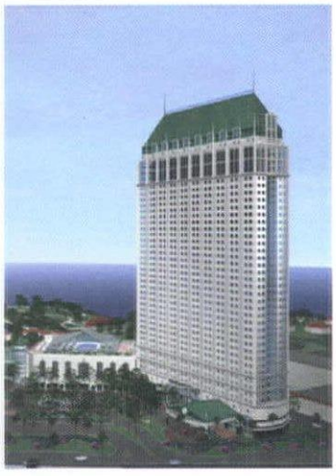

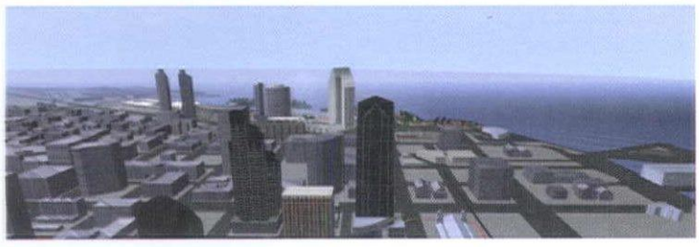

AYRES GROUP INTERNATIONAL

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Key Personnel:
Philip Ayres, Chief Executive Officer
Gregory Mazares, President
Vicki Wilson, Director of Animation
Molly Scanlon, Director of Client Services
Rich Walsh, Senior Animator

Profile:
The Ayres Group is a leader in the application of computer animation technology to the architecture field worldwide. The firm specializes in creating 3D multimedia presentations to support architectural firms, engineers and real estate owners and developers. Our projects involve taking complex information, simplifying it, and using 3D modeling and motion to create a visual presentation which is memorable, believable and persuasive.

Our experience with the design industry enables us to service clients in any phase of the project. Our animation staff is comprised of professionals from disciplines such as architecture, graphic arts, civil engineering, computer science and communications.

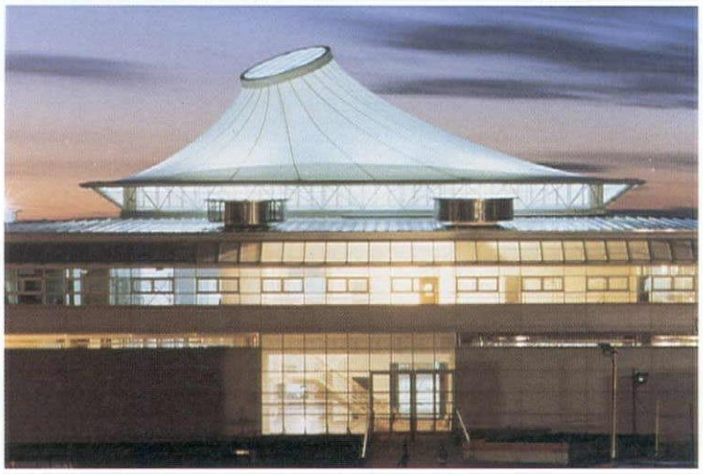
Animation enhances presentations to sources of financial capital, review boards, citizen groups, and government agencies. Computer animation is a powerful tool that clarifies design intent, increases client communication and improves your team's competitive position. Animation generates excitement and is positively received by a wide variety of audiences.

Expertise:
The Ayres Group is a unique blend of expertise, experience and technology. The firm, as well as individual staff members, has been recognized within both the architectural technology and animation fields. We are frequently asked to share our expertise through public speaking engagements at international conferences. Our firm is a BETA test site for numerous major leading software manufacturers based on the depth of our experience, the magnitude of our projects and our client base. We accept digital information from numerous sources and can import from any CAD program with .dwg or .dxf extension types.

Our relationship involves being an extension of the architectural team as a sub-consultant depicting your design. Although we have architects on staff, we are not designers of the project. Our experience allows us to communicate within the design industry and share our expertise in film, video and multimedia presentations.

Areas of Specialization
Civic/Community
Convention Centers
Construction Defect
Education
Healthcare
Hotels
Master Planning/Land Use
Retail/Commercial
Sports Complexes

Olympic Stadium, Rome



Folkestone Terminal

New Denver International Airport

Georgia Dome

BIRDAIR INC

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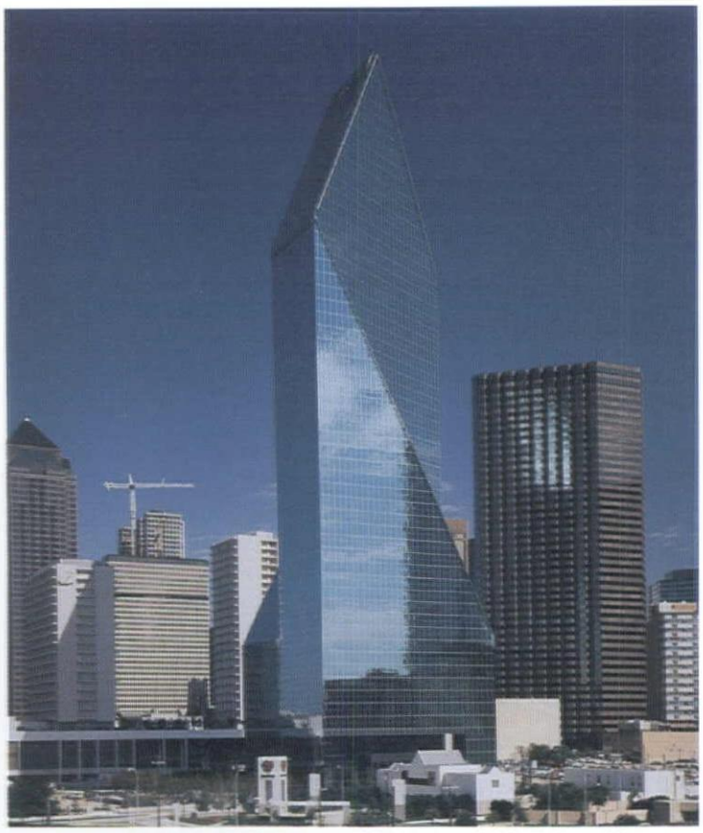
Company Profile
Birdair Inc is an innovative construction company specialising in tensioned membrane roof systems. The company offers a complete turnkey approach: from design and engineering to installation and customer service. Birdair assists architects and engineers in this unique architectural approach.

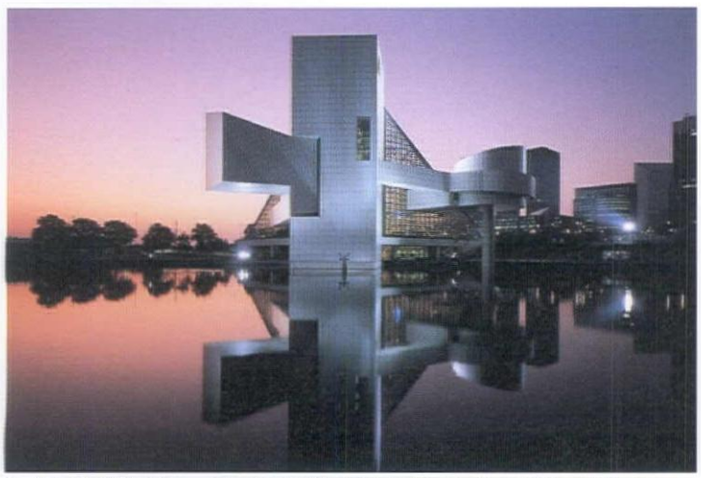
Recent Projects Shown
Olympic Stadium, Rome, Italy
Folkestone Chunnel Amenities, Folkestone, UK
New Denver International Airport, Denver, Colorado, USA
Georgia Dome, Atlanta, Georgia, USA

Product Range
The dramatic architectural design and unique aesthetics combined with low maintenance and durable long life performance creates an innovative and fully functional roof system. The membrane system offers: code compliance, translucency, energy efficiency, durability and flexible design capabilities.

Areas of Specialisation
With applications in most geographic settings, membrane structures are a natural element of stadiums and long span structures, amphitheatres, retail shopping centres, transportation facilities and most diverse commercial applications.

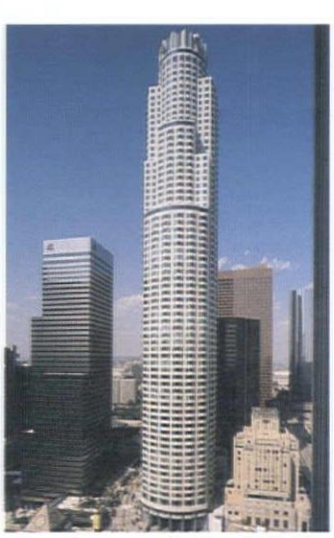


First Interstate Bank Tower, Dallas, Texas, USA. Architects: Pei Cobb Freed & Partners; Harry Weese & Associates; WZMH Group, Inc.



Rock & Roll Hall of Fame, Cleveland, Ohio, USA. Architects: Pei Cobb Freed & Partners

United Airlines Terminal, Chicago, Illinois, USA. Architects: Murphy-Jahn; A. Epstein & Sons



Library Square, Los Angeles, California. Architects: Pei Cobb Freed & Partners

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Company Profile:
Flour City Architectural Metals specializes in the design, fabrication, and erection of custom high-rise curtain wall systems. Flour City's innovative applications of advanced technology can bring the most challenging designs to life.

Since its founding more than 100 years ago, Flour City has grown to become one of the preemjnent curtain wall companies in the United States. To the growing global market, Flour City brings a long track record of comprehensive service and industry-leading performance for the benefit of its international partners and clients.

Flour City offers valuable expertise at every stage of a project: estimating, budgeting, site logistics, construction, and project management.

With a state-of-the-art manufacturing plant featuring robotics and computer-controlled stations, Flour City can handle the largest and most demanding project.

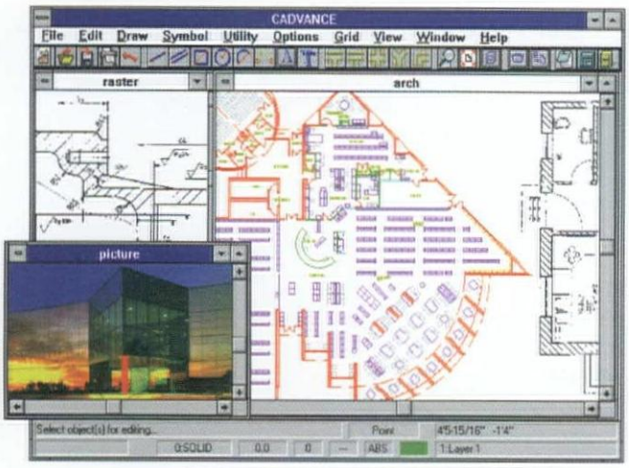
Key Projects:

First Interstate Bank Tower—Dallas, Texas, USA
This unusual 60-story tower is the tallest silicone-glazed building in the world. The dramatic, ten-sided design took shape with a structural glazing system pioneered, engineered, fabricated, and installed by Flour City. The system uses new silicone sealants with strong adhesion to glass and metal as well as resistance to water, weather extremes, and ultraviolet light.

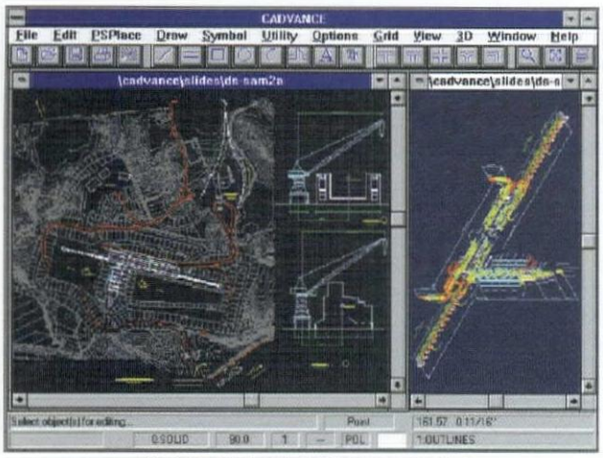
Rock & Roll Hall of Fame—Cleveland, Ohio, USA
A monolithic façade reflecting the dynamic Cleveland Waterfront was created with Flour City's four-sided, structural-silicone, beadless glazing. The unitized system of white kynar aluminum and glass reflects an energy level appropriate for the Rock & Roll Hall of Fame's tradition-breaking, history-making contents.

United Airlines Terminal—Chicago, Illinois, USA
This soaring architectural design was only made possible by Flour City's advanced curtain wall technology. Each barrel vault unit was shop fabricated of aluminum and glass, using the latest in high-modulus structural silicone technology to transfer Chicago's infamous wind loads from the glass to the perimeter support elements. The glass itself has a patterned, fired-on ceramic surface treatment to control heat transmission and light intensity.

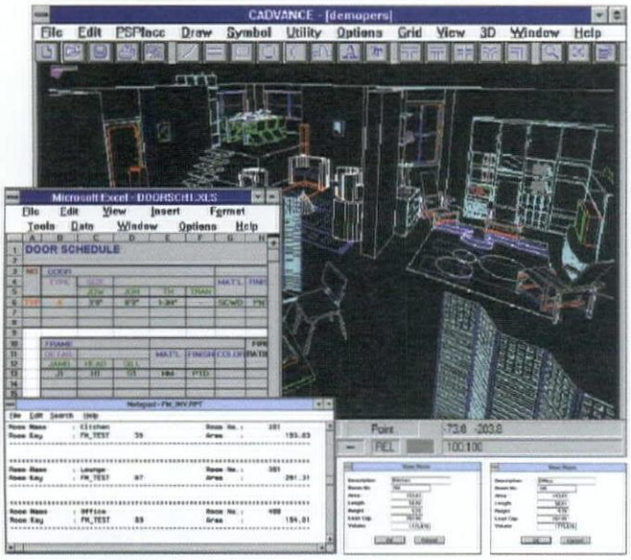
Library Square—Los Angeles, California
This striking skyscraper is not only the tallest building in the western United States, it is also located in an area subject to frequent seismic disturbances. To meet this remarkable challenge, Flour City created an extraordinary curtain wall system able to accommodate seismic movement between each of the 73 floors without loss of structural integrity. The composite-type curtain wall with inset bay windows uses a rigid chevron truss. Steel frames support the stone, while aluminum frames support the glass. The frames are interrelated with over 15,000 specially designed gyroscopic hinges and slides that compensate for seismic shock.



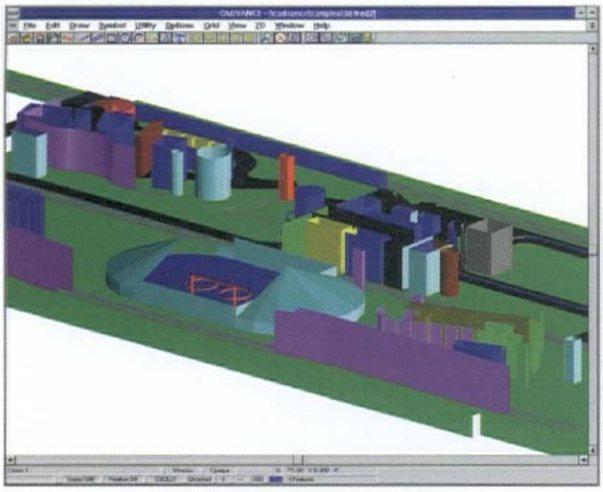
Raster data, picture and design work



Design and planning of Dam construction



Graphics with Database and Report



Elaborate 3D by CADVANCE

FURUKAWA INFORMATION TECHNOLOGY, INC. (F I T, INC.)

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CompuServe Forum: "GO CADVANCE"
Web: www.cadvance.com
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Australia	Computer Aided Arch	+61 2 867 5153

Inquiries for new dealers and distributors are welcome.

Corporate Profile

Founded in June,1995, Furukawa Information Technology Inc (F I T Inc) acquired the assets and business of CADVANCE. F I T designs, develops and distributes CADVANCE world-wide. CADVANCE is a professional CAD system for architects, engineers, and designers, that has been on the market since the early 1980s. F I T management includes individuals with years of CADVANCE experience. The mottos "customer is king" and "good human relationships" are the fundamental philosophy of F I T. F I T is committed to the development and improvement of CADVANCE products.

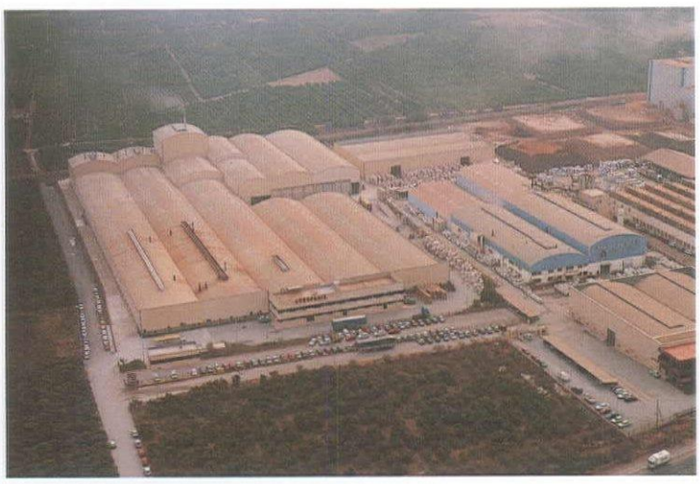
Products Range

CADVANCE is currently offered in two basic versions: CADVANCE V7.0 and CADVANCE LiTe 6.3, the latter a lower cost version for 2D design work, business and satellite applications.

Among its powerful functions, CADVANCE includes raster data input (more than 20 formats), direct database link, networking, DXF, DWG, HPGL input/output, VGS 3D (hidden line removal, rendering, walk-through), ANSI/ISO standard dimensioning, associative dimensioning and hatching, reference files, mosaic plot, and others. Third party applications development is facilitated with CDI (CADVANCE Development Interface), Macros, and Delphi.

With thousands of systems in use worldwide, Cadvance has spurred an impressive number and diversity of applications for such areas as: Facility Management, Cabling Design / Planning / Management, Architecture Design, Area/Space Management, Furniture Design and Layout, Civil Engineering, and 3D applications developed in the UK, Germany, Italy, Belgium, Japan and US.

Castellon factory



Nules factory

Wall: Gotica verde, turquesa; Decors: Léon 1, 3, 4 verde. Zocalo turquesa; Floor: Milan verde and turquesa

GRESPANIA
CERAMICA Y GRES

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Company Profile

Grespania SA was founded in 1976, with the opening of a tile production plant. In 1986 the company expanded, opening a modern factory for the production of wall tiles in white clay, using the process of porous single firing in Nules, Castellón, Spain.

In 1987 the factory in Castellón was converted to devote it entirely to the production of floor tiling. Thus each of the factories became specialists in one type of tiling, using in both cases, the single firing process.

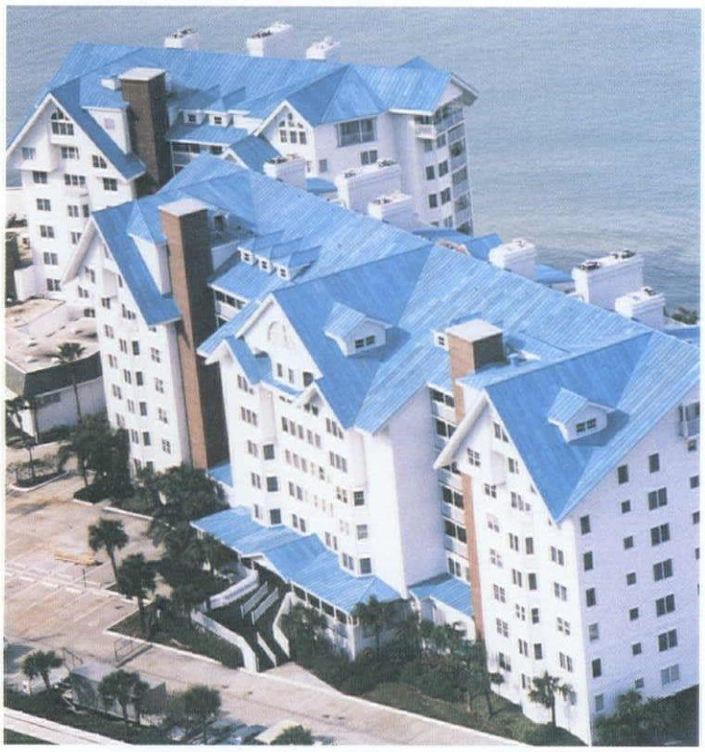
Grespania's daily production capacity has grown from 3,500 square metres in 1976, to 22,000 square metres in 1996. This equates to an annual production of 7,000,000 square metres.

Grespania has maintained a constant dedication to the export market, selling more than 70 percent of total production abroad.

Product Range

Fashion has become a key element in the ceramic industry. A clear coherence between floor and wall tiles is essential for the unity of the product range. Hand painted or screen printed decoration, rustic or marbled effects, for both wall and floor tiles, allow scope for the creation of a wide variety of atmospheres suitable to most tastes in the modern home.

Since its inception Grespania have always looked for new ideas. The company have sought to develop an identity through innovative developments in design and production. This was the reasoning behind the foundation of Grespania's Design Department, whose role it is to maintain Grespania's position at the forefront of the latest trends in design and decoration.



COBRONZE

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Fax: +412 251 4243

Sales Office
Hussey Copper Ltd
exclusive agents for COBRONZE products

Contact Name and Number
Arvid (Joe) Collins
Tel: +412 251 4281

Company Profile

In December 1995, Hussey Copper Ltd of Leetsdale, USA and COBRONZE of Quebec, Canada combined to form COBRONZE Technologies Ltd, to produce and market accelerated patinated copper sheet. A new manufacturing facility in Nevada, USA has recently been completed.

For decades architects and designers have pursued the elusive goal of duplicating nature's blue-green patina on copper sheets. COBRONZE Technologies does not attempt to use a coating process to achieve this, instead a proprietary chemical process that oxidises copper and achieves the highly-cherished patina has been developed. The resultant finish is weather resistant.

Hussey Copper has been a major supplier to the roofing industry for the past century and is well-known for its high quality copper roofing sheet and coil.

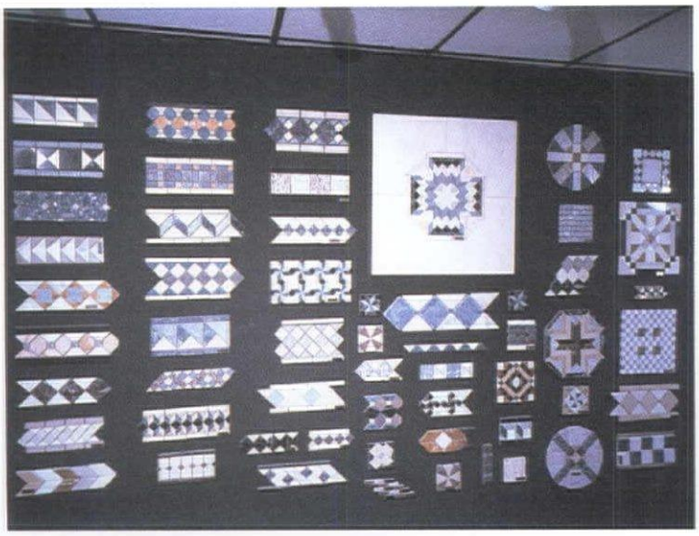
Product range

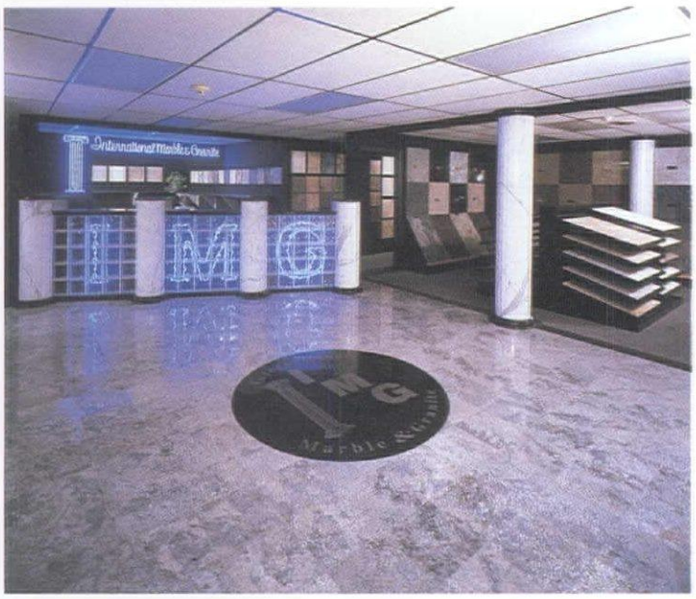
Architects, building owners and other purchasers of copper architectural sheet all desire at some time the old-stately appearance of blue-green patina which typically requires up to 20 years to develop on a building. Most people today do not want to wait for the rich colour to develop. They want tomorrow's appearance today.

Century Green 1100 is a new architectural sheet that delivers all the classic benefits of copper's long life, flexibility and ease of installation, as well as the all-important aesthetic bonus.

The patina of Century Green 1100 is not an artificial coating like painted or zinc-coated metal. It is a chemical compound of inorganic crystals fused to the base copper with the same permanent bonding and long life of a naturally aged patina.

Century Green 1100 was developed and is produced by COBRONZE ™ Technologies Ltd, and is marketed by Hussey Copper.





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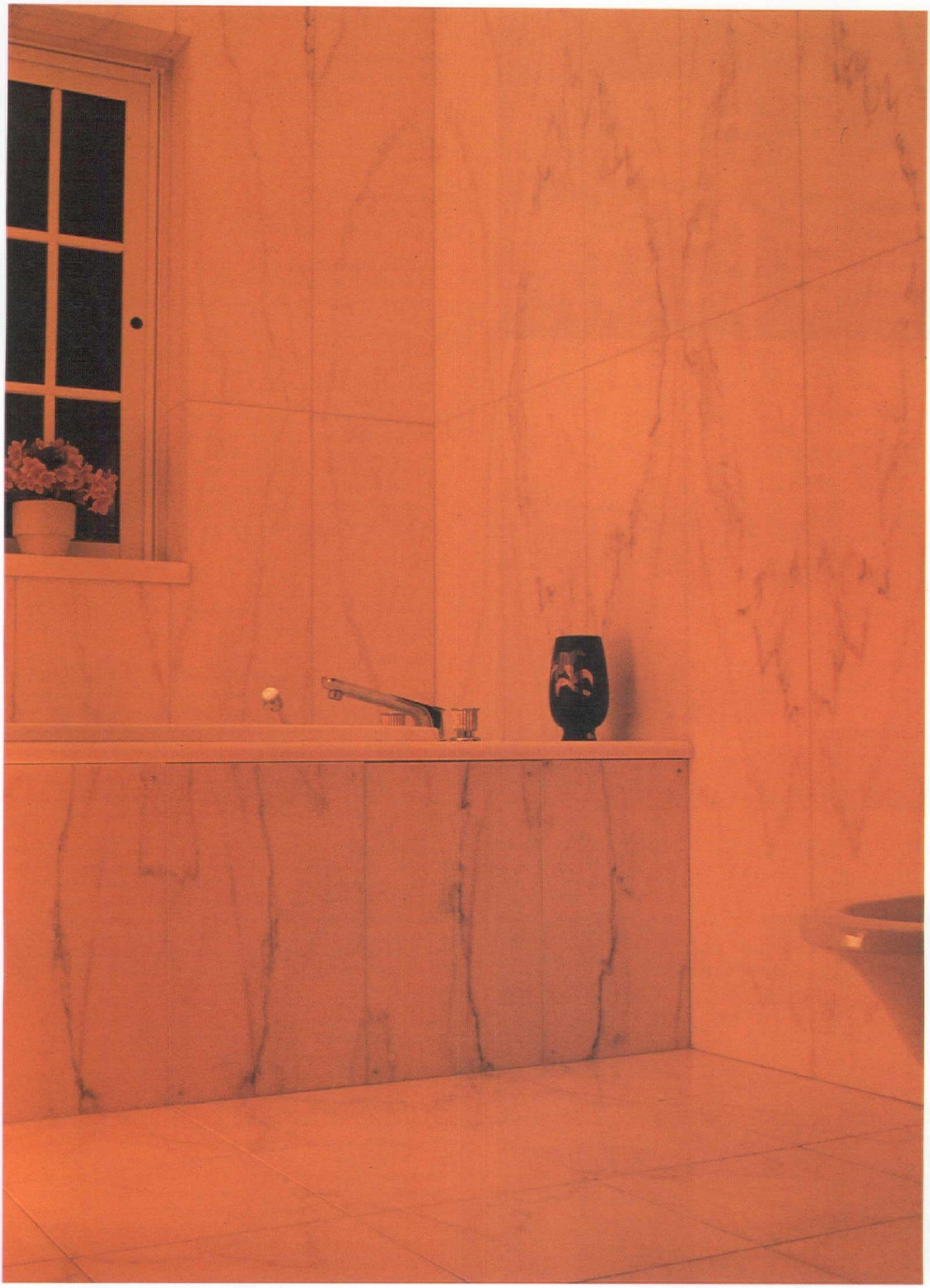
Principal Officers
Michael A Hitchcock, President
Kent J Schweiss, Vice President

Recent Job/Client Listing
Carthage Marble – Kansas City, Kansas
Delta Royale Crown Room – Denver, Colorado
Doubletree Hotel – Houston, Texas
Exchange National Bank, – Leawood, Kansas
C. W. Fentress and J. H. Bradburn – Denver, Colorado
Franz Klammer Lodge –Telluride, Colorado
HOK Architects – Kansas City, Kansas
Hyatt Regency Hotel – Denver, Colorado
Morse Diesel construction – Miami, Florida & Various US Locations
Park Central Office Building Lobby – Denver, Colorado
Peters and Associates – Kansas City, Kansas
Pierce, Segenberg & Associates – Denver & Vail, Colorado
Plaza of the Rockies – Colorado Springs, Colorado
RNL Design Architecture – Denver, Colorado
Regal/Clarion Hotel – Cincinnati, Ohio
Ryan & Company – Denver, Colorado
St James Place – Beaver Creek, Colorado
Scotts Liquid Gold – Denver, Colorado
Westin Hotel – Vail, Colorado
Williams Island Condominiums – Williams Island, Florida
Call for a complete list of references

Product Range
IMG is the largest direct importer and wholesale distributor of marble, granite, slate, limestone and onyx in Colorado, with a satellite office in Kansas, serving the industry nation-wide through various distributors from coast to coast. IMG supplies architects and interior designers with material selections, specification data and installation recommendations as well as preventive maintenance systems for any stone product. Operating strictly on a wholesale basis through fabricators, floor covering shops, and tile installers, IMG provides the highest quality natural stone products in virtually any colour or style imaginable in sizes from 4" x 4" up to 24" x 24", cut to size project and full slabs.

Company Profile
Since 1992, IMG has provided premium natural stone surfaces for commercial and residential applications, such as exterior skins, floors, lobbies, exterior plazas and elevators. The 45,000 square foot showroom and warehouse in Denver features US$4.5 million of more than 150 natural stone products, including 4,500 slabs in stock, and serves Colorado, New Mexico, Wyoming, Utah, Nevada, Oregon, Montana, and North and South Dakota. IMG's Kansas City showroom stocks more than US$1.5 million of natural stone varieties, and serves Kansas, Nebraska, Arkansas, Missouri, Oklahoma and Iowa. IMG's owners travel the world to hand-pick the finest stones – blues from Brazil, greens from China, sables from Spain, purples from India and much more. Cost-conscious buyers look to IMG for a competitively priced, one-time investment in a low-maintenance product that looks more elegant and upscale than ceramics, porcelains and vinyls.

Area of Specialisation
Industry notoriety through prestigious awards, educational seminars and guest writing feature articles for various industry publications has centred IMG in the spotlight of many stone related projects and showcases nation-wide. Now IMG has introduced the Artistry Series – like crayons for adults, accommodating the architect and interior designer through custom designed applications. The Artistry Series allows the client to choose colours, textures, patterns and designs, and in as little as three weeks, IMG will present the finished product for any floor or wall application. Stone faces can be polished or textured using pieces as large as 24 inches or as small as one-eight of an inch, straight or angular cuts, and every architectural theme.



Plácido José Simões

Marcepor

Timoz

Dimpomar – stone

ICEP

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Portuguese stones: traditional utilisation and values

Portugal has a tradition of stone craftsmanship that dates back thousands of years. From prehistoric monuments, to a vast array of engineering and architectural masterpieces, Portuguese stones offer both beauty and durability – qualities that have made them the material of choice throughout the ages. Bridges, pavements, Roman constructions, castles, palaces, monasteries and convents all stand testimony to the quality of Portuguese stone.

The wide variety of stone that are to be found in Portugal – marbles, granites, limestones, breccias and others – have offered, and continue to offer the best materials for civil engineering works. A great number of architects, engineers, contractors, sculptors, decorators and stone masons continue to take advantage of Portugal's natural resources.

By adopting new methods of extraction and stone cutting, together with the implementation of state-of-the-art polishing, mining and fabrication techniques, demand for Portuguese stones has grown considerably. Added to this process of modernisation, some new, flexible, dynamic enterprises are now capable of adapting to ever changing economic conditions and market fluctuations.

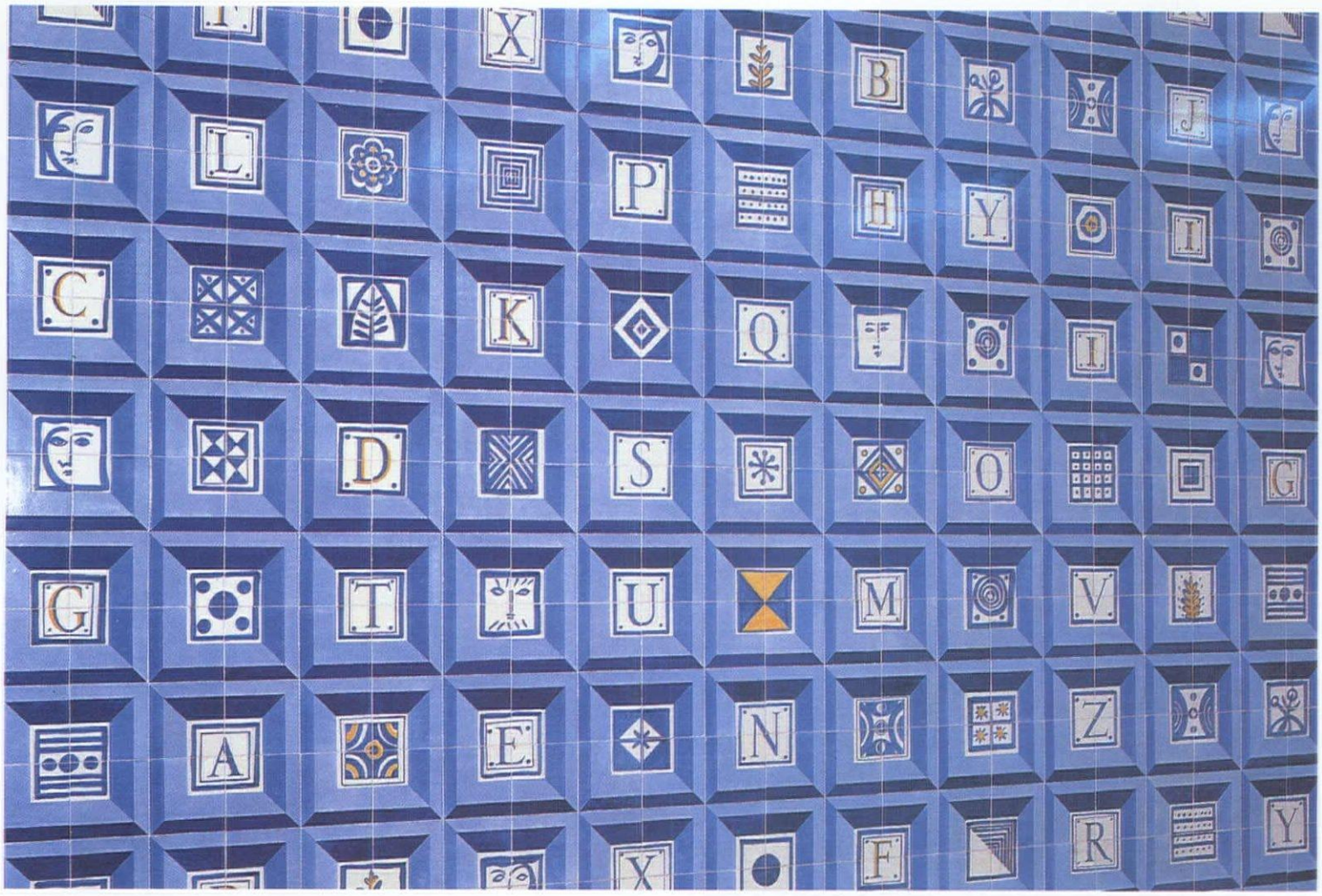
With the reorganisation of Portugal's stone industry has come an increase in productivity and product quality. This has resulted in the improved position of Portuguese stone on the international market. Consequently, Portuguese stones have gained a strong following in many European, Middle Eastern and Asian countries. Infact, due to the inherent qualities of Portuguese stones many of these materials are being exported in larger quantities than ever before.

Portugal is the world's second largest supplier of marble blocks and slabs, as well as being the second largest exporter. The country ranks eighth in the supply and export of all dimensional stones. The stone industry is comprised of more than 2,400 companies and employs close to 35,00 people. Most of the companies in Portugal are small to medium-size. The majority of stone product manufacturers are located in the Lisbon area of Pero Pinheiro.

About 50 percent of the industry's production is exported. This equates to approximately 33 billion escudos (US$220 million). Most of the exports are in the form of finished stone, with a smaller percentage of stones exported as raw blocks, both in marbles (25 percent) and granites (48 percent). Marbles represent 63 percent of total Portuguese exports, while granites represent 14 percent.

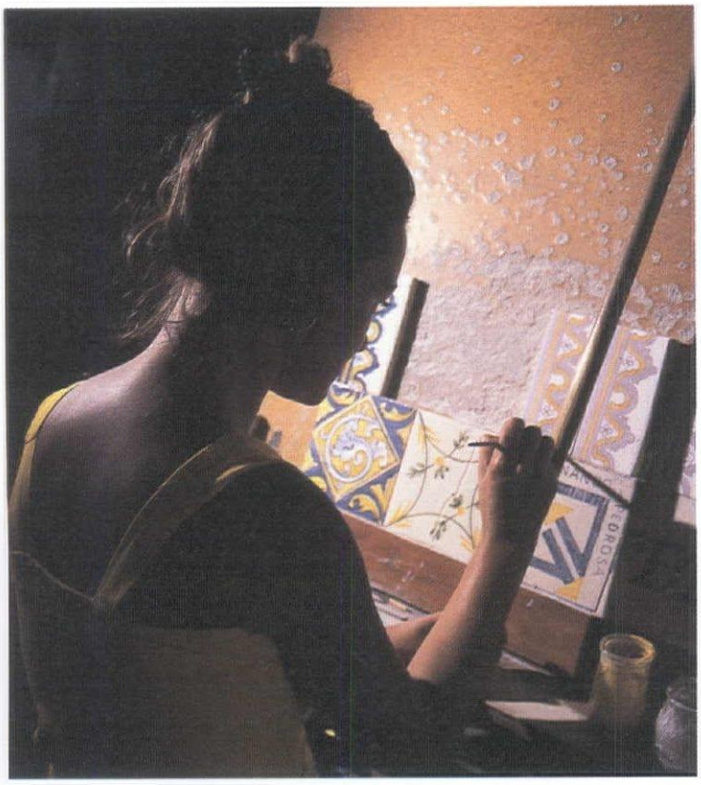
Marble blocks are exported primarily to Italy (45 percent) and Spain (23 percent). The largest importer of finished marble products is Saudi Arabia (21 percent), followed by Germany (11 percent), and Spain (10 percent). Japan purchases 60 percent of Portuguese granites – by far the largest importer – whilst Germany is the leading importer of finished granite.

The success of the industry has been achived by constantly searching for the highest quality of stone products, and by providing superior levels of service, and reliability – in particular, with regards to delivery dates. These standards allow Portugal to maintain its position as a world leader in the dimensional stone market.



Lisbon Subway

S Simão Arte



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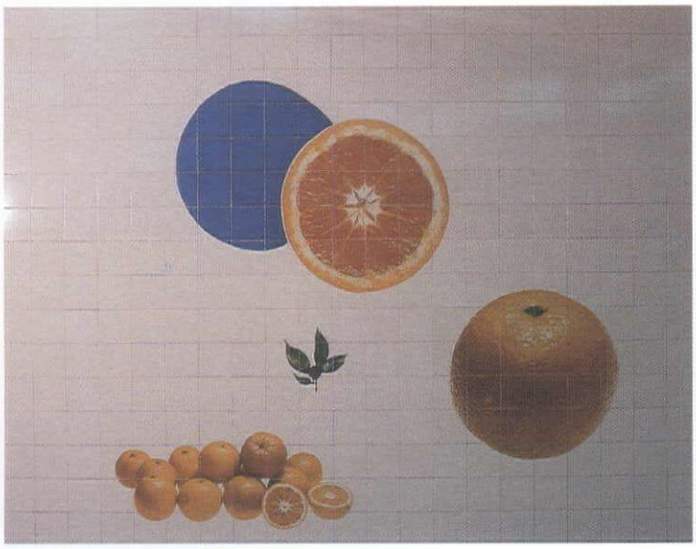
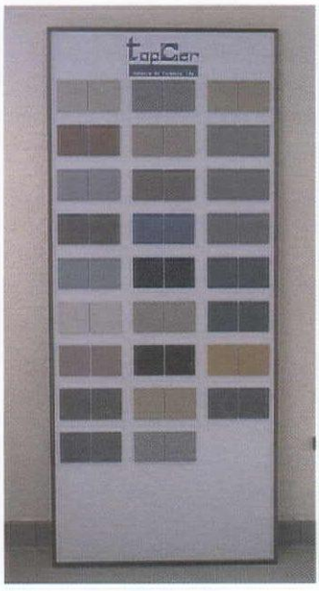


Lisbon Subway



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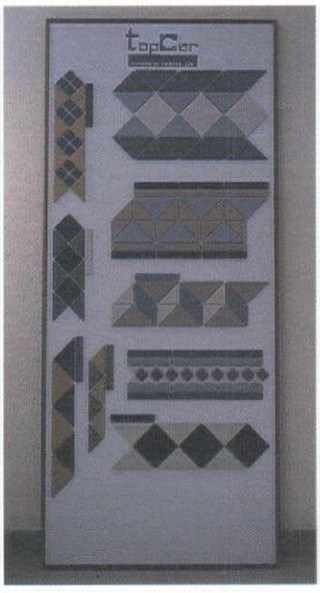

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Portuguese tiles: traditional techniques and new designs

There is perhaps no other country in the Western world where the tile industry has played such a fundamental role, in both decorative and architectural terms, than Portugal. By virtue of its characteristics of strength and endurance ceramic tiles are essential in the finishing of architectural surfaces, large and small. Ceramic tiles have a far greater life span than rugs, or other floor coverings, and have the capacity to enhance both interiors and exteriors, as well as garden walls, churches and private residences.

Portuguese tiles have a distinct style, rooted in tradition. Infact, they have become part of the country's historical, cultural and artistic heritage, spanning four centuries of production and design expertise – dating from the fifteenth century when ceramic tiles were first introduced to Portugal from what is today Morocco. The ancient methods of tile production have been preserved, and applied to modern, large volume manufacturing facilities and skills.

The thriving tile industry is made up of small to medium-sized companies concentrated in the Aveiro and Coimbra areas, where the raw materials indigenous to Portugal – feldspar and kaolin – can also be found. There are total of approximately 900 companies. Over 25,000 people are employed in the tile industry.

Among the different varieties and styles of tiles produced in Portugal, mention must be made of the hand-painted tiles unique to the country. Today, whilst the production techniques remain the same, the styles have changed. While the distinctive blue (azul in Portuguese, accounting for the name azulejos) and beige motifs – the colours traditionally associated with hand-painted Portuguese tiles – are still available, contemporary, geometric patterns and bold colours are also produced, as are brush-finished and single coloured tiles, perennial favourites of both architects and designers.

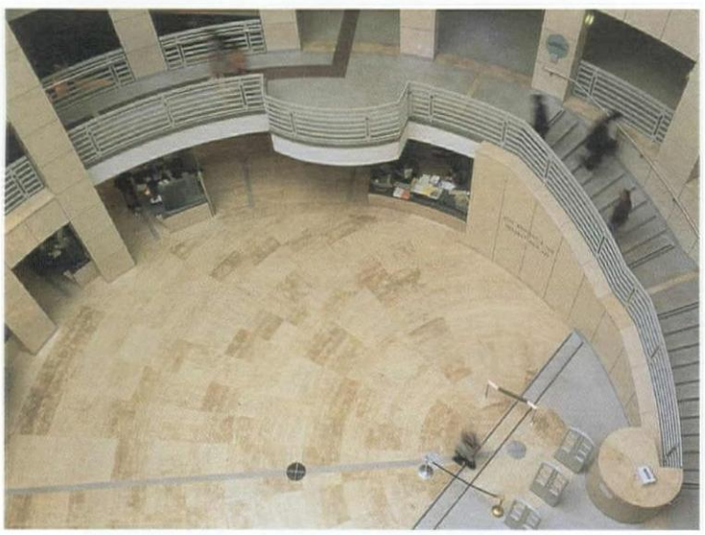
Increasing exports have lead to the diversification of the Portuguese tile market: EU countries are the main clients, closely followed by the USA. In 1995, glazed products continued to dominate (80 percent), with the total export value of this sector (18.1 billion escudos) having grown by 21 percent since 1993.

The largest importer of Portugal's glazed tiles is France, followed by Germany and the UK. Together they account for half of all sales. Unglazed tiles are mainly exported to France, Germany and the USA – accounting for 45 percent of unglazed tiles exports. The industry has grown steadily in recent years. Today Portugal ranks tenth in the manufacture of tiles, and sixth in terms of exports.

As a result of major investments over the past few years, the Portuguese ceramic tile industry is now equipped with the most advanced technology, and is geared to the most exacting requirements – in terms of quality, design and price – for the international market.

Societe Generale Banking Corporation HQ, Paris. Beauharnais

Nasu Golf Club, Japan. St Marc



San Francisco Library, USA. St Marc

Marbres du Boulonnais

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Fax: (510) 782 1383
e-mail: Stone selection@best.com

COMPANY PROFILE

Established in 1917 and dedicated exclusively to the extraction, production and distribution of natural stone, Marbres du Boulonnais has, over the years, acquired an enviable reputation and the highest levels of technical skill. Still family owned after four generations, the company is managed by a dynamic young team whose objectives are quality and reliability.

The aim of the company is to satisfy the customers needs by supplying, within the particular context, the finest range of natural French stones.

RECENT CLIENTS

Miho Museum, Japan
Saint Marc limestone; IM Pei Architects

Cosmos Hotel, Moscow, Russia
Lunel Marbles

Hyatt Fisherman's Wharf, San Francisco, USA
Beaumaniere limestone; Blair Splangler Inc. Architects

Empire Tower Building, Jakarta, Indonesia
Lanhelin granite; Architect Pacific

Coins Department Store, Napoli, Italy
Lunel dore limestone

231-235 Gloucester Road Building, Hong Kong
Chassagne limestone; P&T Architects

Luton Airport, London, England
Napoleon marble

LBS Commefcial Building, Stuttgart, Germany
Lanhelin granite

Al Issa Private Residence, Saudi Arabia
Chassagne limestone; Pierre Yves Rochon Architects

PRODUCT RANGE

Our comprehensive range is principally composed of:

Fashionable and attractive limestones:
St. Marc, St Martin, St Albain, Comblanchien, Chassagne, Beaumaniere, Beauharnais, St. Veran, Poiseul, Corton, Ruoms, Beaulieu, Tournus, Lunel Dore, St. Pierre, Cabernet, Louvre, Amboise

Highly coloured and prestigious marbles:
Napoleon Grand Melange and Tigre, Notre Dame, Brun Fleuri, Lunel, Paloma, Henri 4, Breche Nouvelle, Saran Colin

Unique, high quality granites:
Lanhelin dark blue, Rose de la clarte, Silverstar

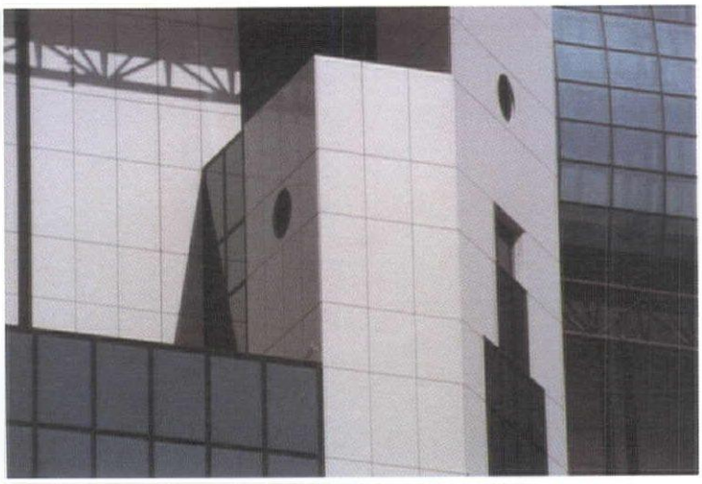
These products come from 20 different quarries and are processed in our eight factories to meet the highest standards of the building industry. We can supply anything from raw blocks to finished, cut-to-size panels for cladding or flooring, as well as 10 millimetre thick tiles, or solid works such as columns, fountains or monuments.

With a range of over 70 different stone types, we have the resources to meet most requirements and feel that we can provide the outstanding material to add unique value to your project.

AREAS OF SPECIALISATION

Our natural stones can be found all over the world, from Japan to the USA, as well as in Europe, the Middle East, Africa and Australia. We have worked with famous architects on some of the most prestigious construction projects in the world: from museums, hotels churches and office buildings, to luxury residential compounds and private places.

Having been involved with the stone business for nearly a century, we would be proud to share our knowledge of stone and talk you through our wide range of materials, for any given project.



Detail of the Gemini Towers (Milan, Italy): architects Morisi & Gantes, manufacturer Seralcolor. Mirawall "Swan White" panels 4000 square metres

The TIM Tower (Warsaw, Poland): architects Martinoia, Sokalski, Strada; manufacturer Steel Benetton (Permasteelisa Group). Mirawall "Granite Pink" panels 4000 square metres

Detail of the Royal Garden Hotel (Milan, Italy): Architect Marzio Piacentini; manufacturer Aghito. Mirawall Yellow and Green panels 7000 square metres

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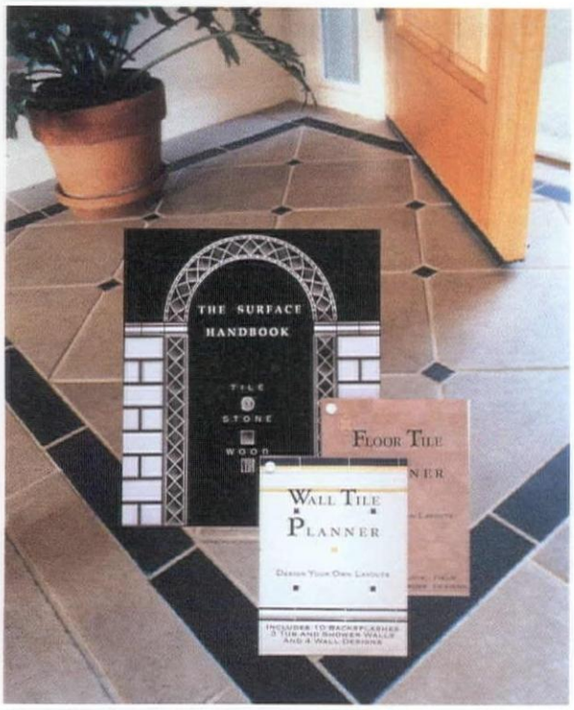
Company Profile
Otefal Sud is a member of the Otefal group of companies, specialists in the finishing of architectural aluminium since the early 1970s. Otefal Sud was established in 1988 with the purpose of applying Otefal's know-how to a novel coil coating process for the production of high-performance panel sheet . This is done in a new continuous line at L'Aquila in central Italy.

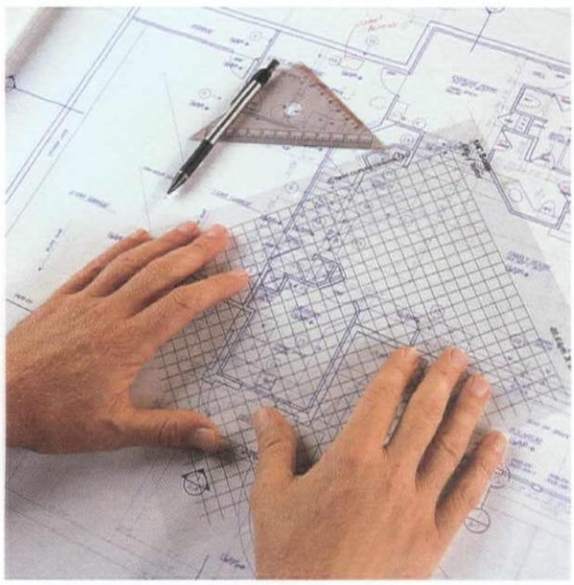
Product Range
Otefal Sud produces Mirawall, a special grade of coated aluminium sheet, mainly used for curtainwall cladding. Mirawall is characterized by "Panel Quality" flatness, high thickness (up to three millimetres, exceptionally 4-5 millimetres), and in particular by its thick (60-70 µm) weatherfast finish, applied by Otefal's unique PCC (Powder Coil Coating) process. The thick coating is not damaged by subsequent bending or forming, so offering an effective and economical alternative to conventional cladding materials and methods.

Recent Projects
Mirawall 30 – the thicker grade of Mirawall – has been used (mostly in the "tray" or "cassette" design) for the cladding of large ventilated walls in Europe and Asia..

Areas of Specialization
Mirawall Panel Sheet by Otefal Sud is supplied in a range of over 100 fast colours. It does away with the cumbersome practices of corner welding and post-coating in the manufacture of architectural panels.



The Surface Handbook and Tile Planners are books designed to assist in deciding tile, stone and wood layout



The overlays from the books help to visualise the style and direction of the room layout

The overlays can be put on the scanned images included in the Surface Handbook or on a specific tile or stone to see colour and shade variation

OUTLINE DESIGN LLC

Head Office
Outline Design LLC
1344 Holly Street
Denver, Colorado 80220
USA

Contact Name and Number
Julie Holt or Kay Perez (owners)
Tel: +1 303 321 5576
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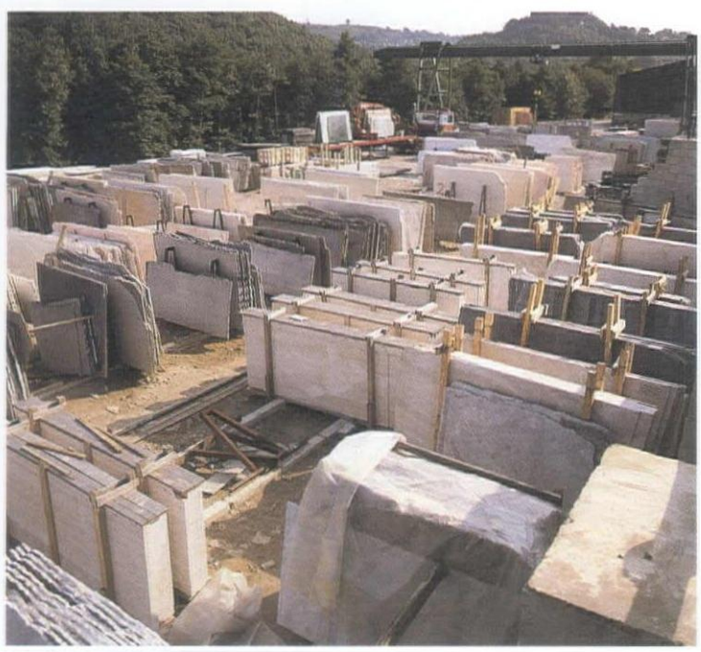
Company Profile
Several years experience in the tile industry inspired the need for specialised trade tools. We needed a way to communicate quickly and easily with our clients. We experimented with the production of design concepts and patterns on a transparency. We soon had several people ask where they could get these transparencies and that is when we set out to manufacture such a product.

Recent Clients/Projects
Currently Outline Designs LLC offers three products and private label for manufacturers and large retailers. Several new products are on the drawing board for 1997.

Product Range/Descriptions
Three products have been developed to date: the *Floor Tile Planner;* the *Wall Tile Planner*, and the *Surface Handbook*. The tile planners were engineered for the end user. The *Surface Handbook* was developed to meet the specific needs of the trade. This book has an extensive collection of popular basic sizes, shapes and patterns, and a wood floor series, all in quarter and half inch scale drawings. Various conversion tables are included to aid the user in calculating the materials needed.

The advantages of these books are the removable, clear pages that can be used on a copier to make blank templates. Use coloured pencils or markers to create your colour schemes. You can create any number of custom layouts with your clients quickly and easily. Streamline your valuable time with your clients by determining style and direction in minutes. Another benefit is to visualise actual colour and shade variation by placing the overlays on your tile, stone or wood sample. Give your coloured templates to your contractor to ensure design specification.

Addendum sets will be available to expand the versatility and maintain current trends in the industry.



PISANI LIMITED

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Fax: +44 1629 825611

Company Profile

Pisani Limited are a well established company with more than 70 years experience in the industry. There is a production facility at Matlock in Derbyshire, UK where granite blocks sourced from all over the world are processed into slabs of varying thicknesses and finishes. Two further distribution outlets in the south of England supply the largest selection of marble and granite from stock, in the UK.

There is a growing awareness of the benefits of using marble and granite to enhance the appearance of any project; flooring, cladding, servery counters, kitchen worksurfaces, table tops and fireplaces to name only a few.

The use of natural stones such as granite and marble has increased as more architects and designers appreciate the qualities of stability and durability, as well as the aesthetic aspects of its beauty and prestige.

The development of sophisticated machinery and tools to work stone has also broadened its appeal for a much greater variety of applications, particularly as the cost of utilising stone has become more reasonable in the light of technological improvements in production techniques.

Even the hardest of materials can be cut, shaped and polished to produce finished products for commercial and domestic installations that allow creativity in the design and overall appearance of any project. The infinite variety of colours and textures available in granite, allow specifiers to co-ordinate these natural materials to achieve quite stunning effects, as well as utilise them for more functional applications, where hard wearing and easily maintained surfaces are required.

Pisani can assist with all aspects of specifications for all project types and their worldwide contacts enable sourcing of specialist and unusual requirements.

Our market position offers clients the benefits of project consultancy, controlled material supplies and deliveries, thereby offering the most comprehensive service available to specifiers of marble, granite and stone.

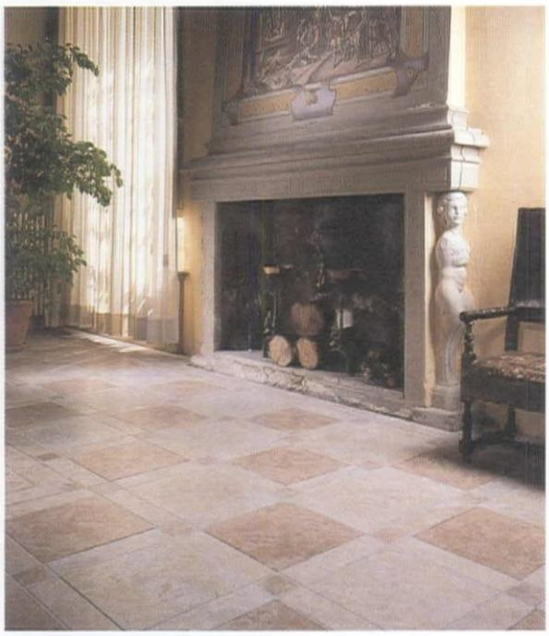
Clients are welcome at any of our three showrooms to view and select material from our extensive range and take advantage of our technical expertise.

Projects featuring Pisani products:

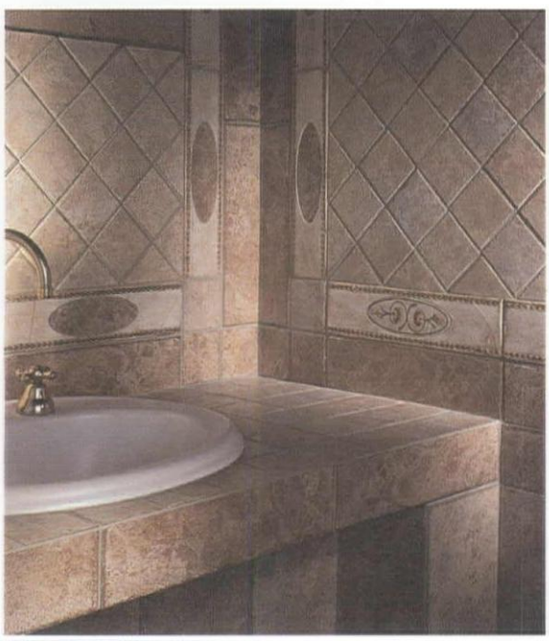
Harrods, London
Sheraton Hotel, Doha
Omni Hotel, Hong Kong
Mount Royal Hotel, London
Hilton Hotel, Prague, Czech Republic
Equatorial Hotel, Uganda
QE2
Meadowhall Shopping Centre, Sheffield, UK
Liverpool Institute of Performing Arts, UK
The Monument, London
Gurudwara Sikh Temple, Birmingham, UK
Souleimania Grand Mosque, Birmingham, UK
Harrington Hotel, London
Mostyn Hotel, London
Londonderry Hotel, London
Rochester Hotel, London
Harley House, London
Leicester Square, London
Canary Wharf B1, B6 – London
Chelsea Harbour, London

Rivestimento: Fondo: Castaneo 20x41; Decori: Fregio Rosso Verona, Fascia Raffaello, Matita Rosso Verona, Lista della Robbia, Lista Femina, Ranciato Ellisse Comb., Ranciato Listello, Ovale Castaneo Comb., Ovale Ranciato Comb. Pavimento: Fondo: Castaneo, Ranciato

Verdegaio – Verdegaio 10 – Morello 10 – Morello



Castano – Ranciato – Castaneo Listello – Ranciato 10



Rivestimento: Fondo: Verdegaio 10. Decori: Morello Listello, Lista Femina, Lista Della Robbia

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Telex: 510625 Cerpas i

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Fax: 30-4062380

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CTRA. Nacional 340-KM.68
Castellon 12004
Spain
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Fax: 64-216255

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Pastorelli USA
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Fax: 212-5700216

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Martinelli Arrigo	Worldwide Project Manager	59-739111 (Italy)
Regional Export Managers:		
Mutti Giovanni	USA & Canada	212-58006837 (USA)
Saladino Filippo	South America	59-739111 (Italy)
De Muro Leonardi	Far East, Australia and Pacific	59-739111 (Italy)
Bini Mario	Scandinavia & Mediterranean	59-739111 (Italy)
Martini Franco	Austria and Southern Germany	59-739111 (Italy)
Casciarri Giuliano	Eastern Germany	30-4062298 (Germany)
Venerito Marcello	Holland, Switzerland and Northern Germany	59-739111 (Italy)
Molinari Mario	Russia and Eastern Europe	59-739111 (Italy)
Barbieri Stefano	UK and South of France	59-739111 (Italy)
Benvenuti Carlo	Belgium and North France	59-739111 (Italy)
Sogliani Marco	Spain & Portugal	59-739111 (Italy)

Company Profile

Pastorelli Cermaiche are one of the principle Italian ceramic tile manufacturers, exporting to 117 countires, with a turnover of $US153 milion - in 1995. Pastorelli Ceramiche were formed in 1968. Annual production of ceramic tiles is approximately 12.8 million square metres. Exports comprise 85 percent of total output.

Recent Clients/Projects

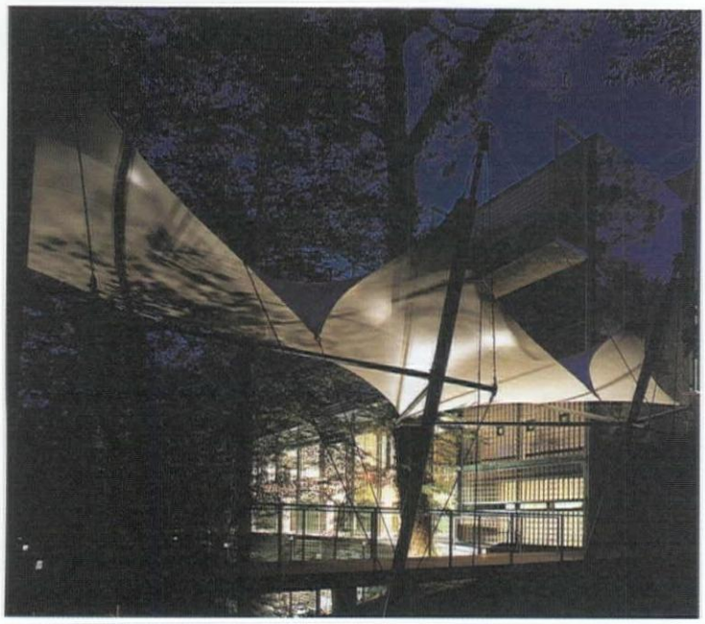
USA	Summit Hall	Akron Ohio
Myanmar	Assembly Hall	Yangon
Nepal	Peanuts Shopping Centre	Kathmandu
Papau New Guinea	International Airport	Port Moresby
Turkmenistan	Turkmen Hotel & Casino	Askhabad
Belize	Ramada Hotel	Belize City
Fiji	Turtle Island Resort	Nadi
Macao	Grand Prix Museum	Macao
China	China Merchant Building	Shanghai
Malaysia	The Datai Hotel	Langkawi
Maldives	Club Mediterranean	Male
Hong Kong	Hong Kong Stadium	Hong Kong
Cayman Islands	Hotel Hyatt Regency	Georgetown
Mexico	Hotel Puerta al Sol	Cancun
Spain	Palacio de los Congressos	Madrid
Panama	Japanese Embassy	Panama City
UK	Holiday Inn Hotel	London
Bahamas	International Airport	Freeport

Product Range

Glazed wall tiles
Glazed floor tiles
Hand painted ceramic tiles
Porcelain tiles for heavy traffic
Rustic tiles
Stones Tiles Look
Mosaics
Exterior homogenous tiles
Panels and decorations for interior

Areas of Specialisation

Interiors
Hotels
Airports
Housing/Residential
Commercial Projects
Exterior Cladding
Industrial Areas



The Finland Embassy, PREMIERE SERIES, THICKSET® Block, DECORA® pattern.

Signtech U.S.A. Offices, PREMIERE SERIES, 197mm (8in.) square units, HEDRON® I Corner Block and EndBlock™ finishing units in the DECORA® pattern.

Swindon Market, PREMIERE SERIES, 299mm (12in.) Square units, VUE® pattern.

Pittsburgh Corning

International Sales Corporation
800 Presque Isle Drive
Pittsburgh, PA 15239-2799 US
Thomas C. Gross
Tel: 412-327-6100
Fax: 412-733-4815

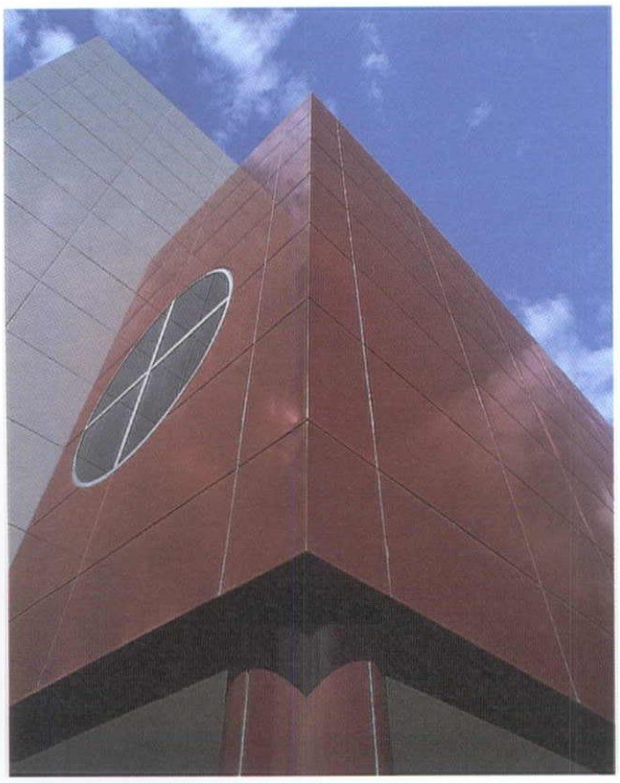
Pittsburgh Corning United Kingdom, Ltd.
Southcourt, 29 South Street
Reading, Berkshire RD1 4QU
England
Colin Hudson
Tel: 44-734-500655
Fax: 44-734-509019

Pittsburgh Corning was established in 1937 and markets its products worldwide. The company manufactures Pittsburgh Corning Glass Block, which are specified for use in architectural, residential and commercial applications, and FOAMGLAS® Celluar Glass Insulation for applications in general building and industrial insulation use such as industrial piping, tanks, valves and fittings. These products and related accessories are available through an international network of distributors.

Pittsburgh Corning Glass Block products have been specified by Harrison Patience for the Swindon Market, Swindon, Wiltshire, U.K.; by Heikkinen-Komonen & Angelos Demetriou & Associates, architects for the Embassy of Finland, Washington, D.C., U.S.; and by Garcia + Neugebauer, AIA Architects for the Signtech U.S.A. Offices, San Antonio, Texas, U.S. Applications range from entire facades, windows, interior dividers and partitions...to skylights, floors, walkways and stairwells.

Pittsburgh Corning Glass Block are available in the PREMIERE, THINLINE® and METRIC SERIES. These products exhibit a multi-faceted character which begins with the transparent/translucent sparkling beauty of crystal clear glass. The form of Pittsburgh Corning Glass Block—type, thickness, size, shape and pattern—and methods of installation encourage architects and designers to create truly unique and exciting designs.

PITTSBURGH CORNING



PGBELL

ARCHITECTURAL PORCELAIN

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Web: www.pgbell.com

Contact Names
Paul Comeau – Export Manager
Jennifer Fairclough – Marketing Manager

Company Profile

PG BELL is North America's largest manufacturer of heavy gauge vitreous enamel architectural panels. From our 5,600 square metres facility in Georgetown, Ontario, we offer a complete service package – with in-house engineering, research and development – fabricating enamelling and installation. Our market is world-wide, with products presently being shipped to Canada, China, Hong Kong, Indonesia, Taiwan, South Africa and the USA. All our staff – from engineers through to skilled tradesmen on the shop floor – are dedicated to the production of a first class product that will serve our client's needs for many years to come.

Vitreous Enamel Advantage

The nature of vitreous enamel allows us to boast that our product will not fade or lose gloss levels no matter what colour you choose. The fusion of glass on steel combines the strength of steel with the longevity of glass. This non-porous finish resists permanent damage from even the most creative street artists or storms. Safety is built into the product. Vitreous enamel is completely fire-proof, with a zero flame spread rating. The surface does not emit toxic fumes when burned. For this reason, porcelain is regularly specified as an architectural surface in high traffic areas (subways, ariports...) where the protection of the general public is a prime concern.

PG BELL Advantage

PG BELL, in general, does not try to market an "off the shelf product". We are a custon shop striving to meet the specific application needs of our customers. Design problems and custom requirements are welcomed, not discouraged. We have been in the vitreous enamel business for over 50 years. When we are presented with a problem, the chances are that we have come across it before.

Recent Clients/Projects:

TSZ ON Estate – Hong Kong Housing Authority
Owens Coming Head Office – Toledo, Ohio, USA
Xerox Research Centre – Mississauga, Ontario, Canada
Yuan Mansion – Pudong Financial District, Shaghai, China
Kowloon Tong Station – KCRC – Hong Kong
Innotec Twin Towers – Tianjin, China

Grand Louvre, Paris.
Materials: Chassagne Beige – Saint Maximin

Ebisu Garden Place, Tokyo.
Materials: Chauvigny-Tervoux; Lens-Noir Cihigue

Shopping mall, Australia
Material: Comblanchien LM

Metropolitan Museum of Art, New York
Material: Vilhonneur Bench 7; Massangis Roche Claire; Chassagne Rose

ROCAMAT SNI

Contacts
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Tel: +33 1 49 33 26 30

Middle East, Far East, Africa: Mr Hugues Duflot
Tel: +33 1 49 33 26 33

Germany, Eastern Europe, Scandinavia: Ms Sigrine Laknejal
Tel: +33 1 49 33 26 47

UK, Ireland: Mr Herve Casanova
Tel: +33 1 49 33 26 31

Italy: Mr Jean-Christophe Cornu
Tel: +33 49 33 26 90

Japan, Australia and rest-of-world: Mr Patrice Houdeau
Tel: +33 1 49 33 26 46

Company Profile
Rocomat is the largest supplier of natural stone in France and the world's leading limestone producer.

The company has developed to become the largest European organisation specializing in limestone with a workforce of 850 people and a consolidated turnover of FF400 million.

We currently extract a range of 70 materials from our 35 quarries, and manufacture the products in our 14 factories.

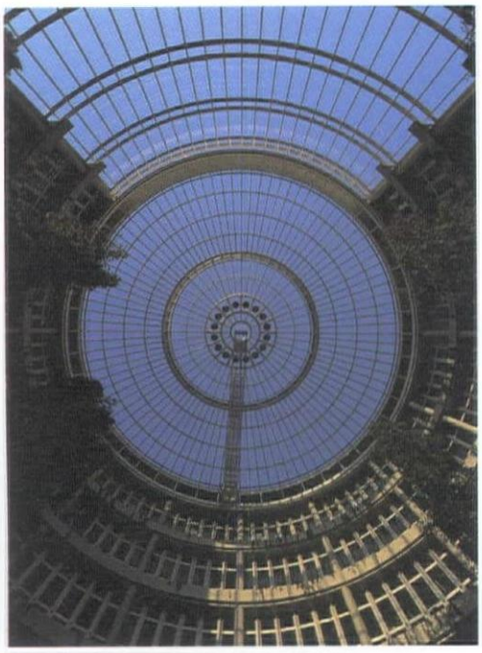
Rocomat has also maintained strong stonemason traditions; the company are able to produce all decoration, restoration and sculpture works.

Throughout the world, outstanding architectural achievements reflect the consistently high quality and wide choice of readily available natural stone from Rocomat.

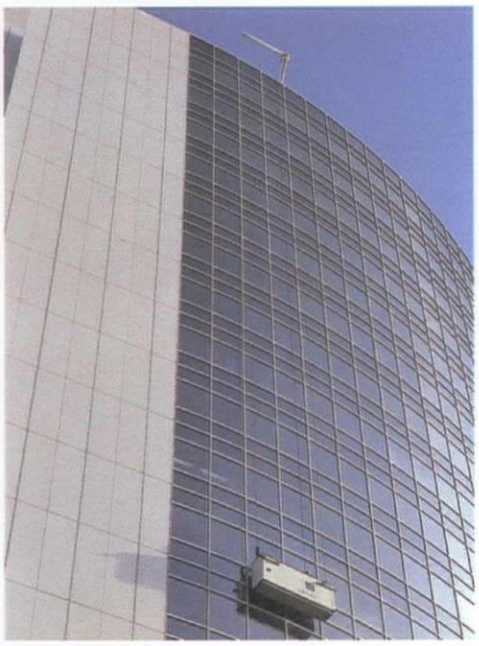
Product Range
For domestic use:
- kitchen worktops
- internal flooring
- staircases
- wall tiles
- bathrooms
- fireplaces

For commercial and public buildings:
- cladding
- copings
- plinths
- columns
- interior and exterior flooring/paving and staircases
- swimming-pool surrounds
- fountains

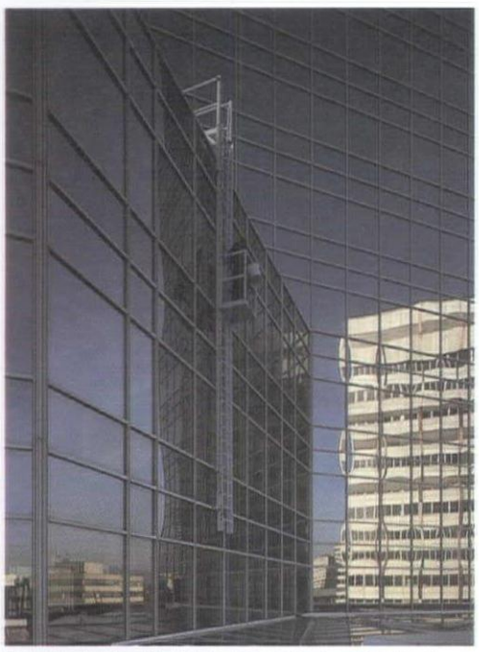
Recent projects featuring Rocomat products
- the Musee d'Orsay
- the Tour Eiffel Piers
- the Grand Louvre in Paris
- palaces in the Middle East and Japan
- the Metropolitan Museum of Art in New-York



Internal maintenance gantry, Schering AG, Berlin



Building maintenance unit, Ventura office block, Eschborn/Frankfurt



Traversing ladder with sliding platform, Ventura office block, Eschborn/Frankfurt

ZARGES LEICHTBAU GMBH

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Foundation

Founded in 1933 in Stuttgart by the Zarges brothers, as Europe's first light alloy processing company. The company moved to Weilheim in 1939. Today, it is still a leading company in the light alloy processing sector, with a workforce of approximately 730 and a turnover of approximately DM 165 million.

Key Personnel

Karl D Wobbe, Chairman of the Supervisory Board
Bernhard Brinkmann, Managing Director (spokesman)
Claus-Peter Carstanjen, Managing Director
Andreas Hiltermann, Managing Director

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Zarges CZ s.r.o.
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Czech Republic
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Product Range

Access Products Division

- The product range includes about 500 types of ladders, ladder equipment and movable scaffolding, made of light alloys and glass fibre, for home and garden, DIY, industry, and crafts and service companies.
- The range covers electrical elevating platforms, ascent and access systems, fall prevention systems, coverings, access aids and railings for shafts, ducts, excavations and other areas of application in the civil engineering sector.
- Individual problem solutions provided on enquiry.

Logistics Equipment Division

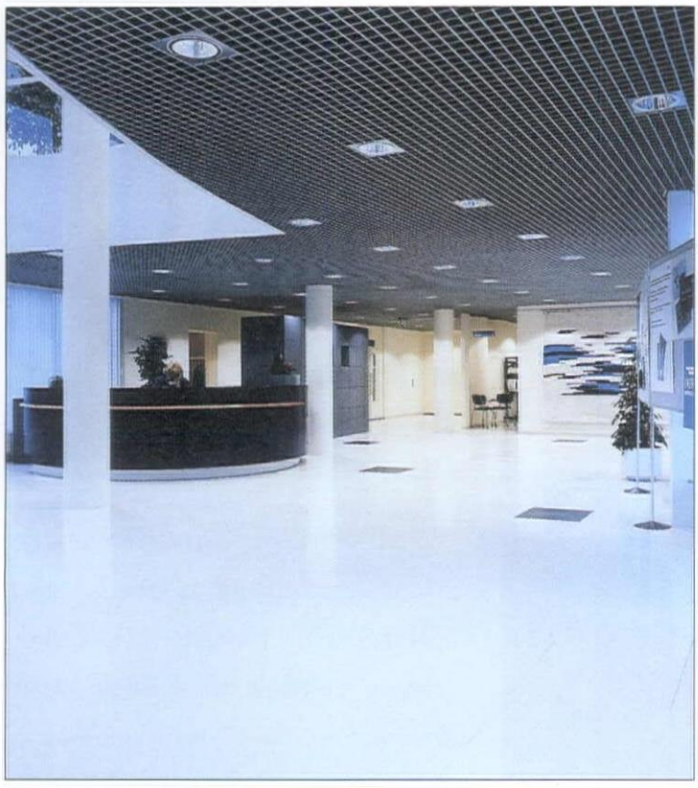
- Systems and system components made of lightweight alloys and steel, for streamlined material flow and environmental protection in both manufacturing plants and administration.
- Reusable transport packaging, as a key element in environmentally-conscious transport, storage, and packing.
- Zarges boxes for hobby and DIY applications, sports, adventure situations and travelling.

Systems and Components Division

- Maintenance units, facade access systems and travelling access ladders for cleaning and maintenance of buildings, glass cupolas and glass accessways.
- Claddings and coverings for technical installations (including emission protection) and machinery.
- Projects for the creations "Art in construction".
- Supporting structures and surface constructions.
- Designer-style built-in constructions.
- Special claddings for facades, inside walls, ceilings etc.
- Antennas for satellite transmissions.
- Lightweight supporting structures and shelters.
- Customised individual solutions to problems in the lightweight engineering construction sector.

Zarges Facade Access Systems

Buildings lose their fascination if they are not cleaned and maintained due to lack of accessibility. Zarges Facade Access Systems are the ideal solution for maintaining facades, glass domes, inclined glazed areas, etc. Even after decades, everything looks clean and well-maintained. All components are in accordance with the static and industrial safety requirements of the TÜV, the Construction Technical Committee of the professional trade association and conform to the specifications of TRA 900.



Opposite page top *Groninger Museum, Groningen – Glass Mosaic Bisazza.* ***Below*** *Head Office Royal Ahold, Zaandam, HergotInson – natural stone, Vetroarredo.*
This page top *Golden Tulip hotel, "Badhotel", Domburg – Crema Cotto and natural stone.* ***Above*** *Head Office, Royal Dutch Airlines (KLM), Amstelveen – Monovip, Quarella*

ZWAAN BV

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Managing Director
Mr H A Klooster

Contact name and telephone numbers

Ceramic tiles department:	Mr D S Knetsch, Senior Product Manager
	Tel: +31 252 43 10 02
Natural stone department	Mr G Heijns, Manager Natural Stone Dept
	Tel: +31 252 43 10 05

Company Profile
Zwaan BV was established in Lisse, Netherlands in 1959. It exports ceramic tiles and natural stone from several countries. Because of its many years of experience and great knowledge of both the products and the requirements of architects, Zvaan BV has gained a leading position in the Dutch market. It has a market share in the Netherlands of approximately five percent, and an annual turnover of one million square metres.

Zwaan BV has a large, roofed warehouse of approximately 12,000 square metres, as well as a showroom– designed by and for the use of architects – of 1,200 square metres.

Product Range
Ceramic wall and floor tiles exclusively distributed for the Netherlands:
Cerim, Italy – La Fabbrica, Italy – Graniti Fiandre, Italy – H & R Johnson, UK –Keros, Spain – Longchamp, France – Monovip, Italy – Simons, France – TopCer, Portugal – Vogue, Italy.
Natural stone products:
Marble – Marble conglomerate – Granite – Freestone, all from several countries.
Others, exclusively distributed for the Netherlands:
Bisazza, glass mosaic, Italy – Laticrete, adhesives and morters, USA – Sannini, unglazed cotto, Italy – Vetroarredo, glass blocks, Italy – Weck, glass blocks, Germany.

Recent Projects/References
Ohra assurancy, head office in Arnhem Netherlands
Graniti Fiandre, H & R Johnson

Zwitserleven assurancy, Amstelveen, Netherlands
Graniti Fiandre, H & R Johnson,
Vogue, Natural Stone

Nationale Nederlanden assurancy, the Hague, Netherlands
Quarella marble conglomerate

Interpolis office, Tilburg, Netherlands
Graniti Fiandre

Long term agreement with Royal Ahold for supplying all the required wall and floor tiles, and adhesives for the Albert Heyn supermarkets (Graniti Fiandre, H&R Johnson, Laticrete).

Long term agreement for supplying the required tiles for Edah supermarkets, De Boer supermarkets and the Dutch Railway Stations, NS.

Retail Centres from around the World and their Architects

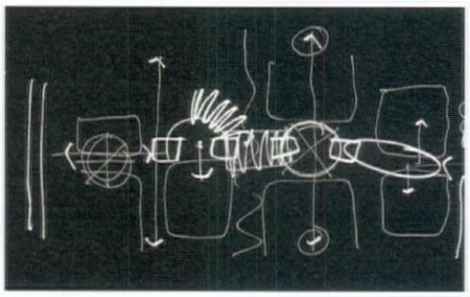
Many of the most influential architectural practices in the world specialise in the design and development of shopping centres.

But who are the truly great practitioners? And which are the shopping centres that prove it?

Phipps Plaza, Atlanta, USA.

In this first World Architecture Special Report, we've brought together those few rare developments that represent the absolute pinnacle of architectural achievement in the field.

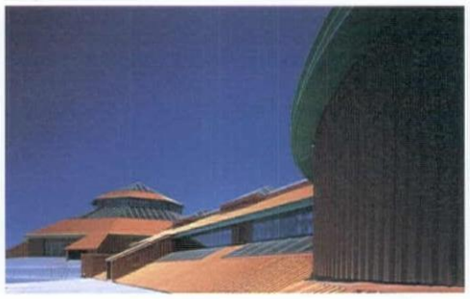
The developments themselves traverse the globe. We visit such places as Beijing in China and Selangor in Malaysia, as well as the USA, UK, Australia and Germany.



Downtown Plaza, Sacramento, USA.

Along the way, we talk to the various architects and developers involved. We hear of the problems they faced, and the often astounding solutions that would propel their developments to the top of the world league.

Throughout, we place these significant achievements in context, with reports on the history of shopping centres, current international trends and costs, and an exclusive interview with Rodney Fitch on retailing worldwide. Hugh Pearman reviews the history of large scale retailing, and John McCloud looks to the future.



Galleria Morley, Perth, Western Australia.

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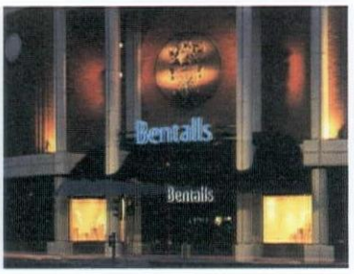

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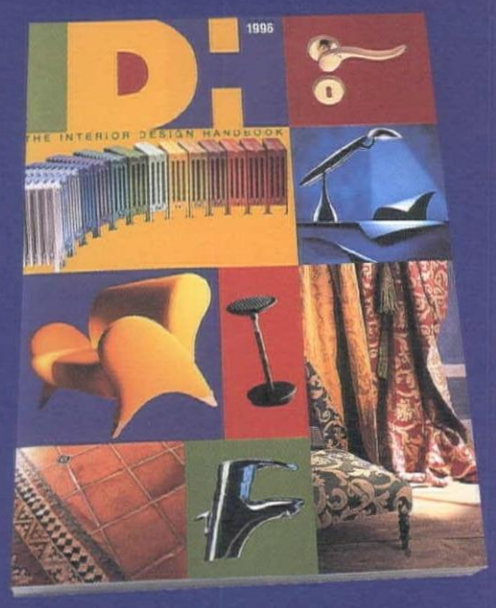

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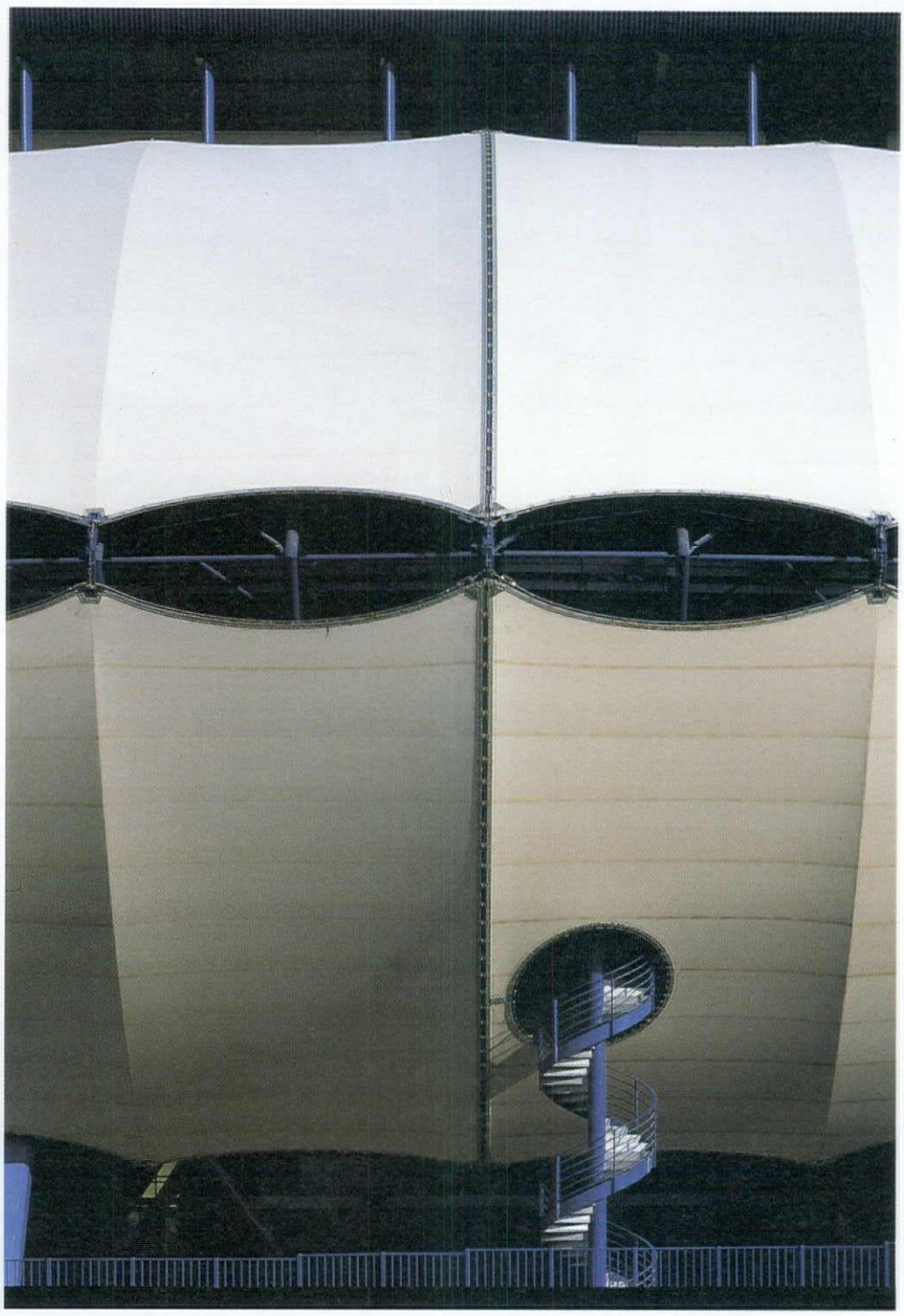

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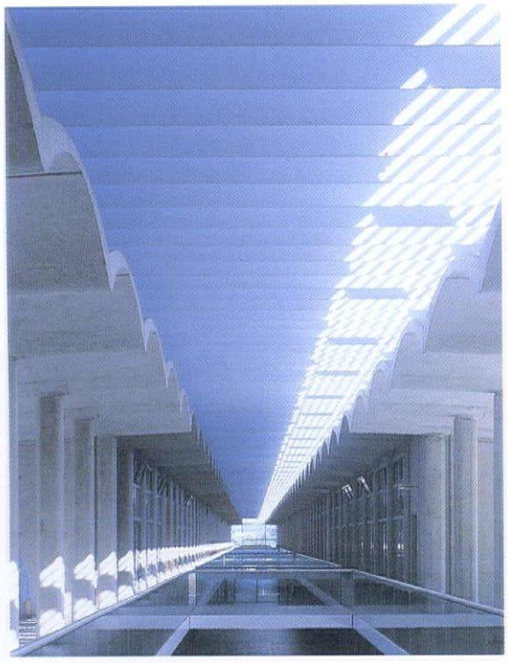

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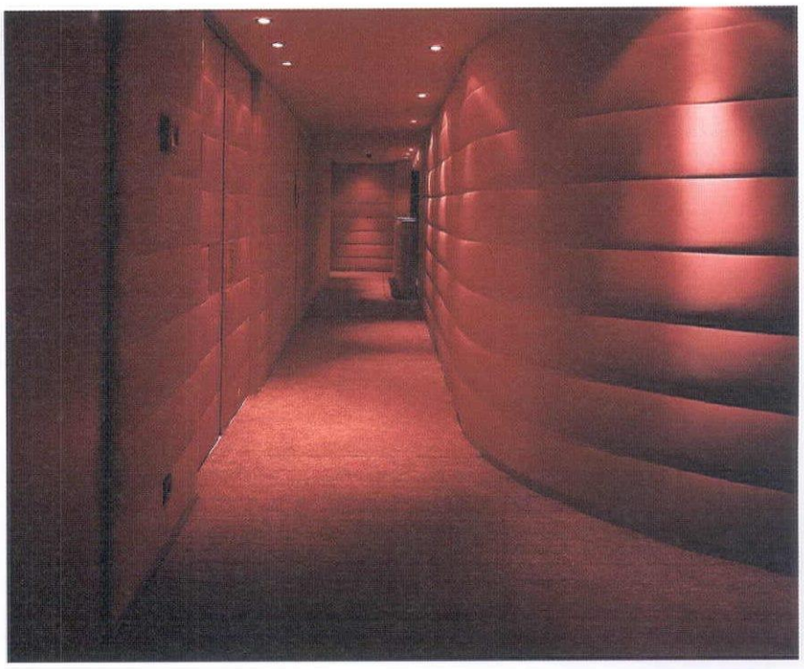

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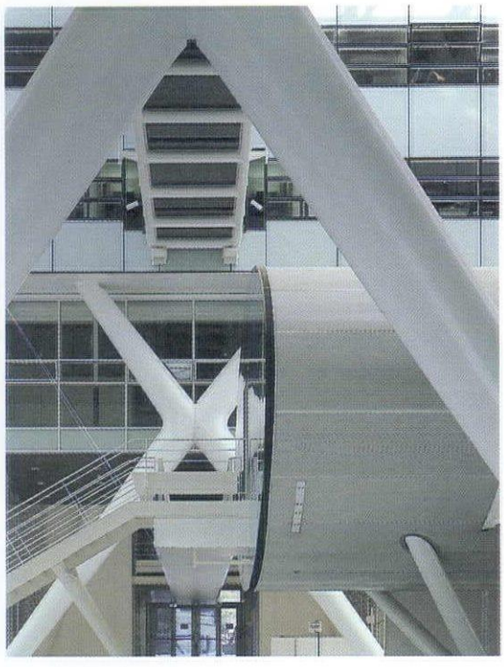

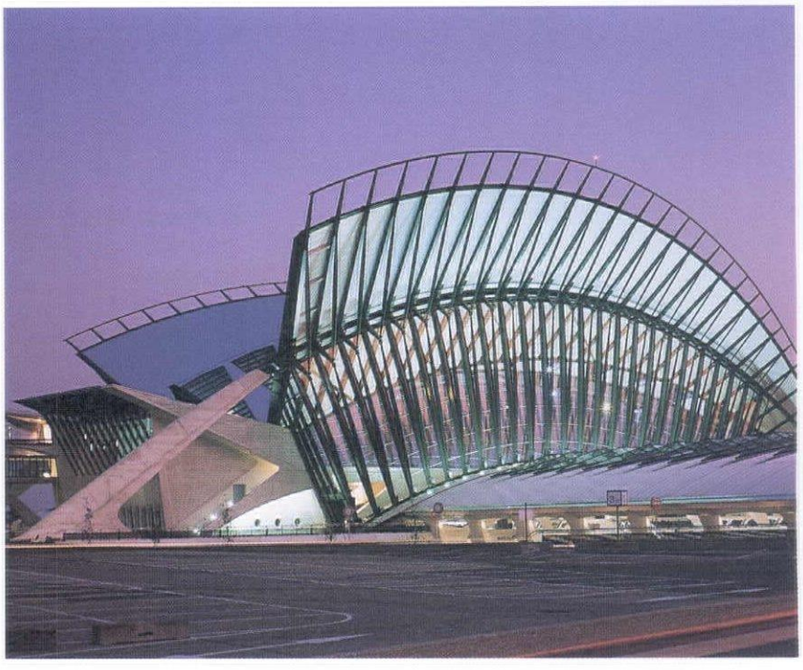

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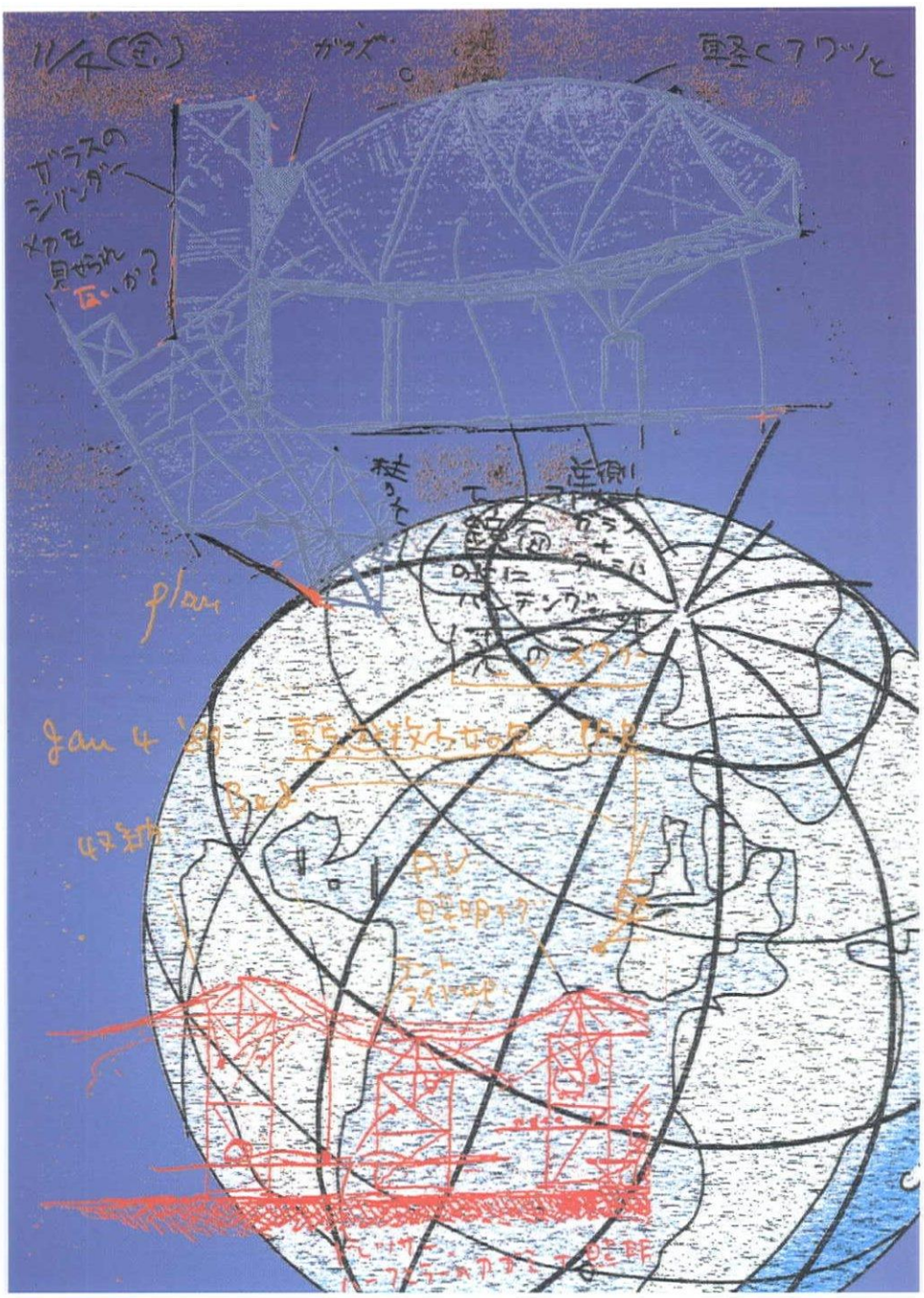

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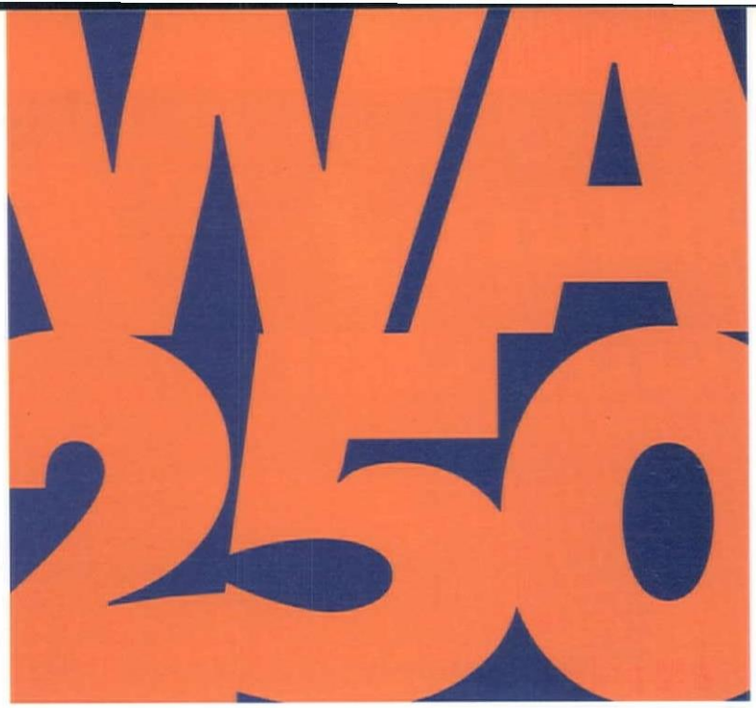
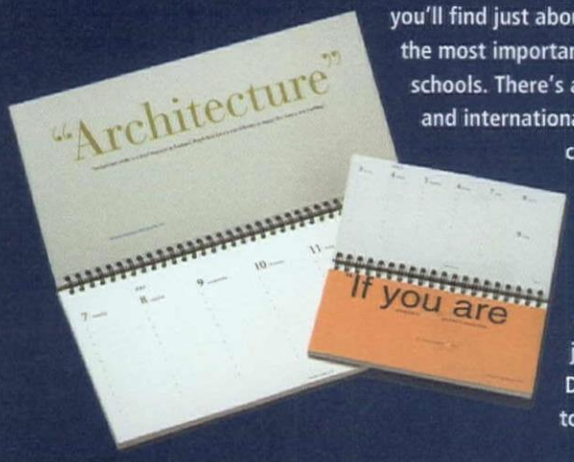


1997

This year's survey *WA*250, has expanded to become an essential guide. For dynamic architectural firms who want to see where the future lies, the charts and graphs in the following pages show where the work is, what type of work there is and who, if anybody, is already there. However big, no architectural practice can afford to ignore the competition. *WA*250 reveals how companies are repositioning themselves according to the global markets, and how they are restructuring to meet demands. *WA*250 confirms that there is huge potential for architects working on an international scale but the competition for lucrative projects is tough and knowledge, as always, is power.

The future of architecture



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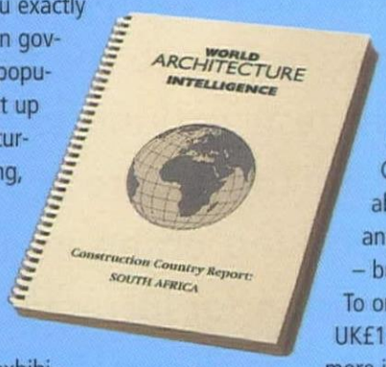

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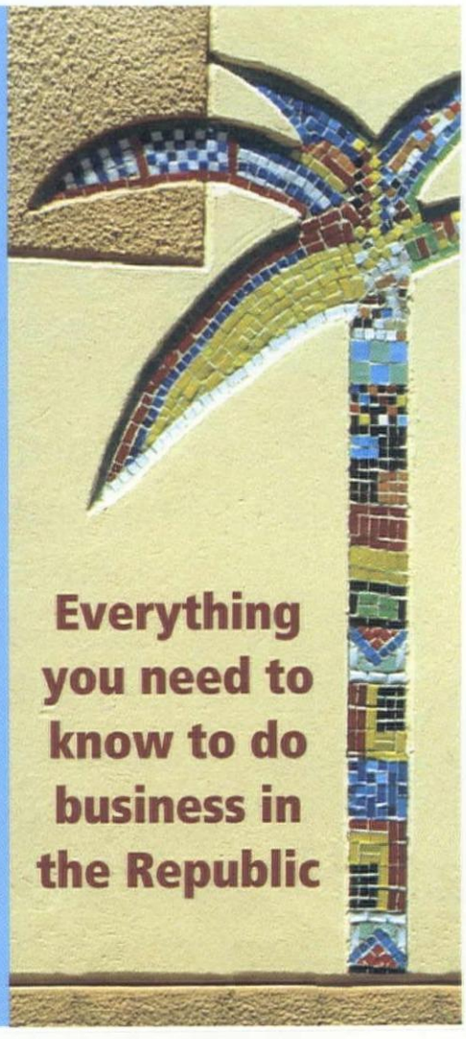

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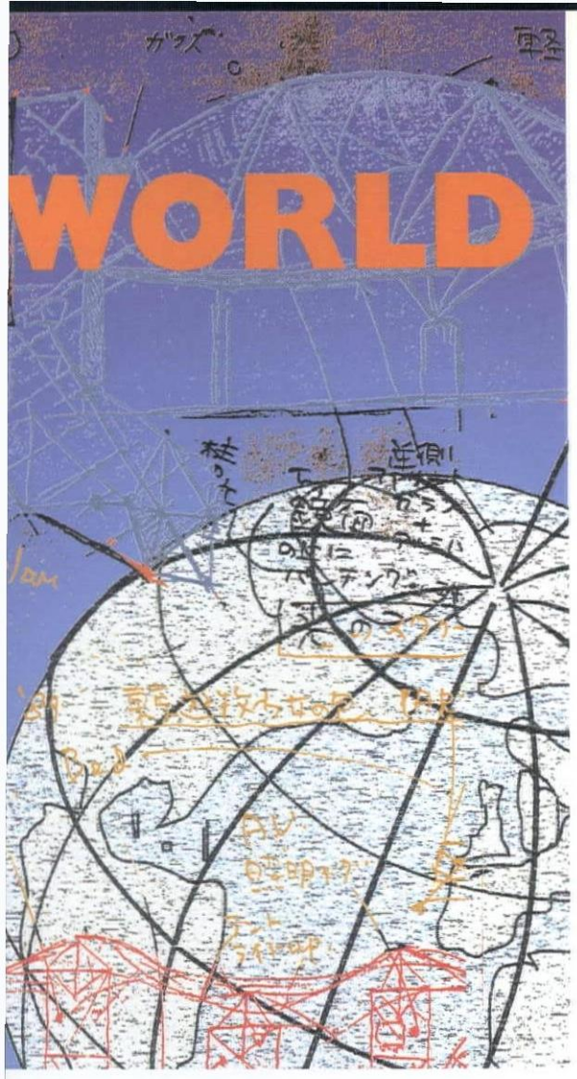

WORLD ARCHITECTURE

The 1997 Survey of the World's 250 Largest Architectural Practices / Design Firms

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The *World Architecture Survey* is published by Cheerman Ltd. The views expressed in the *World Architecture Survey* do not necessarily reflect those of Cheerman Ltd. All editorial, advertising and subscription enquires to: World Architecture, 3-6 Kenrick Place, London W1H 3FF, England. Tel: +44 (0)171 470 7000. Fax: +44 (0)171 470 7007. email: warch@atlas.co.uk.

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World Architecture ISSN No. 0956 9758 is published monthly for $150 per year by Cheerman Ltd, 3-6 Kenrick Place, London W1H 3FF. Second class post paid at Champlain, New York and additional entries. Postmaster: send address corrections to Hyde Park media, c/o I.M.S. Box 1518 Champlain, NY 12919.

World Architecture has tried to elicit details from as many architectural/design firms as possible. Omissions among the major organisations are few, and our grateful thanks go to all the firms who have supported *World Architecture* in publishing this survey. If your organisation has not been included in this edition, and you are eligible, you can participate in the *1998 World Survey* by writing directly to Robert Taynton at *World Architecture Survey*, 3-6 Kenrick Place, London W1H 3FF, UK.

Global Practice in '97

Last year, architects everywhere could afford to be cautiously optimistic in their continuing good fortune, this year, however, they will just have to be cautious. *WA* finds out what top level management in practices around the world predict for 1997.

US on an even keel

The US market has remained more resilient than most. Staffing has actually increased over the year, while fee levels and architect

Binh Vinh, Kling Lindquist

numbers are only slightly down.

"We experienced a tremendous growth last year," says Binh Vinh, Architect and Design Principal of Philadelphia-based Kling Lindquist, a specialist in pharmaceutical laboratories. In 1996 they more than doubled the number of architects they employ, from 60 to 132. "We were busy because we landed a few good-size projects: a new Federal Drugs Administration research centre outside Washington, DC and a US facility for European drugs giant HMR."

Despite Kling Lindquist's good fortune, however, Vinh confirms that the situation in the US has begun to change for the better.

Hi-tech strong in US

In the US, Binh Vinh confirms that "Hi-tech areas are still strong [and] research facilities are still in demand. The office market will probably get out of the doldrums next year."

Although economic factors can account for much of the shape of the architectural industry this year, changes in technology are having an increasing influence. Arthur Gensler of Gensler makes the intriguing point that the increasing capital-intensiveness of manufacturing will mean that more of it will be located in the USA.

Timid Tigers

In the Tiger economies, growth was unspectacular this year. Singapore in particular seems to have attained the status of the "Switzerland of the East". Meanwhile, after remaining broadly stable in 1995, Hong Kong registered steady growth in both architect and staff numbers despite fee levels that fell by almost the same percentage.

Hong Kong "non-event"

It is tempting to look at Hong Kong for the effects of next year's reunification with China, but Terence Smith of locally-based firm Leigh & Orange dismisses it as a non-event.

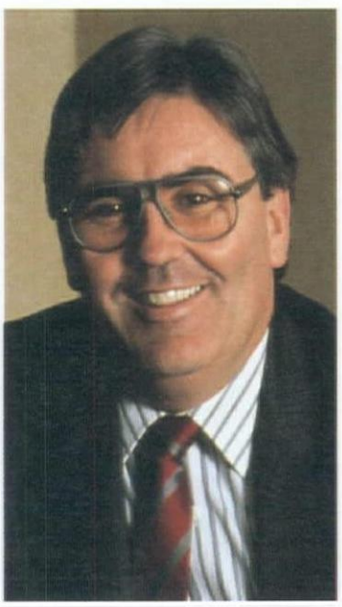
"The perception of Hong Kong by the world media is very different from the actual situation," he says. "There aren't going to be any serious consequences whatsoever. All of the business houses are quite confident [about it]." According to Smith, reunification has already happened. "The whole of the manufacturing industry has gone across the border into China [which] is now inescapably part of the family of world trading nations". In Hong Kong the residential market is showing signs of resurgence.

Shanghai, according to Smith, is now overbuilt and throughout China there has been a significant slowdown in the construction industry.

Australia on the up

Australia was the only country to register improvements in fees, architects and staffing for 1996. For the Buchan Group, the country's largest architectural firm, the experience this year has been slightly different.

"Fee levels are either flat or slightly down," says Buchan's Managing Director Paul Malone. But Malone remains upbeat. The situation is more buoyant than the period from 1989 to 1993, when there was an effective decrease in turnover of 12 percent. Buchan believes that there are real dividends in retaining their most highly-skilled people and using the most advanced design tools available. Malone claims that the Buchan Group has the highest level of CAD use in Australia.



Paul Malone, Buchan Group

Australian retail boom

The retail and leisure fields were widely felt to be improving, although in Australia, according to Malone, the boom in retail is approaching saturation point. Once the current "mini-recession" is over, local industry briefings predict significant increases in office building. "Offices have been stagnant since about 1988/9, says Paul Malone, "Vacancy levels are falling to a point that the market expects as normal."

Freak results from Mexico

In Mexico fees are down by nearly 20 percent but architectural employment is up by over 30 percent.

Collapse in Fees in Germany

In Germany the collapse in fee levels observed in 1996 has continued, albeit at a slower pace.

"No-one has money to develop, says Christine Kohlert, an architect at Munich-based HENN Architekten Ingenieure. "Investors are stopping because they won't get the return.

Even so, implies Kohlert, Germany's highly developed industrial culture will force companies to return to industrial development. "In the next year industrial buildings will go on because companies see they have to to keep giving their employees better working conditions."

Swedish market – depressed
"Construction investments have decreased by some 40 percent since 1991," says Leif Åberg, of FFNS Gruppen AB. Per Axenborg of White Architekter AB confirms: "We have a lot of problems for architectural firms right now". Much of this is due to local political factors, says Axenborg: "For example, when it comes to residential work, progress has been almost zero for a long time due to authorities changing the rules in taxes and so on."

"From an entirely international perspective," says Åberg, "Sweden is a small market with just over 8 million inhabitants. This can be a disadvantage. [But] the advantages include extremely knowledgeable clients who know what they want and place great demands on us. This leads to our competencies developing through each project." There is a marked trend towards adaptable buildings.

Leif Åberg, FFNS Gruppen AB

Throughout the year the Swedish market remained depressed, with the market registering its fifth successive year of decreasing demand.

The situation in Scandinavia as a whole, however, is mixed. "The market in Finland has shown the same signs as the Swedish," says Åberg. But he points to significant improvements currently under way in Denmark and Norway.

Scandinavian and UK architects are paid the least
In Denmark, reported fee levels are down by more than 30 percent, although staffing levels have held up remarkably well. Many UK architects may be surprised to see that the UK experienced the second greatest drop in fees after Denmark. In Sweden, by contrast, where the fee drop is comparable with that in Britain, architectural employment is down by about 12 percent with a corresponding effect on professional morale.

The UK's "millennium effect"
Advertised vacancies seem to be holding up well in the UK where the market is influenced by the "millennium effect".

Millennium projects have provided UK firms with a lifeline after several years of thin pickings. The snag is that much of this work is speculative, carried out for minimal or non-existent fees. Unless fee levels recover, we can expect a retrenchment in architectural employment in the next year.

Top spot in the UK
RMJM specialises in educational and laboratory work, but its commercial side is showing strong growth.

Robin Neall, RMJM

"We've got a lot more aggressive in our marketing," says Robin Neall, RMJM's Director of Corporate Development. A particularly high proportion of RMJM's work is in the Pacific Rim where, says Neall, "We don't get the same competition".

Even for a firm that is as export-oriented as RMJM, however, the UK accounts for 65 percent of their workload.

What of the coming year?

Computers effect staff level
The ubiquity and flexibility of computer workstations has allowed firms to run with a much smaller level of support staff – hence we can expect the average number of overall staff (as opposed to architects) to show a gradual decline year-on-year, and a more widespread adoption of Buchan's policy of maintaining a "rich mix" of highly-skilled staff.

International downturn in fees
On average, fee levels are down by roughly ten percent across the globe, and there are signs that the South East Asian boom is not what it was.

Employment "consolidated"
Employment levels, however, are down by only two to three percent, suggesting that the atmosphere is one of consolidation, and that the profit levels enjoyed last year were large enough to cushion any reduction in fees this year.

"Smarter head and leaner body"
"We believe consultancies will be restructured," says Leif Åberg. Vice-President of FFNS Gruppen AB. "We have identified this process as 'a smarter head and a leaner body'. The 'body', ie all those who work within the latter stages of the design process, will decrease in number. The 'smarter head' is a combination of architects and other expertise which enable us to shoulder market demands." **WA**

Per Axenborg, White Architekter AB

How to get ahead and stay there

Arthur Gensler reveals the secret of Gensler's success

For the second year running, Gensler have emerged as the leader of *World Architecture*'s *World Survey*. Founded by Arthur Gensler, FAIA, in 1965, the firm now has a staff of over 900 in 14 offices across the USA, as well as in London, Tokyo and Hong Kong, with a turnover of US$ 100-120 million. They are, without a doubt, architecture's greatest corporate giant. Arthur Gensler speaks to *WA* about the importance of not just meeting but exceeding the client's expectations.

WA: What is the reason for your continuing success?

Arthur Gensler: Since Gensler was founded in 1965, the cornerstones of our success haven't changed: superior talent, solid finances and a passion for what we do. We are still finding opportunities that others cannot see.

Could you pick out two or three key projects that have contributed disproportionately to your workload?

Last year we worked with 700 clients on over 2,000 projects. No one client provides more than three percent of our revenue. We believe that is a unique feature of Gensler.

What structural changes are taking place in the architect-client relationship and in the construction market as a whole?

Architects are becoming much more involved in the project process and with pre-design and post-design services. They are repositioning their leadership role.

At Gensler, our work is based on the notion of the studio as the professional building block and basic unit of client service. We have fewer levels of authority and a more even distribution of responsibility which allows the next generation of leaders to develop.

With the increasing emphasis on technology and computer aided design etcetera – do you see any implications for the construction market or the way that architects work in the world-wide growth of the Internet? What is Gensler's involvement in this field?

Full use of the Internet may be a bit in the future, but Dodge Reports are already available as well as other critical pieces of information.

"Last year we worked with 700 clients on over 2,000 projects."

Architects can use the Internet for the bidding process, transmission of documents, client communications. Eventually the Request for Proposals (RFP) process will take place on the Internet.

So is there a place for the traditional skills of design are in the late twentieth-century? The emphasis seems to be on the architect as computer operater or the architect as businessman?

Design is the premise on which Gensler is built. We are not in the commodity business. Architecture properly undertaken has, for its end, the making of great places. We want to be a firm that is recognised for design excellence as defined, not by the profession, but by our customers. We are adamant about advocating the benefits of good design. We want our clients to understand the value they receive for the fee we charge.

"Design is the premise on which Gensler is built. We are not in the commodity business"

How much does your strategy focus on the client?

Exceeding clients' expectations is our main ambition. We focus on building client relationships, not doing projects, and 85 percent of our work is from repeat clients or referrals. Clients do not receive a Gensler "look": they are given a Gensler approach.

Most of your clients seem to be involved in business parks and commercial developments. Can you point to any significant trends in this area?

Most of our work is in urban centres, where there is a need for information and support spaces. We are intensively involved with developing centres for companies who wish to relocate certain functions outside the central facility. In the financial industry, we are focused on bank consolidations and mergers. The revitalisation of the urban centre is also leading to another strong facility type for us, retail and entertainment. In general, there is a repositioning of properties and functions. Last year, the US market grew in our areas of project work. Health care projects diminished; housing is up; institutional and government work is up. The number of build-to-suit architectural projects rose considerably, as did lease-to-suit.

Your work in Europe and Asia has grown substantially during the year. Is this a reflection of the underlying economic conditions or an increased marketing effort on your part?

The business climate in England is strong. A large portion of our client base are UK organisations. We have intensified marketing efforts in Asia, although we are also asked by numerous US clients to do additional work for them.

Growth in the Pacific Rim has slowed this year. Do you feel that this is only a temporary phenomenon, or does it have greater long-term significance?

Our growth in the Pacific Rim has speeded up. Besides corporate interiors, we are working on a number of retail and entertainment projects and airports.

What do you identify as the major growth sectors of the market, both geographically and in terms of building type?

The major growth areas in the US will be the south-east and the west coast. In general, however, all regions in the US are growing, with perhaps the exception of the north-east. As for facility type, we are seeing many purpose-built project but clients are requesting an exit strategy.

With respect to clients: we expect government work to continue to grow. Adaptive re-use is also strong. As manufacturing becomes more capital-focused, there will be a shift from other countries to the US. Airports continue to be a strong market. We are beginning to see quite a bit of work in South America.

The market for industrial warehouses and distributions is growing. There is a shift in the kind of retail work we are seeing, more and more department stores are being converted into office space, movie theatres etcetera. Retail companies are requesting an entertainment component. In the UK we are seeing more office construction. In Asia, there are more industrial and entertainment projects. **WA**

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Japan - Lili ONO. Tel: 81 (3) 3542 3114, fax: 81 (3) 3542 3115.

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Reed Exhibition Companies

The Top 250 League Chart

1997 Rank	Last year	Firm's name	Fee-earning architects	Total staff worldwide	Total national offices	Total int'l offices	Fee range (US$m)	Country	Core activity	Specialisation
1	(1)	Gensler	720	915	10	4	100-120	USA	A/D	A:C:F:G:I:K:M:N:O
2	(2)	Kajima Design	648	1420	11	8	180+	Japan	A/E	D:G:F:E:I:J:K:L:M:N:O:P:Q
3	(4)	Hellmuth, Obata & Kassabaum, Inc	564	1638	21	8	120-140	USA	A/D	D:E:F:G:H:I:J:K:M:N:O:P:Q
4	(5)	Nikken Sekkei Ltd	501	1788	21	3	180+	Japan	A/E	A:D:E:F:G:H:I:J:K:M:O:P:Q:R
5	(6)	NBBJ	493	630	6	1	60-80	USA	A/D	A:I:J:K:L:M:N:O:P:Q:R
6		Weidleplan Consulting GmbH	380	500	8	5	60-80	Germany	A/E	C:K
7	(10)	RTKL International Ltd	378	605	4	6	60-80	USA	A/E	A:D:E:F:G:K:J:I:H:M:O:P:Q
8	(9)	Daniel, Mann, Johnson & Mendenhall (DMJM)	350	1500	29	7	140-160	USA	A/E	A:B:C:D:E:F:G:H:I:J:K:L:M:N:O:P:Q
8	(3)	Skidmore, Owings & Merrill LLP	350	700	4	2	40-60	USA	A/E	A:D:F:I:K:N:O:Q:R
10	(11)	HNTB Corporation	304	1953	40		40-60	USA	A/E	C:D:E:F:I:J:K:M:O:P:Q
11		Peddle Thorpe Group Architects & Planners Ltd	300	450		14	40-60	Hong Kong	A/D	C:I:J:K:M:O:P:Q
12		Kume Sekkei Co, Ltd	285	706	8		140-160	Japan	A/E	D:I:K:O:Q:R
13	(16)	The Ellerbe Becket Company	279	705	6	5	100-120	USA	A/E/C	A:C:D:F:I:J:K:N:O:P:Q:R
14	(23)	RMJM	268	486	6	4	20-40	UK	A/E	A:B:D:F:G:H:I:J:K:M:N:O:P:Q
15	(12)	The Buchan Group	267	302	7	4	20-40	Australia	A/D	A:E:F:G:H:I:K:M:N:O:P:Q
16	(15)	HKS Architects, Inc	260	350	4		20-40	USA	A/E	I:K:R
17	(13)	FFNS Gruppen AB	240	600	23	6	60-80	Sweden	A/E	C:D:F:H:I:J:K:M:O:P:Q:R
18	(13)	Sir Norman Foster & Partners Limited	230	400	2	5	10-20	UK	A/D	F:G:I:K:L:M:P:Q
19	(137)	Lockwood Greene Engineers, Inc	229	2000	24	6	180+	USA	E/A	A:D:E:F:G:I:K:L:M:O:P:Q
20	(23)	Building Design Partnership	225	810	5	6	40-60	UK	A/E	A:D:F:G:H:I:J:K:L:M:N:O:P:Q

KEY TO TYPE OF FIRM: A – Architect; A/D – Architects / Design Firms; A/E – Architects / Engineers; A/E/C – Architects/Engineers/Construction; E/A – Engineers / Architects

KEY TO CORE ACTIVITY AND SPECIALISATION CODES – Code letters used ranging from A to R and X:

A = Adaptive Re-use;
B = Arbitration;
C = Construction Project Management;
D = Engineering;
E = Facility Management;
F = Feasibility Studies;
G = Graphic Design;
H = Heritage and Conservation;
I = Interior Design;
J = Landscape Architecture;
K = Master Planning;
L = Product Design;
M = Programming / CAD;
N = Property & Facility Strategy;
O = Renovation;
P = Site Evaluation;
Q = Urban Design and Renewal;
R = Other;
X = No specialisation provided

1997 Rank	Last year	Firm's name	Fee-earning architects	Total staff worldwide	Total national offices	Total int'l offices	Fee range (US$m)	Country	Core activity	Specialisation
21	(108)	SAA Partnership Pte Ltd	220	250		4	5-10	Singapore	A/D	C:K:M
22	(19)	Callison Architecture, Inc	213	300	2		40-60	USA	A/D	G:I:K:N:O:Q
23	(17)	von Gerkan, Marg und Partner	210	300	5		-	Germany	A/D	X
24	(29)	Cox Architects & Planners	200	250	10	3	10-20	Australia	A/D	F:H:I:K:Q
25	(38)	Perkins & Will	192	400	6	1	40-60	USA	A/E	A:D:G:F:E:I:K:M:Q:P:O:N
25		Woodhead Firth Lee International	192	295	8	4	20-40	Australia	A/D	E:F:G:H:I:K:M:O:P:Q
27	(18)	Kohn Pedersen Fox Associates PC	190	229	1	3	40-60	USA	A/D	I:K:Q:R
28	(34)	Leigh & Orange, Ltd	188	605	1	9	20-40	Hong Kong	A/D	C:K:J:I:H:G:F
29	(45)	Woods Bagot Pty Ltd	175	335	6	3	20-40	Australia	A/D	I:N:R
30	(21)	Ewing Cole Cherry Brott	171	230	3		20-40	USA	A/E	A:C:D:E:F:I:K:M:Q:P:O:N
31	(26)	VOA Associates Inc	170	201	4	1	10-20	USA	A/D	E:H:I:J:K:M:N:O
31	(26)	Wimberly Allison Tong & Goo	170	220	2	2	20-40	USA	A/D	F:H:K:M:N:O:P:Q
31	(41)	Zimmer Gunsul Frasca Partnership	170	215	3		40-60	USA	A/D	I:K:Q
34		Anshen + Allen, Architects	167	212	4	2	20-40	USA	A/D	F:I:J:K:M:O:P:Q:R
34	(32)	Leo A Daly	167	681	11	5	60-80	USA	A/E	A:D:F:G:I:K:M:O:P:Q:R
36	(40)	HLW International, LLP	164	216	3	5	20-40	USA	A/E	A:C:G:F:E:D:K:J:I:Q:P:O:N:M
37	(28)	Cannon	162	364	8	1	20-40	USA	A/E	A:D:F:I:J:K:O:R
38	(20)	The Smith Group	160	471	6		60-80	USA	A/E	A:D:F:I:J:K:M:N:O:P:Q:R
39		Atkins Lister Drew Limited	156	200	49	28	20-40	UK	A/D	A:F:H:I:J:K:M:N:O:P:Q:R
40	(32)	Heery International Inc	152	770	30	4	120-140	USA	A/D	A:C:D:E:F:G:I:J:K:M:N:O:P:Q
40	(23)	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	152	212	2	1	10-20	USA	A/D	A:I:J:K:M:O:P:Q
42	(29)	BSW International	150	446	4	1	10-20	USA	A/E	C:D:F:K:L:M:N:O:P
42	(29)	Sasaki Associates, Inc	150	200	2		20-40	USA	A/D	A:D:F:G:I:J:K:N:O:P:Q
44	(37)	White Arkitekter AB	143	275	8	1	20-40	Sweden	A/D	I:J:K:L:O:P:Q
45		Naniwa Consultants International	132	210	11		10-20	Japan	A/D	K:L
45	(108)	The Kling Lindquist Partnership	132	331	2		20-40	USA	A/E	A:D:E:F:I:J:K:M:N:O:P:Q
47		HBO & EMTB Pty Ltd	130	145	2	3	5-10	Australia	A/D	A:E:F:I:K:N:O:Q
47	(49)	Kaplan / McLaughlin / Diaz	130	160	4	4	20-40	USA	A/D	A:E:F:H:I:J:K:M:N:O:P:Q
49	(56)	Chapman Taylor Partners	129	171	1	2	-	UK	A/D	C:F:G:H:I:K:M:O:Q:R
50	(36)	Henn Architekten Ingenieure	128	140	4		20-40	Germany	A/E	A:C:E:F:I:K:M:O:P:Q:R
51	(55)	Musil Perkowitz Ruth, Inc	125	150	6		10-20	USA	A/D	A:C:F:M:K:I:O:P
52	(47)	epr architects limited	120	242	1	4	5-10	UK	A/D	A:C:E:I:H:G:F:K:M:O:P:Q
52	(141)	Gould Evans Affiliates	120	160	5		10-20	USA	A/D	A:C:E:F:G:H:I:J:K:L:M:N:O:P:Q
52	(156)	Grupo BAIA SA de CV	120	450	2	1	10-20	Mexico	A/E	A:C:D:F:I:Q
52	(141)	Swanke Hayden Connell Architects, Ltd	120	160	3	2	10-20	USA	A/D	A:G:H:I:K:M:O:P
56		Cooper Carry & Associates, Inc	119	129	2		10-20	USA	A/D	A:F:G:I:J:K:M
57		Vitetta Group	117	215	6		20-40	USA	A/E	A:D:F:H:I:J:K:O:M
58	(43)	Henningson, Durham & Richardson, Inc	115	326	4		40-60	USA	A/E	X
59	(125)	GMW Partnership	112	173	1	4	5-10	UK	A/D	A:F:I:H:M:K:O:P
60	(39)	Architekten Schweger + Partner	110	130	5	1	-	Germany	A/D	H:I:O:Q:R
60	(44)	Thompson, Ventulett, Stainback & Associates, Inc	110	170	1	0	20-40	USA	A/D	A:E:F:G:I:K:L:P:R
62	(53)	Pei Cobb Freed & Partners	109	145	1		20-40	USA	A/D	F:I:K
63	(156)	Benoy Limited	107	200	2		5-10	UK	A/D	F:G:I:O:P:Q:R:M

1997 Rank	Last year	Firm's name	Fee-earning architects	Total staff worldwide	Total national offices	Total int'l offices	Fee range (US$m)	Country	Core activity	Specialisation
63	(56)	DLR Group	107	410	12		20-40	USA	A/E	F:K:M
65	(68)	Architekturbüro WGK	105	125	7		20-40	Germany	A/E	A:C:D:F:H:I:K:O
65		Hammel Green and Abrahamson, Inc	105	320	3		20-40	USA	A/E	A:D:I:J:K:O:R
65		Payette Associates, Inc	105	133	1		10-20	USA	A/D	F:G:I:J:K:M:O:P
65	(8)	The Hillier Group	105	365	7	1	40-60	USA	A/D	C:E:F:G:I:J:K:M:P
65	(61)	VBB Architects	105	125	9		5-10	Sweden	A/E	J:K:Q:R
70		Graeber, Simmons & Cowan, Inc	103	127	3		10-20	USA	A/D	C:F:I:K:M:N:O:P:R
70	(56)	Sheppard Robson International	103	140	1		10-20	UK	A/D	A:F:H:I:K:L:M:O:P:Q
72	(41)	Spillis Candela & Partners, Inc	102	251	4	1	20-40	USA	A/E	A:D:I:K:M
73	(108)	DP Architects PTE Ltd	100	300	1	4	10-20	Singapore	A/D	X
73	(49)	KHR AS arkitekter	100	110	1		10-20	Denmark	A/D	C:E:F:G:I:J:K:L:Q:O
73	(108)	Wong Tung & Partners Limited	100	280	4		20-40	Hong Kong	A/D	G:I:J:K:O:Q:R
76	(73)	Dissing + Weitling Architects A/S	99	111	1		10-20	Denmark	A/D	C:F:G:I:J:K:L:O:P:Q
76	(89)	Ehrlich-Rominger	99	240	5		40-60	USA	A/D	A:D:E:F:I:K:M:O:P:R
78	(63)	Dennis Lau & Ng Chun Man Architects & Engineers (HK) Ltd	97	336	1	1	-	Hong Kong	A/E	C:D:F:G:I:J:K:M:O:Q
79		Niles Bolton Associates, Inc	92	110	2		10-20	USA	A/D	A:E:I:J:K:L:O:P:Q
80	(82)	Development Design Group, Inc	91	111	2	3	10-20	USA	A/D	R:G:I:J:K:O:Q
80	(76)	Rolfe Judd	91	120	2	1	10-20	UK	A/D	F:H:I:K:O:Q:R
80	(67)	Studios Architecture	91	137	3	2	5-10	USA	A/D	A:C:F:I:K:M:N:O:P
83	(47)	BDG / McColl	90	190	5	1	20-40	UK	A/D	F:G:I:K:Q
83	(73)	Brennan Beer Gorman / Architects	90	135	12	1	5-10	USA	A/D	A:F:G:H:I:M:K:O:P
83	(102)	C Y Lee & Partners Architect & Planner	90	150	3	3	10-20	Taiwan	A/D	F:G:I:J:K:M:P:Q
83	(68)	Cecil Denny Highton Partnership	90	130	3	1	10-20	UK	A/D	A:B:C:F:H:I:K:M:N:O:Q:R
83		Elkus / Manfredi Architects Ltd	90	100	1		10-20	USA	A/D	A:F:I:K:M:Q:P:O
83	(61)	Richard Meier & Partners	90	120	2		5-10	USA	A/D	K:M
83	(64)	Stone Marraccini Patterson	90	125	2	1	20-40	USA	A/D	F:I:K:M:Q:R
90	(68)	Murphy / Jahn, Inc	89	99	1	2	10-20	USA	A/D	X
91	(80)	TBV Consult	88	329	5		10-20	UK	A/E	C:D:F:G:H:P:R
92	(73)	Broadway Malyan	86	188	4	2	10-20	UK	A/D	A:C:F:G:H:I:J:K:M:R:Q:P:O
92	(94)	RSP Architects Planners & Engineers (PTE) Ltd	86	513	3	6	40-60	Singapore	A/E	C:D:F:H:I:M:K:Q:P
94		Rosser International, Inc	85	255	3	1	20-40	USA	A/E	D:F:I:K:M:P:O:R
95	(89)	Percy Thomas Partnership (Architects) Ltd	83	148	6	1	5-10	UK	A/D	A:F:G:I:J:K:M:O:P:Q
96	(81)	Harley Ellington Design	81	175	6		10-20	USA	A/E	A:C:D:F:I:J:K:M:N:O:P:Q
97	(102)	Arrowstreet Inc	80	100	1		10-20	USA	A/D	A:F:G:K:M:O:P:Q:R
97	(87)	Aukett Associates	80	150	2	6	10-20	UK	A/E	D:F:G:I:J:K:P:Q
97	(162)	Corgan Associates, Inc	80	170	4		10-20	USA	A/D	A:F:G:I:K:M:R:Q:P:O
97	(94)	Einhorn Yaffee Prescott, Architecture & Engineering PC	80	330	3		20-40	USA	A/E	A:D:F:G:H:I:K:O:P
97	(49)	Fitzroy Robinson Limited	80	100	3	2	10-20	UK	A/D	F:I:K:P:Q:R
97	(94)	Flad & Associates	80	205	5		20-40	USA	A/E	A:F:G:I:J:K:R:Q:P:O:N:M
97	(133)	HLM Design Ltd	80	105	3		5-10	UK	A/D	F:H:I:J:K:M:Q
97	(94)	KKE Architects	80	100	1	1	10-20	USA	A/D	I:K:M:O:P
97		RMW Architecture & Design	80	100	4		10-20	USA	A/D	A:F:I:M:P:O
97	(22)	Thurfjell-Gruppen AB	80	170	14	1	10-20	Sweden	A/E	X
107	(133)	Prof Bremmer - Lorenz - Frielinghaus	79	89	4	1	10-20	Germany	A/D	A:B:C:D:E:F:G:H:I:K:N:O:P:Q

1997 Rank	Last year	Firm's name	Fee-earning architects	Total staff worldwide	Total national offices	Total int'l offices	Fee range (US$m)	Country	Core activity	Specialisation
108	(87)	Richard Rogers Partnership	78	127	1	2	10-20	UK	A	C:F:I:K:M:N:P:Q
109		McKerrel Lynch	76	103	2	3	5-10	Australia	A/D	C:E:I:J:K
110		WZMH (Webb Zerafa Menkes Holisden Partnership)	75	105	2	1	10-20	Canada	A/D	C:F:I:K:M:P:Q
111	(120)	Gruzen Samton Architects, Planners & Interior Designers	74	85	2		10-20	USA	A/D	A:I:K:O:Q:R
111	(85)	KMSP (Kaplan - Matze - Schöler + Partner) Architekten BDA	74	92	3		5-10	Germany	A/D	A:E:I:K:O
113		Gresham, Smith & Partners	73	493	11		20-40	USA	A/E	C:D:F:G:I:J:K:M:O:P:Q:R
113		Loschky Marquardt & Nesholm	73	90	1		10-20	USA	A/D	F:G:I:K:R
115	(108)	Fanning / Howey Associates, Inc	71	270	8		10-20	USA	A/E	D:F:I:J:K:O:P
115	(99)	RHWL Partnership	71	128	1		5-10	UK	A/D	A:F:H:I:K:M:P:Q
115	(141)	Terry Farrell & Partners	71	100	2	2	5-10	UK	A/D	A:F:K:Q
118	(59)	Renzo Piano Building Workshop	70	95	1	3	10-20	Italy	A/D	F:I:J:K:O
118	(82)	Takamatsu + Lahyani - Architects Associates	70	85	3	4	100-120	Germany	A/D	X
120	(60)	3D / International, Inc	69	511	15	1	10-20	USA	A/E	A:C:F:E:D:H:I:K:M:N:O
121	(64)	HMC Group	68	142	5		10-20	USA	A/D	I:O:N:M:L:K
121	(125)	Jung / Brannen Associates, Inc	68	80	2		5-10	USA	A/D	A:E:F:H:I:K:M:O:P:Q
121		PRP Architects Ltd	68	88	3		0-5	UK	A/D	A:C:F:H:J:K:M:O:P:Q
124	(130)	Niels Torp A/S Arkitekter MNAL	67	76	1	1	5-10	Norway	A/D	A:C:I:J:K:N:O:P:Q
124	(99)	Peckham Guyton Albers & Viets, Inc (PGAV)	67	87	2		10-20	USA	A/D	F:I:K:M:N:O:P:Q
126	(46)	Hansen Lind Meyer	66	213	10		20-40	USA	A/E	D:F:I:J:K:M:O:P
126	(156)	KA, Inc, Architecture (formerly Keeva J Kekst Architects)	66	82	1		10-20	USA	A/D	E:F:G:I:J:K:N:P
126	(133)	Lohan Associates	66	80	77	3	10-20	USA	A/D	A:F:G:I:K:M:O:P:Q:R
129	(82)	Heinle, Wischer und Partner, Freie Architekten	65	123	5		10-20	Germany	A/D	A:C:F:H:I:K:L:O:Q
129	(125)	John Seifert Architects	65	90	1	2	-	UK	A/D	A:K:M:O:P:Q
129		Kyodo Architects, Planners & Engineers	65	80	4		60-80	Japan	A/E	A:G:C:D:E:F:I:J:K:P:Q
129	(91)	L Robert Kimball & Associates, Inc	65	539	11		20-40	USA	A/E	D:J:R
129	(141)	Tengbom gruppen ab	65	75	1		5-10	Sweden	A/D	A:F:H:I
134	(117)	ORMROD & Partners	61	89	1		5-10	UK	A/D	A:C:F:G:H:I:J:K:O:P:Q
134	(104)	Thomson Adsett Architects	61	130	9	7	10-20	Australia	A/D	X
136	(119)	Albert Kahn Associates, Inc	60	310	1		20-40	USA	A/E	A:C:D:E:F:G:H:I:J:K:N:O:P:Q
136	(108)	AS&P - Albert Speer & Partner GmbH	60	70	3		5-10	Germany	A	A:F:K:O:P:Q
136		BWBR Architect, Inc	60	80	1		10-20	USA	A/D	I:K:M:O:R
136	(152)	Llewelyn-Davies	60	175	1	1	10-20	UK	A/D	F:G:I:J:K:P:Q:R
136	(117)	The Whinney Mackay Lewis Partnership	60	72	3		5-10	UK	A/D	A:C:E:F:I:K:M:N:O:P
136		Timothy Seow Group Architects	60	72	1	4	10-20	Singapore	A/D	F:G:I:K:M:Q:R
136	(54)	Zeidler Roberts Partnership/Architects	60	110	1	4	10-20	Canada	A/D	R:A:F:G:H:I:K:M:O:P:Q
143		Kanko Kikaku Sekkeisha (Y Shibata & Associates)	59	137	2	2	20-40	Japan	A/D	F:I:K:M:N:P:R
143	(130)	Page Southerland Page	59	197	4		10-20	USA	A/E	D:E:F:I:K:M:O:P
145	(120)	John R Harris Partnership	58	90	2	6	-	UK	A/D	F:H:I:M:N:O:P:Q
145		TRO / The Richie Organisation	58	160	3		10-20	USA	A/E	A:D:F:I:K:M:N:O
147	(139)	Austin - Smith : Lord	57	81	4		5-10	UK	A/D	A:F:I:J:K:N:Q
148		JASMAX Architects Ltd	56	84	3		5-10	New Zealand	A/D	A:F:H:I:K:M:O:P:Q
148	(120)	Kallmann McKinnell & Wood Architects, Inc	56	65	1	1	10-20	USA	A/D	F:I:J:K:M:R
148		Nadel Architects, Inc	56	143	5		10-20	USA	A/D	I:K:M:O:Q
151	(125)	Groupe Architral	55	81	3	3	20-40	France	A/D	C:G:I:L
151	(150)	Hayes, Seay, Mattern & Mattern, Inc	55	425	10		20-40	USA	E/A	A:D:F:G:I:J:K:M:O:P:Q

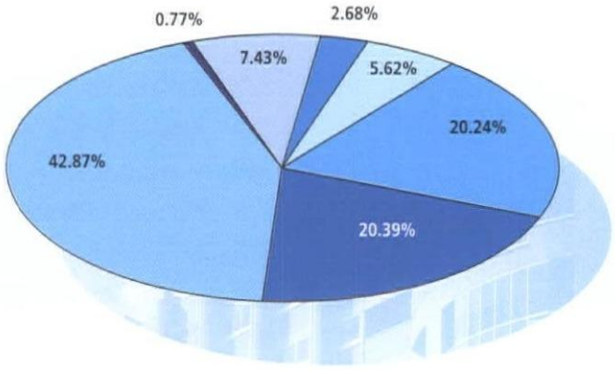
1997 Rank	Last year	Firm's name	Fee-earning architects	Total staff worldwide	Total national offices	Total int'l offices	Fee range (US$m)	Country	Core activity	Specialisation
151	(190)	The Fairhurst Design Group	55	151	4	6	5-10	UK	A/D	A:F:I:J:K:O:P:R
151		The Stubbins Associates	55	65	1		10-20	USA	A/D	F:G:I:J:K:M:O:P
155		Chetwood Associates Limited	54	98	3		5-10	UK	A/D	F:G:K:M:P:Q:R
155	(130)	Nyréns Arkitektkontor AB	54	60	1		5-10	Sweden	A/E	C:F:I:J:L:N:O:Q
157		Hassell Pty Ltd	52	310	4	4	20-40	Australia	A/D	C:E:F:G:I:J:K:N:Q
157	(68)	Karlsberger Companies	52	160	3		10-20	USA	A/D	F:G:I:J:K:P:Q:R
157	(150)	RDC Architects Pte Ltd	52	110			10-20	Singapore	A/D	C:F:K:O:P:Q
157		The Peter van Kerckhove Partnership	52	97	3	1	10-20	Belgium	A/E	C:D:I:J:K:O:Q
161	(120)	Alsop & Störmer	50	74	1	3	5-10	UK	A/D	J:K:Q:R
161	(141)	Architekturbüro Prof Dipl -Ing Harald Deilmann	50	75	3		-	Germany	A/D	X
161	(141)	EMW Eller Maier Walter & Partners, GmbH	50	60	4	1	10-20	Germany	A/E	A:F:G:H:I:K:O
161	(76)	Ingenhoven Overdiek und Partner	50	70	1	1	10-20	Germany	A/E	C:D:F:I:J:K:L:Q
161	(178)	Prof Gerber und Partner	50	80	5		-	Germany	A/D	X
161	(171)	Scott Tallon Walker Architects	50	61	3		5-10	Ireland	A/D	A:F:I:K:N:O:P:Q:R
161		Sidell Gibson Partnership	50	60	1		5-10	UK	A/D	A:F:H:I:K:O:Q
161	(164)	Simon Kwan & Associates Limited	50	109		2	-	Hong Kong	A/D	X
161		Stephenson & Turner Group	50	105	2	2	10-20	New Zealand	A/E	A:C:E:F:H:I:K:P:Q:R
170	(149)	Lewis & Hickey	49	102	4	4	5-10	UK	A/D	A:F:I:O:R:H:K:M:P:Q:C
171	(184)	AM Partners, Inc	48	62	1		10-20	USA	A/D	I:K:O:R
171		Ballinger	48	103	1		10-20	USA	A/E	A:D:F:I:K:M:P:Q
171	(164)	SSOE, Inc	48	608	4		40-60	USA	E/A	A:D:E:F:I:J:K:P:O:N:M:R
174	(108)	HJS Arkitektur AB	47	76	4		5-10	Sweden	A/D	F:I:K:M:O:P:R
175	(141)	PLH Arkitekter A/S	46	52	1		0-5	Denmark	A/D	A:C:F:H:I:K:L:O:P:Q
175	(152)	Skaarup & Jespersen as, Architects and Planners	46	53	2	4	0-5	Denmark	A/D	C:F:I:K:O:Q
177	(166)	Arch Center, Consulting, Architects & Engineers	45	55	1		0-5	Saudi Arabia	A/D	X
177=	(184)	Architekturbüro Michael Weindel	45	65	2		0-5	Germany	A/D	A:E:F:G:I:J:K:M:O:P
177	(139)	Arkitek Maa SDN BHD	45	120	1		5-10	Malaysia	A/D	Q
177		BEEAH - Planners, Architects & Engineers	45	130	1		-	Saudi Arabia	A/D	K:I
177		Que - De La Cruz & Associates	45	362	2		0-5	Philippines	A/D	C:I:J:L:O
177	(64)	Scott Brownrigg & Turner Ltd	45	119	3	3	-	UK	A/D	F:I:K:M
183	(156)	Loebl Schlossman & Hackl - Hague Richards	44	90	1		10-20	USA	A/D	E:F:G:I:K:M:O:P:R
183	(198)	Narud•Stokke•Wiig	44	52	2		0-5	Norway	A/D	H:I:K:L:Q:R
183	(76)	Odell Associates Inc	44	200	3		20-40	USA	A/E	D:F:I:J:K:P:Q
186		Lend Lease Design Group Limited	43	97	1	1	10-20	Australia	A/E	E:F:K:M:N:P:Q
186	(152)	WTW Architects	43	64	2		5-10	USA	A/D	A:E:F:I:K:O:P
188	(190)	Eggert & Partners, Freie Architekten und Ingenieure BDA	42	75	7	7	20-40	Germany	A/D	X
188	(104)	Giffels Associates, Inc	42	460	3		20-40	USA	E/A	C:D:F:I:K:M:O:P
190		TAMS Consultants, Inc	41	420	8	18	40-60	USA	E/A	A:C:D:F:I:K:O:P:Q
191	(166)	DEGW International Ltd	40	110	2	6	10-20	UK	A/D	A:F:I:K:N:O:P:Q:R
191	(173)	Fox & Fowle Architects, PC	40	50	1		5-10	USA	A/D	A:F:I:K:N:O:P:Q:R
191	(166)	Hamilton Associates Architects Ltd	40	46	1	1	0-5	UK	A/D	K:M:R
191	(173)	Mangor & Nagel, Arkitektfirma A/S	40	45	3		5-10	Denmark	A/D	C:E:F:G:I:K:N:O:Q
191	(182)	Ricky Liu & Associates	40	46	1		5-10	Taiwan	A/D	F:I:K:P:Q
191	(161)	Samark Architecture & Design	40	45	2	1	5-10	Sweden	A/D	I
191		Samyn & Partners	40	70	1		5-10	Belgium	A/E	A:B:F:E:D:C:H:I:J:K:O:P:Q
191	(166)	Steffen + Peter, Architecten BDA	40	45	3		0-5	Germany	A/D	C
191	(173)	The Barton Willmore Partnership	40	110	7		5-10	UK	A	C:F:H:J:K:P:Q:R
200	(178)	Tucker, Sadler & Associates	39	45	1		5-10	USA	A/D	F:K:P:R

1997 Rank	Last year	Firm's name	Fee-earning architects	Total staff worldwide	Total national offices	Total int'l offices	Fee range (US$m)	Country	Core activity	Specialisation
201	(212)	Peter Jöhnk / Ransley Jöhnk	38	43	2	1	-	Germany	A/D	I
202		Robert Peck von Hartel Trethowan	37	45	4		-	Australia	A/D	I:K
203	(184)	Ellis Williams Architects	36	61	3		5-10	UK	A/D	A:F:K:M:R
203	(94)	Lyons + Sleeman + Hoare	36	110	1		5-10	UK	A/D	F:G:H:I:K:Q:R
203		Sergio Alemparte	36	42			-	Chile	A/D	L
206	(173)	Abbey Hanson Rowe	35	140	4	2	5-10	UK	A/D	A:F:H:I:J:K:O:P:Q:R
206	(156)	Karres-Hartmeyer-Dreyer & Partner	35	40	3		0-5	Germany	A	C:D:H:M:O
206		Petroff Partnership Architects	35	125	1	1	10-20	Canada	A/D	K:M:O:Q
206	(166)	Rochlin Baran & Balbona Inc	35	65	1		10-20	USA	A/D	E:F:I:K:M:O:P:R
206	(190)	TSP Architects & Planners Pte Ltd	35	80	1	1	0-5	Singapore	A/D	C:F:K:P:Q
211		Allen Jack + Cottier Architects	34	54	1	1	5-10	Australia	A/D	A:E:I:K:R
211	(182)	Donald W. Insall & Associates Ltd	34	52	4		0-5	UK	A	A:C:F:H:I:K:Q:O
211	(197)	GHM Group / GHM Rock Townsend	34	71	3		0-5	UK	A/E/C	C:F:K:M:N:P:Q
211	(198)	Rauh•Damm•Stiller Partner	34	56	4		5-10	Germany	A/D	A:K:O:R
211	(152)	Watkins Carter Hamilton Architects, Inc	34	77	1		10-20	USA	A/D	A:F:I:K:O
216		Kwan & Associates Architects Ltd	33	125	1		10-20	Hong Kong	A/D	C:F:G:I:K:Q
217	(208)	Morris Architects	32	70	2		5-10	USA	A/D	A:E:F:G:I:K:M:O:P
217	(190)	Ricardo Bofill - Taller de Arquitectura	32	50	2	1	10-20	Spain	A/D	K
217		Synman Justin Bialek Architects	32	65	1		0-5	Australia	A/D	F:I:K:M:O:P
220	(190)	Architects Pacific Ltd	31	75	1	3	0-5	Hong Kong	A/D	X
221	(178)	Architekten Werkgemeinschaft	30	40	2		5-10	Germany	A/D	C:F:K:O:Q
221		Art & Build	30	36	1	1	-	Belgium	A/D	K
221	(198)	Carnell Green	30	55	1		0-5	UK	A/D	F:I:K
221		GAPP Architects & Urban Designers	30	62	2		0-5	South Africa	A/D	H:K:Q:R
221		Groep Planning	30	85	2		-	Belgium	A/D	I:J:K:Q
221	(133)	Nicholas Grimshaw & Partners	30	85	2	1	5-10	UK	A/D	I:K:L:M
221	(171)	Norman & Dawbarn Ltd	30	102	3	4	0-5	UK	A/E	A:C:D:E:F:H:I:J:K:O:P:Q:R
221		Ramirez Vazquez y Asociados, SA de CV	30	140	4	2	-	Mexico	A	G:K:L:Q:R
221	(198)	Schmidt, Hammer & Lassen A/S	30	50	1		5-10	Denmark	A/D	C:G:H:I:J:K:L:M:Q
230	(99)	FRCH Design Worldwide	29	182	2	1	20-40	USA	A/D	A:C:G:H:I:K:O:P:R
230		The Leonard Parker Associates Architects Inc	29	49	1	1	5-10	USA	A/D	F:I:K:M:P
232		BSA Design	28	109	1		10-20	USA	A/E	C:D:E:F:I:K:M:N:P
232	(163)	Schenkel & Shultz, Inc	28	129	5		10-20	USA	A	C:F
234	(184)	CUH2A, Inc	27	151	1		5-10	USA	A/E	A:D:F:G:I:J:K:P:O:N:M
234		Osmond Lange Mosienyane Architects & Planners	27	72	8	2	0-5	South Africa	A/D	A:C:F:H:K:L:M:N:O:P:Q:R
234	(190)	Temple Cox Nicholls Architects	27	53	1		5-10	UK	A/D	A:C:F:H:I:J:K:L:M:O:Q:R
237	(198)	Busmann & Haberer GmbH	25	35	3		5-10	Germany	A/E	C:H:K:J:I:O:Q
237	(198)	Hardy Holzman Pfeiffer Associates	25	93	2		10-20	USA	A/D	A:G:I:K:M:O:P
237	(198)	Venturi, Scott Brown and Associates, Inc	25	45	1		0-5	USA	A/D	A:G:H:I:K:M:O:P:Q
240		BLM Group	24	60	1		5-10	USA	A/D	A:F:I:K:O
240	(221)	The Charter Partnership Ltd	24	70	5		0-5	UK	A/D	C:F:N
242		Cornoyer-Hedrick, Inc	22	110	1		10-20	USA	A/D	C:E:F:G:I:J:K:M:O:P:Q:R
243	(137)	Alfred Wong Partnership Pte Ltd	21	73	1	5	5-10	Singapore	A/D	F:H:J:K:N:O:P:Q
243	(178)	The Spector Group	21	63	2	2	10-20	USA	A/D	A:E:F:I:K:M:O:P
245		B + N Retail Group Pty Ltd	20	60	2	3	0-5	Australia	A/D	G:I:K:N:O:P:Q
245		Griswold, Heckel & Kelly Associates, Inc	20	170	5		5-10	USA	A/D	E:F:I:K:M:N:R
245	(68)	Mohamed Salahuddin Consulting Engineering Bureau	20	124	2	1	0-5	Bahrain	A/E	C:D:I:R
245		Roger J. Thrum & Associates Pty Ltd	20	35	1		0-5	Australia	A/D	C:K:O
245	(190)	The Hurd Rolland Partnership	20	75	5		5-10	UK	A/D	A:B:F:H:O
245		Zepeda Veraart Arquitectos	20	30	2	1	5-10	Mexico	A/D	E:I:K:Q:M

The Shape of the Industry

Global trends and averages

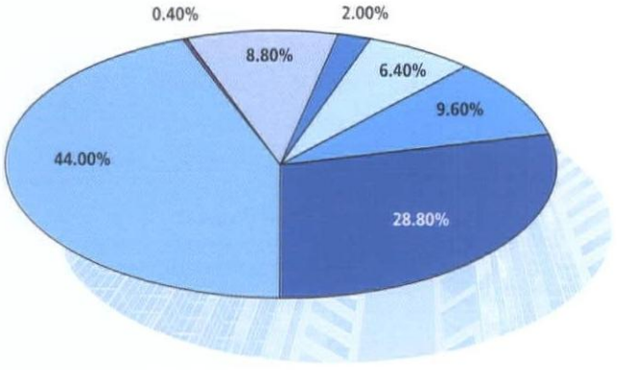
Breakdown of Activity by Region



Western Europe looks East

Western European firms look to Asia for nearly half their workload: a fact illustrated in the tables where only the market shares for Western Europe and the Pacific Rim are significantly different from the international distribution of firms in WA250.

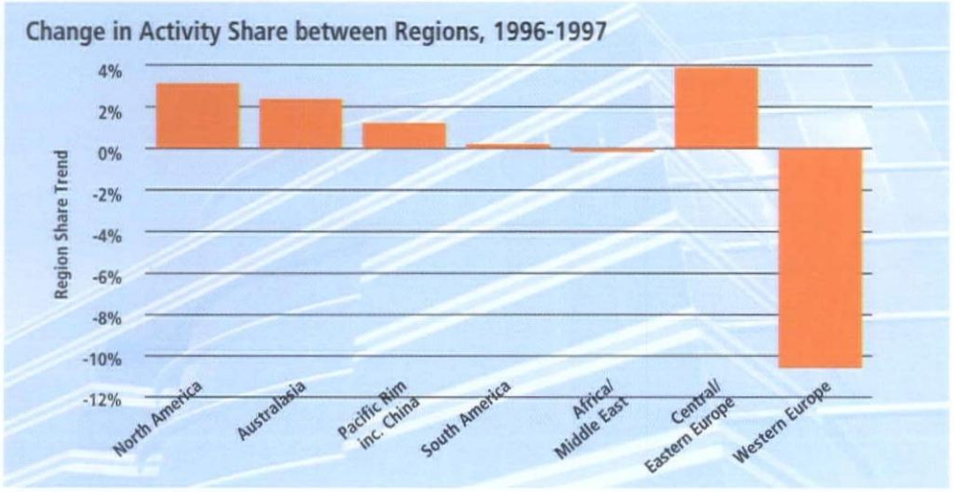
Breakdown of Firms by Home Market



KEY

- South America
- Central/Eastern Europe
- Africa/Middle East
- Australasia
- Pacific Rim inc. China
- Western Europe
- North America

Change in Activity Share between Regions, 1996-1997



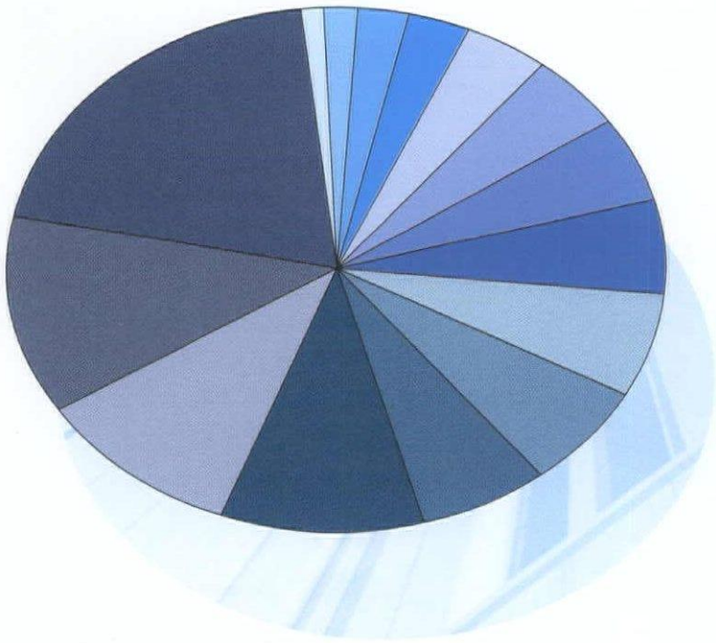
Central & Eastern Europe top growth rate

Central and Eastern Europe's share growth can be explained by the standardisation of the German figures, and their inclusion as part of Central and not Western Europe.

MARKET SECTOR ACTIVITY SHARE

Breakdown of Activity by Market Sector

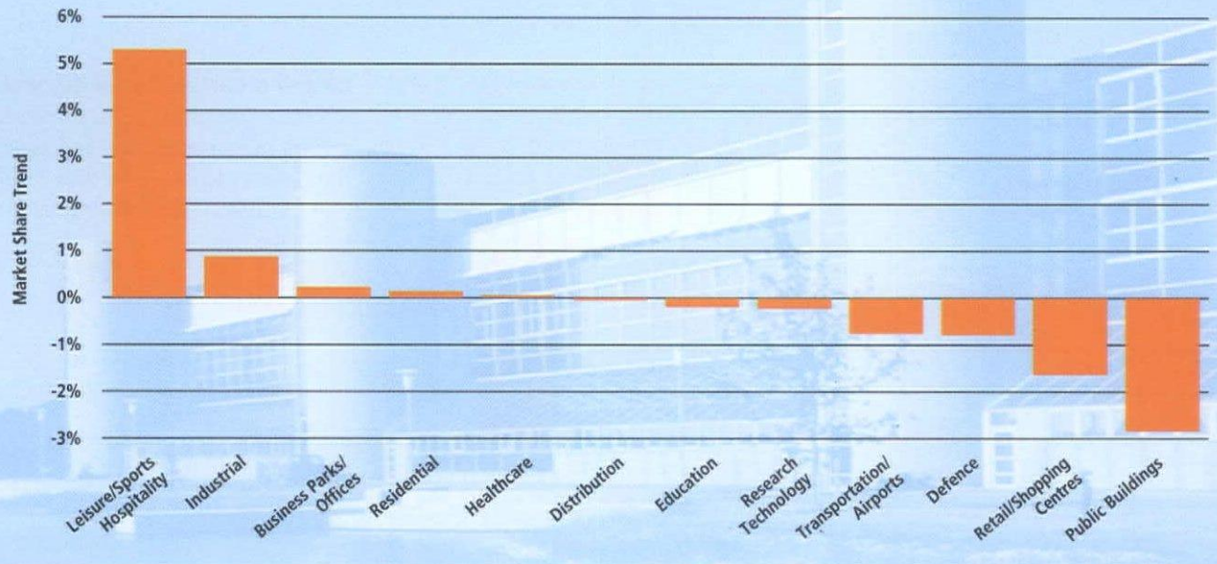
1996 was good for the health
These charts show little fundamental change in the share for different market sectors year-on-year. However, healthcare and business parks continue to grow.



KEY

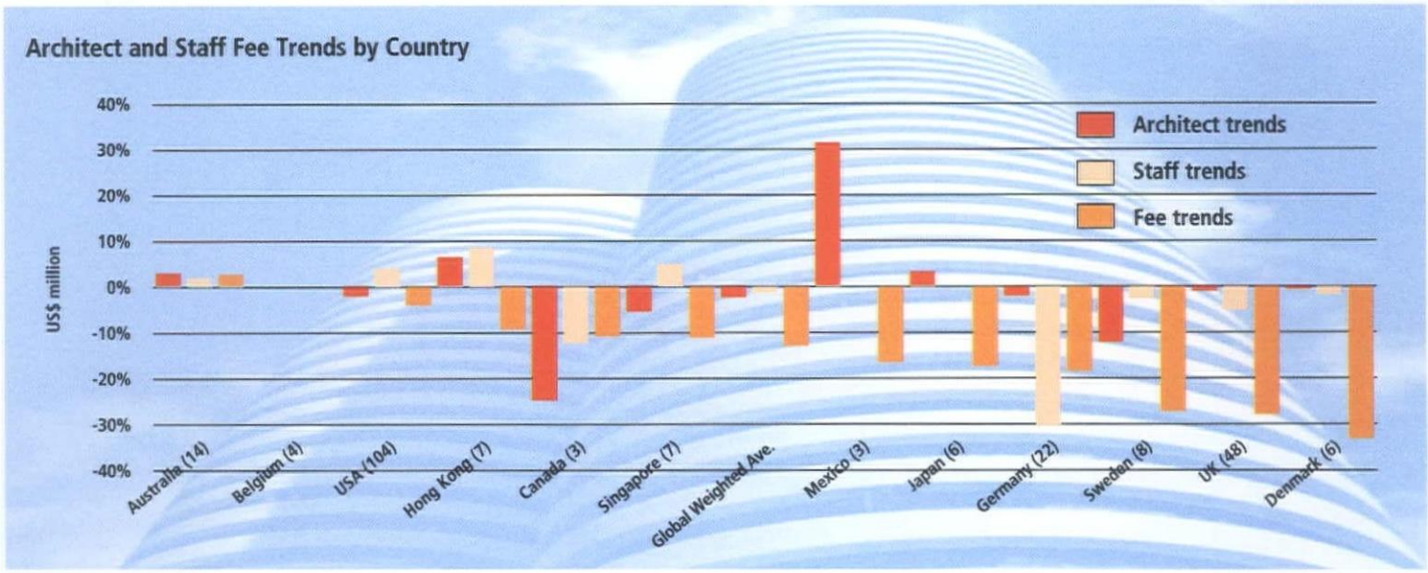
- **Distribution** 1.30%
- **Defence** 1.65%
- **Criminal Justice** 2.58%
- **Sports** 2.91%
- **Research Technology** 4.20%
- **Leisure/Hospitality** 4.59%
- **Hotel/Restaurant** 5.35%
- **Residential** 5.99%
- **Public Buildings** 6.26%
- **Transportation/Airports** 6.35%
- **Industrial** 6.47%
- **Education** 9.98%
- **Retail/Shopping Centres** 10.24%
- **Healthcare** 12.38%
- **Business Parks/Offices** 19.76%

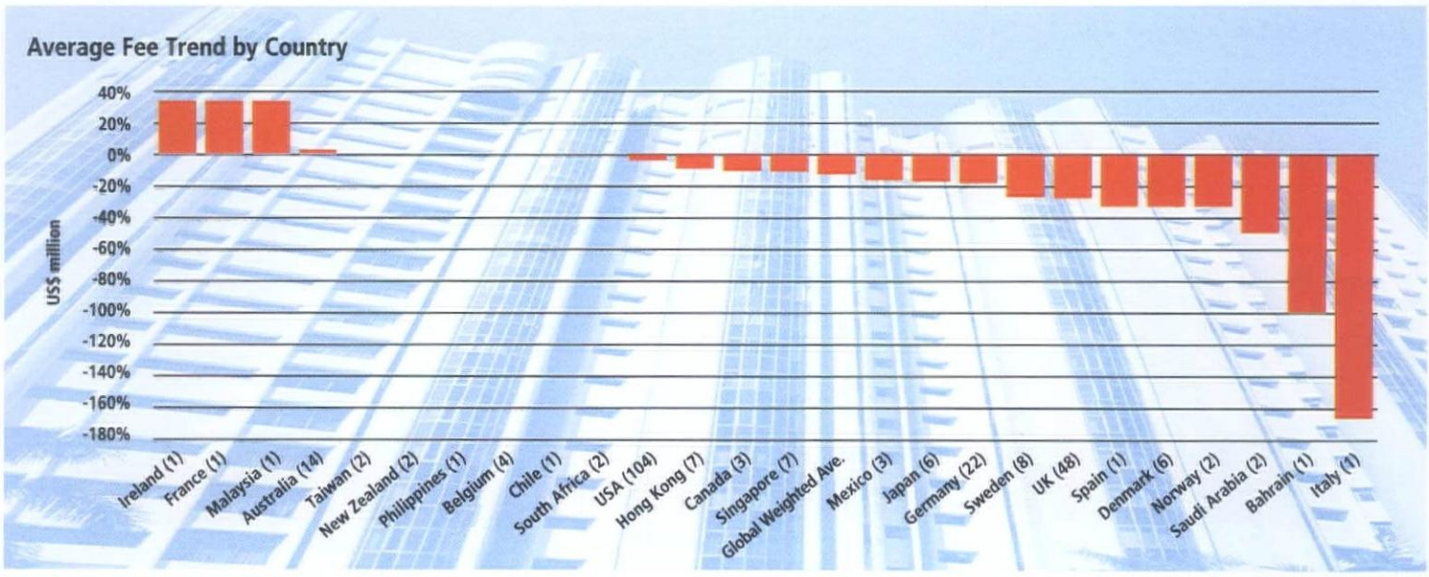
Change in Activity Share between Market Sectors, 1996-1997



Global trend shows 13 percent downturn

- *Only Australia managed a small increase this year.*
- *The Tiger economies' apparently unstoppable rise slowed: fees in both Hong Kong and Singapore are down significantly.*
- *In the US, which last year registered an increase in both architects and fees, total staff rose as the other two trends fell back – a sign of a large number of projects at the production stage.*
- *In the UK, increased competition may lead to lower fee income but it will not in itself persuade firms to shed staff, due to the prevailing mood of economic confidence.*
- *A large drop in fee income may be a precursor to recession and so generate large reductions in staff in the following year as in Germany, where fee income plummeted in 1995 even more than in 1996, but employment trends remained unaffected.*
- *The trend ranged from a growth of two percent in Australia to a drop of 33 percent in Denmark.*
- *Some firms prefer to retain their most highly-skilled staff even while downsizing overall.*
- *The disproportionate reduction in total staff perhaps corresponds to the release of large numbers of temporary staff brought in to manage the now exhausted boom.*



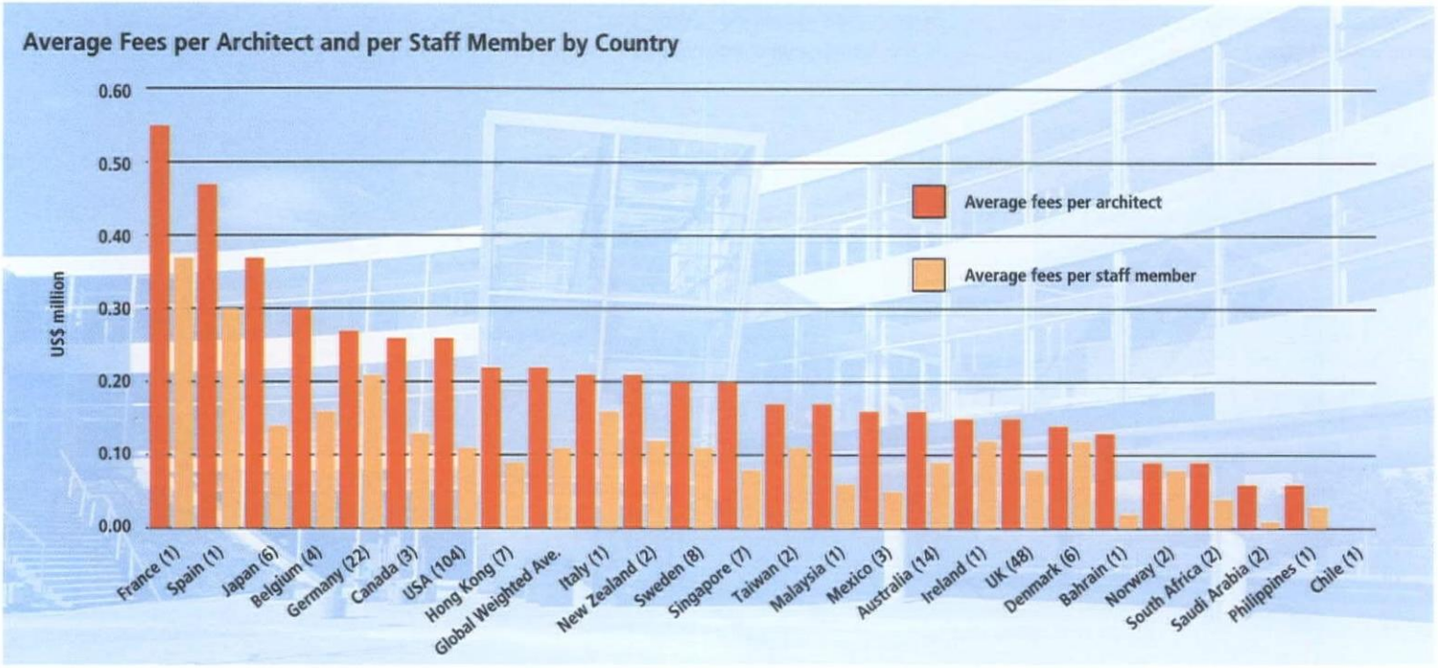


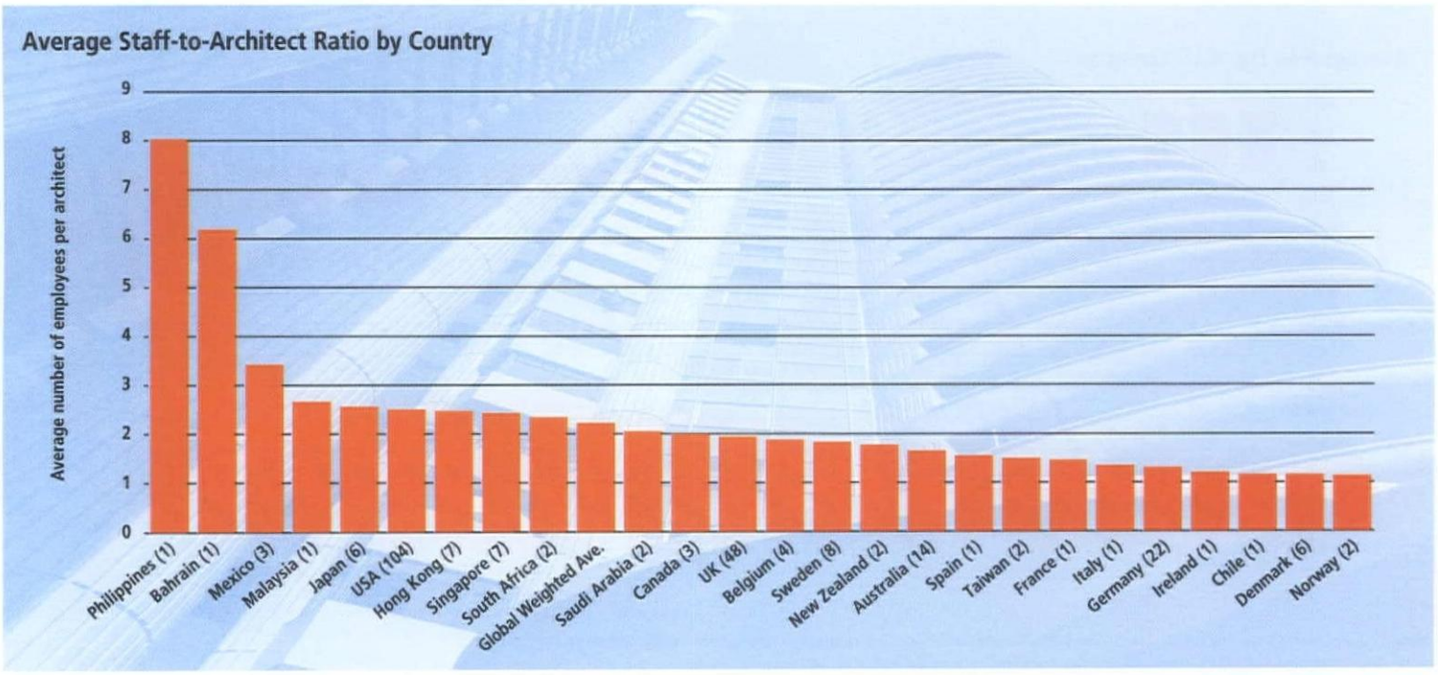
Note Only the world's top 250 firms – according to the number of fee-earning architects – are included in the following graphs. In some cases only one or two firms qualified. The figures in brackets are the size of the sample in each case.

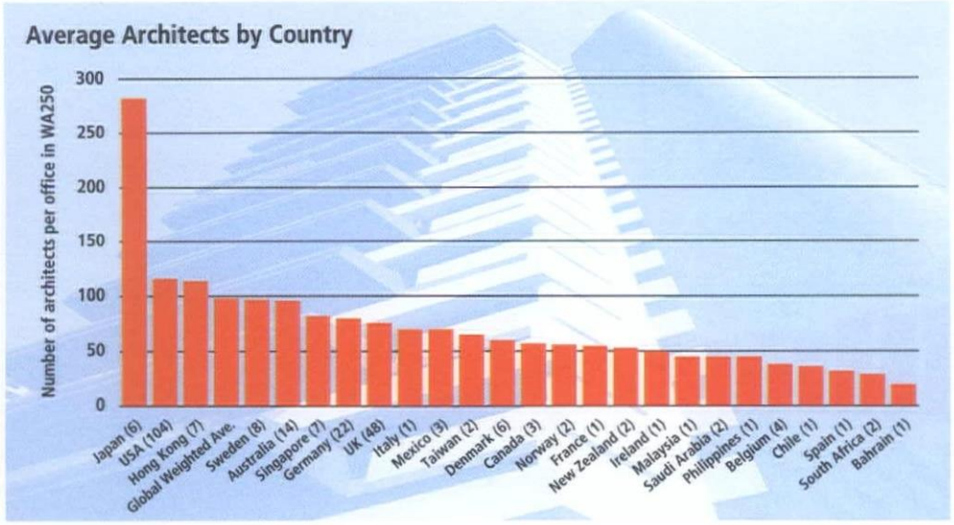
STAFF/ARCHITECT AND FEE AVERAGES

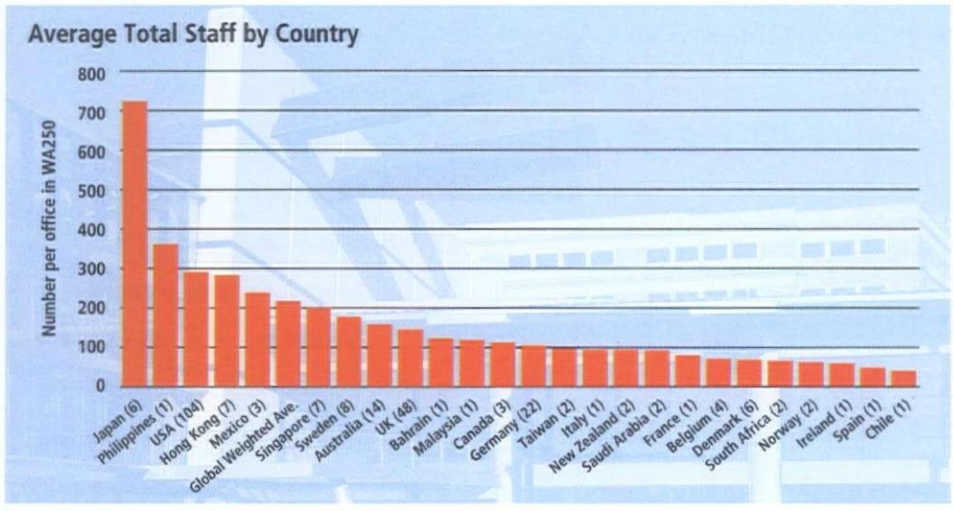
Belgian fees show unexpected strength
The average staff member can generate about US$110,000. Although both France and Spain's sample size are too small to be significant, Belgium – represented for the first time – shows unexpected strength in this area.

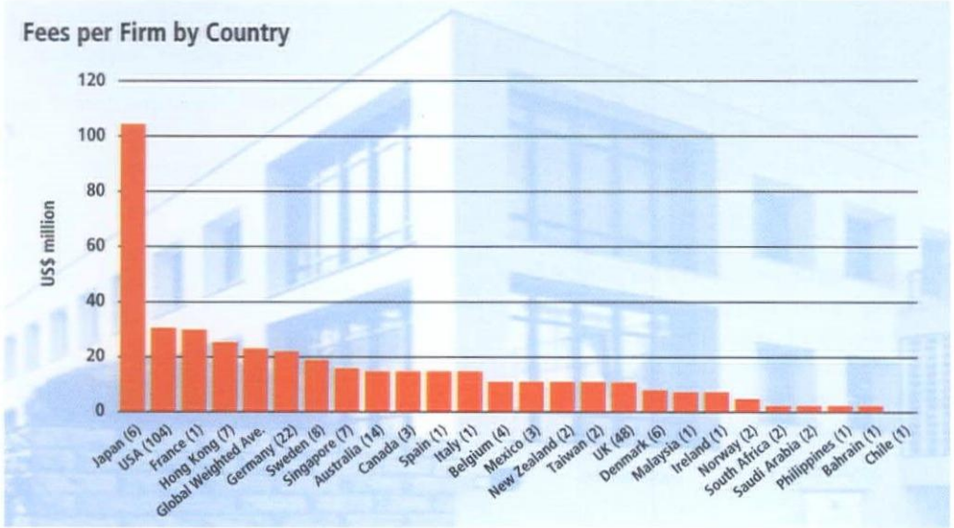
Globally, the average architect can expect to earn roughly US$230,000 for his employer compared with over US$250,000 last year.









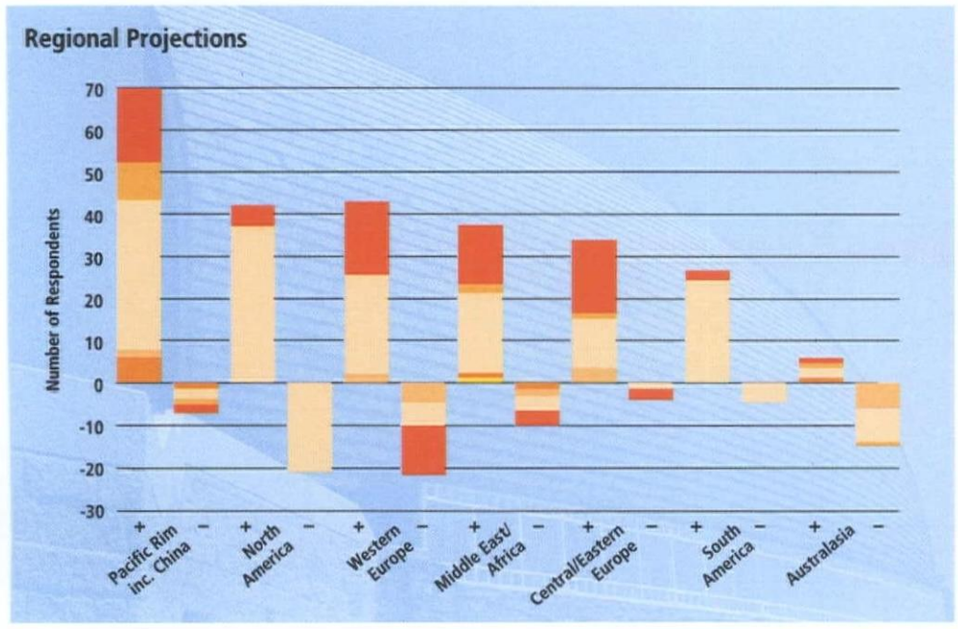


Japanese firms think big

All three graphs are dominated by Japan, the US and Hong Kong. Overall, the fall in number of architects is much steadier than that in total staff numbers.

All part of the master-plan

Almost all firms claimed expertise in master-planning, while at the other extreme, only six were looking for work in arbitration. There was a surprising lack of firms offering skills in construction project management.



KEY

- Respondents in Western Europe
- Respondents in Pacific Rim
- Respondents in North America
- Respondents in Central/Eastern Europe
- Respondents in Australasia
- Respondents in Africa/Middle East
- NONE Respondents in South America

Note This charts expresses the *WA*250 respondent's opinions about the likely growth in the construction industry of different regions of the world. Each column shows the total positive or total negative respondents for each region. Within each column, different coloured bands show the home region of respondents.

Optimists or pessimists

What is most striking about this graph is how optimists outnumber pessimists in their perception of every region except for Australia. Most respondents are most optimistic about their home region. However, those who were optimistic about South America (and the small number of pessimists) were almost all from North America. Western Europeans were only slightly more optimistic about Central Europe than about Western Europe. Respondents in Central Europe were optimistic about the region and pessimistic about Western Europe. The Pacific Rim did best because it received broadly positive votes from virtually every region.

Biggest, Fastest, Smartest

_WA_ answers your questions: Who? Which? What? Where? The following charts cover the top 30 _WA_250 rankings in growth and efficiency, world regions and market sectors.

THE GLOBAL GIANTS: FEE-EARNERS OVER $40 MILLION

		Country ($m)	Fee range
1	Kajima Design	Japan	180+
1	Nikken Sekkei Ltd	Japan	180+
1	Lockwood Greene Engineers, Inc	USA	180+
4	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	140-160
4	Kume Sekkei Co, Ltd	Japan	140-160
6	Hellmuth, Obata & Kassabaum, Inc	USA	120-140
6	Heery International	USA	120-140
8	Gensler	USA	100-120
8	The Ellerbe Becket Company	USA	100-120
8	Takamatsu + Lahyani - Architects Associates	Germany	100-120
11	NBBJ	USA	60-80
11	Weidleplan Consulting GmbH	Germany	60-80
11	RTKL International Ltd	USA	60-80
11	FFNS Gruppen AB	Sweden	60-80
11	Leo A Daly	USA	60-80
11	The Smith Group	USA	60-80
11	Kyodo Architects, Planners & Engineers	Japan	60-80
18	Skidmore, Owings & Merrill LLP	USA	40-60
18	HNTB Corporation	USA	40-60
18	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	40-60
18	Building Design Partnership	UK	40-60
18	Callison Architecture, Inc	USA	40-60
18	Perkins & Will	USA	40-60
18	Kohn Pedersen Fox Associates PC	USA	40-60
18	Zimmer Gunsul Frasca Partnership	USA	40-60
18	Henningson, Durham & Richardson, Inc	USA	40-60
18	The Hillier Group	USA	40-60
18	Ehrlich-Rominger	USA	40-60
18	RSP Architects Planners & Engineers (PTE) Ltd	Singapore	40-60
18	SSOE, Inc	USA	40-60
18	TAMS Consultants, Inc	USA	40-60

Top 30 rankings in growth and efficiency

Multi-disciplinary practices in top five

Fee ranges are lower than last year but perhaps the most noticeable thing about this table is that the giant engineer/architect offices occupy the top five slots – this is perhaps inevitable as fees cited do not distinguish between architectural and engineering income.

TOP 30 FASTEST-GROWING FIRMS		Country	Architects	Growth (%)
1	Lockwood Greene Engineers, Inc	USA	229.0	77%
2	SAA Partnership Pte Ltd	Singapore	220.0	73%
3	Grupo BAIA SA de CV	Mexico	120.0	63%
4	Gould Evans Affiliates	USA	120.0	58%
4	Swanke Hayden Connell Architects, Ltd	USA	120.0	58%
6	Benoy Limited	UK	107.0	58%
7	The Kling Lindquist Partnership	USA	132.0	55%
8	GMW Partnership	UK	112.0	51%
9	Corgan Associates, Inc	USA	80.0	46%
10	The Fairhurst Design Group	UK	55.0	42%
11	RMJM	UK	268.0	41%
12	Ramirez Vazquez y Asociados, SA de CV	Mexico	30.0	40%
13	Woods Bagot Pty Ltd	Australia	175.0	34%
14	HLM Design Ltd	UK	80.0	34%
15	Prof. Bremmer - Lorenz - Frielinghaus & Partners	Germany	79.0	33%
16	Narud•Stokke•Wiig	Norway	44.0	32%
17	Peter Jöhnk / Ransley Jöhnk	Germany	38.0	32%
18	Perkins & Will	USA	192.0	31%
19	Building Design Partnership	UK	225.0	30%
20	Terry Farrell & Partners	UK	71.0	30%
21	C Y Lee & Partners - Architect & Planner	Taiwan	90.0	28%
22	AM Partners, Inc	USA	48.0	27%
23	Zimmer Gunsul Frasca Partnership	USA	170.0	26%
24	Prof Gerber und Partner	Germany	50.0	26%
25	Leigh & Orange, Ltd	Hong Kong	188.0	25%
26	Gruzen Samton Architects, Planners & Interior Designers	USA	74.0	24%
27	Ehrlich-Rominger	USA	99.0	24%
28	Eggert & Partners, Freie Architekten und Ingenieure BDA	Germany	42.0	24%
29	Tengbom gruppen ab	Sweden	65.0	23%
30	The Ellerbe Becket Company	USA	279.0	23%

Practice growth rate down this year

The relatively depressed state of the industry in mainland Europe is reflected by the fact that its highest-ranking firm merits only fifteenth place.

TOP 30 IN FEE GROWTH		Country	Estimated Fee	Growth (%)
1	AM Partners, Inc	USA	15.0	67%
1	Hardy Holzman Pfeiffer Associates	USA	15.0	67%
1	Cecil Denny Highton Partnership	UK	15.0	67%
1	Kallmann McKinnell & Wood Architects, Inc	USA	15.0	67%
1	Development Design Group, Inc	USA	15.0	67%
6	Zimmer Gunsul Frasca Partnership	USA	50.0	60%
6	Perkins & Will	USA	50.0	60%
6	Ehrlich-Rominger	USA	50.0	60%
9	The Smith Group	USA	70.0	43%
10	Wimberly Allison Tong & Goo	USA	30.0	33%
10	The Buchan Group	Australia	30.0	33%
10	Leigh & Orange, Ltd	Hong Kong	30.0	33%
10	Pei Cobb Freed & Partners	USA	30.0	33%
10	Kaplan / McLaughlin / Diaz	USA	30.0	33%
10	Spillis Candela & Partners, Inc	USA	30.0	33%
10	HLW International, LLP	USA	30.0	33%
10	Stone Marraccini Patterson	USA	30.0	33%
10	Thompson, Ventulett, Stainback & Associates, Inc	USA	30.0	33%
10	FRCH Design Worldwide	USA	30.0	33%
10	Odell Associates Inc	USA	30.0	33%
10	Ewing Cole Cherry Brott	USA	30.0	33%
10	RMJM	UK	30.0	33%
10	Architekturbüro WGK	Germany	30.0	33%
10	Flad & Associates	USA	30.0	33%
10	Henn Architekten Ingenieure	Germany	30.0	33%
10	Albert Kahn Associates, Inc	USA	30.0	33%
10	Giffels Associates, Inc	USA	30.0	33%
10	Woods Bagot Pty Ltd	Australia	30.0	33%
10	Eggert & Partners, Freie Architekten und Ingenieure BDA	Germany	30.0	33%
10	Einhorn Yaffee Prescott, Architecture & Engineering PC	USA	30.0	33%
10	Sasaki Associates, Inc	USA	30.0	33%
10	White Arkitekter AB	Sweden	30.0	33%
10	Groupe Architral	France	30.0	33%

US tops fee growth

Compared with 1996, the pattern of nationalities has been transformed with the US taking 18 of the top 20 places leaving Europe and Asia behind.

TOP 30 IN FEES EARNED PER ARCHITECT (FEES OVER $20m)

		Country	Architects	Fee range ($m)	Est. fees per architect
1	Takamatsu + Lahyani - Architects Associates	Germany	70.0	100-120	1.57
2	TAMS Consultants, Inc	USA	41.0	40-60	1.22
3	Kyodo Architects, Planners & Engineers	Japan	65.0	60-80	1.08
4	SSOE, Inc	USA	48.0	40-60	1.04
5	FRCH Design Worldwide	USA	29.0	20-40	1.03
6	Heery International Inc	USA	152.0	120-140	0.86
7	Lockwood Greene Engineers, Inc	USA	229.0	180+	0.79
8	Eggert & Partners, Freie Architekten und Ingenieure BDA	Germany	42.0	20-40	0.71
8	Giffels Associates, Inc	USA	42.0	20-40	0.71
8	The Spector Group	USA	21.0	10-20	0.71
11	Odell Associates Inc	USA	44.0	20-40	0.68
11	Cornoyer-Hedrick, Inc	USA	22.0	10-20	0.68
13	Hardy Holzman Pfeiffer Associates	USA	25.0	10-20	0.60
14	RSP Architects Planners & Engineers (PTE) Ltd	Singapore	86.0	40-60	0.58
15	Hassell Pty Ltd	Australia	52.0	20-40	0.58
16	Groupe Architral	France	55.0	20-40	0.55
16	Hayes, Seay, Mattern & Mattern, Inc	USA	55.0	20-40	0.55
18	BSA Design	USA	28.0	10-20	0.54
18	Schenkel & Shultz, Inc	USA	28.0	10-20	0.54
20	Kume Sekkei Co, Ltd	Japan	285.0	140-160	0.53
21	Kanko Kikaku Sekkeisha (Y Shibata & Associates)	Japan	59.0	20-40	0.51
22	Ehrlich-Rominger	USA	99.0	40-60	0.51
23	Albert Kahn Associates, Inc	USA	60.0	20-40	0.50
24	The Hillier Group	USA	105.0	40-60	0.48
25	Ricardo Bofill - Taller de Arquitectura	Spain	32.0	10-20	0.47
26	L Robert Kimball & Associates, Inc	USA	65.0	20-40	0.46
27	Kwan & Associates Architects Ltd	Hong Kong	33.0	10-20	0.45
27	Hansen Lind Meyer	USA	66.0	20-40	0.45
29	Watkins Carter Hamilton Architects, Inc	USA	34.0	10-20	0.44
30	The Smith Group	USA	160.0	60-80	0.44

German/Japanese phenomenon

Although Takamatsu + Lahyani - Architects Associates reduced its number of architects from 80 to 70, the fee that each one earned advanced from US$1.5 million to US$1.57 million.

TOP 30 IN FEES EARNED PER MEMBER OF STAFF (FEES OVER $10m)

		Country	Architects	Fee range ($m)	Est. fees per staff member
1	Takamatsu + Lahyani - Architects Associates	Germany	85.0	100-120	1.29
2	Kyodo Architects, Planners & Engineers	Japan	80.0	60-80	0.88
3	Eggert & Partners, Freie Architekten und Ingenieure BDA	Germany	75.0	20-40	0.40
4	Groupe Architral	France	81.0	20-40	0.37
5	Ricardo Bofill - Taller de Arquitectura	Spain	50.0	10-20	0.30
6	Zepeda Veraart Arquitectos	Mexico	30.0	5-10	0.25
6	EMW Eller Maier Walter & Partners, GmbH	Germany	60.0	10-20	0.25
8	AM Partners, Inc	USA	62.0	10-20	0.24
9	Stone Marraccini Patterson	USA	125.0	20-40	0.24
9	Architekturbüro WGK	Germany	125.0	20-40	0.24
11	The Spector Group	USA	63.0	10-20	0.24
12	Zimmer Gunsul Frasca Partnership	USA	215.0	40-60	0.23
13	Rochlin Baran & Balbona Inc	USA	65.0	10-20	0.23
13	The Stubbins Associates	USA	65.0	10-20	0.23
13	Kallmann McKinnell & Wood Architects, Inc	USA	65.0	10-20	0.23
16	Kanko Kikaku Sekkeisha (Y Shibata & Associates)	Japan	137.0	20-40	0.22
17	Kohn Pedersen Fox Associates PC	USA	229.0	40-60	0.22
18	Busmann & Haberer GmbH	Germany	35.0	5-10	0.21
18	Ingenhoven Overdiek und Partner	Germany	70.0	10-20	0.21
18	Henn Architekten Ingenieure	Germany	140.0	20-40	0.21
21	Kume Sekkei Co, Ltd	Japan	706.0	140-160	0.21
22	Ehrlich-Rominger	USA	240.0	40-60	0.21
22	Timothy Seow Group Architects	Singapore	72.0	10-20	0.21
24	Pei Cobb Freed & Partners	USA	145.0	20-40	0.21
25	Watkins Carter Hamilton Architects, Inc	USA	77.0	10-20	0.19
26	Architekten Werkgemeinschaft	Germany	40.0	5-10	0.19
26	BWBR Architect, Inc	USA	80.0	10-20	0.19
26	Kaplan / McLaughlin / Diaz	USA	160.0	20-40	0.19
26	Lohan Associates	USA	80.0	10-20	0.19
30	KA, Inc, Architecture (formerly Keeva J Kekst Architects)	USA	82.0	10-20	0.18

Takamatsu + Lahyani lead by 50 percent

Head and shoulders above the competition Takamatsu + Lahyani boast a figure almost half as high again as its closet rival Kyodo Architects.

TOP 30 OVERSEAS EARNERS

		Country	Fee range ($m)	% overseas work	Estimated overseas fees	Home market
1	Takamatsu + Lahyani - Architects Associates	Germany	100-120	70%	77	Central/Eastern Europe
2	Hellmuth, Obata & Kassabaum, Inc	USA	120-140	32%	42	North America
3	Kohn Pedersen Fox Associates PC	USA	40-60	75%	37	North America
4	Wimberly Allison Tong & Goo	USA	20-40	90%	27	North America
5	TAMS Consultants, Inc	USA	40-60	50%	25	North America
5	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	40-60	50%	25	Pacific Rim
7	RTKL International Ltd	USA	60-80	35%	25	North America
8	Heery International Inc	USA	120-140	17%	22	North America
9	Nikken Sekkei Ltd	Japan	160-180	12%	22	Pacific Rim
10	Skidmore, Owings & Merrill LLP	USA	40-60	43%	21	North America
11	Weidleplan Consulting GmbH	Germany	60-80	30%	21	Central/Eastern Europe
11	Pei Cobb Freed & Partners	USA	20-40	70%	21	North America
13	Lockwood Greene Engineers, Inc	USA	160-180	9%	16	North America
14	Gensler	USA	100-120	14%	15	North America
14	The Ellerbe Becket Company	USA	100-120	14%	15	North America
16	Murphy / Jahn, Inc	USA	10-20	95%	14	North America
17	NBBJ	USA	60-80	20%	14	North America
18	AM Partners, Inc	USA	10-20	90%	14	North America
19	RMJM	UK	20-40	40%	12	Western Europe
20	Kajima Design	Japan	160-180	6%	11	Pacific Rim
21	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	140-160	7%	11	North America
21	Development Design Group, Inc	USA	10-20	70%	11	North America
23	Callison Architecture, Inc	USA	40-60	20%	10	North America
24	Llewelyn-Davies	UK	10-20	62%	9	Western Europe
25	The Hillier Group	USA	40-60	17%	9	North America
26	The Buchan Group	Australia	20-40	25%	8	Australasia
26	Woodhead Firth Lee International	Australia	20-40	25%	8	Australasia
26	Stephenson & Turner Group	New Zealand	10-20	50%	8	Australasia
29	Leo A Daly	USA	60-80	10%	7	North America
29	The Smith Group	USA	60-80	10%	7	North America

Architecture: more global than ever before
With over twice as much overseas work as any other firm, Takamatsu + Lahyani - Architects Associates win hands down.

Top 30 rankings by world regions

TOP 30 IN NORTH AMERICA		Country	Estimated architects dedicated
1	Gensler	USA	619.2
2	NBBJ	USA	394.4
3	Hellmuth, Obata & Kassabaum, Inc	USA	383.5
4	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	325.5
5	HNTB Corporation	USA	304.0
6	RTKL International Ltd	USA	245.7
7	The Ellerbe Becket Company	USA	239.9
8	HKS Architects, Inc	USA	234.0
9	Lockwood Greene Engineers, Inc	USA	208.4
10	Skidmore, Owings & Merrill LLP	USA	200.9
11	Perkins & Will	USA	176.6
12	Callison Architecture, Inc	USA	170.4
13	Zimmer Gunsul Frasca Partnership	USA	163.2
14	Anshen + Allen, Architects	USA	155.3
15	Ewing Cole Cherry Brott	USA	153.9
16	Leo A Daly	USA	150.3
17	BSW International	USA	148.5
18	The Smith Group	USA	144.0
19	Cannon	USA	137.7
20	VOA Associates Inc	USA	136.0
21	Sasaki Associates, Inc	USA	135.0
22	HLW International, LLP	USA	127.9
23	Heery International Inc	USA	126.2
24	The Kling Lindquist Partnership	USA	124.1
25	Musil Perkowitz Ruth, Inc	USA	123.8
26	Cooper Carry & Associates, Inc	USA	119.0
27	Vitetta Group	USA	117.0
28	Gould Evans Affiliates	USA	116.4
29	Henningson, Durham & Richardson, Inc	USA	114.5
30	DLR Group	USA	107.0

US 30, Canada 0

Suprisingly there is not one Canadian firm amongst those that dominate the North American market. Gensler has half as many architects as any other devoted to its home market.

TOP 30 IN WESTERN EUROPE		Country	Estimated architects dedicated
1	FFNS Gruppen AB	Sweden	230.4
2	Building Design Partnership	UK	202.5
3	RMJM	UK	160.8
4	White Arkitekter AB	Sweden	143.0
5	Sir Norman Foster & Partners Limited	UK	138.0
6	Atkins Lister Drew Limited	UK	132.6
7	Benoy Limited	UK	107.0
8	KHR AS arkitekter	Denmark	100.0
9	VBB Architects	Sweden	98.7
10	epr architects limited	UK	96.0
11	Sheppard Robson International	UK	92.7
12	Rolfe Judd	UK	91.0
13	Chapman Taylor Partners	UK	90.3
14	GMW Partnership	UK	84.0
15	Aukett Associates	UK	80.0
15	HLM Design Ltd	UK	80.0
17	BDG / McColl	UK	79.2
17	Dissing + Weitling Architects A/S	Denmark	79.2
17	TBV Consult	UK	79.2
20	Broadway Malyan	UK	77.4
21	Cecil Denny Highton Partnership	UK	76.5
22	Thurfjell-Gruppen AB	Sweden	76.0
23	Fitzroy Robinson Limited	UK	68.0
23	PRP Architects Ltd	UK	68.0
25	Richard Rogers Partnership	UK	67.9
26	Niels Torp A/S Arkitekter MNAL	Norway	67.0
27	Renzo Piano Building Workshop	Italy	66.5
28	Tengbom gruppen ab	Sweden	65.0
29	Murphy / Jahn, Inc	USA	57.9
30	The Whinney Mackay Lewis Partnership	UK	57.0

Strong Scandinavian showing

In Western Europe FFNS Gruppen AB dominate, and there are two other Swedish firms in the top ten despite Sweden's recession. Because so much of its work is in Asia, RMJM cede second place to BDP.

TOP 30 IN SOUTH AMERICA		Country	Estimated architects dedicated
1	VOA Associates Inc	USA	30.6
2	Grupo BAIA SA de CV	Mexico	30.0
3	Swanke Hayden Connell Architects, Ltd	USA	12.0
4	Spillis Candela & Partners, Inc	USA	10.2
5	Wimberly Allison Tong & Goo	USA	8.5
6	Skidmore, Owings & Merrill LLP	USA	7.0
7	Lockwood Greene Engineers, Inc	USA	6.9
8	Callison Architecture, Inc	USA	6.4
9	Hellmuth, Obata & Kassabaum, Inc	USA	5.6
10	Sasaki Associates, Inc	USA	4.5
10	Brennan Beer Gorman / Architects	USA	4.5
12	TAMS Consultants, Inc	USA	4.1
13	Arrowstreet Inc	USA	4.0
13	Zepeda Veraart Arquitectos	Mexico	4.0
15	RTKL International Ltd	USA	3.8
16	WZMH (Webb Zerafa Menkes Holisden Partnership)	Canada	3.8
17	Gensler	USA	3.6
18	Loebl Schlossman & Hackl - Hague Richards	USA	3.5
19	Peckham Guyton Albers & Viets, Inc (PGAV)	USA	3.4
20	Albert Kahn Associates, Inc	USA	3.0
21	The Ellerbe Becket Company	USA	2.8
22	Niles Bolton Associates, Inc	USA	2.8
23	Kaplan / McLaughlin / Diaz	USA	2.6
24	Giffels Associates, Inc	USA	2.1
25	3D / International, Inc	USA	2.1
26	Heery International Inc	USA	1.5
27	BSW International	USA	1.5
28	SSOE, Inc	USA	1.4
29	The Kling Lindquist Partnership	USA	1.3
30	Thompson, Ventulett, Stainback & Associates, Inc	USA	1.1

US firm number one in South America

South America is growing in importance. This year the top firm has 30 architects working in this region – twice as many as BSW International did last year.

TOP 30 IN CENTRAL/EASTERN EUROPE		Country	Estimated architects dedicated
1	Weidleplan Consulting GmbH	Germany	266.0
2	von Gerkan, Marg und Partner	Germany	199.5
3	Henn Architekten Ingenieure	Germany	128.0
4	Architekten Schweger + Partner	Germany	110.0
5	Architekturbüro WGK	Germany	105.0
6	Prof Bremmer - Lorenz - Frielinghaus & Partners	Germany	79.0
7	KMSP (Kaplan Matze Schöler + Partner) Architekten BDA	Germany	74.0
8	Heinle, Wischer und Partner, Freie Architekten	Germany	65.0
9	AS&P - Albert Speer & Partner GmbH	Germany	60.0
10	EMW Eller Maier Walter & Partners, GmbH	Germany	50.0
11	Architekturbüro Michael Weindel	Germany	45.0
12	Eggert & Partners, Freie Architekten und Ingenieure BDA	Germany	42.0
13	Ingenhoven Overdiek und Partner	Germany	40.0
13	Steffen + Peter, Architecten BDA	Germany	40.0
15	Peter Jöhnk / Ransley Jöhnk	Germany	38.0
16	Nikken Sekkei Ltd	Japan	35.1
17	Karres-Hartmeyer-Dreyer & Partner	Germany	35.0
18	Rauh•Damm•Stiller Partner	Germany	34.0
19	Architekten Werkgemeinschaft	Germany	28.5
20	Busmann & Haberer GmbH	Germany	25.0
21	Hellmuth, Obata & Kassabaum, Inc	USA	22.6
22	Building Design Partnership	UK	22.5
23	Takamatsu + Lahyani - Architects Associates	Germany	21.0
24	Chapman Taylor Partners	UK	19.4
25	Gensler	USA	14.4
26	RMJM	UK	13.4
27	Alsop & Störmer	UK	12.5
28	epr architects limited	UK	12.0
28	Fitzroy Robinson Limited	UK	12.0
30	RHWL Partnership	UK	10.7

Germans in control

As expected, German firms dominate Central Europe, but there is a strong showing from British firms at the lower end of the chart.

TOP 30 IN AFRICA & THE MIDDLE EAST		Country	Estimated architects dedicated
1	Arch Center, Consulting, Architects & Engineers	Saudi Arabia	45.0
2	Wimberly Allison Tong & Goo	USA	32.3
3	John R Harris Partnership	UK	31.9
4	Weidleplan Consulting GmbH	Germany	30.4
5	Osmond Lange Mosienyane Architects & Planners	South Africa	27.0
5	GAPP Architects & Urban Designers	South Africa	27.0
7	RMJM	UK	26.8
8	HLW International, LLP	USA	26.2
9	RTKL International Ltd	USA	22.7
10	Takamatsu + Lahyani - Architects Associates	Germany	21.0
11	Nikken Sekkei Ltd	Japan	20.0
12	Mohamed Salahuddin Consulting Engineering Bureau	Bahrain	20.0
13	Sir Norman Foster & Partners Limited	UK	18.4
14	Development Design Group, Inc	USA	18.2
15	John Seifert Architects	UK	16.3
16	Cannon	USA	16.2
17	Samark Architecture & Design	Sweden	16.0
18	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	14.0
19	Jung / Brannen Associates, Inc	USA	13.6
20	Hellmuth, Obata & Kassabaum, Inc	USA	11.3
21	Skidmore, Owings & Merrill LLP	USA	10.9
22	von Gerkan, Marg und Partner	Germany	10.5
23	Dissing + Weitling Architects A/S	Denmark	9.9
24	Broadway Malyan	UK	8.6
25	Atkins Lister Drew Limited	UK	7.8
26	Norman & Dawbarn Ltd	UK	7.5
26	WZMH (Webb Zerafa Menkes Holisden Partnership)	Canada	7.5
28	Leo A Daly	USA	6.7
29	Chapman Taylor Partners	UK	6.5
30	Callison Architecture, Inc	USA	6.4

All change in Africa

In Africa and Saudi Arabia last year's winner, Mohamed Salahuddin of Bahrain, has dropped dramatically – to only 20 architects working in the region (from 90 last year).

TOP 30 IN THE PACIFIC RIM		Country	Estimated architects dedicated
1	Kajima Design	Japan	609.1
2	Nikken Sekkei Ltd	Japan	440.9
3	Kume Sekkei Co, Ltd	Japan	279.3
4	SAA Partnership Pte Ltd	Singapore	220.0
5	Leigh & Orange, Ltd	Hong Kong	169.2
6	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	150.0
7	Naniwa Consultants International	Japan	132.0
8	Kohn Pedersen Fox Associates PC	USA	102.0
9	Wong Tung & Partners Limited	Hong Kong	100.0
9	DP Architects PTE Ltd	Singapore	100.0
11	Dennis Lau & Ng Chun Man Architects & Engineers (H.K.) Ltd	Hong Kong	97.0
12	Wimberly Allison Tong & Goo	USA	95.2
13	Skidmore, Owings & Merrill LLP	USA	94.5
14	C Y Lee & Partners - Architect & Planner	Taiwan	90.0
15	NBBJ	USA	88.7
16	Hellmuth, Obata & Kassabaum, Inc	USA	84.6
17	RSP Architects Planners & Engineers (PTE) Ltd	Singapore	81.7
18	Cox Architects & Planners	Australia	80.0
19	Sir Norman Foster & Partners Limited	UK	69.0
20	RMJM	UK	67.0
21	The Buchan Group	Australia	66.8
22	Kyodo Architects, Planners & Engineers	Japan	65.0
23	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	60.8
24	Timothy Seow Group Architects	Singapore	60.0
25	RTKL International Ltd	USA	56.7
26	Kanko Kikaku Sekkeisha (Y Shibata & Associates)	Japan	53.1
27	RDC Architects Pte Ltd	Singapore	52.0
28	Simon Kwan & Associates Limited	Hong Kong	50.0
29	Woodhead Firth Lee International	Australia	46.1
30	McKerrel Lynch	Australia	45.6

Japan makes its mark

In the Pacific Rim the mix is much as last year, with the notable growth of Japanese firms in the area.

TOP 30 IN AUSTRALIA		Country	Estimated architects dedicated
1	The Buchan Group	Australia	200.3
2	Woods Bagot Pty Ltd	Australia	175.0
3	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	150.0
4	Woodhead Firth Lee International	Australia	144.0
5	Cox Architects & Planners	Australia	120.0
6	HBO & EMTB Pty Ltd	Australia	104.0
7	JASMAX Architects Ltd	New Zealand	53.2
8	Hassell Pty Ltd	Australia	41.6
9	Lend Lease Design Group Limited	Australia	40.9
10	Thomson Adsett Architects	Australia	39.7
11	Allen Jack + Cottier Architects	Australia	34.0
12	Synman Justin Bialek Architects	Australia	32.0
13	McKerrel Lynch	Australia	30.4
14	Stephenson & Turner Group	New Zealand	25.0
15	Roger J Thrum & Associates Pty Ltd	Australia	20.0
15	B + N Retail Group Pty Ltd	Australia	20.0
17	Leigh & Orange, Ltd	Hong Kong	18.8
18	The Ellerbe Becket Company	USA	16.7
19	RTKL International Ltd	USA	7.6
20	Lockwood Greene Engineers, Inc	USA	6.9
21	Zimmer Gunsul Frasca Partnership	USA	6.8
22	Chapman Taylor Partners	UK	6.5
23	Kanko Kikaku Sekkeisha (Y Shibata & Associates)	Japan	5.9
24	Hellmuth, Obata & Kassabaum, Inc	USA	5.6
25	The Hillier Group	USA	5.3
26	Kume Sekkei Co, Ltd	Japan	5.2
27	WZMH (Webb Zerafa Menkes Holisden Partnership)	Canada	3.8
28	RHWL Partnership	UK	3.6
29	VOA Associates Inc	USA	3.4
30	The Smith Group	USA	3.2

A good year in Australia

There are now enough firms working in Australasia to make up a top 30, due to impressive fee growth in the area.

Top 30 rankings by market sector

TOP 30 IN SPORTS BUILDINGS		Country	Estimated architects dedicated
1	The Ellerbe Becket Company	USA	69.8
2	Cox Architects & Planners	Australia	60.0
3	NBBJ	USA	54.2
4	Hellmuth, Obata & Kassabaum, Inc	USA	50.8
5	HKS Architects, Inc	USA	26.0
6	Kume Sekkei Co, Ltd	Japan	22.5
7	HNTB Corporation	USA	21.3
8	Nikken Sekkei Ltd	Japan	20.0
9	Rosser International, Inc	USA	19.6
10	Weidleplan Consulting GmbH	Germany	19.0
11	Ewing Cole Cherry Brott	USA	17.1
12	Cannon	USA	16.2
13	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	15.0
13	Sasaki Associates, Inc	USA	15.0
15	Naniwa Consultants International	Japan	13.2
16	Sir Norman Foster & Partners Limited	UK	11.5
17	Building Design Partnership	UK	11.3
18	Architekten Schweger + Partner	Germany	11.0
19	DLR Group	USA	10.7
20	KHR AS arkitekter	Denmark	10.0
21	Leigh & Orange, Ltd	Hong Kong	9.4
22	Atkins Lister Drew Limited	UK	7.8
23	Odell Associates Inc	USA	6.6
24	HBO & EMTB Pty Ltd	Australia	6.5
25	Chapman Taylor Partners	UK	6.5
26	Prof Bremmer - Lorenz - Frielinghaus & Partners	Germany	6.3
27	Heery International Inc	USA	6.1
28	John R Harris Partnership	UK	5.8
29	JASMAX Architects Ltd	New Zealand	5.6
30	VBB Architects	Sweden	5.3

Japan moves into the great outdoors

Sports as a market inevitably merges with leisure and recreation. Arguably, both an athletics stadium and a country club with golf course fall into the category, hence, the presence of two Japanese firms in the top ten.

TOP 30 IN BUSINESS PARKS		Country	Estimated architects dedicated
1	Gensler	USA	468.0
2	Hellmuth, Obata & Kassabaum, Inc	USA	287.6
3	Skidmore, Owings & Merrill LLP	USA	227.5
4	Kohn Pedersen Fox Associates PC	USA	133.0
5	Nikken Sekkei Ltd	Japan	115.2
6	Swanke Hayden Connell Architects, Ltd	USA	96.0
7	HNTB Corporation	USA	91.2
8	Kajima Design	Japan	84.2
9	GMW Partnership	UK	76.2
10	NBBJ	USA	74.0
11	HLW International, LLP	USA	70.5
12	RMW Architecture & Design	USA	60.0
13	Rolfe Judd	UK	59.2
14	BDG / McColl	UK	54.0
15	Kume Sekkei Co, Ltd	Japan	53.6
16	HKS Architects, Inc	USA	52.0
17	epr architects limited	UK	50.4
18	Fitzroy Robinson Limited	UK	48.0
19	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	45.0
19	Sasaki Associates, Inc	USA	45.0
21	Pei Cobb Freed & Partners	USA	43.6
22	Callison Architecture, Inc	USA	42.6
23	The Ellerbe Becket Company	USA	41.9
24	Murphy / Jahn, Inc	USA	40.1
25	Aukett Associates	UK	40.0
26	von Gerkan, Marg und Partner	Germany	39.9
27	Tengbom gruppen ab	Sweden	39.0
28	Building Design Partnership	UK	38.3
29	Studios Architecture	USA	38.2
30	The Whinney Mackay Lewis Partnership	UK	36.0

SOM deprived

This year Gensler and HOK have come out of nowhere to deprive SOM of its crown in the area of business parks.

TOP 30 IN RETAIL		Country	Estimated architects dedicated
1	The Buchan Group	Australia	144.2
2	BSW International	USA	142.5
3	RTKL International Ltd	USA	139.9
4	Callison Architecture, Inc	USA	117.2
5	Musil Perkowitz Ruth, Inc	USA	113.8
6	Benoy Limited	UK	85.6
7	Gensler	USA	64.8
8	Building Design Partnership	UK	58.5
9	KKE Architects	USA	48.0
9	Gould Evans Affiliates	USA	48.0
11	Hellmuth, Obata & Kassabaum, Inc	USA	45.1
12	Development Design Group, Inc	USA	41.0
13	Weidleplan Consulting GmbH	Germany	38.0
14	Thompson, Ventulett, Stainback & Associates, Inc	USA	33.0
15	Chapman Taylor Partners	UK	32.3
16	Arrowstreet Inc	USA	32.0
17	Nikken Sekkei Ltd	Japan	30.1
18	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	30.0
19	NBBJ	USA	29.6
20	Petroff Partnership Architects	Canada	28.0
21	Elkus / Manfredi Architects Ltd	USA	27.9
22	Lyons + Sleeman + Hoare	UK	27.0
23	RMJM	UK	26.8
24	KA, Inc, Architecture (formerly Keeva J Kekst Architects)	USA	26.4
25	FRCH Design Worldwide	USA	25.5
26	Cooper Carry & Associates, Inc	USA	23.3
27	Nadel Architects, Inc	USA	22.4
28	Lewis & Hickey	UK	22.1
29	Chetwood Associates Limited	UK	21.6
30	KHR AS arkitekter	Denmark	20.0

Australian boom

In the retail sector, the Buchan Group have been able to exploit Australia's retail boom to emerge as leaders. Benoy Ltd, the UK's leading retail architects, have made an impressive advance to become ninth overall.

TOP 30 IN DISTRIBUTION		Country	Estimated architects dedicated
1	Kajima Design	Japan	103.7
2	Groupe Architral	France	36.3
3	Nikken Sekkei Ltd	Japan	25.1
4	Chetwood Associates Limited	UK	18.9
5	Graeber, Simmons & Cowan, Inc	USA	10.3
6	Woodhead Firth Lee International	Australia	9.6
7	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	7.6
8	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	7.5
9	Heery International Inc	USA	6.1
10	RDC Architects Pte Ltd	Singapore	5.2
11	GHM Group / GHM Rock Townsend	UK	5.1
12	Lewis & Hickey	UK	4.9
13	Rolfe Judd	UK	4.6
14	The Barton Willmore Partnership	UK	4.4
15	Temple Cox Nicholls Architects	UK	4.3
16	von Gerkan, Marg und Partner	Germany	4.2
17	Hamilton Associates Architects Ltd	UK	4.0
18	ORMROD & Partners	UK	3.7
19	Scott Brownrigg & Turner Ltd	UK	3.4
20	Leo A Daly	USA	3.3
21	HLM Design Ltd	UK	3.2
22	The Fairhurst Design Group	UK	2.8
23	Osmond Lange Mosienyane Architects & Planners	South Africa	2.2
24	Sheppard Robson International	UK	2.1
25	DEGW International Ltd	UK	2.0
26	SSOE, Inc	USA	1.9
27	RSP Architects Planners & Engineers (PTE) Ltd	Singapore	1.7
28	BSW International	USA	1.5
29	Cornoyer-Hedrick, Inc	USA	1.1
30	Dissing + Weitling Architects A/S	Denmark	1.0

Sit up and take note

In distribution many of the leading names are not so well known – after all, not many warehouse developments make the front page.

TOP 30 IN INDUSTRIAL		Country	Estimated architects dedicated
1	Kajima Design	Japan	324.0
2	Lockwood Greene Engineers, Inc	USA	68.7
3	Weidleplan Consulting GmbH	Germany	57.0
4	FFNS Gruppen AB	Sweden	55.2
5	Grupo BAIA SA de CV	Mexico	48.0
6	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	45.0
7	Ehrlich-Rominger	USA	34.7
8	SSOE, Inc	USA	28.8
8	The Smith Group	USA	28.8
10	Henn Architekten Ingenieure	Germany	25.6
11	Albert Kahn Associates, Inc	USA	24.0
12	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	21.0
13	Harley Ellington Design	USA	20.3
14	Nikken Sekkei Ltd	Japan	20.0
15	Giffels Associates, Inc	USA	19.7
16	Woodhead Firth Lee International	Australia	19.2
17	Leigh & Orange, Ltd	Hong Kong	18.8
18	Building Design Partnership	UK	18.0
19	Nyréns Arkitektkontor AB	Sweden	16.2
20	Atkins Lister Drew Limited	UK	15.6
21	Dissing + Weitling Architects A/S	Denmark	14.9
22	White Arkitekter AB	Sweden	14.3
23	Heery International Inc	USA	13.7
24	RMJM	UK	13.4
25	Naniwa Consultants International	Japan	13.2
26	Page Southerland Page	USA	13.0
27	Broadway Malyan	UK	12.9
28	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	12.2
29	Thurfjell-Gruppen AB	Sweden	12.0
30	ORMROD & Partners	UK	11.6

Kajima – Captains of Industry

The industrial sector is where many of the architect/engineering firms come into their own. Once again, Kajima Design is all-conquering, this time with three times the number of architects working in this sector as last year.

TOP 30 IN RESIDENTIAL		Country	Estimated architects dedicated
1	C Y Lee & Partners - Architect & Planner	Taiwan	63.0
2	Weidleplan Consulting GmbH	Germany	57.0
3	Niles Bolton Associates, Inc	USA	55.2
4	PRP Architects Ltd	UK	54.4
5	Wong Tung & Partners Limited	Hong Kong	50.0
6	FFNS Gruppen AB	Sweden	43.2
7	RSP Architects Planners & Engineers (PTE) Ltd	Singapore	34.4
8	von Gerkan, Marg und Partner	Germany	31.5
9	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	30.0
9	DP Architects PTE Ltd	Singapore	30.0
11	Kajima Design	Japan	25.9
12	Kume Sekkei Co, Ltd	Japan	24.2
13	Timothy Seow Group Architects	Singapore	24.0
14	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	22.8
15	Synman Justin Bialek Architects	Australia	22.4
16	Architekten Schweger + Partner	Germany	22.0
17	VBB Architects	Sweden	21.0
18	Mangor & Nagel, Arkitektfirma A/S	Denmark	20.0
18	Cox Architects & Planners	Australia	20.0
20	Kyodo Architects, Planners & Engineers	Japan	19.5
21	Leigh & Orange, Ltd	Hong Kong	18.8
22	Broadway Malyan	UK	17.2
23	Kwan & Associates Architects Ltd	Hong Kong	17.2
24	Allen Jack + Cottier Architects	Australia	17.0
25	Que - De La Cruz & Associates	Philippines	15.8
26	RDC Architects Pte Ltd	Singapore	15.6
27	Nikken Sekkei Ltd	Japan	15.0
28	Richard Rogers Partnership	UK	14.0
29	The Buchan Group	Australia	13.4
30	Naniwa Consultants International	Japan	13.2

Ignore at your peril

In the residential sector, architects from the Tiger economies demonstrate what is often overlooked: that the economic boom there has been as much to do with improved housing as anything else.

TOP 30 IN LEISURE / HOSPITALITY		Country	Estimated architects dedicated
1	Wimberly Allison Tong & Goo	USA	170.0
2	Skidmore, Owings & Merrill LLP	USA	45.5
3	RTKL International Ltd	USA	37.8
4	Gould Evans Affiliates	USA	36.0
5	VOA Associates Inc	USA	35.7
6	The Buchan Group	Australia	26.7
7	Building Design Partnership	UK	24.8
8	Elkus / Manfredi Architects Ltd	USA	24.3
9	The Hillier Group	USA	21.0
10	Ellis Williams Architects	UK	20.9
11	Chapman Taylor Partners	UK	19.4
12	Weidleplan Consulting GmbH	Germany	19.0
13	Atkins Lister Drew Limited	UK	15.6
14	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	15.2
14	McKerrel Lynch	Australia	15.2
16	Nikken Sekkei Ltd	Japan	15.0
17	Sasaki Associates, Inc	USA	15.0
18	NBBJ	USA	14.8
19	Development Design Group, Inc	USA	13.7
20	Brennan Beer Gorman / Architects	USA	13.5
21	Peckham Guyton Albers & Viets, Inc (PGAV)	USA	13.4
22	Naniwa Consultants International	Japan	13.2
23	HBO & EMTB Pty Ltd	Australia	13.0
24	Richard Rogers Partnership	UK	11.7
25	Kume Sekkei Co, Ltd	Japan	11.4
26	WZMH (Webb Zerafa Menkes Holisden Partnership)	Canada	11.3
27	The Stubbins Associates	USA	11.0
28	Benoy Limited	UK	10.7
29	Callison Architecture, Inc	USA	10.7
30	Graeber, Simmons & Cowan, Inc	USA	10.3

Only one winner

Leisure and hospitality is once again the province of the USA. This time Kajima, second last year, are nowhere to be seen. Nikken Sekkei and Kume Sekkei are new entrants.

TOP 30 IN HEALTHCARE		Country	Estimated architects dedicated
1	NBBJ	USA	167.6
2	HKS Architects, Inc	USA	104.0
3	Anshen + Allen, Architects	USA	88.5
4	Ewing Cole Cherry Brott	USA	77.0
5	Perkins & Will	USA	76.8
6	Cannon	USA	72.9
7	White Arkitekter AB	Sweden	71.5
8	Henningson, Durham & Richardson, Inc	USA	69.0
9	The Ellerbe Becket Company	USA	58.6
10	TRO / The Richie Organisation	USA	58.0
11	RTKL International Ltd	USA	56.7
12	Hansen Lind Meyer	USA	49.5
13	Payette Associates, Inc	USA	44.1
14	VOA Associates Inc	USA	42.5
15	Architekturbüro WGK	Germany	42.0
16	Gresham, Smith & Partners	USA	40.2
17	Steffen + Peter, Architecten BDA	Germany	40.0
18	Hellmuth, Obata & Kassabaum, Inc	USA	39.5
19	Kaplan / McLaughlin / Diaz	USA	39.0
20	FFNS Gruppen AB	Sweden	38.4
21	Kume Sekkei Co, Ltd	Japan	37.3
22	Karlsberger Companies	USA	36.4
23	BWBR Architect, Inc	USA	36.0
24	Nikken Sekkei Ltd	Japan	35.1
25	Woods Bagot Pty Ltd	Australia	35.0
26	Zimmer Gunsul Frasca Partnership	USA	34.0
27	Heinle, Wischer und Partner, Freie Architekten	Germany	32.5
28	Stone Marraccini Patterson	USA	31.5
28	Hammel Green and Abrahamson, Inc	USA	31.5
28	Rochlin Baran & Balbona Inc	USA	31.5

No change in healthcare

In healthcare, the leading firms are much as last year except for new entrant Anshen + Allen, who are placed third. This year Sweden has two contenders.

TOP 30 IN PUBLIC BUILDINGS		Country	Estimated architects dedicated
1	RTKL International Ltd	USA	75.6
2	Sir Norman Foster & Partners Limited	UK	59.8
3	Weidleplan Consulting GmbH	Germany	57.0
4	Richard Meier & Partners	USA	54.0
5	HNTB Corporation	USA	48.6
6	Thompson, Ventulett, Stainback & Associates, Inc	USA	45.1
7	Architekturbüro WGK	Germany	42.0
7	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	42.0
9	Cox Architects & Planners	Australia	40.0
10	Architekten Schweger + Partner	Germany	27.5
11	von Gerkan, Marg und Partner	Germany	27.3
12	Ehrlich-Rominger	USA	24.8
13	The Smith Group	USA	24.0
14	Pei Cobb Freed & Partners	USA	21.8
15	Kume Sekkei Co, Ltd	Japan	20.2
16	Nikken Sekkei Ltd	Japan	20.0
17	DP Architects PTE Ltd	Singapore	20.0
18	Murphy / Jahn, Inc	USA	17.8
19	Terry Farrell & Partners	UK	17.8
20	TBV Consult	UK	17.6
21	Alsop & Störmer	UK	17.5
22	FFNS Gruppen AB	Sweden	16.8
22	JASMAX Architects Ltd	New Zealand	16.8
24	Heery International Inc	USA	15.2
25	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	15.0
25	Sasaki Associates, Inc	USA	15.0
27	KMSP (Kaplan Matze Schöler + Partner) Architekten BDA	Germany	14.8
28	Richard Rogers Partnership	UK	14.0
29	Takamatsu + Lahyani - Architects Associates	Germany	14.0
30	3D / International, Inc	USA	13.8

Signature architects sign on

The public buildings table is the inverse of the distribution section. This is where many of the best known names can be found. RTKL take the top spot, with Foster & Partners second.

TOP 30 IN TRANSPORTATION		Country	Estimated architects dedicated
1	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	157.5
2	Sir Norman Foster & Partners Limited	UK	92.0
3	Lockwood Greene Engineers, Inc	USA	68.7
4	Atkins Lister Drew Limited	UK	54.6
5	Terry Farrell & Partners	UK	46.2
6	HNTB Corporation	USA	45.6
7	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	45.0
8	KHR AS arkitekter	Denmark	40.0
9	Weidleplan Consulting GmbH	Germany	38.0
10	Leigh & Orange, Ltd	Hong Kong	37.6
11	Gensler	USA	28.8
12	Hellmuth, Obata & Kassabaum, Inc	USA	28.2
13	Skidmore, Owings & Merrill LLP	USA	28.0
14	TAMS Consultants, Inc	USA	27.1
15	Leo A Daly	USA	26.7
16	Woods Bagot Pty Ltd	Australia	26.3
17	HBO & EMTB Pty Ltd	Australia	26.0
18	Corgan Associates, Inc	USA	24.0
19	Grupo BAIA SA de CV	Mexico	22.8
20	Building Design Partnership	UK	22.5
21	Niels Torp A/S Arkitekter MNAL	Norway	20.1
22	Richard Rogers Partnership	UK	18.7
23	Arkitek Maa SDN BHD	Malaysia	18.0
23	BDG / McColl	UK	18.0
25	Murphy / Jahn, Inc	USA	17.8
26	Woodhead Firth Lee International	Australia	17.3
27	Zimmer Gunsul Frasca Partnership	USA	17.0
28	Heery International Inc	USA	16.7
29	Spillis Candela & Partners, Inc	USA	15.3
30	Nikken Sekkei Ltd	Japan	15.0

A competitive market

DMJM are first with over half as many firms again as Foster & Partners, in second place. Most of the projects are public structures, and often subject to competitions. Hence the names are famous and usually well-established.

TOP 30 IN EDUCATION		Country	Estimated architects dedicated
1	RMJM	UK	107.2
2	The Ellerbe Becket Company	USA	72.5
3	Fanning / Howey Associates, Inc	USA	68.9
4	Einhorn Yaffee Prescott, Architecture & Engineering P.C.	USA	56.0
5	Lockwood Greene Engineers, Inc	USA	45.8
6	Sasaki Associates, Inc	USA	45.0
7	Zimmer Gunsul Frasca Partnership	USA	42.5
8	Kume Sekkei Co, Ltd	Japan	42.2
9	Vitetta Group	USA	41.0
10	Payette Associates, Inc	USA	39.9
11	NBBJ	USA	39.4
12	Kallmann McKinnell & Wood Architects, Inc	USA	39.2
13	Perkins & Will	USA	38.4
13	FFNS Gruppen AB	Sweden	38.4
13	Henn Architekten Ingenieure	Germany	38.4
16	DLR Group	USA	37.5
17	Gould Evans Affiliates	USA	36.0
18	Nikken Sekkei Ltd	Japan	35.1
19	VOA Associates Inc	USA	34.0
20	Cannon	USA	32.4
21	Heery International Inc	USA	28.9
22	White Arkitekter AB	Sweden	28.6
23	Pei Cobb Freed & Partners	USA	27.3
24	HMC Group	USA	27.2
25	Naniwa Consultants International	Japan	26.4
26	Kajima Design	Japan	25.9
27	Anshen + Allen, Architects	USA	25.7
28	The Smith Group	USA	24.0
29	Narud•Stokke•Wiig	Norway	22.0
30	Hammel Green and Abrahamson, Inc	USA	21.0
30	VBB Architects	Sweden	21.0

RMJM lead the field

RMJM, after a particularly good year are unchallenged leaders in the field of education. The list is otherwise dominated by the US.

TOP 30 IN DEFENCE		Country	Estimated architects dedicated
1	Lockwood Greene Engineers, Inc	USA	45.8
2	Daniel, Mann, Johnson & Mendenhall (DMJM)	USA	35.0
3	Weidleplan Consulting GmbH	Germany	19.0
4	HNTB Corporation	USA	18.2
5	Woods Bagot Pty Ltd	Australia	17.5
6	Ewing Cole Cherry Brott	USA	17.1
7	Percy Thomas Partnership (Architects) Ltd	UK	16.6
8	The Kling Lindquist Partnership	USA	13.2
8	TBV Consult	UK	13.2
10	HBO & EMTB Pty Ltd	Australia	13.0
10	RDC Architects Pte Ltd	Singapore	13.0
12	epr architects limited	UK	12.0
12	Arrowstreet Inc	USA	12.0
14	EMW Eller Maier Walter & Partners, GmbH	Germany	10.0
15	VOA Associates Inc	USA	8.5
15	Rosser International, Inc	USA	8.5
17	Atkins Lister Drew Limited	UK	7.8
18	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	7.5
19	Peckham Guyton Albers & Viets, Inc (PGAV)	USA	6.7
20	Hayes, Seay, Mattern & Mattern, Inc	USA	6.6
21	Chapman Taylor Partners	UK	6.5
22	The Buchan Group	Australia	5.3
23	Cecil Denny Highton Partnership	UK	4.5
24	Broadway Malyan	UK	4.3
25	Norman & Dawbarn Ltd	UK	4.2
26	Page Southerland Page	USA	4.1
27	The Barton Willmore Partnership	UK	4.0
28	Woodhead Firth Lee International	Australia	3.8
29	3D / International, Inc	USA	3.5
30	Heinle, Wischer und Partner, Freie Architekten	Germany	3.3

Defence isn't what it was

In the shrinking defence sector, Lockwood Greene have risen from fourteenth to first place. Percy Thomas Partnership have overtaken TBV Consult to become the UK's leading defence specialist.

TOP 30 IN RESEARCH & TECHNOLOGY		Country	Estimated architects dedicated
1	RMJM	UK	53.6
2	Anshen + Allen, Architects	USA	50.1
3	The Kling Lindquist Partnership	USA	47.5
4	Flad & Associates	USA	40.0
5	Henn Architekten Ingenieure	Germany	38.4
6	NBBJ	USA	34.5
7	Zimmer Gunsul Frasca Partnership	USA	34.0
8	Cannon	USA	32.4
9	Ewing Cole Cherry Brott	USA	25.7
10	HLW International, LLP	USA	24.6
11	Studios Architecture	USA	24.6
12	The Smith Group	USA	24.0
13	Sheppard Robson International	UK	20.6
14	Nikken Sekkei Ltd	Japan	20.0
15	Payette Associates, Inc	USA	20.0
16	Perkins & Will	USA	19.2
17	Weidleplan Consulting GmbH	Germany	19.0
18	Stone Marraccini Patterson	USA	18.0
19	TBV Consult	UK	17.6
20	Hellmuth, Obata & Kassabaum, Inc	USA	16.9
21	Dissing + Weitling Architects A/S	Denmark	14.9
22	Takamatsu + Lahyani - Architects Associates	Germany	14.0
23	The Ellerbe Becket Company	USA	14.0
24	The Fairhurst Design Group	UK	13.8
25	Richard Meier & Partners	USA	13.5
26	The Hillier Group	USA	12.6
27	HLM Design Ltd	UK	12.0
28	Albert Kahn Associates, Inc	USA	10.8
29	Heinle, Wischer und Partner, Freie Architekten	Germany	9.8
30	Giffels Associates, Inc	USA	9.7

A good year for research

In research and technology Kling Lindquist's major new commissions have raised them to third in the league table. The leaders, RMJM, have themselves risen from tenth place last year.

TOP 30 IN CRIMINAL JUSTICE		Country	Estimated architects dedicated
1	Hellmuth, Obata & Kassabaum, Inc	USA	62.0
2	NBBJ	USA	34.5
3	Kaplan / McLaughlin / Diaz	USA	32.5
4	L Robert Kimball & Associates, Inc	USA	26.0
4	HKS Architects, Inc	USA	26.0
6	Vitetta Group	USA	25.7
7	Spillis Candela & Partners, Inc	USA	20.4
8	Cox Architects & Planners	Australia	20.0
9	Ewing Cole Cherry Brott	USA	17.1
10	Zimmer Gunsul Frasca Partnership	USA	17.0
10	Rosser International, Inc	USA	17.0
12	DLR Group	USA	16.1
13	Atkins Lister Drew Limited	UK	15.6
14	Gruzen Samton Architects, Planners & Interior Designers	USA	14.8
15	Henningson, Durham & Richardson, Inc	USA	13.8
16	RMJM	UK	13.4
17	Kohn Pedersen Fox Associates PC	USA	13.3
18	TBV Consult	UK	13.2
19	Heery International Inc	USA	10.6
20	3D / International, Inc	USA	10.4
21	Graeber, Simmons & Cowan, Inc	USA	10.3
22	EMW Eller Maier Walter & Partners, GmbH	Germany	10.0
23	Hansen Lind Meyer	USA	9.9
24	John Seifert Architects	UK	9.8
25	HLW International, LLP	USA	8.2
26	Schenkel & Shultz, Inc	USA	8.1
27	Weidleplan Consulting GmbH	Germany	7.6
27	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	7.6
29	The Leonard Parker Associates Architects Inc	USA	7.3
30	HBO & EMTB Pty Ltd	Australia	6.5

US in command

In criminal justice (a new category), it is no surprise that the US dominates. The UK's major prison-building programme has helped to ensure the presence of four British firms in the list.

TOP 30 IN HOTEL / RESTAURANTS		Country	Estimated architects dedicated
1	Wimberly Allison Tong & Goo	USA	170.0
2	Kanko Kikaku Sekkeisha (Y Shibata & Associates)	Japan	53.1
3	Kajima Design	Japan	45.4
4	HKS Architects, Inc	USA	39.0
5	Woodhead Firth Lee International	Australia	38.4
6	Peddle Thorpe Group Architects & Planners Ltd	Hong Kong	30.0
7	Brennan Beer Gorman / Architects	USA	27.0
8	The Buchan Group	Australia	26.7
9	Peter Jöhnk / Ransley Jöhnk	Germany	26.6
10	GMW Partnership	UK	24.6
11	Smallwood, Reynolds, Stewart, Stewart & Associates, Inc	USA	22.8
12	John Seifert Architects	UK	22.8
13	RTKL International Ltd	USA	22.7
14	Gensler	USA	21.6
14	Grupo BAIA SA de CV	Mexico	21.6
16	Nikken Sekkei Ltd	Japan	20.0
17	Cox Architects & Planners	Australia	20.0
18	NBBJ	USA	19.7
19	Leigh & Orange, Ltd	Hong Kong	18.8
20	Cooper Carry & Associates, Inc	USA	17.4
21	VOA Associates Inc	USA	17.0
22	Niles Bolton Associates, Inc	USA	14.7
23	epr architects limited	UK	14.4
24	RHWL Partnership	UK	14.2
25	Jung / Brannen Associates, Inc	USA	13.6
26	HBO & EMTB Pty Ltd	Australia	13.0
27	Kume Sekkei Co, Ltd	Japan	12.5
28	Sir Norman Foster & Partners Limited	UK	11.5
29	McKerrel Lynch	Australia	11.4
30	Hellmuth, Obata & Kassabaum, Inc	USA	11.3

Something for everyone

In hotels and restaurants, Wimberly Allison Tong & Goo are a towering presence, dedicating over three times as many architects as any other firm. Otherwise the top 10 are fairly eclectic in terms of nationality. Foster & Partners make an intriguing entry at number 28.

The *World Architecture* Hanscomb Cost Index

The Hanscomb Index is compiled by the Hanscomb group of companies, international construction consultants and project managers. The editors of this series with *World Architecture* are Gary Mardon and Tom Wiggins – in Hanscomb's London and Atlanta offices respectively – who coordinate input from over 70 countries around the globe.

HIGHLIGHTS

The European recovery is lethargic

Construction output is rising slowly. Still, some areas show strong activity. The rebuilding programme in eastern Germany continues to keep German construction active, and an upswing in activity is beginning at last in Scandinavian countries.

Construction in US and Canada on increase

Construction activity in both the US and Canada continues to increase at a steady but unspectacular rate. There are some signs that commercial development may revive as vacancy rates continue to recede. After a long period of decline California and the West are seeing a revival of capital investment. Construction prices are relatively stable.

Asia remains active

The building boom continues in Indonesia with a continuing demand for mixed use developments. There is plenty of activity in the Philippines and Korea. Hong Kong's investment in development continues, fueled by Chinese funds, but the pace of construction is slowing. The construction market in India may experience a brief period of softness as investors wait to see if the new government will change current investment policies.

Boom in Shanghai construction fading

The Shanghai construction boom is starting to fade. Shanghai is about to experience the "Houston Disease". Within the next 12 months a large amount of new office space will add to the current glut of Class A space. The pent up supply of office space will greatly exceed the anticipated demand. Rents are already starting to fall.

Japanese building industry volatile

The anaemic Japanese economy continues to play havoc with the construction industry where the mood is definitely very pessimistic. The industry in Japan supports 6.5 million workers and a Ministry of Construction forecast suggests this will reduce to 4.5 million in the next five years. Construction prices have fallen as the traditional Japanese contractor-lead practice of design-build in the private sector begins to unravel. Japanese contractors, due to their high-price structure, have not had much success in following their clients overseas as investment moves out of the country for South East Asia, Europe and the US.

INDEX FIGURES

How Hanscomb arrive at index figures

The measurement of price differentials between countries is particularly hazardous and it is important that our readers understand how Hanscomb arrive at their index figures which appear on the these pages:

- Construction to "Western" (ie USA/ Western Europe) standards at location.
- Chicago, Illinois, USA is the index base (100) and comparisons are as of July 1996.
- The index reflects construction at the outskirts of principal cities, not for rural or highly urban locations.
- The index does not attempt to compare price differentials for highly sophisticated buildings such as hospitals or laboratories, which may show a different pattern of index variation from simpler building types.
- Exchange rates used to calculate the indexes are as stated.
- Due to the vagaries of comparing construction prices, an index range is provided.
- The index reflects differences in construction prices only and excludes any arising from site costs, furnishings and equipment, design and management fees, financing, Value Added Taxes or any other recoverable tax. Therefore, we recommend that the Index be considered as a general guideline only and not as a definitive statement.

	Currency	Exchange Rate to US$*	Index Range Low	High
EUROPE				
Austria	Asch	10.39	140	162
Belgium	BFr	30.46	139	153
Czech	Koruna	26.62	91	105
Denmark	Krone	5.70	154	170
Finland	Markka	4.48	125	138
France	FFr	5.01	131	145
Germany	DM	1.48	148	164
Great Britain	£	0.64	113	132
Greece	Dr	236.00	112	124
Hungary	Forint	153.00	94	109
Ireland	I£	0.62	113	125
Italy	Lira	1524.00	120	133
Netherlands	Guilder	1.66	133	147
Norway	Krone	6.38	134	148
Poland	Zloty	2.70	96	111
Portugal	Escudo	152.00	102	113
Russia	US$	1.00	105	129
Spain	Peseta	126.00	98	108
Sweden	Krona	6.57	144	159
Switzerland	SFr	1.20	162	179
Turkey	Lt	83236.00	72	88
NORTH & SOUTH AMERICA				
Argentina	Peso	1.00	79	97
Bahamas	US$	1.00	98	114
Brazil	Real	1.01	71	87
Canada	US$	1.38	80	88
Chile	Peso	410.00	78	95
Columbia	Peso	1059.00	77	93
Jamaica	$J	34.00	81	94
Mexico	Peso	7.43	69	80
Panama	US$	1.00	76	88
Peru	N Sol	2.44	70	84
Puerto Rico	US$	1.00	91	105
United States	US$	1.00	95	105
Uraguay	Peso	8.16	69	84
Virgin Islands	US$	1.00	102	118
Venezuela	Bolivar	470.00	67	82
MIDDLE EAST				
Egypt	E£	3.40	78	91
Israel	NShekel	3.17	83	97
Kuwait	Dinar	0.30	95	110
Lebanon	L£	1567.00	85	104
Oman	Rial	0.39	90	105
Qatar	Riyal	3.64	93	108
Saudi Arabia	Riyal	3.75	98	114
UAE	Dirham	3.67	100	116
AFRICA				
Nigeria	Naira	83.20	82	95
South Africa	Rand	4.46	80	93
Zimbabwe	$Z	9.96	84	97
ASIA & AUSTRALIA				
Australia	$A	1.27	95	105
China	R. Yuan	8.31	95	129
Hong Kong	$HK	7.73	132	153
India	Rupee	35.67	88	102
Indonesia	Rupiah	2336.00	84	102
Japan	¥	109.00	171	199
Malaysia	Ringgit	2.49	80	93
New Zealand	$NZ	1.43	102	113
Pakistan	Rupee	35.40	76	89
Philippines	Peso	26.20	93	108
Singapore	$S	1.42	117	136
South Korea	Won	814.00	102	124
Taiwan	$T	27.25	108	125
Thailand	Baht	25.31	78	90
Vietnam	Dong	10970.00	88	108

* The Index uses exchange rates at July 1996.

Price comparison considerations

- Local climatic and seismic design considerations and requirements.
- Variances in codes and regulations and their interpretation. This is particularly true in developing countries where the differences between local standards and "Western" (ie USA/Western Europe) standards are more distinct.
- Labour productivity, availability of skilled labour, restrictions on importation of labour and work permit fees. In some developing countries labour is not familiar with modern materials and equipment.
- Cultural and social norms vary. This has wide ranging cost implications, such as materials used, building style, configuration and size, and net/gross ratios.
- Impact of local planning authorities on both layout and design.
- Availability of materials and the impact of import duties.
- In developing countries, there is frequently a shortage of "Western" standard mechanical and electrical equipment.
- Variances in taxation policies. For example, Value Added Taxes vary from country to country and in some instances may be abated in part or in whole.
- Local market conditions, bidding strategies and profit level expectations.
- Inflation rates can vary significantly between countries.
- Differences in acceptable quality levels.
- Availability and reliability of infrastructure.
- Finally, fluctuating currency exchange rates – which have nothing to do with construction – but affect any comparison of prices brought to a level of equivalency. **WA**

Consulting the consultants

Once again the same names dominate the rankings. Enginners, consultants, managers and contractors voted into the top three by architects submitting *World Architecture* survey forms. What is it about the world's leading consultants that makes the world's leading architects vote for them year after year. Who better to ask but the consultants themselves?

Top structural engineer and service engineer: Ove Arup

Pride of place goes to Ove Arup & Partners, winners in both structural and service engineer's categories.

Duncan Michael, Chairman of Ove Arup, defines Arup's philosophy: "We set out to do every job perfectly," he says, "and therefore we seek out excellent people to work with. The fact that just about every job achieves less than perfection doesn't stop us trying to do it right next time. We have our own culture which includes excellence and the built environment".

"We are very conscious that you are only as good as your current job, so we don't spend a lot of time patting ourselves on the back. Prizes are pinned to random walls and are displayed personally, not corporately. We have no presumption that next year will be the same. We do not use the achievement of this prize in a survey as a goal in itself."

It's a testament to the contribution that Arup has made to structural engineering that the runner-up, Buro Happold was itself founded by Arup alumni.

Top project/construction managers: Turner Construction

As with the structural and service engineering tables, leadership in the project management and contractor tables goes to just one company, Turner Construction who operate throughout the US and the Caribbean.

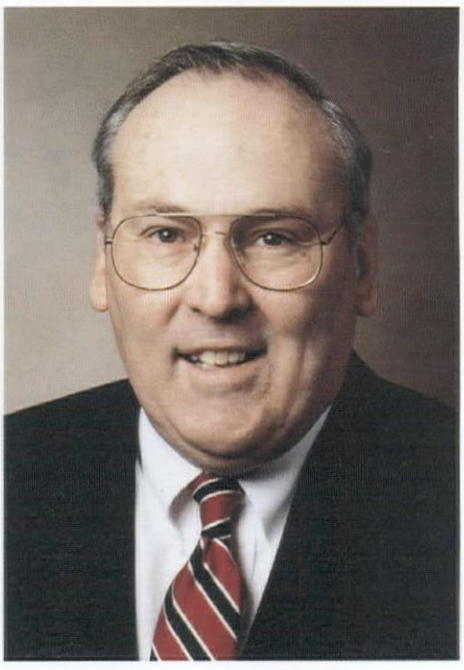
Despite the company's pre-eminence its President and CEO, Harold Parmelee – who has been with the company since graduating in 1960 – is genuinely surprised and delighted to have achieved to have been voted the top project/construction managers in *WA*250.

"As a company we feel very privileged to receive this recognition," he says. "I would hope that it relates to our deep interest in working with architects and clients alike, in reflecting our goals and objectives."

Turner are proud of the fact that over 60 percent of their work is repeat business and consider it a good indication of their ability to render the type of service most valued by those who build.

Turner Construction is a partner in the consortium formed to develop Heathrow Airport's

Duncan Michael, Chairman of Ove Arup



Harold Parmelee, President and CEO, Turner Construction

Terminal 5, UK. They are looking to use the expertise gained working in transport projects in the US and the Caribbean where the large distances between states has led to plans for many more airport developments.

Top construction cost consultants: Davis Langdon & Seah International

Occupying a similarly solid position are favourite cost consultants Davis Langdon & Seah International (DLSI). But partner Alistair Collins is not blasé.

"The scale of *World Architecture*'s survey is truly international and it is a singular honour for us to have been voted top international cost consultant for the fourth year running."

"We feel that our award is very much a vote of confidence in all the people who make up DLSI ," says Collins " and to the people in our colleagues' and clients' organisations, whose mutual support and co-operation combine to create and maintain our world reputation."

"Such dependable support is essential to an international practice such as DLSI, working as we do in world markets which respond to so many differing economic rhythms and influences."

DLSI have seen the UK easing out of deep recession, with the return of private sector investment confidence, and new property developments increasing, whilst the public sector adapts to new procurement and financing structures, introduced by the Private Finance Initiative and Lottery funding of construction projects. All this while the Asia Pacific markets continue to burgeon, with rapidly emerging markets such as Vietnam and India requiring quick and effective responses from consultants.

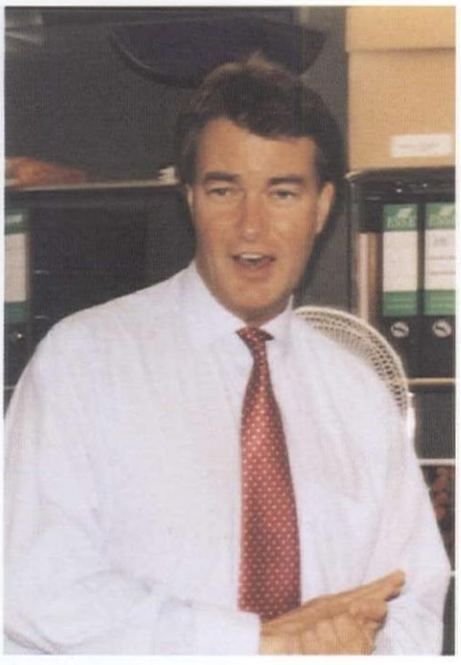
Voted top cost consultants in the US: Hanscomb

Second overall and voted first by North American architects is Hanscomb, who celebrate their fiftieth anniversary this year. Brian Bowen, President of Hanscomb Inc thinks that one of the reasons for their success has been the merger of European and North American approaches to cost management – the one solidly based in the meticulous quantity surveying approach, the other drawing on interactive and collaborative team effort.

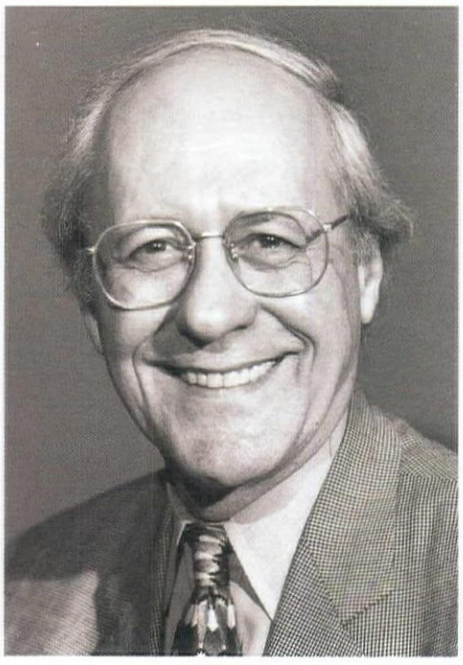
"I think there is another factor at play here," says Bowen, "the marketplace is becoming increasingly global and Hanscomb has positioned itself ideally to service its clients wherever they may have a project". The company now operates out of 40 offices in 13 countries and has established strategic alliances with compatible organisations in a further 19 countries. Last year the number of countries in which Hanscomb completed projects rose to 105 with the completion of their first project in Ulan Bator, Mongolia.

In fact, Hanscomb has been particularly successful in providing a range of project management and control services to US, European and Asian multi-nationals as they move around the world. With increasing trends to outsourcing by many companies, Bowen sees continuing growth in this sector world-wide.

"With over half of the Hanscomb Group's business in North America, we are seeing considerable growth and emphasis on our construction project management services. When we first came here, there were no quantity surveyors, so we used the skills and the training we had been given and adapted them to the local construction industry. Without the tyranny of 'Bills of Quantities' it gave us quite a different perspective on the market place." **WA**



Alistair Collins, Partner of DLSI



Brian Bowen President of Hanscomb

FAVORITE CONSULTANTS QUALITY OF SERVICE VOTES

The top 250 practices voted for the best Structural Engineers, Construction Cost Consultants, Service Engineers, Project Managers and Building Contractors which in the opinion of the architects provides the best overall quality of service.

Top 3 Structural Engineers

1 Ove Arup
2 Oscar Faber
3 Buro Happold

Top 3 Construction Cost Consultants

1 Davis Langdon & Seah International
2 Hanscomb
3 Gleeds

Top 3 Service Engineers

1 Ove Arup
2 Roger Preston International
3 Flack & Kurtz

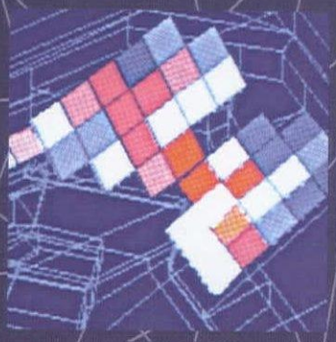
Top 3 Project / Construction Managers

1 Turner Construction
2 Bovis
3 Ove Arup

Top 3 Building Contractors

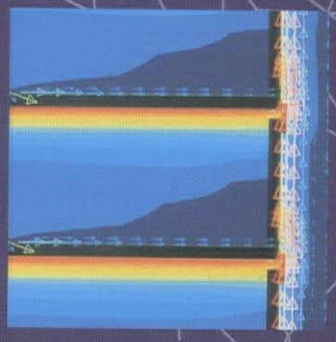
1 Turner Construction
2 Laing Construction
3 Bovis

DIGITAL ENGINEERING

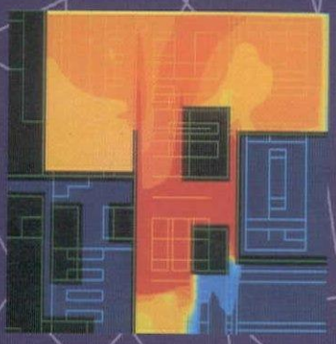


ACOUSTICS

ENVIRONMENTAL



FACADES



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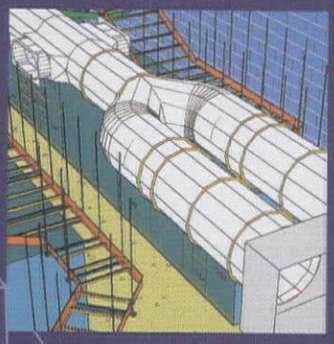
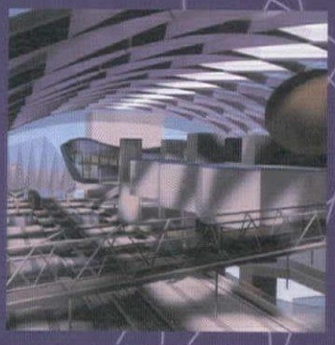


SERVICES



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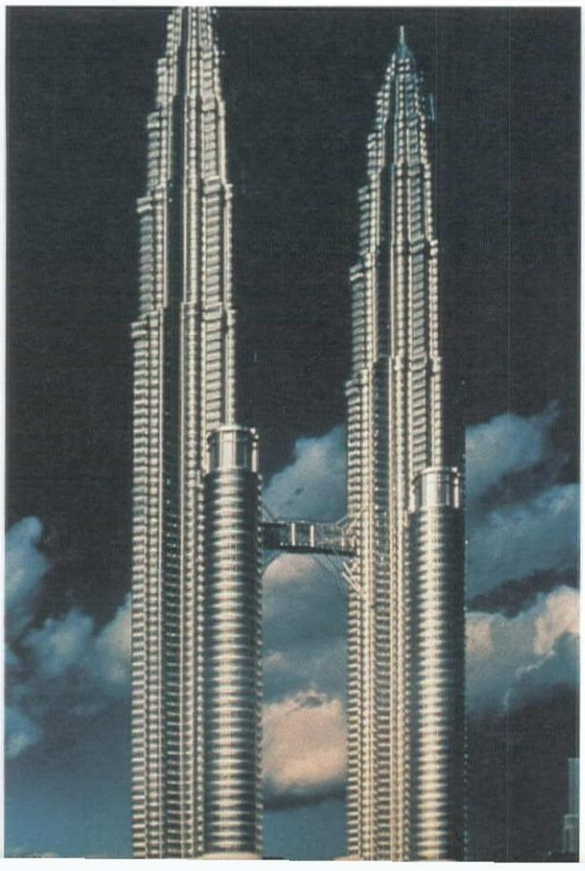
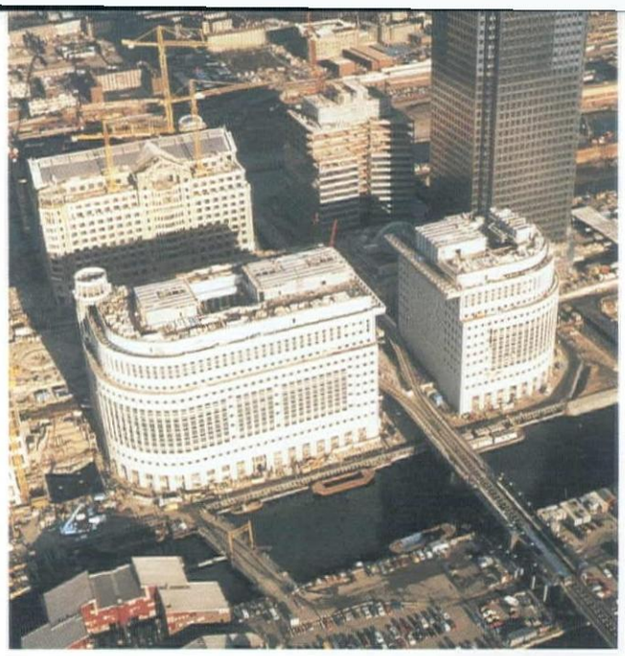
Flack + Kurtz
Consulting Engineers, LLP

Since its founding in 1969, Flack + Kurtz has established itself as one of the industry's premier international engineering firms. Under the leadership of Peter Flack and Norman Kurtz, the firm has built a solid reputation through its work with many of the world's most prominent corporations, institutions, and architects. The firm provides complete services in **mechanical, electrical, plumbing, fire protection, audiovisual and security systems design, lighting design, and telecommunications**. Flack + Kurtz is also a leader in "sustainable" building design and "intelligent" building engineering applications for tall buildings. The firm has worked on a wide range of facilities, including office buildings, sports arenas, airports, universities, and government complexes. **In its worldwide surveys of the past four years, *World Architecture* magazine named Flack + Kurtz one of the top three engineering firms in the world.**

A representative list of projects includes: Canary Wharf, Goldman Sachs & Co. UK Headquarters, and Thames Court in **London**; Das Business Center at Checkpoint Charlie in **Berlin**; World Financial Center in **New York City**; World Bank Headquarters in **Washington D.C.**, and Museum of Modern Art, and Main Public Library in **San Francisco**. Flack + Kurtz has designed corporate headquarters for Viacom, JP Morgan and Lucent Technologies in New York, and has worked for such educational institutions as Harvard, Princeton, Yale and Vanderbilt Universities. At present, Flack + Kurtz is completing renovations to Madison Square Garden and Penn Station in New York, as well as completing construction on Fleet Center in **Boston** and United Center in **Chicago**.

Flack + Kurtz is a powerful presence in the emerging Far East and South East Asian markets, particularly in **Malaysia, Korea, China, Hong Kong, Philippines, Indonesia and Thailand**. Project include: Kuala Lumpur City Centre in Malaysia, soon to be the tallest building in the world; corporate headquarters for Samsung, Dacom, Daelim and Sunkyong in Seoul, Korea; Second International Bangkok Airport in Bangkok, Thailand and Shangai Stock Exchange in Shanghai, China.





Top *Canary Wharf, London.* ***Centre*** *and* ***above*** *Goldman Sachs, London.* ***Left*** *Kuala Lumpur City Centre, Malaysia*

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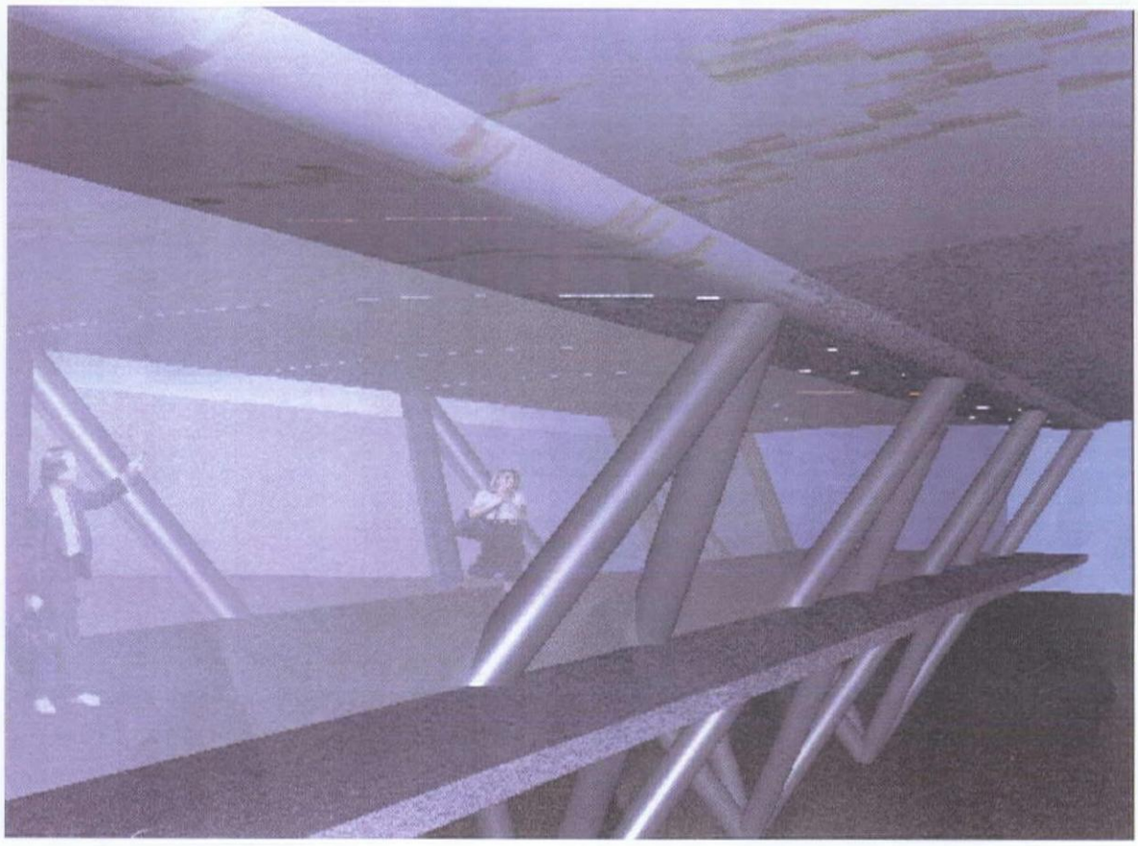

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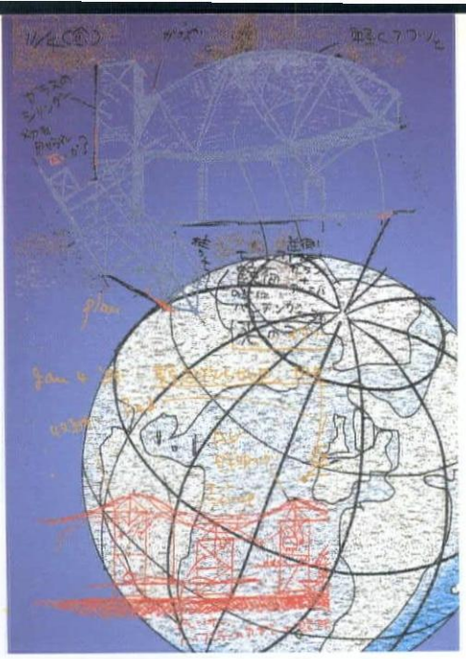

The 1997 World Survey Profile showcase

Profile showcases are the definitive reference source for global architecture, planning and design expertise.

Profile Entries

Pages 2, 42-87, 96 contain an alphabetical listing of leading international architectural, engineering and design firms. Each entry includes comprehensive information on the history and selected achievements of the firm, their areas of specialisation and the contact locations.

Location Index

For quick reference to the *WA*250 refer to the index on pages 88-93 which contain contact details for all 250 firms, listed by country, or the alphabetical index on pages 94-95.

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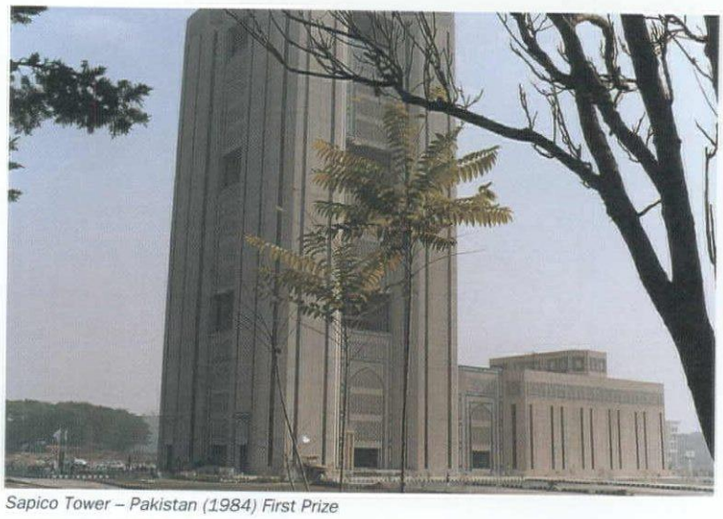
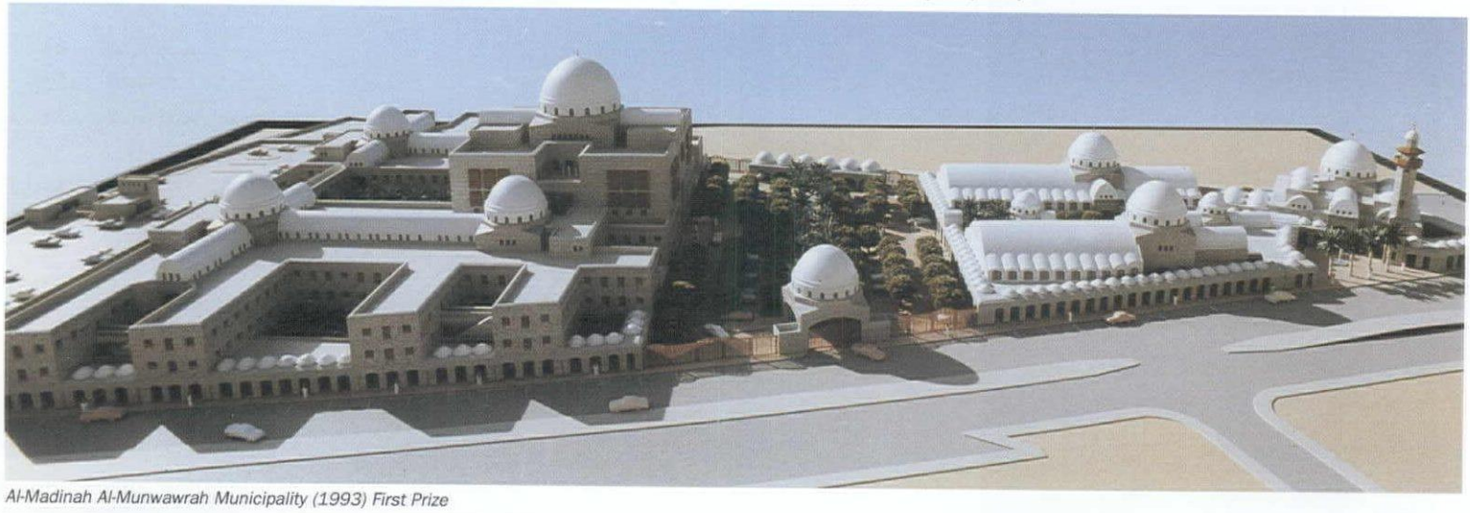
DQ Central Area – Riyadh, OAC award (1990)



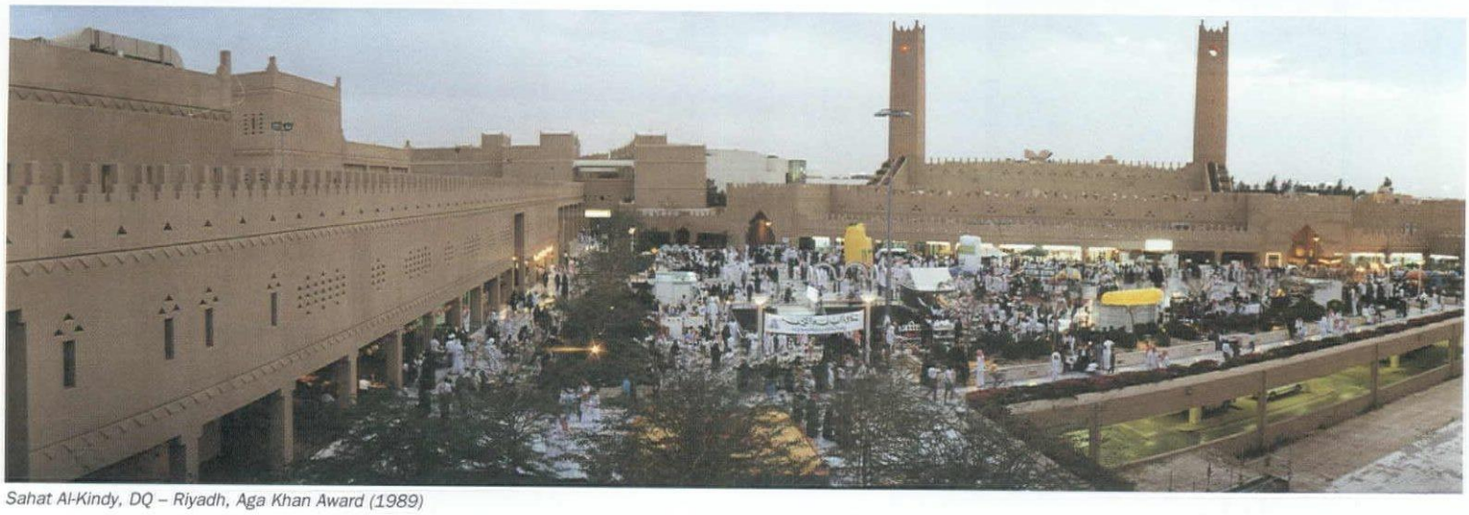
Sapico Tower – Pakistan (1984) First Prize

Ministry of Education –Riyadh (1993) First Prize

Science Complex – Riyadh (1987)



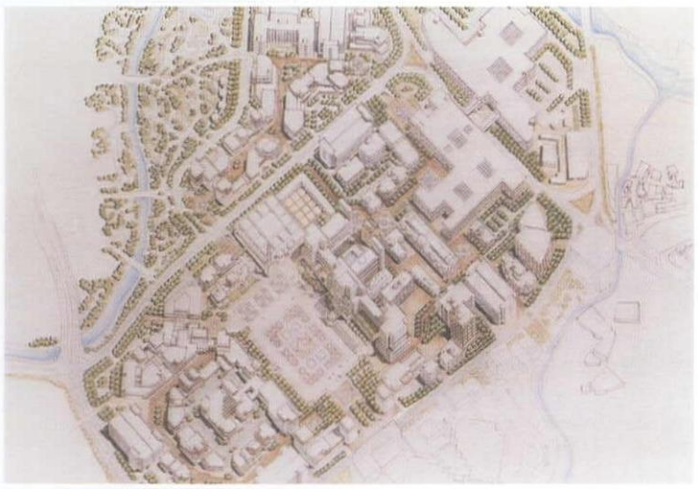
Al-Madinah Al-Munwawrah Municipality (1993) First Prize



Sahat Al-Kindy, DQ – Riyadh, Aga Khan Award (1989)

Development of Justice Palace District – Riyadh (1980)

Khamis Mushait Central Area Development (1990)



ABHA Central Area Development – ABHA (1987)

Nakheel Housing Development – Riyadh (1992)

Beeah

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Saudi Arabia
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Fax: +966 1 455 0664

Practice Profile

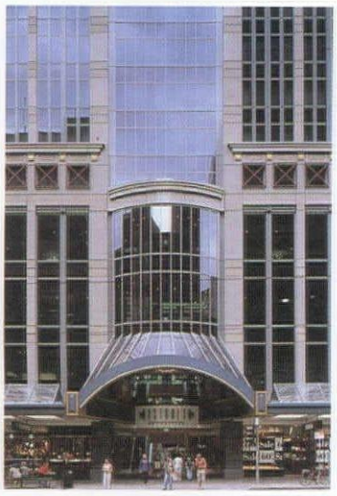
Beeah was established by Abdul-Rahman O Hussaini and Ali Shuaibi in 1975. It provides services in planning, design, engineering and construction management for the development of regions and cities; the design of buildings; interior design, and civil works. The projects have been undertaken in ten countries in East Africa, North Africa, the Middle East and South Asia.

Beeah adopted the comprehensive team approach, whereby a team is formulated for each project, from inception to completion. Consequently the bee was chosen as the symbol for company, as the bee works for the benefit of its society.

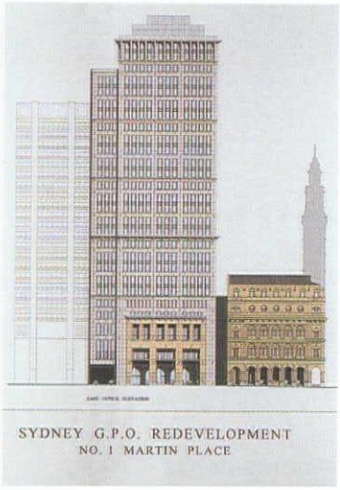
The practice currently has 170 employees, with over 60 architects. During the last 20 years the practice has been involved in a number of urban and regional planning projects; neighbourhood developments; city centre developments; sports centres; multi-use towers; shopping centres; hotels; museums, and corporate headquarters.

The work of Beeah won a number of international awards including the AgaKhan Award for Architecture in 1989; the Architectural Award of the Organisation of Arab Cities in 1990; the Marmi e Macchine Award in 1990, in addition to numerous first prize awards in design competitions.

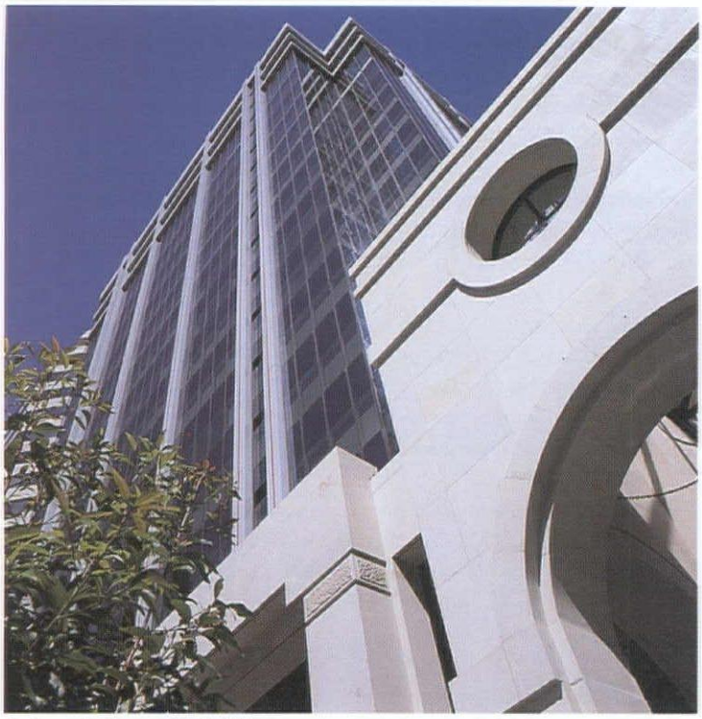
The practice emphasises the importance of design of vivid spaces, sustainability, social and cultural values, local integration and client/user participation.



Australia on Collins, Melbourne, Victoria



1 Martin Place, Sydney, New south Wales



St George's Square, Perth, WA

Conrad Treasury Casino, Brisbane, Queensland

THE BUCHAN GROUP

Architects, Planners, Interior Designers

Australia

Brisbane
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Tel: +61 7 3859 9222
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Fax: +64 9 524 7583

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Kuala Lumpur
Contact: Phil Courtis
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Fax: +60 3 201 4069

Practice Profile

In the past decade the Buchan Group has designed and delivered some of the largest and most successful developments in Australia. Our work has included large-scale mixed-use developments, hotel and tourism projects, office towers, education, civic and institutional facilities, shopping centres and themed leisure and entertainment amenities.

Our network of offices extends across Australia to New Zealand and South East Asia. We provide a total service, including architecture, planning, interior design, graphics and landscape architecture. We have the experience and resources to deliver large and complex projects which achieve the objectives of our clients.

Current and recent projects include

Mixed-use developments:
Australia on Collins, Melbourne
1 Martin Place, Sydney
Southgate, Melbourne

Office developments:
St George's Square, Perth
The Quadrant, Perth
342 Wickham Street, Fortitude Valley, Queensland

Hotels, Resorts, Apartment Towers:
Cable Beach Club, Broome, WA
City Lights Apartments, Perth
Conrad Jupiters Hotel & Casino, Gold Coast, Queensland
Conrad Treasury hotel & Casino, Brisbane
Grand Hyatt Hotel, Sydney
Novotel on Collins, Melbourne
Park Hyatt hotel, Melbourne
Sheraton Towers, Southgate, Melbourne

Health:
Geelong Hospital, Victoria
Kaleeya Private Hospital, Perth
Royal Hospital for Women, Sydney
St John of God Hospital, Geelong, Victoria
St John of god Hospital, Subiaco, WA
South West Health Campus, Bunbury, WA

Education:
Caulfield Grammar School, Melbourne
Centre for Aboriginal Studies, Curtin University, WA
Geelong Grammar School, Victoria
Presbyterian Ladies' College, Perth
University of Notre Dame in Australia, WA

Retail:
Cairns Central, Queensland
Chadstone Shopping Centre, Melbourne
Grand Plaza, Browns Plain, Queensland
Henderson Square, Auckland
Highpoint, Melbourne
Sydney Central Plaza, Sydney
The Mines, Selangor, Malaysia

Bundesbank, Frankfurt am Main, competition

Provinzial Feuersozietät, Münster

Tête Défense, Paris, competition

Architekturbüro

Prof Dipl-Ing Harald Deilmann

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Fax: +49 (0) 211 4543154

Karl-Liebknecht-Str 21
14482 Potsdam
Tel: +49 (0) 331 7481611
Fax: +49 (0) 331 7482031

Key Personnel
Principal: Harald Deilmann

Management Team:
Thomas Deilmann
Peter Junglas
Heinz Leyer
Carl Schagemann
Peter Tormin

Size of Firm
75 employees

Recent Clients

Westd Landesbank	Bundesbauministerium
Deutsche Bank	Bauministerium NRW
Commerzbank	Stadt Essen
Provinzialversicherung AG	Stadt Düsseldorf
ECE Projektentwicklung	Dresdner Bank
Karstadt AG	RWI/WestLB
LVA Rheinprovinz	Stadt Münster
Philipp Holzmann AG	Allianz Vers AG
LVA Brandenburg	Westd Spielbanken GmbH
Rhein Sparkassen & Giroverband	Nordwestlotto
LVA Sachsen	Finanzministerium Brandenburg
Finanzminister Sachsen Anhalt	Ferdinand Probst GmbH

Practice Profile
The practice was established in 1955, and the Düsseldorf and Potsdam offices were opened in 1973 and 1991 respectively. All three offices maintain high architectural standards, offering full services from project development through to completion and guaranteeing optimum results. Project teams are established and directed by qualified, experienced staff.

Areas of Specialisation
The firm offers overall planning for a wide range of architectural tasks and commissions, including project management, cost control and quantity surveying. The firm specialises in masterplanning, urban design and renewal, and interior design.

Additional Information
The practice works in close cooperation with specialist engineers and experts in the fields of structural engineering, climate control, acoustics, and landscape architecture.

As the principal is a university professor of building design and town planning, the firm is constantly in touch with innovative research and technology.

DISSING+WEITLING arkitektfirma a/s

Nordrhein-Westfalen Art Museum, Germany

Suspension bridge across Storebælt, Denmark

Bus shelter, Valles TransMedia, Denmark

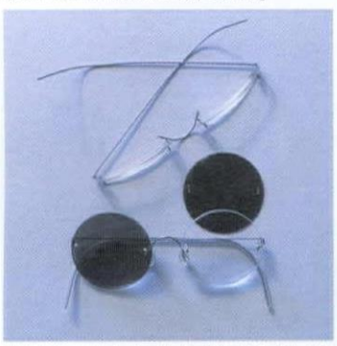
Novo Nordisk A/S, Research Centre, Denmark

Tam Kang Bridge, Taiwan

The National Bank of Denmark

Novo Nordisk Pharma GmbH, Germany

The Central Bank of Iraq


AIR Titanium spectacles, Lindberg Optik Design A/S

Telecommunication Tower, Germany

Reinhard Tölke Teit Weylandt Jimmy Hansen Otto Weitling Pouli Hoffgaard Møller Poul Ove Jensen Reinhard Schmidt-Petersen Dieter Fremerey Hans Dissing Bodil Schaltz Erik Handschuh

Head Office
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DK-1414 København K
Tel +45 32 83 50 00
Fax +45 32 83 51 00

Directors
Poul Ove Jensen
Reinhard Tölke

Size of firm
108 staff, 11 partners

DISSING-WEITLING arkitektfirma a/s was established in 1971 as a continuation of the office Professor Arne Jacobsen had founded and run since the early thirties.

DISSING+WEITLING, one of the leading architectural firms in Denmark today, has achieved a significant international reputation it its own right, gained through the realisation of many notable projects abroad.

Comprising 11 partners and approximately 90 architects, designers, technical specialists and administrative staff, the firm has a structure, size and composition that guarantees both capacity and flexibility. At the same time, the organisation of the firm into working groups under each partner ensures close personal involvement on each individual project.

The firm's broad range of specialist staff allows for a wide scope of activites, ranging from traditional architectural work within the building sector, through town and landscape planning, to consultancy work in connection with large industrial facilities and civil engineering projects, together with industrial design, product development and graphic design.

The firm places great weight on its in-house support facilities, including quality assurance, building management and economy , the firm's own model workshop and photo studio, as well as an established and extensive use of Desktop Publishing, CAD, and 3-D Visualisation.

The firm is frequently invited to participate in domestic and international architectural competitions, resulting in a number of prestigeous commissions. Over the years, DISSING+WEITLING has also received numerous awards for completed buildings, both in Denmark and abroad.

Clients range from private individuals and companies, to public authorities and national institutions. DISSING+WEITLING serves as the appointed architect for the Danish Parliament, the Central Bank of Denmark and the Ny Carlsberg Glypotek Art Museum.

In the private sector, DISSING+WEITLING has worked extensively for the Danish based, major international pharmaceutical company Novo Nordisk A/S and over many years has been responsible for a considerable number of laboratories, production facilities and administration buildings.

Within the field of industrial design and product development, a special area of activity within the firm, DISSING+WEITLING has produced many award winning designs. The firm is involved in products ranging from furniture and fittings, lighting and ventilation fixtures to glasses, street furniture, signage systems and graphic design.

DISSING+WEITLING have entensive experience in large scale civil engineering projects, including the design of a 290m high telecommunication tower in Hannover, the VLT observatory on Paranal Mountain, Chile as well as bridges in 10 different countries, including the 18 km long Great Belt Link between the Danish islands of Zealand and Funen, highlighted by the design of a suspension bridge with a clear mainspan of 1824m, which will be one of the world's longest.

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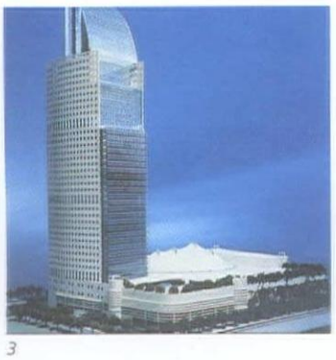

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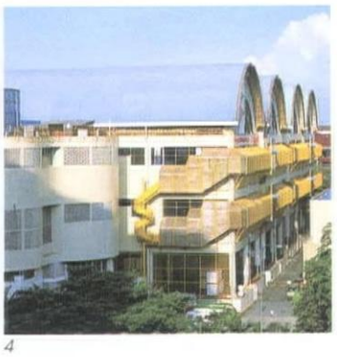

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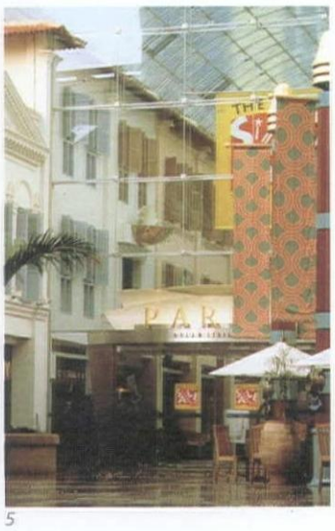

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1 SAFRA Resort & Country Club, Singapore
2 Pasir Panjang Hill Townhouses, Singapore
3 Kota BNI (Wisma 46), Jakarta
4 Yeo Hiap Seng Factory, Singapore
5 Bugis Junction, Singapore
6 Berjaya Star City, Kuala Lumpur
7 PSA Vista, Singapore
8 The Bayshore, Singapore

8

DP ARCHITECTS PTE LTD
6 Raffles Boulevard
#04-100 Marina Square
Singapore 039594
Tel (65) 338 3988
Fax (65) 3379989

Malaysia
Philippines
Indonesia
Hong Kong

Key Personnel

Chan Sui Him, DIP Arch MA(S'PORE) FSIA APAM MSIP
Gan Eng Oon, DIP Arch(S'PORE) FSIA APAM FSProjM
Koh Seow Chuan, B Arch(MELB) MSIA APAM RIBA FRAIA
Francis SW Lee, DIP Arch(B'HAM) B SC Arch(Aston) MSIA
Arthur SY Loh, B Arch DIP T & RP(MELB) MSIA RIBA FRAIA MSIP
Vikas M Gore, MA Urban Design(Washington) B ARCH(Bombay) Cert of Eq(Canada)
Herman SC Teoh, B Arch(S'PORE) MSIA APAM
Ti Lian Seng, B Arch(AUCK) MSIA
Teoh Hai Pin, DIP Arch MA Arch(Sheffield) MSIA RIBA
Wu Tzu Chiang, B Arch(S'PORE) MSIA

Major Projects

- Berjaya Star City, Kuala Lumpur: mixed development consisting of retail, theme park, hotel and service suites
- Bugis Junction, Singapore: mixed development consisting of retail, offices, hotel and a cineplex
- Century Square, Singapore: retail and a cineplex
- Institute of Microelectronics/Information Technology Institute, Singapore
- Kota BNI (Wisma 46), Jakarta: office tower
- Laguna National Golf & Country Club, Singapore
- Millenia, Singapore: mixed commercial development consisting of retail, hotels and an office tower. In association with Kevin Roche, John Dinkloo & Associates; Philip Johnson, John Burgee Architects
- Marina Square, Singapore: mixed development consisting of retail, hotels, offices, and a cineplex. In association with John Portman Associates
- Nanyang Polytechnic, Singapore. In association with Gwathmey Siegel Associates
- PSA Vista, Singapore
- SAFRA Resort & Country Club, Singapore
- SAFTI Military Institute, Singapore. In association with Mitchell Giurgola & Thorpe Associates
- Suntec City, Singapore: convention and exhibition centre, retail and offices. In conjunction with Tsao & McKown(S) Pte Ltd
- Temasek Polytechnic, Singapore. In conjunction with Michael Wilford & Partners
- The Bayshore, Singapore: condominium development
- The Esplanade (SAC), Singapore: Singapore Arts Centre consisting of a lyric theatre, concert hall and commercial facilities. Jointly undertaken with Michael Wilford & Partners
- Wisma Atria, Singapore: mixed development consisting of retail and offices.

Practice Profile

Design Partnership was established in Singapore in 1967. The subsequent expansion of the firm led to its being incorporated as DP Architects in 1975. Regional offices currently operate in Kuala Lumpur, Jakarta, Manila, and Hong Kong.

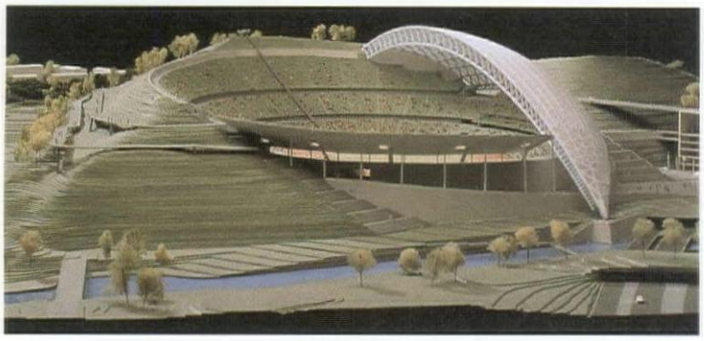
Areas of Specialisation

The firm's range of professional services comprises all aspects of architecture, masterplanning, urban planning, interiors and graphic design.

Projects include: colleges, conservation projects, hotels, recreation and resort facilities, residential developments, industrial complexes, major shopping centres, office buildings, transport facilities, convention and exhibition centres and technology parks as well as the masterplanning of development projects.

The office has an extensive and a very advanced CADD system. It is used at various work stages, from schematic design and design development, which includes rendering and 3-D modelling studies, to contract documentation and project administration.

FFNS is well established in Europe through their own offices (red dots) and the extensive DI network (yellow)



1

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FFNS Gruppen AB

Architects Planners Project Managers

Head Office
Engelbrektsplan 1
PO Box 5503
S-114 85 Stockholm, Sweden
Tel: +46 8 700 30 10
Fax: +46 8 611 12 52

Other offices
Brussels – Designers International's head office
Berlin
Düsseldorf
Leipzig
Göteborg
Malmö
Umeå
Örebro
etc., in total 25 offices in Sweden

Key Personnel
International Operations:
Leif Åberg President
Jonas Belfrage Marketing

Germany - Directors:
Ulf Bohne, Christian Giese
Düsseldorf & Berlin
Dieter Bystrich Leipzig

Sweden - Directors:
Örjan Wikforss Architecture
Hans Olson Industry Projects
Göran Träff Project Management
Thorsten Åsbjer Property Management

Size of Company
600 staff

Company Profile
Architecture is local business ...
In an increasingly internationalised construction and real estate market, firms have to be able to serve clients locally as well as internationally. FFNS has organised itself accordingly.

Designers International – DI
DI EEIG, initiated by FFNS, is a network of prestigious architect offices (1,650 staff) in Europe and Japan – see map. A common culture guarantees a highly developed level of professional skills and quality assurance. DI offers a unique service to clients seeking to develop projects throughout Europe and world-wide.

FFNS Germany
Today there are three German FFNS offices (50 staff), all well-established in the western as well as the eastern Bundesländer. High creative standards and project development are matched by implementation design and project management capacity for private and public sector clients. On-going assignments include offices and commercial schemes, housing and health facilities.

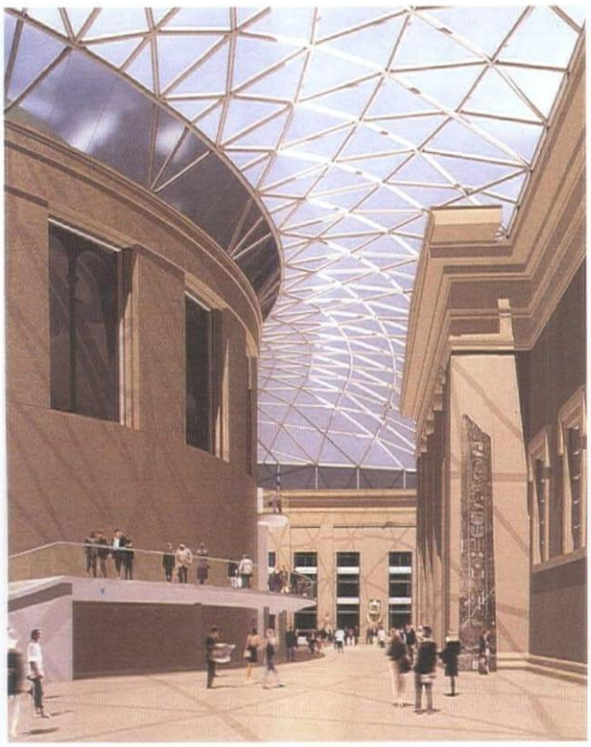
FFNS Sweden
FFNS is Sweden's largest and leading company of consulting architects. Established in 1958, FFNS undertakes all aspects of architectural work, providing a full range of architectural, supporting engineering and project management consultancy services to domestic and international clients in the public and private sectors.

Areas of Specialisation
FFNS's recent and ongoing international experience includes work in Germany, Austria, England, Estonia, Latvia, Hungary and Belgium; Malaysia, South Korea, Japan; Yemen, Senegal and Iran. Altogether, FFNS has experience from some 30 countries, building up international professional contacts for more than 30 years.

FFNS's areas of project specialisation include urban development, housing, office buildings, shopping centres and hotels; hospitals, laboratories and schools; industries; sports and events arenas, airport terminals, infrastructure and large-scale, complex projects.

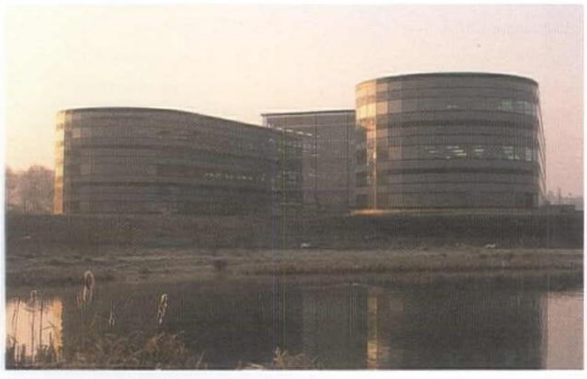
Captions:

1. *1st prize Main arena, Stockholm Olympic bid 2004 by Team Victor – headed by FFNS Berg and Wingårdh*
2. *Office and commercial development, Essen Bredeney, Germany*
3. *Scheme for Coca-Cola head office, Essen*
4. *Information centre Lernacken, Malmö – the Öresund link bridge Sweden – Denmark*
5. *Langkawi Hospital, Malaysia*



Proposal for Great Court, British Museum, London, UK

Offices for Electricité de France, Bordeaux



Thames Valley Park Offices, Reading, UK

Door handle for Fusital

FOSTER AND PARTNERS

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Foster Germany
Giesebrechtstrasse 10
10629 Berlin
Germany

Foster Asia Hong Kong
F/31 Fook Lee Commercial Centre
Town Place
33 Lockhart Road
Wanchai Hong Kong

Foster Asia Japan
Sansei Ogawacho Building
2-6-3 Ogawa-cho
Kanda Chiyoda-ku
Tokyo 101 Japan

Key Personnel
Sir Norman Foster
Spencer de Grey
Graham Phillips
David Nelson
Ken Shuttleworth

Areas of Specialisation
Infrastructure and transportation; master planning; museums and galleries; healthcare; hotels; leisure, sport and entertainment; exhibition and conference halls; offices; retail; housing; bridges; interiors, furniture and product design

Recent Clients
BAA Plc
Stanhope
Kajima
Obunsha Corporation
Royal Academy of Arts
Commerzbank
University of Cambridge
Hammersons plc
LIFFE
Imperial College London
GTT
Citibank
J-C Decaux

Practice Profile
The practice is led by a Board of Directors including five partners, each actively involved in the design of particular projects and in the overall design control of all projects. Foster and Partners has, since its inception in 1963, received 125 awards and citations for excellence and won 23 national and international competitions. The practice has offices in Berlin, Frankfurt, Glasgow, Hong Kong and Tokyo.

Projects range in scale from master plans for regenerating and expanding cities to individual buildings, furniture and product design, signage and exhibitions. EC-funded research continues on sustainable urban projects and embodied and renewable energy.

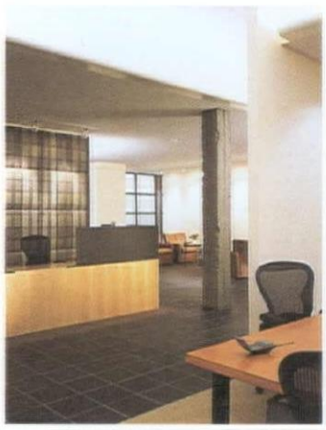
We have won major projects in the UK, Japan, Hong Kong, France, Germany, the Netherlands, Spain, the USA and Saudi Arabia. Current examples include: Imperial War Museum, Duxford, UK; the redevelopment of the British Museum, London; the Headquarters for Commerzbank, Frankfurt, Germany; the new German Parliament, Reichstag, Berlin, Germany; the new airport at Chek Lap Kok, Hong Kong; a Congress Centre for the city of Valencia; a masterplan for the Wilhelminapier Development in the port of Rotterdam, Holland, and an exhibition and conference centre in Glasgow, UK.

Principal completed projects include the Willis Faber Dumas offices, Ipswich, UK; the Sainsbury Centre for Visual Arts at the University of East Anglia, UK; the Hongkong and Shanghai Bank headquarters in Hong Kong; the Third London Airport at Stansted; Century Tower in Tokyo; the Sackler Galleries at the Royal Academy of Arts, London; ITN Headquarters, London; the Carré d'Art in Nîmes, France; Cranfield University Library, UK; the new wing to the Joslyn Arts Museum in Omaha, Nebraska, USA; the Metro Railway, Bilbao, Spain and Cambridge University Law Faculty, UK.

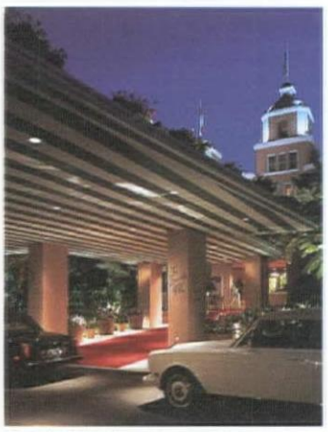
We maintain that architecture and interior design are indivisible and we retain control of all details of the interior of our buildings down to fire exit signs. There is hardly a building completed by our practice in which the interior has not been designed by our teams. The studio is capable of handling the full range of interior design requirements.

Autozone

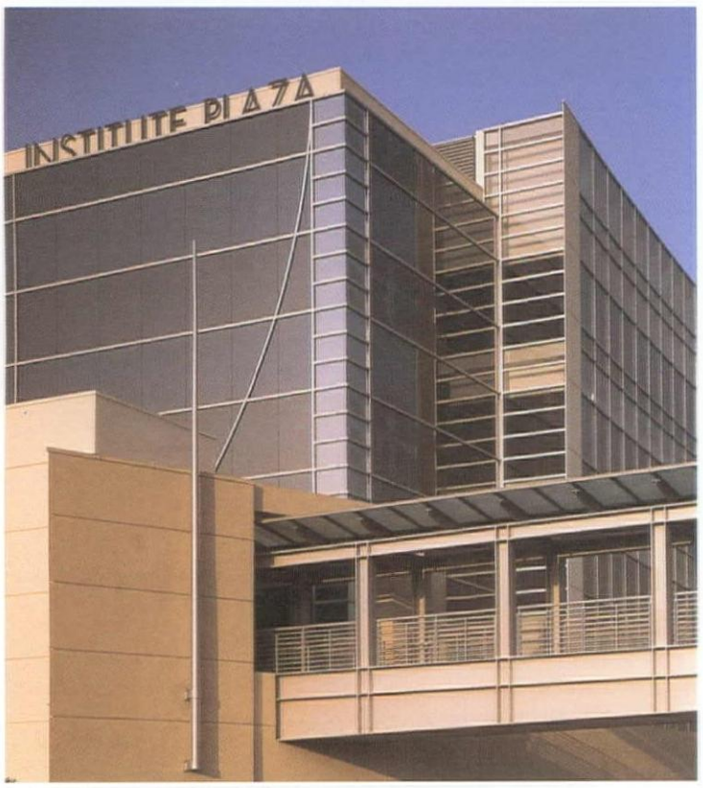
Jeppesen, Englewood, CO



Weil, Gotshal & Manges, Menlo Park, California



Beverly Hills Hotel, Beverly Hills, California



Institute Plaza, Los Angeles, California

GENSLER... ARCHITECTURE, DESIGN AND PLANNING WORLDWIDE

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USA
Tel: 415 433 3700
Fax: +415 627 3739

Gensler, the San Francisco-based firm assembled by M Arthur Gensler Jr FAIA FIIDA RIBA, in 1965 has grown to be one of the premier international design firms, with a staff of over 1,000 professionals in 15 offices. For almost two decades, Gensler has consistently been named in independent surveys as the USA's largest architectural firm (Building Design and Construction magazines) and the largest interior design firm (Interior Design magazine). This year World Architecture magazine named Gensler the leading architectural firm.

The quality of Gensler's solutions and management style is recognised in the business arena and the professional community and is evidenced by the fact that 85 percent of our current workload comes from repeat clients or referrals. Exceeding client's expectations is the cornerstone of our success, and quality is at the focus of everything we do. We do not give our client a Gensler look, we provide a Gensler approach, which is distinguished by an abiding focus on excellence.

One distinctive aspect of Gensler is the way its designers, more than those in most firms, look at the practice of architecture from the inside out, perhaps as a result of the firm's early involvement with interior projects. As a firm, Gensler is much more involved with pre-design work with clients – strategic planning and the determination of long-term needs – and more ongoing facilities management once the project is completed. Gensler is now essentially extending the architectural and interior design services at the beginning and the end of the project. Gensler has become one of the premier firms in the areas of airport planning, entertainment and retail design, and is developing a strong contingent of hospitality clients.

While there is no magic formula to Gensler's success, its achievements are not accidental. Progressive management, combined with teams of people who share a common philosophy and common goals, is at the heart of the organisation. Beyond that are the intangible elements of personality and character which give the firm its charisma and have resulted in professional advancement for the firm as a whole and for its employees.

Gensler's scope of work includes:

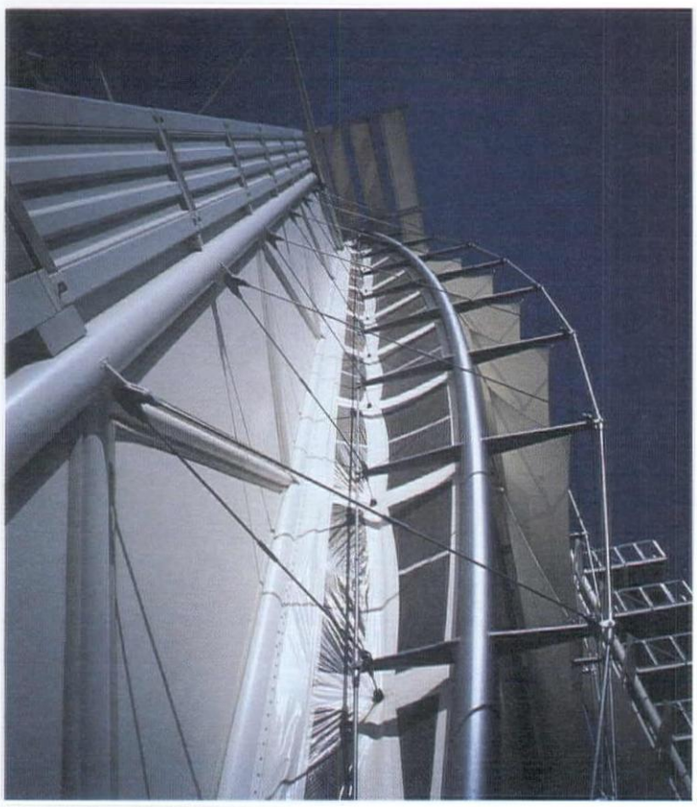
ADA Compliance Analysis
Adaptive Reuse
Airport Planning and Design
Architectural Design
Art Consultation
Building Analysis
Building Consultation
Construction Administration
Construction Documentation
Design Standards Development
Due Diligence
Facility Management
Feasibility Studies
Gensler Information Solutions
Graphic Design
Information Systems Consultation
Interior Architectural Design
Marketing Consultation
Master Planning
Move-in Co-ordination
Pre-lease Co-ordination
Product Design
Program Management
Renovation
Resource Management
Site Evaluation
Space Programming and Planning
Strategic Facility Planning
Tenant Development
Transportation Studies
Urban Planning

Gensler clients are involved in the following areas:

Accounting
Advertising
Biotechnology
Computers
Development
Education
Entertainment
Finance
Hospitality
Health
Insurance
Government
Law
Manufacturing
Media
Museums
Performing Arts
Petroleum and Gas
Pharmaceuticals
Recreation
Religion
Retail
Telecommunications
Transportation

International Terminal Waterloo
Photo – Peter Cook

Combined Operations Centre, Heathrow
Photo – Reid and Peck



British Pavilion, Seville Expo 92
Photo – Reid and Peck

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Nicholas Grimshaw & Partners Ltd
Century House
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Manchester M2 3DN
UK

Key Personnel

Chairman	Nicholas Grimshaw
Directors	David Harriss
	Christopher Nash
	Neven Sidor
Project Directors	Paul Grayshon
	Michael Pross
	Andrew Whalley
Associates	Florian Eames
	Ingrid Bille

Nicholas Grimshaw & Partners commenced in 1980 since when the practice has steadily gained a reputation for design excellence, winning over 70 awards, including a number from the Civic Trust, the Department of the Environment, the RIBA and the Royal Fine Art Commission. This has been achieved by concentration on quality, innovation and a vigorous approach to detailing.

The practice believes that buildings should be understandable both spatially and organisationally; that they should reflect the activities within them, and that they should be flexible enough to be capable of change in response to changing needs. The practice is committed to using environmentally-responsible materials where possible and incorporating energy saving features in every project.

In April 1988 the practice were commissioned as architects for the International Passenger Terminal at Waterloo Station, London. The project was completed in 1993, on time and within budget and has since won the RIBA'S Building of the Year Award for 1994, and the Mies van der Rohe Pavilion Award, biennially awarded for excellence in European Architecture. The practice also won the competition for the design of the 1992 British Pavilion at Expo 92, in Seville, which itself won seven awards, including an award for Innovation in the field of Energy Conservation.

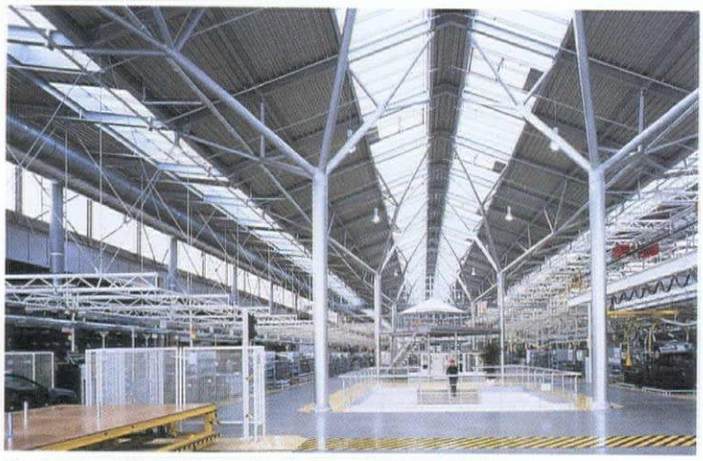
Other completed projects include the Igus Plastics Factory in Cologne, Germany; a large urban development in Camden Town, London for J Sainsbury plc; the Combined Operation Centre for Eurotunnel at Folkestone, UK; the regional headquarters for the RAC at Bristol, UK and print works for the Financial Times and the Western Morning News.

Current work includes the Berlin Stock Exchange and Communication Centre; a new Grand Stand for Lords Cricket Ground, London; the redevelopment of Manchester Airport's Terminal 1 and Heathrow Airport's Terminal 3; a new headquarters building for Orange Plc in Darlington, UK and masterplanning and redevelopment at Paddington Station, London.

Recently won competitions include the redevelopment of Zurich Airport and a new main line railway station and urban design in Pusan, Korea. The practice has also been appointed as architect on a number of prestigious UK schemes awaiting millennium funding.

In addition to practising architecture in the UK, France, Spain , Germany, Switzerland, Japan and the USA, Nicholas Grimshaw & Partners specialises in urban and industrial design and planning, and uses its considerable understanding of materials and manufacturing techniques to produce components tailored to specific and individual designs.

Technical University, Munich: Faculty for Mechanical Engineering



Skoda automobilova – Mlada Boleslav: Automobile Assembly plant

Technical University, Munich: Faculty for Mechanical Engineering: the 220 metre long street

Skoda automobilova – Mlada Boleslav: Automobile Assembly plant

BMW AG – Munich: Research and Engineering Centre (FIZ)

BMW AG – Munich: Research and Engineering Centre (FIZ), Entrance Hall

AUDI AG – Ingolstadt: Exterior view of the Information and Car Delivery Centre

AUDI AG – Ingolstadt: Interior view of the Information and Car Delivery Centre

HENN Architekten Ingenieure

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Germany
Tel: +49 89 523570
Fax: 49 89 5235752

Other Offices
Berlin
Braunschweig
Dresden

President
Dr Gunter Henn

Size of Practice
140 employees

Recent Clients
ABB
Audi
BMW
Bausparkasse Schwäbisch Hall
Brose
Compaq
Digital Equipment
FhG Fraunhofer-Gesellschaft
Hebel
Hilti
Merck
MPG Max-Planck-Gesellschaft
Raychem
Ritter-Sport
Skoda automobilova
Stadtsparkasse Dresden
SUN Microsystems
Technische Universität München
Volkswagen

Practice Profile

The HENN office was founded in 1947 by Walter Henn in Dresden and moved in 1953 to Braunschweig. Since 1979 the practice has been led by Gunter Henn in Munich. The practice has completed over 200 projects in Germany, throughout Europe and overseas.

During this time the HENN practice has developed innovative architectural solutions through close collaboration with clients.

Description of Practice

HENN Architekten Ingenieure is active in the field of research facilities for industrial, educational and scientific development, and industrial architecture. Specific design expertise has been accumulated for research and development projects, administration buildings and universities.

Specialised tools have been evolved for complex projects requiring innovative and dynamic solutions, for alternative workplaces, for offices, for research facilities and for fractal factories.

The success of HENN's recent buildings and communication processes is built on extensive experience of innovation in the analysis and development of communication, architecture, and of settings in which communication takes place. The necessity to design and analyse not only the physical flow of material but also the intellectual flow – ie the flow of communication in special face-to face communication between all colleagues in a company – is a key feature of the design process. The architect is one who is able to design that invisible flow to make all knowledge available to everyone within the company. HENN together with the Massachussetts Institute of Technology has developed a tool to visualise communication.

The underlying concept is no longer "form follows function" but "form follows flow". An architect has to design processes to build learning organisations and thereby create living organisms. Knowledge is the impulse of modern society and architects have to create the space in which knowledge can grow and circulate.

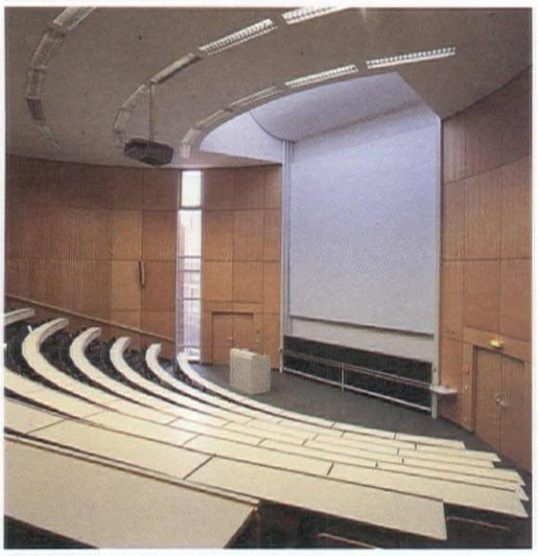
Netgraphing is used mainly in companies with complex communication structures and measures and visualises the quantity and quality of communication inside a spatial context. Only a friction free information flow and knowledge transfer network can guarantee innovation and optimal corporate efficiency.

Programming is a further analysis and design tool, which is directed at achieving the highest efficiency of communication between all the participants. It controls and optimises project design and seeks the realisation of significant communication between designer and client.

University Clinic, Regensburg

University Clinic, Regensburg, entrance hall

University Clinic, Regensburg, terraces social areas



University Clinic, Regensburg, conference room

HEINLE, WISCHER UND PARTNER FREIE ARCHITEKTEN

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Fax: +49 2234/9550717

Key Personnel/Partners

Prof. Dipl.-Ing. E. Heinle
Prof. Dipl.-Ing. R. Wischer, BDA
Dipl.-Ing. T. Behnke
Dipl.-Ing. G. Ferroni
Dipl.-Ing. (FH) Th. Heinle
Dipl.-Ing. C. Pelzeter
Dipl.-Ing. (FH) S. Rieger
Dipl.-Ing. (FH) W. Schmidbauer, BDA
Dipl.-Ing. K. Schoeppe, BDA
Dipl.-Ing. E. Schultz

Size of Firm

Approximately 130 employees

Recent Clients

- Federal Ministry for Regional Planning, Building and Urban Development
- Ministry of Health, Luxembourg
- State Building Authorities of
  - Baden-Württemberg
  - Rhineland-Palatinate
  - North Rhine-Westphalia
  - Berlin
  - Saxony
  - Bavaria
- Municipal Building Authorities in
  - Stuttgart
  - Ludwigshafen
  - Senftenberg
  - Dresden
  - Caputh
- Buildings in
  - Senftenberg
  - Dresden
- Industrial Enterprises
  - Jenoptik
  - Bilfinger & Berger
  - Züblin
- Developers
- Research Institutes
  - German Cancer Research Center, Heidelberg
  - BBB Biomedical Research Campus, Berlin-Buch
  - Max-Delbrück Centre for Molecular Medicine, Berlin-Buch
  - Forschungsverbund Berlin e.V. (registered research association)
- Welfare Institutions
  - Workers' Social aid Institution, Brandenburg
  - Diakonisches Werk, Mecklenburg
  - Home for the Elderly, Caputh
  - Blankenfeld Enterprise for Regional office of Berlin-Zehlendorf
- Murphy/Jahn, Chicago
- Drees & Sommer

Practice Profile

The office was founded in 1962. More than 85 percent of the employees are architects, interior designers or technicians. Completed projects include public buildings, such as universities, hospitals, ministries, research laboratories, industrial plants, housing etcetera. The firm offers all architects services including site analysis, master-planning, urban design, hospital design consultancy, quantity surveying, cost and time management and on-site supervision.

Town Pavilion, Kansas City, USA

Los Angeles Coliseum, USA

Providence Convention Center, Rhode Island, USA

Midway Airport, Chicago, USA

HNTB ARCHITECTS ENGINEERS PLANNERS

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HNTB Corporation
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Main Architecture Offices
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Boston, MA
Indianapolis, IN
Irvine, CA
Kansas City, MO
Miami, FL
Milwaukee, WI
Phoenix, AZ
Seattle, WA

HNTB Affiliated Companies
Alcyone Group, Incorporated
Thomas K Dyer Inc

Key Personnel
Office of the Chairman –
Harvey K Hammond
Robert S Coma
John W Wight Jr.
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Laurin McCracken – Director of Marketing (Tel: +703/684–2700).
e-mail: lmccracken@hntb.com
Kevin McDonald – Director of Operations (Tel: +703/684–2700).
e-mail: kmcdonald@hntb.com
Greg Detmer – Director of Design (Tel: +617/267–6710).
e-mail: gdetmer@hntb.com
Barb Anderson – Director of Communications (Tel: +816/472–1201).
e-mail: bjanderson@hntb.com

Size of Architecture Practice
300 employees

Recent Clients
AT&T
Allied Signal Inc
Eli Lilly & Company
Federal Aviation Administration
General Services Administration
John Q Hammons
Johnson Controls Inc
Sprint
US West Communications
US Air
Walt Disney Imagineering
Washington DC Convention Center
Authority

Practice Profile
HNTB Architecture is part of HNTB Corporation, an international consulting firm with more than 2,000 architecture, engineering and planning personnel. Founded in 1914, HNTB has built its reputation on providing public and private-sector clients with quality service and technical excellence.

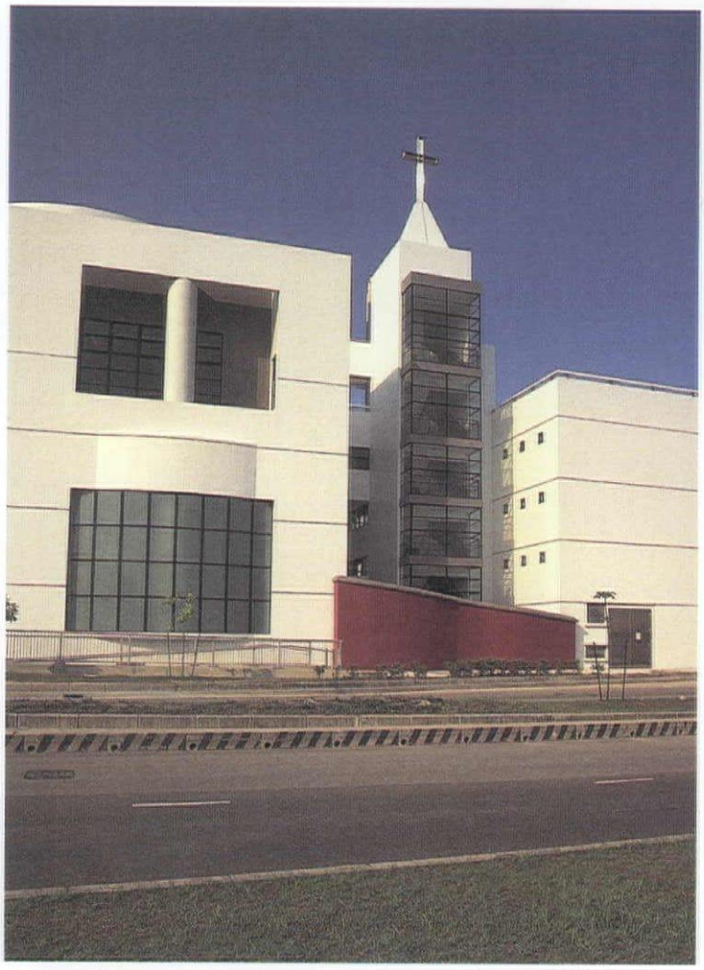
HNTB's architectural experts provide professional services in planning, site design, facility design and facility consulting. The firm's pool of talent includes architects; interior designers; mechanical, electrical and structural engineers; planners, landscape architects and construction services personnel. Each project team is built based on specialised expertise and experience in the project type.

HNTB uses state-of-the-art technology to plan and design a range of building types, including transit facilities, convention centres, health facilities, financial institutions, corporate office buildings, airport terminals, hotels and resorts, parking structures, sports and recreation facilities, schools and community centres. The firm also provides large scale and master planning; urban planning, renewal and entertainment; and golf course design.

HNTB has 60 offices in the USA and has worked on projects in Australia, Canada, China, Germany, Japan, Korea, Mexico, Saudi Arabia, South Africa and South America.

Areas of Specialisation
Airport Terminals, Convention Centres, Corporate Facilities, Design/Build, Education, Hospitality, Sports Facilities, Urban Planning and Design.

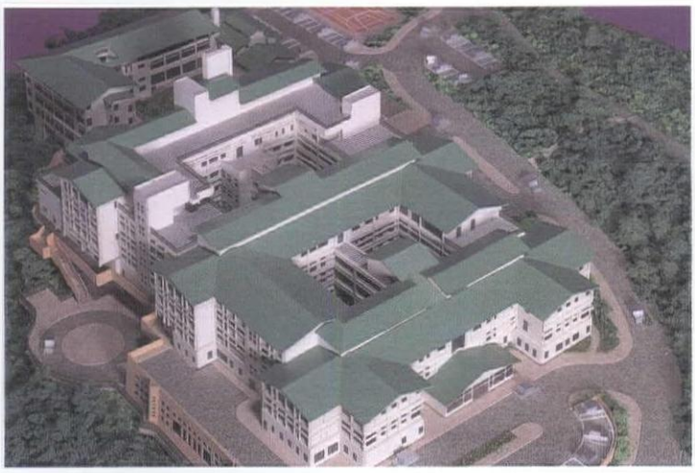
University of Hong Kong Phase V Redevelopment



St. Francis Church at Ma On Shan

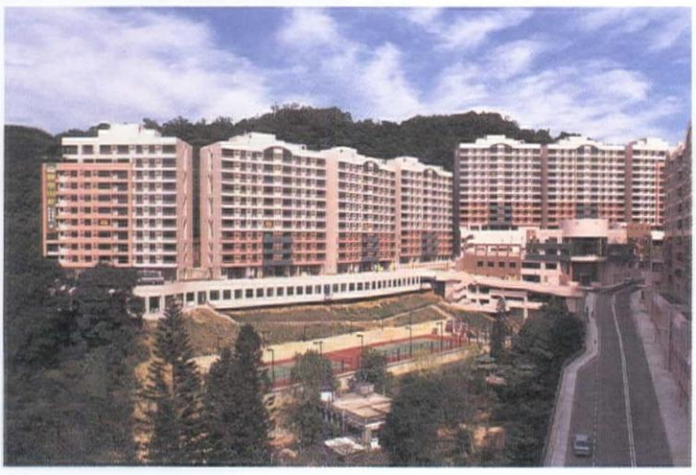
Improvement Works to Ko Shan Theatre

Yuen Fat Wharf & Godown



Haven of Hope Hospital

Island Place



Pristine Villa

KWAN & ASSOCIATES ARCHITECTS LTD.

KWAN ARCHITECTS

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979 King's Road, Quarry Bay, Hong Kong.
Tel : +852 2880 1128
Fax : +852 2811 0780
Email : kwanarch@hk.super.net

Size of Firm: 145 Employees

Key Personnel
Directors
Kwan Wing Hong, Dominic
BArch, HKIA, RIBA, ARAIA, Registered Architect, Authorized Person List I
Ng Wing Shun, Anthony Vincent
BA(AS)(Hons), BArch(Dist), M.Urban Design, HKIA, RIBA, Registered Architect, Authorized Person List I
Cheng Yan Ying, Grace
AADipl, HKIA, RIBA, Registered Architect, Authorized Person List I
Deputy Directors
Lam Chung Wai, Tony
BA(AS), BArch, HKIA, RIBA, RAIC, OAA, Registered Architect, Authorized Person List I
Tsang Wai Yin, Michael
BA(AS), BArch, MBA, HKIA, RIBA, Registered Architect, Authorized Person List I

Major Projects
Hong Kong University Phase V, Hong Kong
Ma On Shan Church, Shatin, Hong Kong
Island Place, North Point, Hong Kong
Hing Wai Building, Central, Hong Kong
ASD Improvement to Ko Shan Theatre, Hung Hom, Hong Kong
Nathlonwealth Plaza, Beijing, China
Shen Yang Plaza, Shen Yang, China
Haven of Hope Hospital, Junk Bay, Hong Kong
North District Hospital, Junk Bay, Hong Kong
Telephone Exchange, Chek Lap Kok, Hong Kong
Methodist Church/Office Development, Wanchai, Hong Kong
Salisbury Garden Underground Commercial Complex, Tsimshatsui, Hong Kong
Jiading Commercial/Residential/Hotel Development, Shanghai, China
Discovery Bay North Development, Hong Kong
Chung On Terrace, Fortress Hill Road, Hong Kong
Housing Society Sandwich Class Housing, Kennedy Town, Hong Kong
Medical Centre, University of Hong Kong, Sassoon Road, Hong Kong
Hostel for Post Graduate at Chinese University, Shatin, Hong Kong
Kowloon Station Development, Hong Kong
Tseung Kwan O Hospital, Tseung Kwan O, Hong Kong

Statement of Firm
Kwan & Associates Architects Limited was founded in June 1991 by Mr Dominic Kwan. The practice offers full architecture, master planning and space planning services.

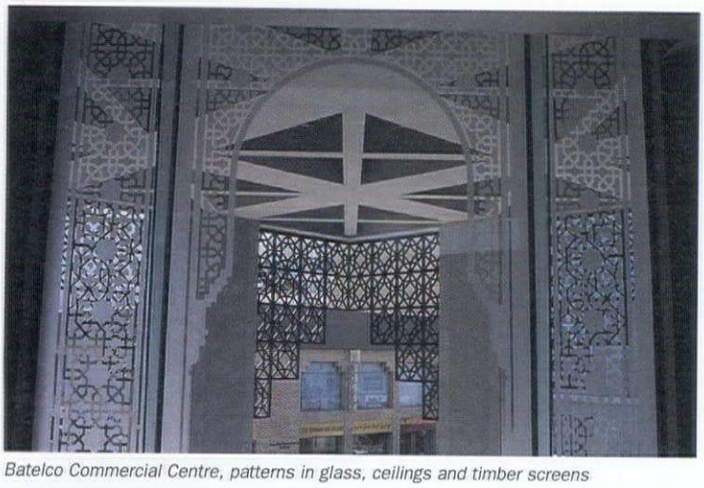
The team here has developed a reputation for good, skillful design and efficient project management across a wide spectrum of high quality projects both at home and abroad. The house portfolio features residential, office, hotel, institutional and industrial design.

Historically, the practice evolved from KNW Architects & Engineers Limited (KNW). The latter was established in 1979 with Mr Dominic Kwan as a founding director. The firm soon flourished and was rewarded for outstanding architectural achievement by the Hong Kong Institute of Architects: the Silver Medal for Excellence in Architecture in 1983 and 1984; the Certificate of Merit in 1987; the Silver Medal in 1989. After the dissolution of KNW most of the staff stayed on board and completed outstanding major assignments: Tai Po Convalescent & Infirmary Hospital; Pristine Villa at Tao Fung Shan; Hong Kong University Phase V; Salisbury Garden underground shopping/carparking complex at Tsimshatsui; a housing development at Kwai Shing Circuit; and the ASD Minor Works Term Consultancy.

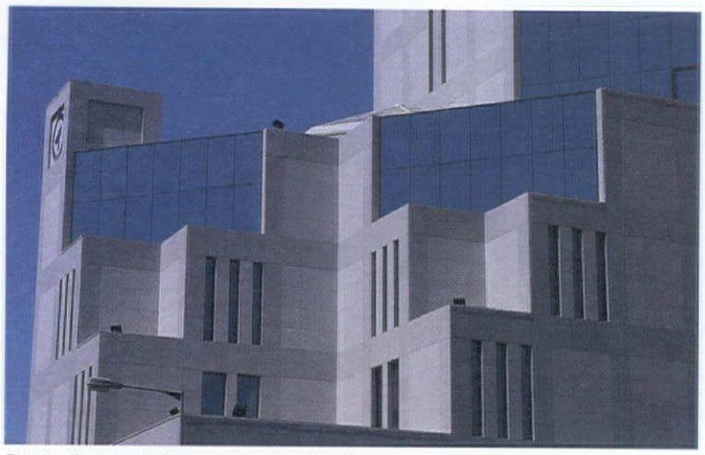
The practice has avoided the adoption of a distinctive house style, believing instead that each project should be treated innovatively, and that creativity should draw on the team's diverse experiences and insights. Each building is designed contextually, and with the client's needs and objectives uppermost in mind. Special care is also taken to meet the budget and to complete design and construction on time.

The firm has formed a joint venture company with Percy Thomas Partnership in Hong Kong, which practices in the name of Kwan-PTP Architects & Hospital Planners Limited and provides both public and private sector clients with services ranging from health planning studies and development plan proposals to the complete design, contract administration and commissioning of hospitals, health centres, research centres and facilities and medical schools.

With a workforce of 145, the firm has the resources to meet the requirements of virtually any architectural assignment.

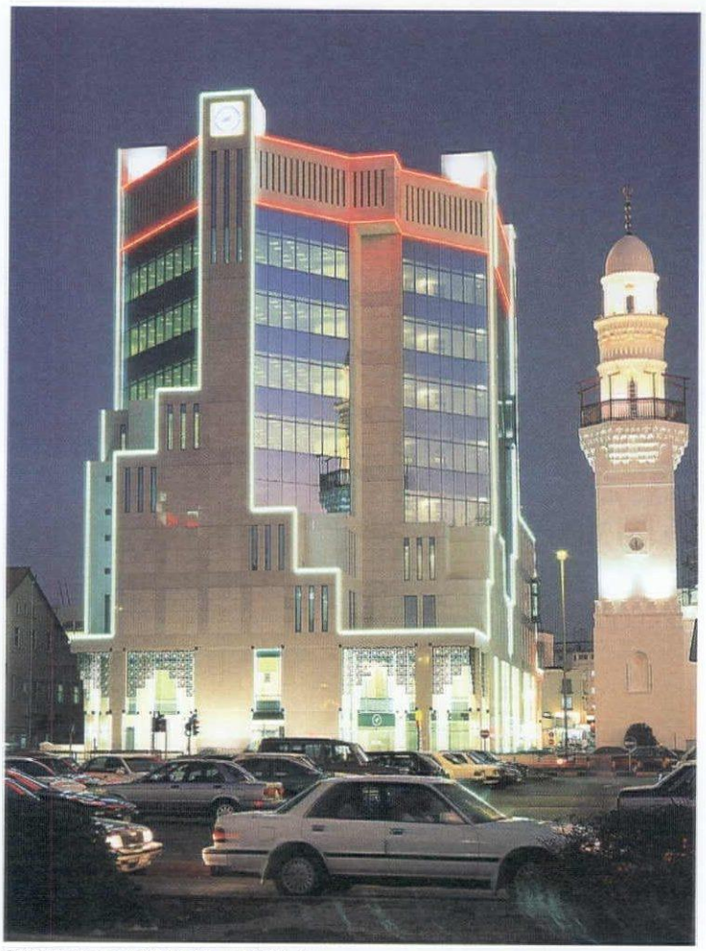


Batelco Commercial Centre, patterns in glass, ceilings and timber screens

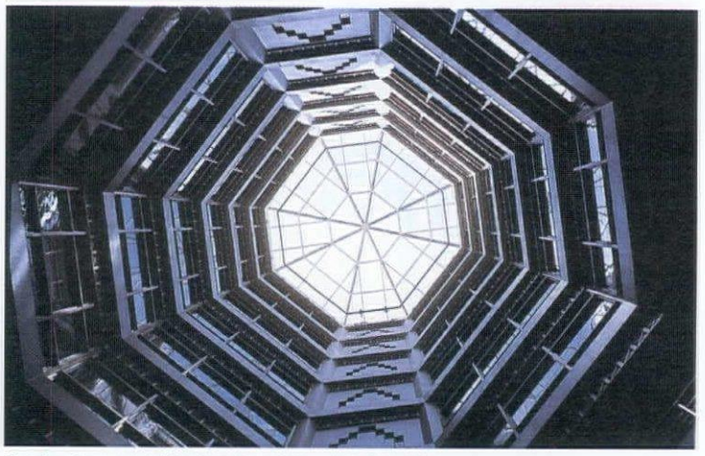


Batelco Commercial Centre, view from South

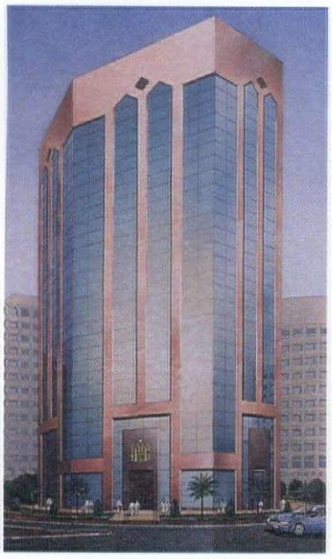
Batelco Commercial Centre, skylight lit atrium detail



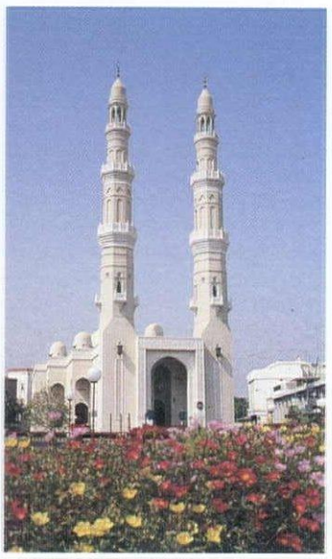
Batelco Commercial Centre – a night view



Batelco Commercial Centre, view of eight storey atrium

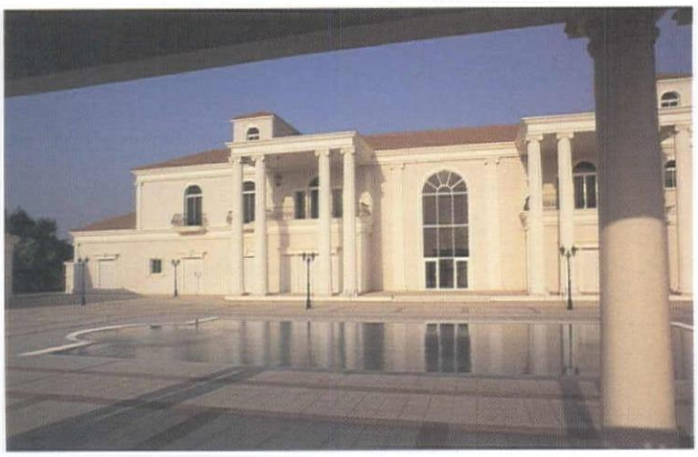


Al Salam Tower – Bahrain Islamic Bank Headquarters, Bahrain



Kanoo Mosque, Bahrain

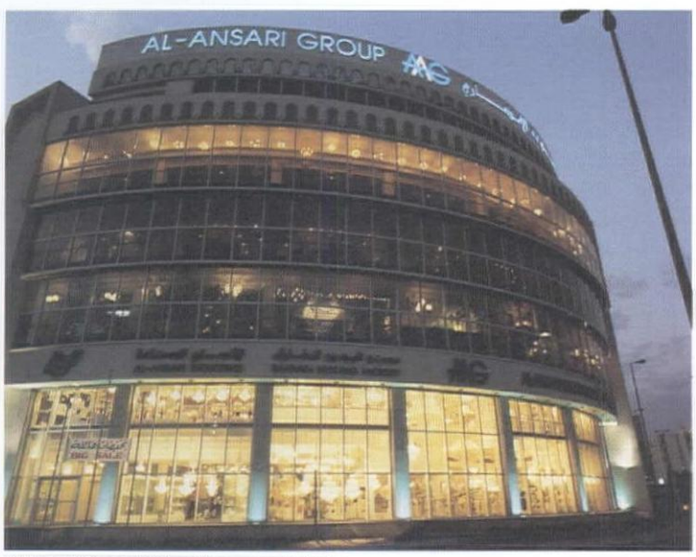
Toyota Training Centre, Bahrain



Private Luxury Villa, Bahrain

Regional Distribution Centre for DHL, Bahrain

Hamad Town Filling Station, Bahrain



Al Ansari Group Lighting Showroom, Bahrain

MOHAMED SALAHUDDIN CONSULTING ENGINEERING BUREAU

MSCEB ARCHITECTS & ENGINEERS

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Internet Home Page

HTTP://WWW.BATELCO. COM. BH/MSCEB

Size of Practice: 105 Employees

Areas of Specialisation

Multi-Storey Office Buildings
Residential Developments
Luxury hotel
Beach Resorts
Shopping Centre/Supermarket
Multi-outlet food courts/
Fast food centres
Filling Stations
Luxury Villas
Industrial buildings
Specialised aviation maintenance workshops
Warehouses
Homes for the Elderly
Schools
Mosques
Interior designing of banks, hotels and shops
Residential compounds

Practice Profile

MSCEB was founded by Mohamed Salahuddin 1n 1970 to offer professional services in the areas of planning and architecture, with related services. From the outset the primary goal was to provide designs that fulfil the client's aspirations with aesthetically pleasing solutions that are both functionally responsive and economically efficient. The firm has grown into an enclave of professional expertise, offering in-house services in: architecture; structural, mechanical and electrical engineering; landscaping design; contract administration; project management and interior design.

The firm's organisation is structured around the studio concept. Each project is served by a team of architects and engineers catering to the specific requirements of the client, remaining in close contact from the conception to the completion of the project. This approach offers the client the responsiveness and personal touch of a small practice without limiting the benefits of larger corporate resources.

State of the art computerisation in the production, analysis and presentation of designs helps MSCEB to meet the ever growing demands of contemporary clientele. A continuously updated and thoroughly comprehensive information library, with computer access, forms the basis of our up to date design solutions.

Above all, MSCEB's single minded quest for excellence in design, and pursuit for perfection in execution have been the guiding forces behind the firm's growth to its present level of professionalism.

It is MSCEB's motto to design within the social umbrella of climatic and cultural differences, while remaining sensitive to traditional values. We use the latest technological advances to create buildings of lasting value.

Major Clients and Projects

Bahrain Telecommunications Co	10 Storey Corporate Offices and Commercial Centre
Ebrahim K Kanoo WLL	Toyota Spare Parts Showroom
Toyota Motor Co, Japan	Toyota Training Centre I & II
Bahrain Islamic Bank	17 Storey Bank Headquarters Building
DHL	Specialised Regional Distribution Centre
Bahrain Aviation Fuelling Co	Aviation Fuelling Facility
Civil Aviation Affairs	Meteorological Office/Flight Information Centre/ Fire Station
Bahrain Airport Services	Headquarters/Workshops
Gulf Air	Multi-storey headquarters building
Sham's Tourism	"Palm Beach" Resort
Tourism Development Company	"Half Moon Village" A Beach Resort
Bahrain National Oil Company	No. of filling stations
Jawad	Supermarkets/Dairy Queen and other fast-food outlets
Jasmi's	Fast-food centre

LIANG PEDDLE THORP ARCHITECTS AND PLANNERS LTD

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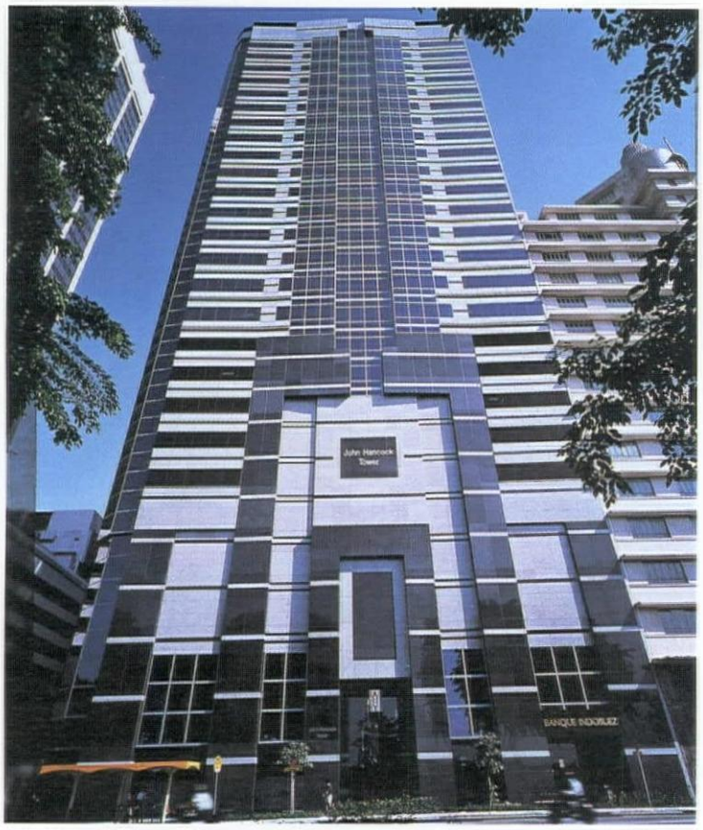
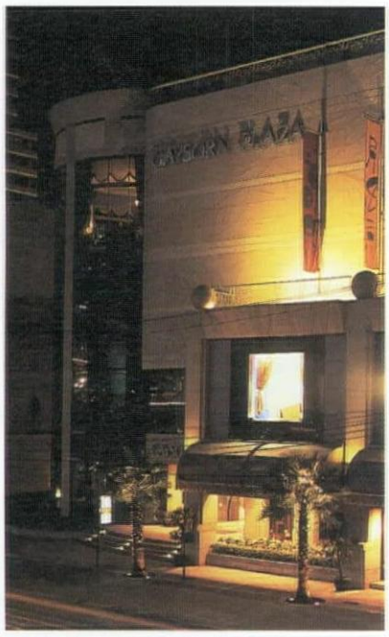


John Hancock Tower, Singapore, 1993



Gaysorn Plaza, Bangkok, 1995

The Landmark, Ho Chi Minh City, Vietnam, 1995

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Fax: +852 2529 6419

Other Offices
LPT Singapore
LPT Vietnam

Associate Offices
Peddle Thorp, in Australia
New Zealand, Indonesia, Malaysia

Size of Company
Personnel: 100

Contact Person
Mr Keith Griffiths, Design Director

Key Personnel
William T K Liang, Chairman
Keith Griffiths, Design Director
Tony Ang, Director
John Yu, Director
Chris Johnston, Director
Edward Tse, Director
Kyran Sze, Director
David Roberts, Director

Recent Clients
Asia Air Terminals
China Overseas Holding
Gaysorn Holding Co Ltd
Hang Lung
Harilela Hotels
Hong Kong International Terminals
Hongkong Land
Hong Kong Telecom
Hutchinson Whampoa Property
Kerry Properties
Kumagai
Mass Transit Railway Corporation
Tai Chung Properties
The Hong Kong and Shanghai Hotels
Yamasin Investment Co

Company Profile
Since its establishment in 1982, LPT has emerged as one of Hong Kong's principal architectural practices with major commissions throughout Hong Kong, China, Thailand, Vietnam, Malaysia, Singapore and Indonesia. It is the company's philosophy to balance and blend design, construction and administration skills. It is this policy that has underpinned our success.

The company's eight architectural directors are supported by over 100 local and expatriate professionals drawn from a wide variety of backgrounds, all of whom are committed and focused on the importance of the client as an integral part of the ultimate concept and design. By rigorous application of this approach at all levels of architecture, LPT ensures the client's needs and aspirations remain a central influence. Through this philosophy LPT has gained significant market confidence throughout South East Asia.

In addition, as part of the International Peddle Thorp Group, LPT maintains close working ties with 14 Peddle Thorp Office located in eight different countries throughout Asia, Australia and New Zealand, a resource totalling 450 employees. This international fund of specialist expertise is available, as required, on any particular project.

One of the company's greatest strengths is its effective hands-on management of resources. Under the administrative responsibility of at least one director, staff are allocated to each project so that skill and experience precisely meet the needs of the project. LPT ensures the personal attention of at least one director on every project.

LPT offers a comprehensive range of design and project management services for a broad range of diverse market sectors including hotel, apartment and retail developments, commercial/office buildings, industrial installations, major refurbishment projects and urban planning.

Areas of Specialisation
Infrastructure and transportation; master planning; industrial; commercial; retail; hotels and leisure; residential; interiors

Ramada Linz – Bar

Bagel Restaurant, Leipzig

Spreebogen Berlin – Foyer Office Building

Spreebogen Berlin – Shopping Mall

PETER JÖHNK/RANSLEY JÖHNK & ASSOCIATES

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Mary Road, Guildford
Surrey, GU1 4QU
UK

Peter Jöhnk
Si-Centrum
Plieninger Staße 99
70567 Stuttgart
Germany

Key Personnel

Peter Jöhnk	*Owner/Managing Director*
Josef Ransley	*Partner*
Barbara Blank	*Financial and Marketing Director*
Ralf Clausen	*Project Manager*
Gerd Arp	*Project Manager*
Corinna Kretschmar	*Project Manager*
Silke Musset	*Project Manager*
Kerstin Rüter	*Project Manager*

Projects

Si-Centrum, Stuttgart
(Ransley, Jöhnk & Associates)

Der Spree-Bogen, Berlin
(Peter Jöhnk)

Penta-Hotel, Moscow
(Sahm/Vorreiter/Jöhnk)

Hotel Neptun, Rostock
(Peter Jöhnk)

Musical Theatre, Stuttgart
(Peter Jöhnk)

Cinemaxx, Stuttgart/Munich
(Peter Jöhnk)

Holiday Inn Crowne Plaza,
Schwerin
(Peter Jöhnk)

Several projects for:
McDonald's
Ocean Drive
Bagel

Areas of Specialisation
The bulk of the firm's work is in the European hotel and leisure industry, but we also have experience in a wide range of interiors projects, including theatres, shopping-malls, cinemas, office-buildings and shops.

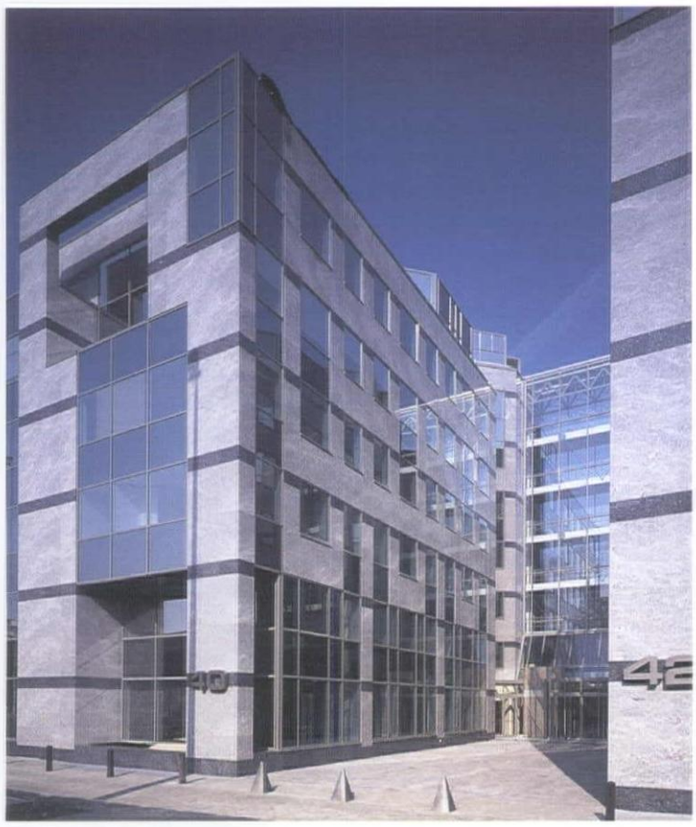
Company Profile
Peter Jöhnk & Associates always try to find a "special solution" to a project, which not only meets the requirements of the clients and the users, but also the building itself.

The firm does not adhere to a specific "office style". When working on a project we apply the methods, techniques and style appropriate to the individual venture.

Peter Jöhnk/Ransley Jöhnk & Associates also specialise in interiors project management.

The City Bank, Brussels, Belgium

Charlemagne (CEE)



CFE Headquarters

AG 1824 office building

The Peter Van Kerckhove Partnership

Head Office
210 Brugsesteenweg
8800 Roeselare
Belgium
Tel: +32 51 26 20 26
Fax: +32 51 26 20 27

Size of Practice
97

Total Offices
4

Areas of Specialisation

Healthcare	Interiors
Industrial	Sport/Leisure/Recreation
Commercial	Hotel/Restaurant
Office Buildings	Education
Housing/Residential	Laboratories/Research
Religious/Cultural	Teamsport
Planning	Other

Practice Profile

The partnership is led by Peter Van Kerckhove assisted by a group of senior architects and engineers. Each service is actively involved in the overall design control of all projects. Every individual project is handled by a team of carefully chosen professionals under the leadership of a project architect. We offer a highly personalised service, believing that close collaboration with the client, during all phases of development is a crucial component in the design of successful architecture. Since successful architecture must respond to the internal forces of the building programme as well as the external forces of its context, the partnership does not design buildings according to the dictates of a particular house style. We believe that every building should have its own identity created by a simple and expressive architecture corresponding to its specific functions and location.

With five decades of experience, the partnership works in a spirit of total independence from all commercial and industrial interests. Thanks to along lasting relationship with our clients, the Peter Van Kerckhove Partnership is charting an exciting future that transcends international boundaries and expands the horizons of quality design.

Global Design Approach

The Peter Van Kerckhove Partnership believes that architecture, landscaping, interior design and engineering – of both the structures and the building service – are indivisible in order to achieve the high quality standards applicable in the practice. This is why the partnership is capable of handling the full range of these design requirements in house.

Designers International

The creation of the unified European market has stimulated cross-border investments. These initiatives often require adequate architectural and engineering services.

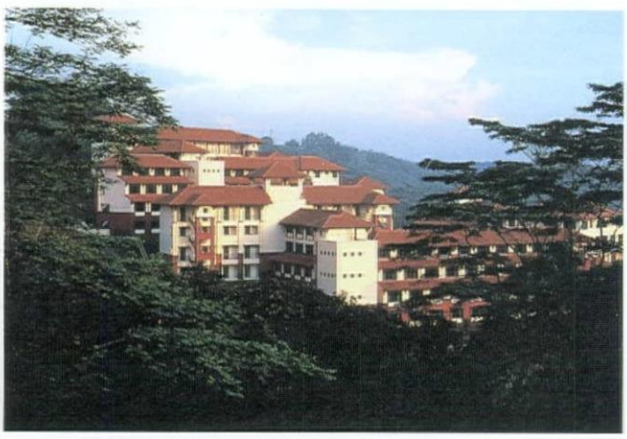
In order to formulate an answer to this growing demand the European Economic Interest Group called "Designers International" was created, whereby 16 architectural/engineering firms offer their services to their international clients through a co-ordinated network present in 24 cities in Europe and nine cities in the Middle and Far East.

Peter Van Kerckhove is the president of the EEIG.

Completed projects in the following countries

Belgium, Netherlands, Luxembourg, France, Germany, the UK, Spain, Portugal, Zaire, Rep. Pop. du Congo, Cameroon, Nigeria, Senegal, Madagascar, Burundi, Liberia, Kuwait, Egypt, Saudi Arabia, Libya, Iraq, Turkey, Czech Republic.

Natwest office building



Nanyang Technological University halls of residence

Balestier Point mixed use development

La Meyer condominium

RDC ARCHITECTS PTE LTD

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Directors: Chan Fook Pong; Kenneth Chen Koon Lap; Leong Charn Huen; Huang Siong Hui; Kenneth Loh Kai Teck
Associate Director: Rita Soh Siow Lan; Mohan Shanmugam; Loh Ju-Hon
Partner (overseas office): Siow Chien-Fu

Selected Client List

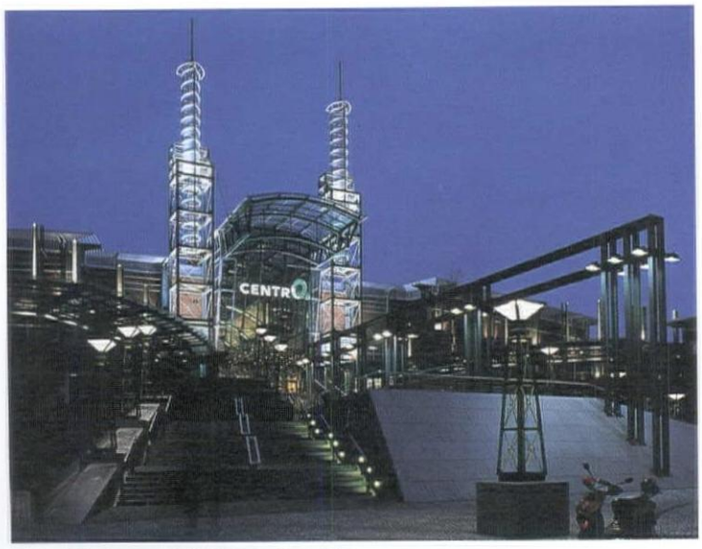
Allgreen Properties Ltd
Amcol Technology Pte Ltd
Bukit Sembawang Estates Ltd
Cathay Organisation
Central Provident Fund Board, Singapore
Changi International Logistics
Chee Tat Group
City Development Pte Ltd
Civil Aviation Authority of Singapore
CWT Distribution Pte Ltd
Crown Pacific Pte Ltd
DBS Land
Far East Organisation Ltd
Ho Bee Investments Pte Ltd
Housing & Development Board, Singapore
Institute of Technical Education, Singapore
Jurong Town Corporation
Lee Rubber Co Pte Ltd
Liang Court Holdings Ltd
Ministry of Community Development, Singapore
Ministry of Defence, Singapore
Ministry of Education, Singapore
Ministry of Foreign Affairs, Singapore
Ministry of Health, Singapore
Ministry of National Development
Pidemco Land
Safe Travel & Enterprise Pte Ltd
Shriro Paper (S) Pte Ltd
Singapore Airlines
Singapore Post Pte Ltd
Singapore Sports Council
Singapore Telecommunications Pte Ltd
Singapore Land
Steamship Investment & Development Pte Ltd
Technology Parks Pte Ltd
Tuan Sing Holdings Ltd
United Overseas Land Ltd
W&T Logistics Pte Ltd

Practice Profile

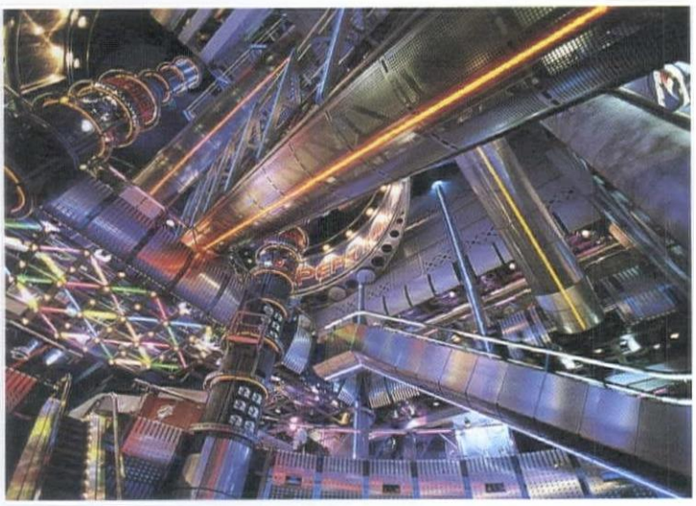
The firm of RDC Architects Pte Ltd (formerly known as Regional Development Consortium Architects, founded in 1974) has been involved in many building projects in Singapore, Malasyia, Indonesia, Brunei, Sri Lanka, the Middle East, China and Vietnam.

The firm's philosophy is based on the creation of a total environment satisfying the various aspects of social, economic and aesthetic considerations. It adopts a "group practice" approach in solving design problems, hence it does not subscribe to a single medium of architectural expression. The eventual built form must be an appropriate response to the context of the problem. It provides services ranging from planning, architectural design, project management, to development consultancy.

The firm is a pioneer in the adoption of a quality management programme for all its projects. Projects are subjected to quality assurance procedures set up with the aim of completing them on time, within budget, and achieving best quality in construction and best value for money for its client. In fact, RDC Architects Pte Ltd is the first architectural practice to obtain ISO 9000 Certification in Singapore.



Centro Oberhausen, Oberhausen, Germany
photographer David Whitcomb



The Trocadero, Piccadilly Circus, London, UK
photographer David Whitcomb

The Embassy of Singapore, Washington DC, USA
photographer Alain Jaramillo – Blakeslee Group

RTKL

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Affiliated Offices

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Senior Personnel

Harold L Adams FAIA, RIBA, JIA/Chairman
David J Brotman AIA/Vice Chairman
David C Hudson AIA, CSI/Executive Vice President
Jerry L Quebe FAIA/Senior Vice President
Lance K Josal AIA/Vice President
Paul G Hanegraaf AIA/Vice President
Gregory A Yager AIA/Vice President
Michitaka Yamaguchi AIA/Managing Director

Practice Profile

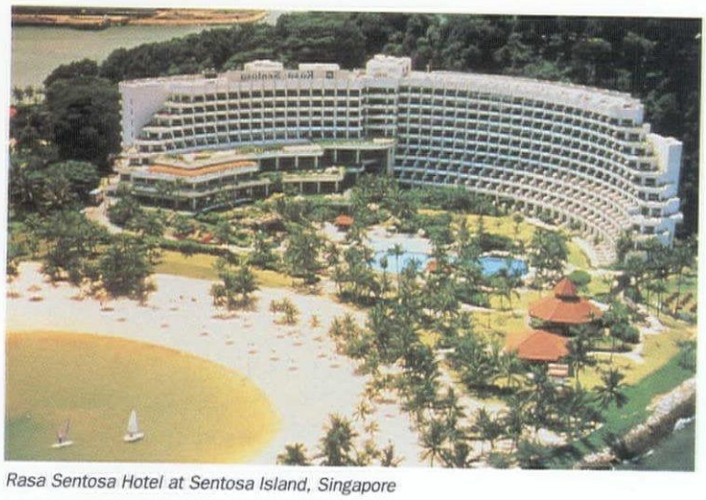
RTKL are an international architecture, planning and design firm with projects in over 45 countries on six continents. RTKL have a multi-disciplinary staff of 500 professionals and a world-wide portfolio of retail, mixed-use, masterplanning, urban design and renewal, leisure and entertainment, hotel and resort, and healthcare projects.

Through an extensive network of offices and alliances, RTKL can provide the highest level of professional service anywhere on the globe. The firm takes pride in the quality of its work as much as the quality of its client base, which includes some of the most successful developers, corporations and institutions in the world. Working closely with clients, our design professionals are able to address the design, marketplace and cultural challenges that shape successful projects. This sensitivity and spirit of communication results in designs that are appropriate and responsive to context, materials and natural assets.

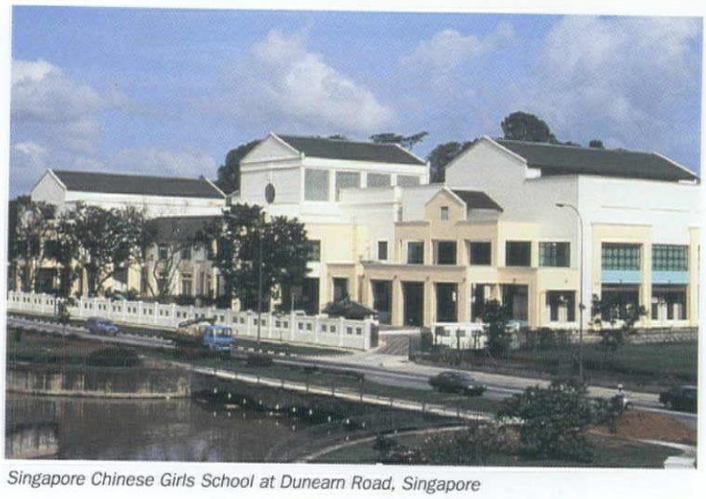
With 50 years of experience, the firm has emerged as a world leader in the design of commercial developments of all types.

Services

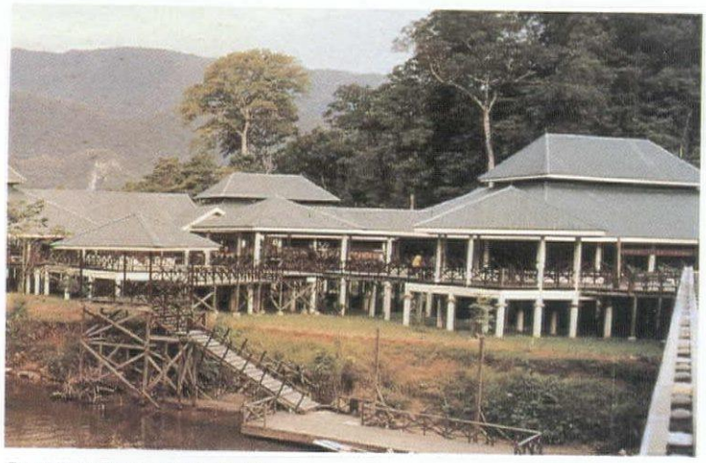
Architecture
Planning and urban design
Environmental graphic design
Theming and concept generation
Landscape architecture
Interior architecture
Engineering
Property and facility evaluation
Renovation and adpative re-use



Rasa Sentosa Hotel at Sentosa Island, Singapore

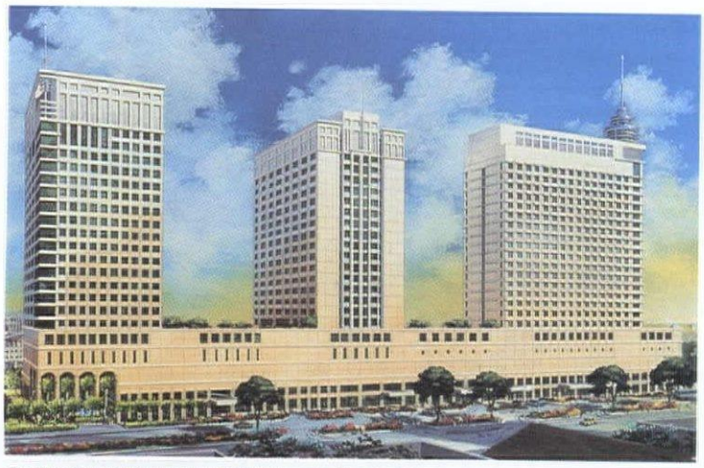


Singapore Chinese Girls School at Dunearn Road, Singapore



Royal Mulu Resort, Sarawak, Malaysia

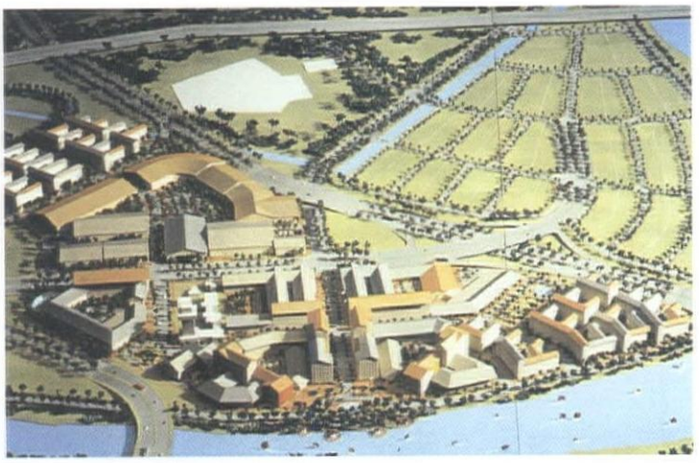
Sony CRT factory at Tuas, Singapore



Traders Square & Traders Hotel, Yangon, Myanmar

Information Technology Park, Bangalore, India

Republic Plaza at Raffles Place, Singapore



Masterplan: City of Chenghai, Republic of China

Masterplan: Sentosa City, Ghaziabad, India

PosBank Headquarters at Robinson Road, Singapore

RSP ARCHITECTS PLANNERS & ENGINEERS (PTE) LTD

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Key Personnel
Chairman & Managing Director
Albert H K Hong
BBM (L) DA (B'ham) FSIA RIBA

Directors
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Liu Thai-Ker
B Arch (NSW) MCP (Yale) MSIA FSIP RIBA FRAIA IREM CPM
Loh Choon Tong
B Arch (S'pore) MSIA
Lai Huen Poh
B Eng (Hons) MICE C Eng MIES P Eng AIStructE
Lee Kut Cheung
B Arch (Hong Kong) AA (London) Grad dip (Hons) MSIA RIBA
Goh Hup Chor
B Arch (Melb) M Arch (Penn) MCP (Penn) MSIA RIBA ARAIA MSIP

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RSP-Pacific Associates
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RSP International
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United Kingdom

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RSP International
PO Box 1025
Bahrain Arabian Gulf

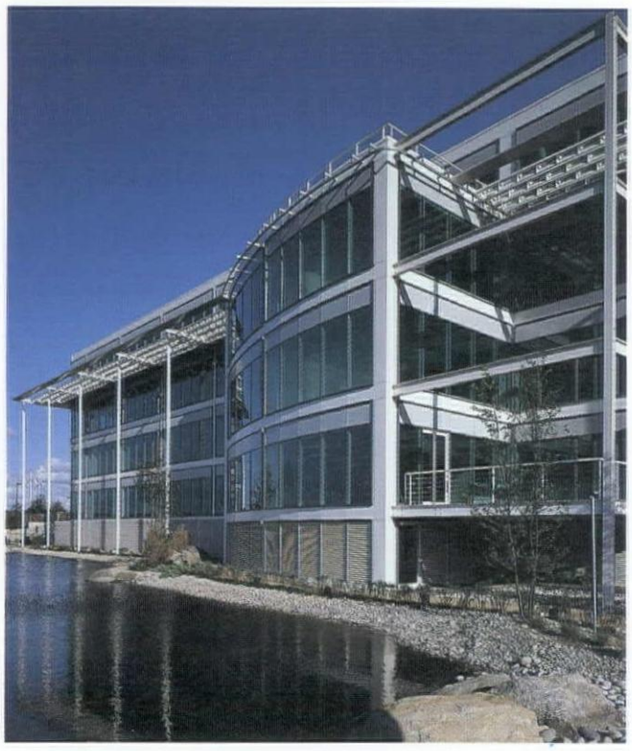
Practice Profile
RSP Architects Planners & Engineers (Pte) Ltd was incorporated in Singapore in February 1992. Its history dates back to 1956 when the practice was established in Singapore under the name of Raglan Squire & Partners. In December 1980, it was renamed RSP Architects Planners & Engineers. The practice, which has grown from a staff of 14 in 1956 to more than 300 today, has become one of the largest and most established architectural, planning and engineering practices in Singapore and the Far East.

RSP's subsidiaries, branch offices and associate firms in India, Dubai, Kuala Lumpur, Jakarta, London and Bahrain besides undertaking their own work in their respective areas, and also pool resources to carry out some projects jointly with the Singapore office. The combined experience of the staff has made it possible for the practice to produce work of a consistently high standard. To complement its services, the practiice also works closely with its own M&E Division, Squire Mech Pte Ltd.

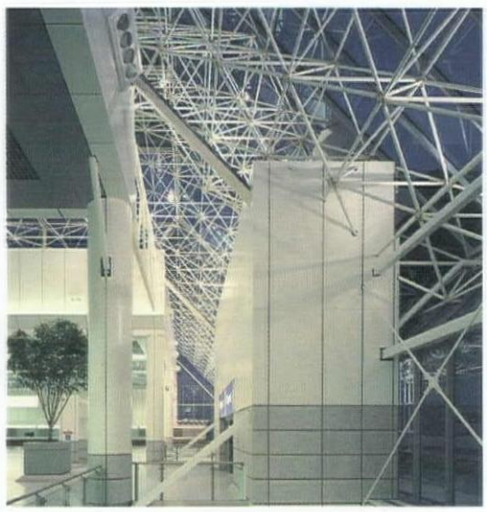
Design Approach
The practice places strong emphasis on design quality and project management. It has earned recognition for high levels of creative design and management skill, a fact supported by the number of projects which have been awarded design excellence awards. The practice aims to maintain high levels of professional standards and management control to ensure consistent quality and project completion within budget and time constraints. The practice is also one of the first in the region to achieve the ISO 9000 Quality Management System certification for Architectural Design and Consultancy Services.

Areas of Specialisation
Architectural planning, design, supervision and administration of building contracts; urban and regional planning; civil and structural engineering; interior design; construction management service.

Project Type
Large scale residential development
Hotels
Commercial complexes
Office buildings
Institutional buildings
Recreational buildings
Industrial buildings
Hospitals
City & regional planning
Industrial estates
Hi-tech parks



New Headquarters for Oracle UK, Thames Valley Park, UK



Manchester Airport Terminal 2 – voted the worldís best airport in a 1996 survey of airline passengers (both business and leisure) by IATA

SCOTT BROWNRIGG & TURNER LTD
Architects and Planners

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Associated UK Offices
Glasgow
Edinburgh

Key Personnel
Philip Moloney
Panos Panayiotou
Christopher Blow
Michael Kellard
Steve Marriott

Overseas Offices and Associated Offices
Abu Dhabi, Athens, Harare, Hong Kong, Jakarta, Johannesburg, Lyon, Nicosia

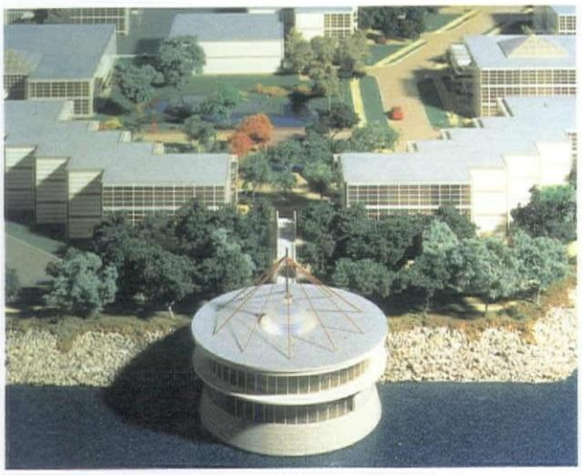
Practice Profile
Founded in 1910, SBT, has built an international reputation for architecture based on a commitment to design excellence, technological innovation, sound management and environmental care. With over 80 years experience of working with major clients on a wide range of projects, both in the UK and overseas, SBT has the capacity and expertise to carry exceptionally large projects through from brief-writing to the handover of the completed building. An extensive track record of projects includes pace-setting business parks, leisure complexes, retail centres, hotels, office developments and airport terminals.

Recent and current projects include the master-planning of several major leisure and theme park developments containing hotels, multi-sports facilities, marinas and water parks; master-plans and full design services for commercial developments, some including residential and retail elements; interior design and space planning of two international bank headquarters; the extension and refurbishment of a five-star hotel; extension and refurbishment of a restaurant in central London; exclusive residential developments; the design of new five-star hotel, new HQ buildings for the MOD, Oracle UK and Novartis (new pharmaceutical company following the merger of Ciba and Sandoz), housing for the MOD, the extension and refurbishment of two airports and design services for a major airline's catering facilities.

Areas of Specialisation
Master-planning, commercial, offices, business parks, leisure, retail and airports.

Mythos Park - masterplan for Greek theme park on outskirts of Athens, Greece

O'Reilly Hall, University College, Dublin



Industrial and Business Park, East Wall Road, Dublin

Biotechnology Building, University College, Dublin

New Civic Offices, Dublin

STW

Scott Tallon Walker Architects

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21 Eyre Square
Galway, Ireland

Key Personnel
Dr Ronald Tallon, KSG BArch FRIAI RIBA
Niall Scott, DipArch MRIAI RIBA
Michael Tallon, BArch MRIAI RIBA
Joan O'Connor, DipArch BArchSc MRIAI
Eugene McLernon, BArch MSc MRIAI
Michael Aston, DipArch RIBA
Peter Dudley, BArch MRIAI RIBA
Eoin O'Morain, BArch MRIAI RIBA
Bryan Roe, DipArch BArchSc MRIAI

Size of Company
Personnel: 70

Areas of Specialisation
Government institutions and facilities for the public; medical, healthcare; leisure/entertainment; hotels and catering facilities; offices and all work environments; retail activities and complexes including distribution.

Recent Clients
University College Dublin
Trinity College Dublin
University College Galway
Dublin Corporation
Radio Telefis Eireann
Bank of Ireland
Brown Thomas Group
Fyffes Group Limited
Marks & Spencer PLC
Electricity Supply Board
Telecom Eireann
Coopers & Lybrand
B+I/Irish Continental Group
Sumitomo Finance (Dublin) Ltd
Chase Manhattan Bank
Bank of Nova Scotia

Company Profile
Scott Tallon Walker is a partnership of architects engaged in the disciplines of architecture, interior design and master planning.

The firm's experience embraces educational, industrial, telecommunications and commercial developments, with particular interest in master planning for future growth. The fact that we have acted for over thirty years continuously for major clients is an indication of our continuing interest and collaboration in structuring their needs.

The quality of the work of the practice is reflected in the award of four Gold Medals, two medals for Housing and ten Commendations of the Royal Institute of the Architects of Ireland and The Royal Gold Medal for Architecture awarded by the Royal Institute of British Architects. The work illustrated indicates the ability of the practice to undertake a wide range of architectural commissions.

The firm is the first Architectural Practice in Ireland to be awarded Certification under ISO 9001 from the National Standards Authority of Ireland.

Hilton International Charles de Gaulle Airport

Hilton International Charles de Gaulle Airport

Regents Plaza

21 Lombard Street, London

Hilton International Stadtbad-Mitte Hochstrasse Frankfurt Am Main

JOHN SEIFERT ARCHITECTS

JOHN SEIFERT
ARCHITECTS

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Other offices
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Key Personnel
John M Seifert BSc DIP ARCH(UCL) RIBA CROAIF(FR) NCARB Cert(USA) AK Hessen(Ger) – Chairman
Malcolm N Noakes MSc ARCH(UCL) RIBA CROAIF(FR)
Stephanie J Kirwan LL B (Hons) MSc MA
Achim Jaeger DIP ARCH(OXFORD) RIBA

Services
Architecture, Urban Design

Company Profile
John Seifert Architects is active throughout Europe. We aim to benefit projects across the spectrum of commercial, residential and public buildings.

We offer a highly personalised service, working closely with our clients to give an edge in the market in terms of innovative design image, occupier suitability, financial performance, working planning approvals and practical construction. We provide coordinated international and local services and are geared to match the demands and standards of developments in the new Europe.

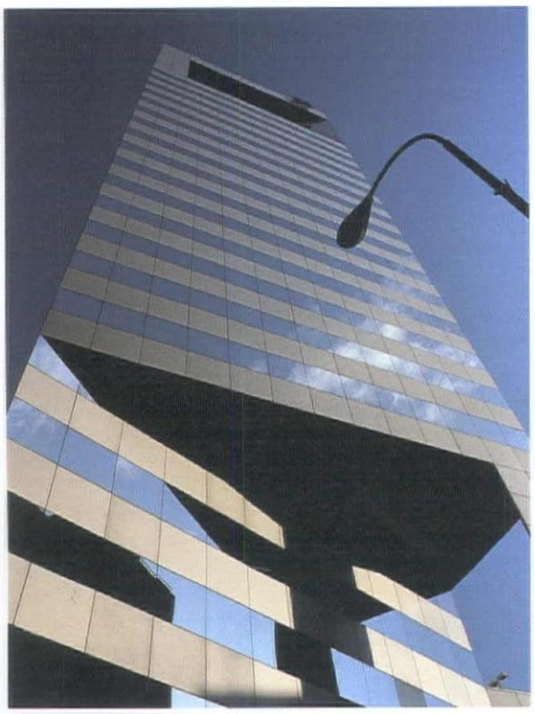
John Seifert Architects travaille à travers l'Europe. Notre but est de tirer profit de toute la gamme de projets; commerciaux, habitations, et bâtiments publics.

John Seifert est organisé pour assurer un service hautement personnalisé. Nous travaillons côte à côte avec nos clients pour assurer notre avantage en termes de créativité innovatrice, capacité à adapter chaque projet aux besoins particuliers de l'occupant éventuel, performance financière, faisabilité administrative et constructibilité de notre architecture.

Notre service, à la fois régional et international, nous permet de répondre aux défis lancés par le développement de la Nouvelle Europe car nous avons déjà une expérience poussée de l'harmonisation des standards internationaux aux particularismes locaux.

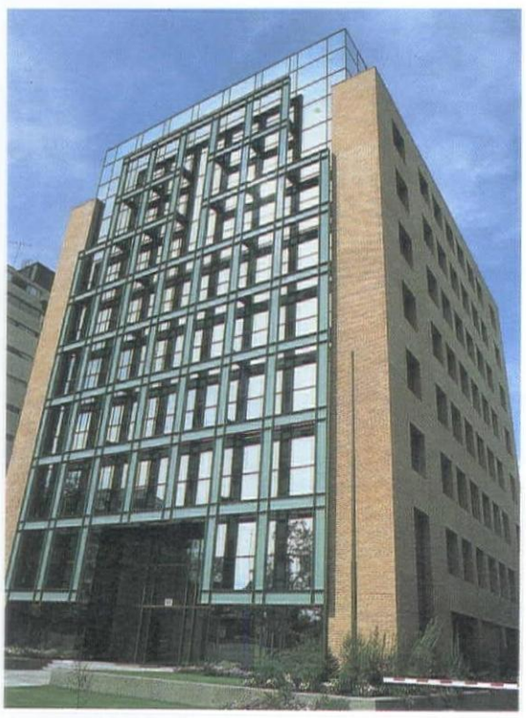
Das Architekturbüro John Seifert ist in ganz Europe für private und öffentliche Bauherren tätig und bearbeitet Vorhaben sowohl im Wohnungsbau, als auch im Nicht-Wohnungsbau.

Wir bieten einen sehr persönlichen Service an, der auf enge Zusammenarbeit mit unseren Auftraggebern basiert. Wir zielen darauf hin, unseren Projekten durch ein markantes Image, hohe Nutzerfreundlichkeit, wirtschaftliche Tragfähigkeit, zweckmäßige Planung und Ausführung Marktvorteile zu verschaffen. Durch koordinierte Leistungen auf sowohl internationaler, als auch örtlicher Ebene sind wir darauf vorbereitet, den Anforderungen und Maßstäben des neuen Europas gerecht zu werden.



Interamericana Building, Santiago, Chile

Hyatt Hotel, Santiago, Chile



Sigdo-Koppers Building, Santiago, Chile

ALEMPARTE BARREDA Y ASOCIADOS ARQUITECTOS

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Fax: +56 2 2310131

Key Personnel
Sergio Alemparte
Ernesto Barreda
Manuael Wedeles
Yves Besançon
J Gabriel Alemparte

Practice Profile

Alemparte Barreda y Asociados was founded in 1953 by two architects, Sergio Alemparte and Ernesto Barreda, after graduating from the Catholic University of Santiago. To this day they are still partners. The following architects have subsequently joined the company as partners: Manuel Wedeles in 1971; Yves Besançon in 1977, and José Gabriel Alemparte in 1980. In addition to the partners there is also an efficient team of 24 architects.

Throughout the firm's professional history, Alemparte Barreda y Asociados Arquitectos have been dedicated to architectural design, urban planning and interior design. Notable built works include hotels, office buildings, hospitals, housing, industrial works and urban transportation projects, amongst others.

The firm works primarily in Santiago, Chile. However, the firm has also carried out projects in different regions of Chile and in other countries such as Bolivia, Paraguay and Spain.

Running parallel to the firm's long professional history are the changes that have occurred in architecture over the past five decades, both in Chile and world-wide. In addition to the great number of works carried out in the most diverse programmes this has resulted in varied architecture that is not limited to one certain style. Each project has its own individual character.

Some of the most important national and international companies have entrusted Alemparte Barreda y Asociados Arquitectos with the design of their offices and other buildings. The company has thus developed a portfolio of different buildings that share the common characteristic of complying with the demands of the client.

The most important national, and renowned international hotels have been created and designed by Alemparte Barreda y Asociados Arquitectos for construction in Chile. The buildings are designed in keeping with their function and display a unique character that contributes to the sector of the city in which they are located. This team of architects has over 40 years of experience in designing housing. Innovative contributions can be seen in almost all constructions, which are increasing today with the construction of vacation condominiums for tourists in seaside resorts throughout the country.

Size of firm
5 Architects/Partners
4 Architects/Project Managers
20 Architects
6 Staff

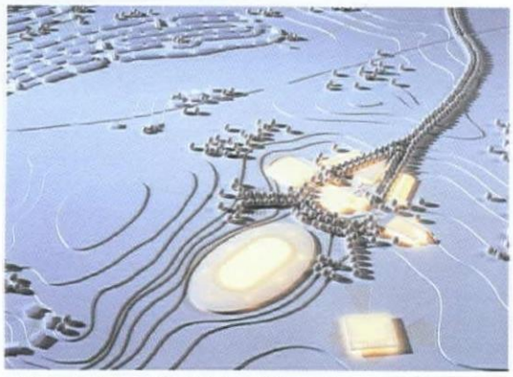
Areas of specialisation
Hotels
Office Buildings
Residential Buildings
Residential Developments and Resorts

Past and future projects/clients

Past
Hotel Marbella Club – Inmobiliaria e Inversiones Marbella SA
Hotel Hyatt Regency – Hotel Corporation of Chile SA
Hotel Santiago Park Plaza – Inmobiliaria Lyon Plaza SA
Hotel Crowne Plaza – Ho;iday Inn
Hotel Sheraton San Cristobal – Sheraton International
Edificio de Capitales – Edificio de Capitales SA
Edificio Andinio – Leasing Andino SA
Edificio Teatinos 280 – Compañía de Seguros de Vida El Raulí
Edificio Sigdo-Koppers – Sigdo Koppers SA
Edificio Torre Interamericana – American International Group USA
Edificio Esso – Esso Chile Petrolera
Hospital Naval las Salina – Armada de Chile (Chilean Navy)
Hospital Fusat – Codelco – Chile División El Teniente
Condominios Las Brisas – Inmobiliaria Las Brisas SA
etc.

Future (Under construction or design phase)
Edificio Camara de Comercio de Santiago – Cámara de Comercio de Santiago
Edificio Merced-Miraflores – Moller y Pérez Cotapos
Edificio Mutual de Seguridad – Cámara Chilena de la Construcción
Edificio Birmann – Birmann – Brasil
Edificio Helvecia – Inmobiliaria Helvecia Ltds
Mall Del Centro – Mall Puente SA
etc

Learning Resource Centre, the Heart of Hackney



British Academy of Sport, Central Consortium, Loughborough

Motorola ECID, Swindon

The Welcome Trust, Genome Campus, Cambridge

Helican Finsbury Pavement, London and Manchester Assurance Co Ltd

SHEPPARD ROBSON

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Key Personnel
Anthony Furlong, RIBA
Richard Young, RIBA
William Dickson, RIBA
Graham Francis, RIBA
Michael Forster, RIBA
Paul Watkins, RIBA

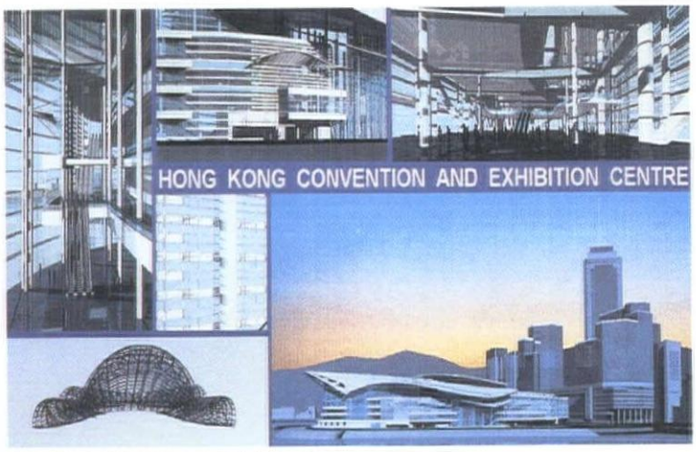
Size of Practice
Architectural Staff: 104
Technical Staff: 28
Total: 166

Recent Projects/Clients
- British Academy of Sport, Central Consortium, Loughborough
- Motorola ECID, Swindon, Berkshire
- Learning Resource Centre, Heart of Hackney, London
- The Helicon, Finsbury Pavement, London, for London and Manchester Assurance Co Ltd
- European Headquarters for Dun and Bradstreet International
- Chelsea and Westminster Hospital for North West Thames Regional Health Authority
- King Saud University Hospital, Abha, Saudi Arabia for the King Saud University, Riyadh
- Research Campus, Stevenage for Glaxo Group Research
- The Welcome Trust Genome Campus, Informatics and Research, Cambridge
- Master Plan for the Roehampton Institute, Roehampton, London
- Faculty of Humanities and Social Science and Student Residences for Manchester Metropolitan University

Practice Profile
Sheppard Robson is an established international architectural practice engaged in the disciplines of architecture, planning and interior design. With a diverse and interesting range of clients including market leaders, a wide range of institutions and government agencies in the United Kingdom and overseas, their objective is to apply creative thinking and control to the full spectrum of design from strategic planning to detailed finishes.

Over 150 design and technical staff supported by an advanced computer aided design system integrate skills to provide design excellence and distinctive cost effective responses to the needs of their clients.

During the past 50 years Sheppard Robson's commitment to design excellence and high standards has resulted in many professional and civic awards for architecture and planning.

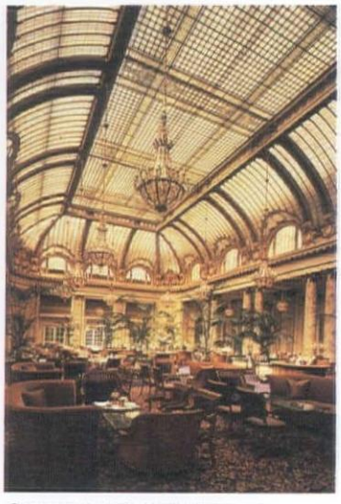


Hong Kong Convention and Exhibition Center

Jin Mao Building, Shanghai

AT&T Corporate Center, Chicago, Illinois

Washington University, Psychology Building, St Louis, Missouri



Sheraton Palace Renovation, San Francisco, California

Plaza Rakyat, Kuala Lumpur

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E-mail: info@som.com

Company Profile

Celebrating its sixtieth anniversary this year, Skidmore, Owings & Merrill LLP (SOM) is a partnership that provides complete professional services in the fields of architecture, planning, interior design, engineering, and management. Since its inception in 1936, SOM has undertaken a variety of commissions in the US and in more than 50 countries throughout the world. With a successful track record in projects of all sizes and types, clients can feel confident that they are hiring highly trained and experienced professionals to complete their goals and objectives.

The American Institute of Architects (AIA) has once again recognized SOM with the highest honour given to architectural firms, the 1996 Architecture Firm Award for distinguished architecture. SOM was the recipient of the first Architecture Firm Award in 1962 and is the first firm to win this award a second time.

SOM's diversified large and small scale projects include offices; financial institutions; commercial, industrial, and educational buildings; hotels; convention and exhibition centres; sports facilities; performing arts facilities; hospitals; transportation facilities, including airports, train stations, and subways; and recreational, religious, and residential facilities. Interior design is an integral part of SOM's practice, as is a broad range of urban planning projects, including redevelopment and reuse plans, impact assessments, and transportation planning analyses.

Firmwide Capabilities

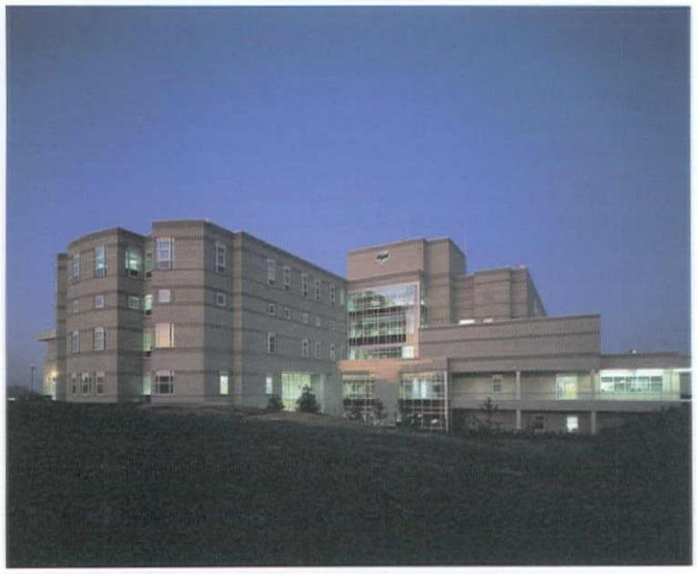
While working closely with each client and responding to each client's needs, SOM integrates the following disciplines to produce appropriate design solutions: Architecture; Urban Site, and Environmental Planning; Interior Design; Structural Engineering; Civil Engineering; Building Services Engineering (Mechanical, Electrical, Plumbing, Fire Protection); Project Management

Representative Projects

Plaza Rakyat, Kuala Lumpur, Malaysia (transportation centre, office, hotel, retail, cinema); Worldwide Plaza, New York, New York; Sears Tower, Chicago, Illinois; Swiss Bank Corporation, Stamford, Connecticut; AT&T Corporate Center, Chicago, Illinois; Louise M Davies Symphony Hall, San Francisco, California; Lyric Opera House Renovation, Chicago, Illinois; Hong Kong Convention and Exhibition Centre, Hong Kong; Lisbon Expo '98, Lisbon, Portugal; Washington University, Psychology Building, St. Louis, Missouri; Columbia University, New York, New York; University of California, Berkeley, California; Sheraton Palace Renovation, San Francisco, California; Rowes Wharf Boston Harbor Hotel, Boston, Massachusetts; Hyatt Regency, Cairo, Egypt; Hubert H Humphrey Metrodome, Minneapolis, Minnesota; Oakland-Alameda County Coliseum Complex, California; Soldier Field Reconstruction, Chicago, Illinois; San Francisco International Airport Terminal, San Francisco, California; Chicago Transit Authority Green Line, Chicago, Illinois; John F Kennedy International Airport, New York, New York; United States Air Force Academy Chapel, Colorado Springs, Colorado (recipient of 1996 25-Year Award, National American Institute of Architects); Islamic Cultural Center, New York, New York; Campus Crusade for Christ International, Orlando, Florida; Rockwell Center, Manila, Philippines; John Hancock Center, Chicago, Illinois; Riverside South, West New York, New Jersey; State Street Renovation, Chicago, Illinois; Saigon South Masterplan, Ho Chi Minh City, Vietnam; Andersen Worldwide Headquarters, Chicago, Illinois; New York Mercantile Exchange, New York, New York; Ayala Towers Interiors, Makati, Philippines.

New patient care tower for St. Francis Hospital Center, Hartford, Connecticut includes acute care and ambulatory services. (Photo: Scott McDonald, Hedrich-Blessing Photography)

Philippines Medical Center will incorporate the full range of diagnostic treatment and research facilities in a 1.2 million s.f. medical complex.



Cullman Regional Mecical Center in Alabama integrates a new 115-bed hospital, ambulatory care center and medical office building on a 73-acre site. (Photo: Timothy Hursley)

TRO/THE RITCHIE ORGANIZATION

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Wendell R Morgan Jr., AIA – President
Robert Hoye, AIA – Managing President
Susan Daylor, FMP – Vice President, Marketing

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Key Personnel
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Patrick B Davis, AIA – Vice President, Marketing

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Key Personnel
Fred C Frederick, AIA – Vice President
Dennis LaGatta, AIA – Vice President, Marketing

Practice Profile
Established in 1909, TRO is a 170-person planning and design firm specialising exclusively in health-related facilities. Currently TRO is ranked among the top 12 US healthcare facilities design firms (*Modern Healthcare* magazine April 1996). Our award-winning project experience ranges from the design of new, large scale "medical cities" – incorporating hospitals, ambulatory clinics, biomedical research laboratories, conference facilities and residences – to ambulatory care clinics and renovations of patient care floors. TRO has worked for over 400 clients around the world with construction volume totalling more than US$3.5 billion. Projects are currently underway in the USA, Europe, the Middle East and the Pacific Rim.

Outstanding client service, coupled with a fundamental understanding of the ever-evolving demands of the healthcare delivery system are at the forefront of TRO's business philosophy. We work with our clients to define a standard of excellence that responds to their needs, with flexibility, imagination and the highest quality design services. The firm's record of repeat business is over 90 percent. Client relationships have spanned decades, some of them over 40 continuous years, attesting to our clients' utmost satisfaction with our performance.

Services Provided
Architecture
Interior Design
Space Planning & Programming
Real Estate Asset Consulting
Site & Facilities Master Planning
Project/Construction Cost Evaluation
Mechanical/Electrical/Plumbing and Fire Protection Engineering

Leonie Condotel

Institute of Technical Education Headquarters

Albert Court

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Directors
Teh Weng Kuang
D Arch (Singapore)
FSIA APAM RIBA
MA (Urban Planning) MSIP

Goh Chong Chia
D Arch (Birmingham)
B Sc Hons Arch (Aston)
FSIA APAM RIBA

Yam Siew Chow
D Arch (Melbourne)
MSIA APAM RIBA ARAIA

Associate Director
Low Leong Leong
B Arch (Singapore)
BA (A.S.((Singapore)
MSIA RIBA

History:
TSP Architects & Planners Pte Ltd is a long established regional practice with successful building, urban design and planning projects in Singapore, Malaysia, Indonesia, Brunei, Thailand and Hong Kong. The practice was formed in 1946 under the name of E J Seow. In 1970, after 24 years of steady growth, the name was changed to SLH Partners. Upon the retirement of E J Seow in 1974, the firm was renamed Timothy Seow & Partners. In 1988, the practice name was abbreviated to TSP Architects & Planners to reflect a more corporate image and in 1995, attained licenced corporate status to facilitate a multi-disciplinary practice with an enhanced competitive edge.

Design Philosophy:
TSP treat each project as a unique combination of opportunities: the values, aspirations and policies of the client are taken as springboards for architectural ideas. Discussions with clients generally involve frank exchanges of views, often leading to the raising of the "sights" of both the client and the architect. In our opinion, finding the best solution for the client's needs and providing the best quality of life for all the users are the key issues of architecture. A great deal of effort is put into understanding of the client's daily operations and long-term plans.

For each client, TSP aims to arrive at the optimum building form and appropriate architectural language achieved by the careful selection and adaptation of constructional vocabulary. The aim, in each case, is to bring together visual quality and an economy of means.

Teamwork is the essence of TSP's approach. Staff from TSP are constantly involved in architectural education, either as part-time teachers or as examiners, which enables them to keep in touch with emergent theoretical ideas. In addition, TSP are keenly involved with the Singapore Institute of Architects and arbitration works, and benefit from the professional contacts the Institute provides.

Awards
1st Prize
- Comcentre III Design Competition

Winning Design
- Institute of Technical Education Headquarters & Technical Institute
- HDB Design and Build, Woodlands N5C1

SIA Honourable Mention
- Commercial Category – Tong Building (1983)
- Residential Category – Mediterranean Townhouses (1983)
- Residential Category – Woollerton Park (1987)
- Mixed-use Category – Claymore Point (1991)
- Utility Category – Pasir Ris Telephone Exchange (1991)

CIDB award for Construction Excellence
- Sentosa Radio Tower (1994)

Passenger transfer system at Gate B, Frankfurt am Maim airport, Frankfurt – the railway was required to integrate with existing airport buildings

Passenger transfer system at Gate B, Frankfurt am Maim airport, Frankfurt – PTS station

Passenger transfer system at Gate B, Frankfurt am Maim airport, Frankfurt – detail

ARCHITEKTURBÜRO WGK

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Tel: +49 40 822 80112

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60549 Frankfurt am Main
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Mortizburger Weg 67
01109 Dresden
Germany

Badestraße 2
39114 Magdeburg
Germany

Werkstraße 215
19061 Schwerin
Germany

on site offices as required

Key Personnel
Dieter Krüger, Owner/Director
Wolfgang Everts, Manager of planning
Gerhard Koch, Manager of projects

Selected Projects
Office buildings:
Administration building and computer centre for Volksfürsorge, Hamburg
Administration building for LVA Mecklenburg-Vorommern, Neubrandenburg
Administration building and computer centre for AOK, Hamburg
Administration building for Familienfürsorge, Detmold
Extension of administration building and computer centre for BHW, Hameln
Administration/Office/Hotel/Restaurant facilities on an old-factory site (including the integration of existing factory building) for Kreye, Hamburg
Public transport buildings:
Building extensions for Frankfurt am Main airport AG, Frankfurt (departures/air traffic control tower/flight and boarding gates/passenger lounges/passenger transport system)
Shopping centres:
Shopping mall Grand Central Station, for DSG, Hamburg
Healthcare buildings:
General Hospital for AK, Heidberg, Hamburg
Accident and Emergency Hospital for BUKH, Hamburg
Extension to University Hospital for UKE, Hamburg
Convalescence Clinic for BfA, Bad Homburg
Convalescence Clinics/reconstruction for the city of Schwerin
Neurological clinic/reconstruction for the city of Schwerin/Schwerin
Centres for occupational diseases for Bau-BG, Hamburg in
Neumünster, Schwerin, Rostock, Greifswald, Neubrandenburg, Lübeck, Flensburg
Educational projects:
Education and social centre for BWB, Königswinter
Workshops for the handicapped for HW, Hamburg
Housing:
Apartment and retail buildings for Mursch, Hameln
Apartment building for BHW Pensionskasse, Hameln
Apartment building for Jess, Hamburg
Refurbishment:
Chilehaus office building for Scandinavian Partners, Hamburg
Office and apartment building for SLT, Dresden
Apartment and retail building for BHW, Mainz
Town planning:
Urban framework planning, Frankfurt/Oder

Practice Profile
Architekturbüro WGK is one of the largest architectural practices in Germany, with well over 100 staff (architects and engineers account for 82 percent of total staff).

The company has long standing expertise in project management, outline and detail design, preparation of specifications and quantities (tenders), and in association with other companies can offer additional services in environmental, structural and landscape design. As illustrated in Selected Projects (above) WGK's portfolio stretches from public housing and hospitals to government offices. The company is also active in the world of competitions

Through close collaboration with the engineer's office Ingenieurgesellschaft Krüger mbH (IGK) owner, Dieter Krüger, the company offers all services in the field of technical building equipment as well as structural engineering, load bearing systems etcetera, and covers both the clients' needs and specific project requirements.

Planning for hospitals and other health care buildings accounts for 40 percent of WGK's total output.

Landesversicherungsanslait Mecklenburg-Vorpommern – model view

Landesversicherungsanslait Mecklenburg-Vorpommern – front view

Landesversicherungsanslait Mecklenburg-Vorpommern – staircases

Landesversicherungsanslait Mecklenburg-Vorpommern – canteen

INGENIEURGESELLSCHAFT KRÜGER MBH (IGK)

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Germany

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Germany

Building 184
Suite 1072
60549 Frankfurt am Main
Germany

Werkstraße 215
19061 Schwerin
Germany

on site offices as required

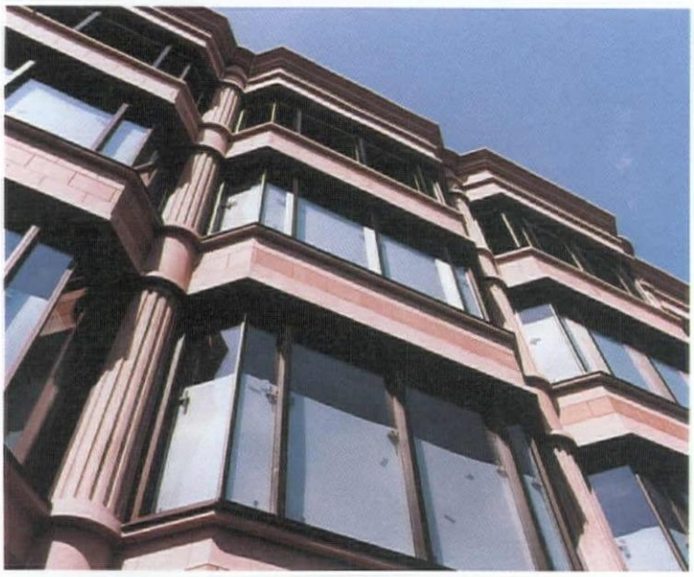
Key Personnel
Dieter Krüger, Owner/Director
Marcus Mohn, Representative
Wolfgang Everts, Manager of planning
Gerhard Koch, Manager of projects

Selected Projects
Office buildings:
Administration building for Deutscher Beamtenbund, Bonn
Administration building for LVA Mecklenburg-Vorpommern, Neubrandenburg
Shopping centres:
Mercado-Centre, Hamburg-Altona
Extension Wandsbek-Quarre, Hamburg-Wandsbek
(both projects for Büll + Dr Liedtke, Hamburg
Healthcare buildings:
General Hospital for AK Heidberg, Hamburg
Accident and Emergency Hospital for BUKH, Hamburg
Centres for occupational diseases for Bau-BG, Hamburg in
Neumünster, Schwerin, Rostock, Greifswald, Neubrandenburg, Lübeck, Flensburg
Housing:
Apartment and retail building for Mursch, Hameln
Refurbishment and modernisation of Jägerstraße apartment and retail buildings for Baudirektion, Berlin
New building and refurbishment of apartment and retail buildings for WGS, Schwerin

Areas of specialisation
Masterplanning/project management, for building construction.
Technical building equipment: heating/air conditioning, sanitation, electrical installations – including conveying facilities.
Structural engineering/loadbearing systems.
Planning, calculations, construction supervision, inspection, construction accounts, efficienct tests, consultation studies, expert opinions, technical software.

Practice Profile
The building design company , IGK (Ingenieurgesellschaft Krüger mbH) offers complete solutions for all specialist fields of technical building equipment including outdoor and traffic concepts and stability checks. In addition, IGK is capable of supplying masterplanning for all building constructions.

In close collaboration with architectural design company WGK, the company offers all services in the fields of technical building equipment, structural engineering, load bearing systems etcetera, and cover clients needs and project requirements for the entire project. Project work is supported by the latest in computer technology



THE WHINNEY MACKAY-LEWIS PARTNERSHIP

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Mackay-Lewis Facility
Management
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Services

Strategic Facilities Planning
Site Appraisals
Surveys
Feasibility Studies
Master Planning
Town Planning
Urban Design
Architectural Design

Space Planning
Interior Design
Furniture Procurement
Environment Engineering
Landscape Design
Communications
Project Management
Facilities Management

Clients

Banque Paribas
ING Barings
Prudential Portfolio Managers
Wates City of London Properties
Trafalgar House Properties
St Martins Property Corporation
Commercial Union
Association of British Insurers

Norwich Union
Reuters
Morgan Stanley International
Swan Hill Developments
Coopers & Lybrand
LIFFE
Credit Suisse
London Metal Exchange

Key Personnel

Jeremy Mackay-Lewis, *Chairman*
Chris Cotton, *Managing Director*
John Cox, *Director*
Anton Jansz, *Director*

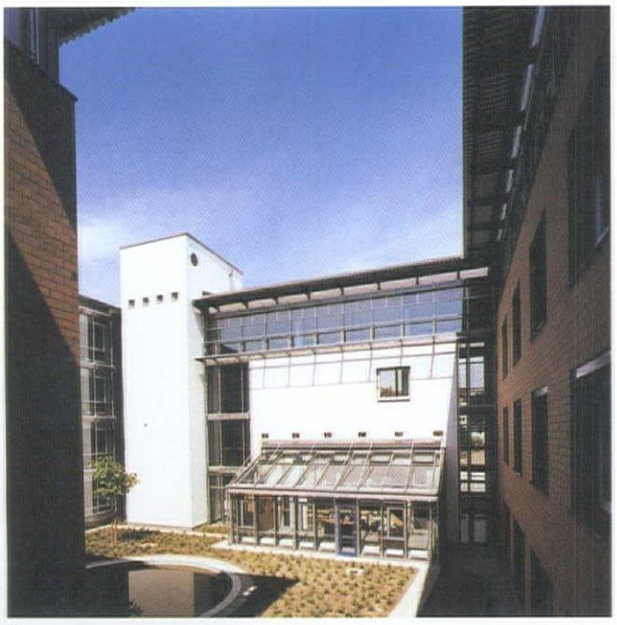
Zsolt Moldán, *Director*
David Mun, *Director*
Graeme Rapley, *Director*
Steven Marriott, *Director*

Practice Profile

WML is a design house specialising in planning, architecture and interior design. The essence of our service to the client is excellence in design performing to time and budget limitations, and ensuring the highest standards from consultants and contractors.

Awards

Prince of Wales Award 1982, Civic Trust Award 1982, RICS/Times Conservation Award 1982, Victorian Society Award 1983, Access for the Disabled Award 1986, Evening Standard Award 1986, two Civic Trust Commendations 1987, City Heritage 1987, Civic Trust Commendation 1990, The Office Building of the Year Award – MIPIM 1993, International Marble Architectural Award 1993, The Natural Stone Awards Commendation for Interior and Exterior 1993, The Natural Stone Award New Building 1993, The Plasterers Award – Commendation for Fibrous Plasterwork 1993, The Tylers Award 1993, Virtual Reality Commendation 1994, Seeboard Business Energy Award 1992, Royal Fine Arts shortlisted for Building of the Year 1992.



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2

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4

5

MICHAEL WEINDEL

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Key Personnel

Dipl-Ing Wolfgang Eitel; Dipl-Ing Thomas Gierl; Dipl-Ing Gerd Peter Goossens; Dipl-Ing Bruno Schneller; Dipl-Ing Manfred Sebert

Recent Clients

Asea-Brown-Boveri, Mannheim
Bundesanstalt für Arbeit (Ministry of Labour)
BVB Bank, Bad Vilbel;
Heel
Caritas and itzel Foundation, Munich
Gesellschaft für Gesundheitsforchung (company for health research)
Staatliches Hochbauamt für Bundesbauten (the authority responsible for buildings paid for and used by the government)
Staatliches Hochbauamt für Bauten des Landes-Baden-Württemberg und Sachsen (the authority responsible for buildings paid for and used by the Baden-Württemberg and Saxonia region)
Philipp Holzmann Building Development
Ruland Clinics for Rehabilitation
Stadt Karlsruhe
SummaCrest Ethica Humana Inc, Texas, USA
Techniker-Krankenkasse, Hamburg

Practice Profile

The firm offers full architectural services, project development, master planning, space planning, programming and building analysis services. It has special experience in business complexes, office buildings, clinics, hotels, homes for the elderly and building refurbishment.

Nearly all commissions are the result of successful participation in over 190 architectural competitions. All projects have been developed to the full satisfaction of the clients and have received awards and coverage in domestic or international publications.

The firm achieves close collaboration with the client by retaining the same member of special project teams from the first design sketch stage through to the very last details of the project's realisation.

The architectural design process is mainly determined by the intentions of the client, the building programme and by maximum sensitivity to the site and its surroundings.

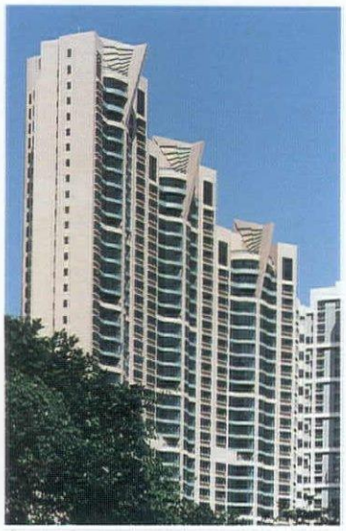
And there is a design philosophy: Modernism is not at all out.

Additional Information

As a main pilot project the office is building a large Medical Resort Park in Bad Herrenalb, Germany. It consists of a 300-apartment rehabilitation clinic, a 100-apartment clinic hotel, a housing project for the elderly, a medical practice centre and its automatic "Bergbahn" connecting this panoramic site on a mountain top overlooking the black forest with the railway station down in the valley. The project will be completed in 1997.

Captions:

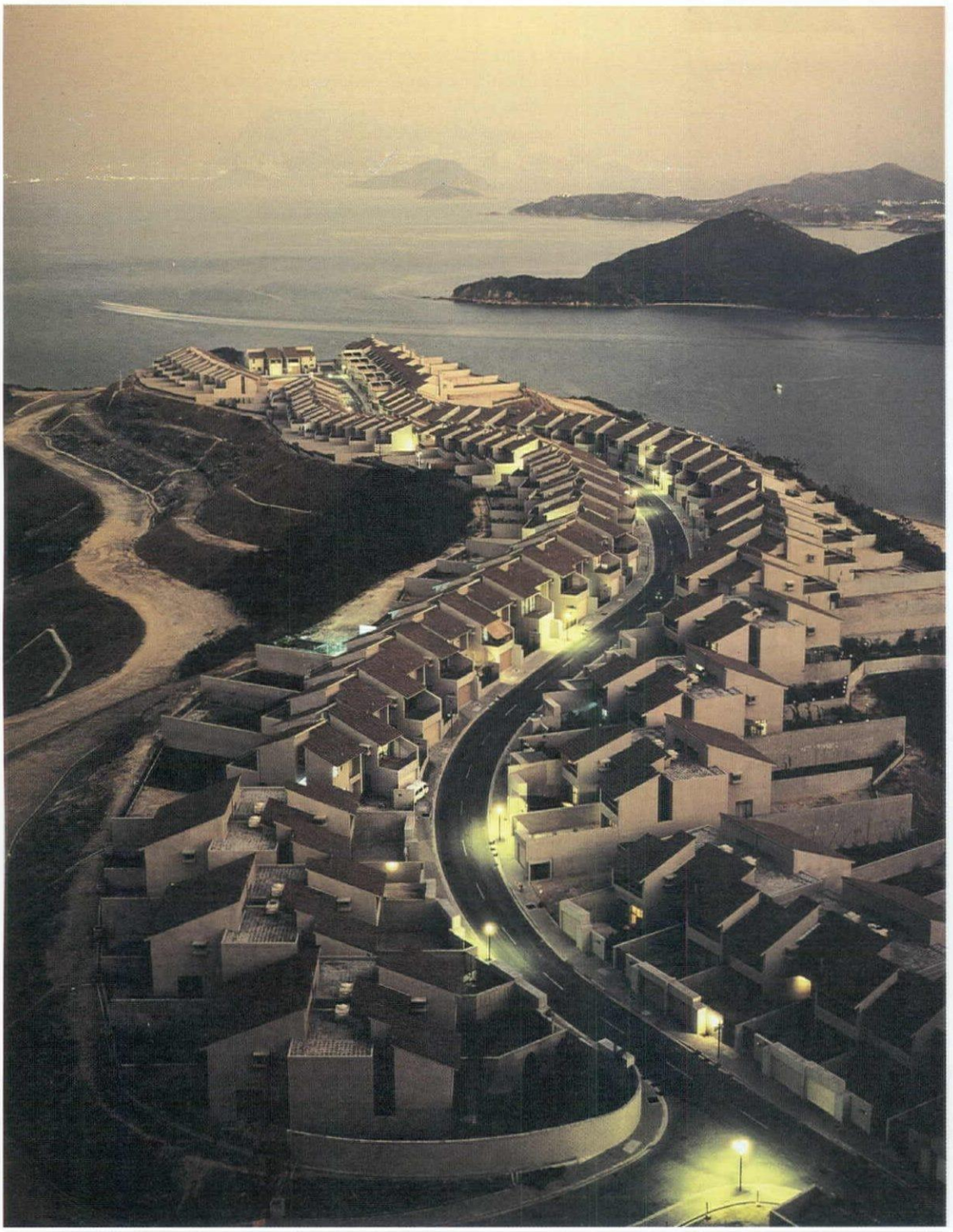
1. Department of Work, Karlsruhe, Germany
2. Department of Work, Karlsruhe, Germany
3. Laboratory institutes, University of Leipzig, Germany
4. Town Hall, Eberbach, Germany
5. School Centre, Leinfelden, Stuttgart, Germany



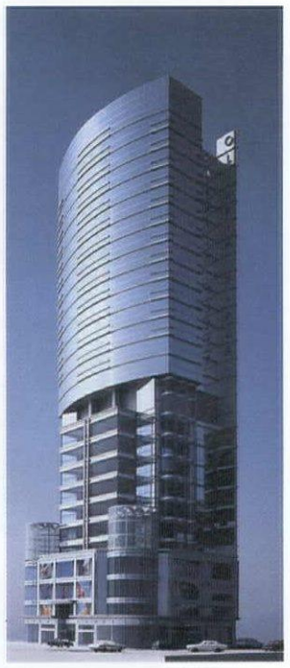
Dynasty Court, Hong Kong

The Enterprise Centre, Manila

Jin Jiang Tower Hotel, China

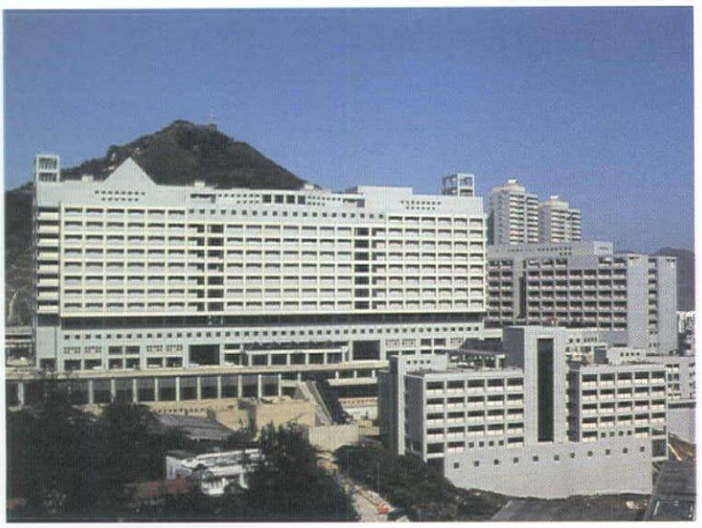


Discovery Bay Phase 1, Hong Kong

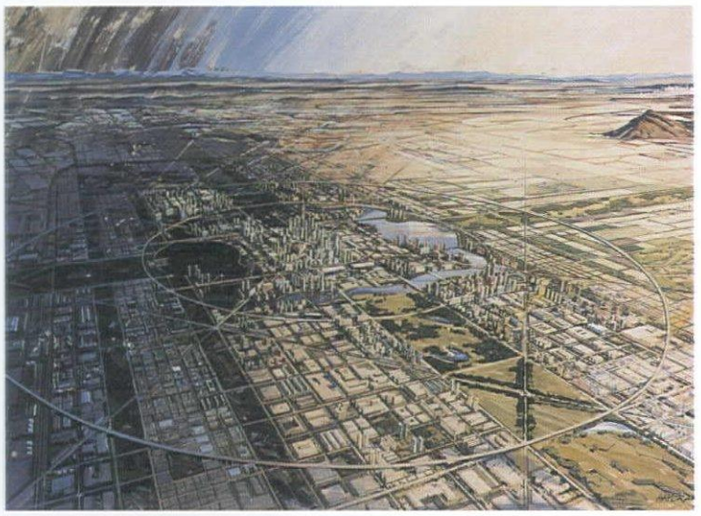


Olympia Plaza, Hong Kong

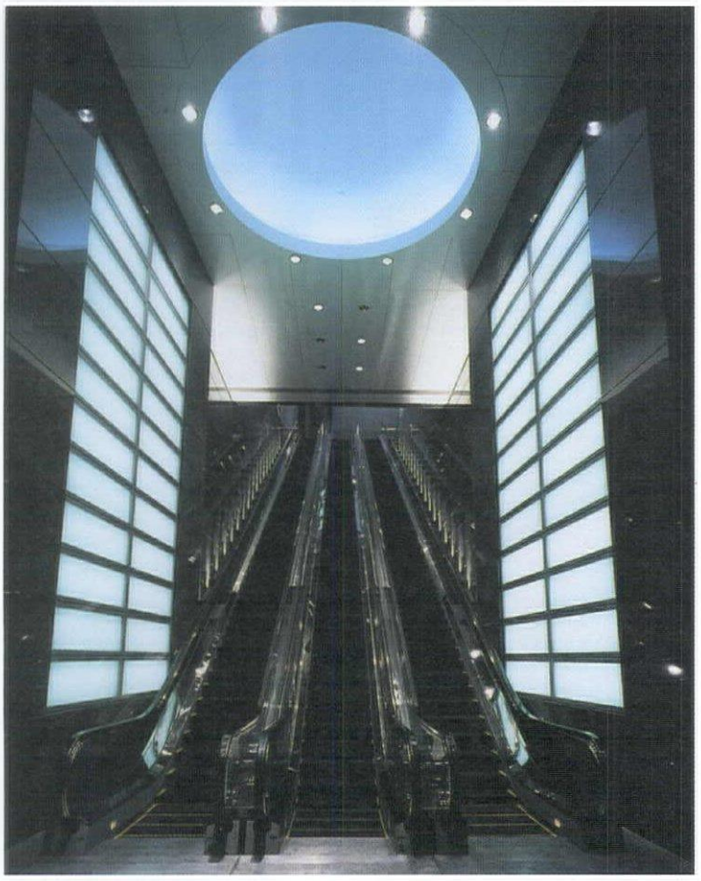
Valverde Tower, Hong Kong



Pamela Yonde Hospital, Hong Kong



The Three Gorges Dam Project, China



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	Jim K P Tong HKIA RIBA ARAIA
	Owen K W Tang HKIA RIBA

Practice Profile

Wong Tung & Partners was established in Hong Kong in 1963 and have been practising under the name of Wong Tung & Partners since 1984. Offices were opened in Dallas in 1961, in Atlanta, Georgia and Guam in 1972, and in Manila in 1975. An international extension of the Wong Tung Group, Wong & Tung International Limited, was formed in 1975. The Atlanta, Guam and Manila offices were established to meet requirements of specific projects. The group is now represented in these areas through affiliated practices, as well as in Canada, Australia, Singapore, Thailand and major Chinese cities. The group's activity in China started in 1978, since when representative offices have been set up in Shanghai and Guangzhou. Wong & Tung Computer Aided Drafting (Shenzhen) Co Ltd, a wholly owned subsidiary company, was formed in 1993. A joint venture design company, Zhong Tian Wong Tung International Engineering Design Consultants Co Ltd, was opened in Beijing, Peoples Republic of China in 1996. Wong Tung & Partners Ltd have also obtained certification to ISO 9001 from the Hong Kong Quality Assurance Agency for the provision of Architectural Constancy Services in Hong Kong. The practice has a total strength of over 250 professional and support personnel.

The group is structured to provide a broad base of planning and architectural services which have contributed to the successful completion of a variety of projects throughout South East Asia, the USA and the Middle East.

In providing comprehensive services from initial research and land assessment through design, construction and final inspection, the practice is in a position to meet both the client's needs and the project's requirements. The group's multi-disciplined and specialist personnel can also develop and produce solutions for virtually any type of development requested by the client.

In view of the expanding realm of international projects, the group has found it mutually beneficial to associate with other highly qualified architectural practices to contribute environmental background and local expertise. It also collaborates with other planning, architectural and engineering firms in the form of joint ventures whenever highly specialised projects require professional services.

Recent Projects/Client

Chek Lap Kok Airport Catering Facilities, Hong Kong/Cathy Pacific Airways Ltd; Dragon Centre, Hong Kong/Eton Group; Pamela Youde Hospital, Hong Kong Park/Hong Kong Government; Nine Queen's Road Central, Hong Kong/The Hong Kong Land Property Co Ltd; Ma On Shan Housing Development Hong Kong/Housing Department, HK; Pacific Centre, Qingdao/Hutchison Whampoa Ltd; Pacific Plaza Shanghai/K-Wah Group; Regency Park, Hong Kong/Kerry Properties Ltd; Eastern Plaza, Guangzhou/Lai Sun Development Ltd; Tsing Yi Station Development, Hong Kong/Mass Transit Railway Corporation;Telford Garden Redevelopment, Hong Kong, Yong Tai District, Gunagzhou/New World Properties Development Ltd; Shanghai Square, Shanghai/Ryoden Property Development Co Ltd; Metroplaza Dynasty Court, Hillsborough, Hong Kong, Dong An Plaza, Beijing, Nan Fang Da Sha, Guangzhou/Sun Hung Kai Properties Ltd; Cityplaza, Taikoo Shing, Hong Kong/Swire Properties; Jin Jiang Hotel, Shanghai/Jin Jiang Group; Hyatt Hotel & Casino, Johannesburg & Cape Twon/Legarleon Realities (SA) (PTY) Ltd; Commercial & Residential Development, Bahrain/Orion Project Services.

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