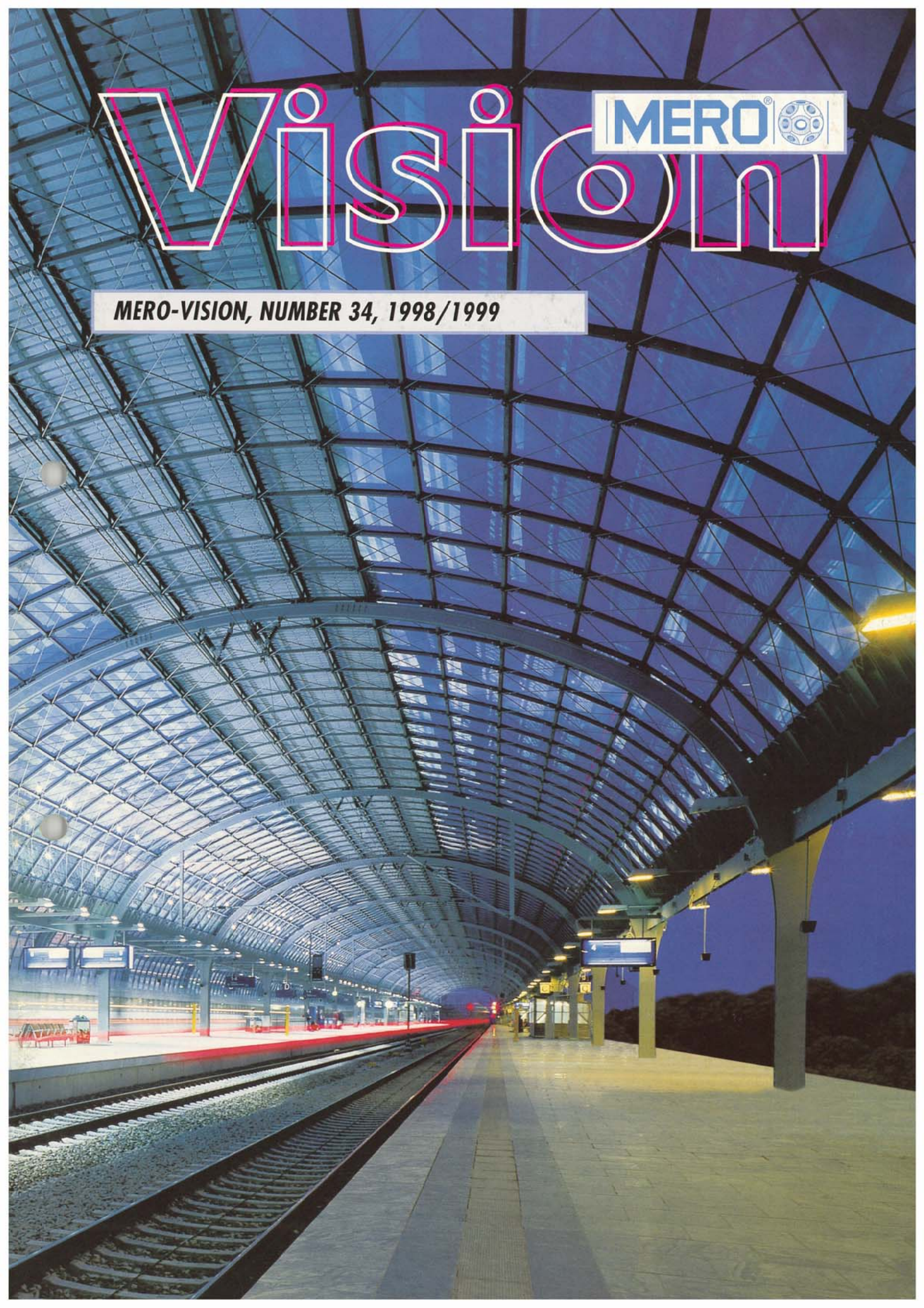


VISION

MERO-VISION, NUMBER 34, 1998/1999



MERO Benefits from Worldwide Surge in Infrastructure Projects

Streamlining of MERO's Organizational Structure

Even though this year was marked by turbulence in the international markets MERO was able to gain additional growth in sales and profit by focusing on national and international infrastructure projects. The forecasted order income reached DEM 325 mill. - with improved sales per employee. For 1999 MERO plans a continuation of this positive trend.

One of the main objectives for restructuring of the company was to simplify processes and to tap into additional cost reduction potentials by merging MERO-Raumstruktur into MERO Systeme GmbH & Co. KG. This means that beneath the Holding all operational product divisions of the MERO Group in Germany are now combined in one company - MERO Systeme GmbH & Co. KG.

Our Construction Systems Division again realized a number of prestigious glass and steel projects in cooperation with leading architects and engineers.

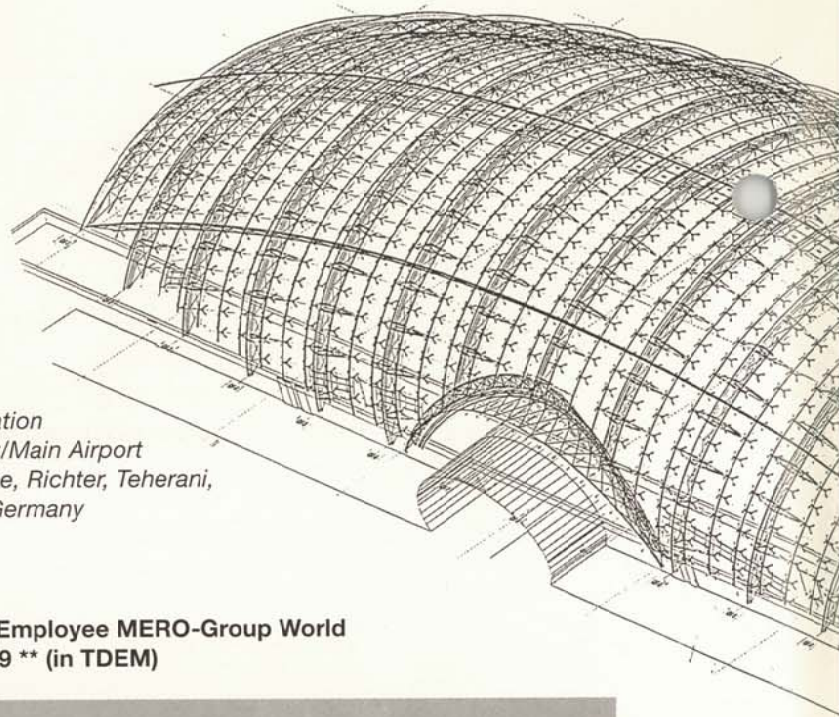
The roof structure for the railway station at Berlin-Spandau/Germany with its 470 m long glass barrel vaults as shown on the cover (architects: gmp, Hamburg/Germany) delivers another example of MERO's competitiveness in glazed structures.

A new technological breakthrough was achieved at the Stadtparkasse savings bank in Senftenberg where for the first time glass fin structures were used as supporting elements in horizontal direction (pg. 8/9).

A number of no less reputable orders could be secured, e. g. the glass dome at the new railway station at Frankfurt/Main airport (Germany) - a point-fixed steel/glass structure covering 7,000 sqm (pg. 3).

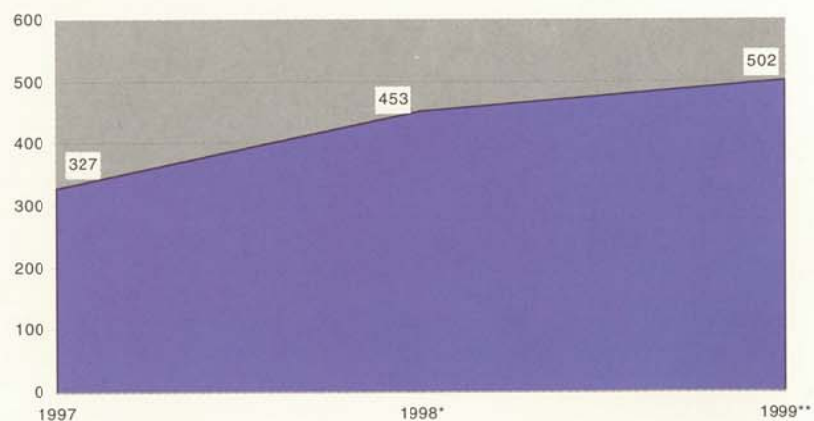
In comparison with last year we also achieved a remarkable increase of small orders.

The transposition to CAD-supported modules under new division management at MERO Airport-Technik, will lead to an even more economical processing of orders from around the world.



*Railway Station
at Frankfurt/Main Airport
Arch.: Bothe, Richter, Teherani,
Hamburg/Germany*

**Sales per Employee MERO-Group World
1997 - 1999 ** (in TDEM)**



* Forecast / ** Plan

The Floor Systems Division can also claim another successful year. Despite a stagnating domestic demand it was possible to increase the market share and the export ratio through further optimization of processes which will prepare the way for further growth in sales and profit.

The economical turbulence in Asia, South America and Russia which led to a noticeable decrease of investments in the exhibition industry, effected MERO Exhibit Systems' with their strong orientation towards sales to Third World countries. Nevertheless, the division reached

their domestic and West European sales targets. MERO Exhibit Systems has put high expectations in their new wall system Advantec - which since its introduction at the International Meeting in July enjoys a high demand.

Our foreign subsidiaries continue a steady development. Focusing on selected markets with a lasting, positive growth potential has proven to bear fruit.



*TUAS Border Station
Arch.: PWD Architects, Singapore*

Singapore and Malaysia with a size of 81,000 sqm resp. 25,000 sqm (architects: PWD, Singapore) as well as Tampines Plaza and Far East Square (pg. 7 + 10). Thus, they successfully defied the economical trend in their region.

The European subsidiaries in the United Kingdom, Italy and Belgium also participated in the current economic upswing. Particularly remarkable was e. g. the Underground station Canary Wharf in London, designed by Sir Norman Foster.

In the upcoming year we intend to further tighten our organizational structure, to optimize our SAP-supported processes and controlling instruments. The extension of our technological know-how by means of supplemental software programs for statical calculations will be a main focus.

At the same time we intend to strengthen our purchasing functions, to raise our production capacity in Prichsenstadt and to enforce our quality orientation through recording and follow-up of error origins in all divisions to allow us to participate in new areas of growth.

Of utmost importance is the exchange of capacities within the Group through job rotation and the establishment of cooperation capabilities between the individual companies via the internet.

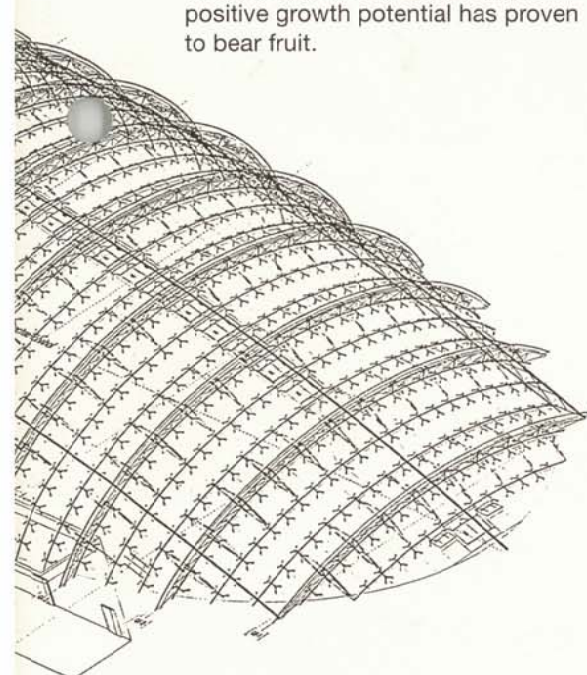
Through a motivated and enthusiastic team that is prepared for the upcoming challenges in the global markets and a uniting Europe we want to maintain the trust that architects and clients worldwide put into the capabilities of MERO.

Dr. Roland Klose
Managing Director

Josef Rossmannith
Managing Director

Our US subsidiary, MERO Structures, Inc. was able to establish additional references with the execution of the O'Connell Center at the State University of Florida - a basketball stadium roof structure with a size of 8,000 sqm - and the prestigious facade for the headquarters office building of Boeing in Seattle (pg. 10/11). Currently they are contracted to perform many other prestigious projects, e. g. the headquarters office building for General Motors in Detroit and the Corning Glass Museum in New York.

MERO Asia Pacific Pte. Ltd. in Singapore has underlined its leading position in hightech steel/glass structures in South East Asia with the completion of technologically demanding projects such as the roof structures for TUAS and Woodlands, the border stations between



The Longest Glazed Railway Station in Europe is located in Berlin-Spandau



Guiding towards new Technologies

In its own special way, MERO represents a combination of new technologies and high quality. It is our aim to combine practicality and highly technical standard in steel and glass structures with creative design. With each project, new concepts and ideas are developed in the dialogue with architects and engineers, resulting in unique roof and facade structures. Depending on function and intended use, stiffening glass fin structures, point-fixed glass systems or prestressed cable structures are used. Sophisticated architecture that combines quality, functionality and beauty guides the way towards the future.





The new German capital Berlin has gained another architectural highlight

In September 1998, renewed communications with the West became accessible by rail traffic. This created a need to transform the old railway station Berlin-Spandau to a modern traffic center for high-speed ICE trains. Four curved glass roofs of more than 400 m each, consisting of filigree shell structures, span the platforms. Their single-layer structure consists of steel profiles connected by prestressed diagonal cables to form a shell structure. The single-layer laminated glass panels are directly supported on the steel structure and sealed with special silicon.

*Arch.: gmp, Hamburg/Germany
Structural Design: Schlaich, Bergermann u. Partner, Stuttgart/Germany*

Space Frame Structure - Shell Structure - Tensile Structure

Stages in the Evolution of Structural Concepts

Space frame structure, shell structure, tensile structure are steps on our way towards developing new structural concepts. In this context, even well-known technologies may appear very attractive, if overall design and cladding systems are combined in a unique solution.

The **Europapark in Rust** near Freiburg/Germany is one of the leading entertainment parks in Europe. Among its latest attractions is the Russian Space Station MIR - a model as once used by astronauts for training purposes. Designed for this technology background, a glazed MERO space frame structure provides weather protection for the access and the visitors' gallery. The roof structure is designed with



triangular girders forming a cross-vault.


The suspended glazing system consists of plane plexiglass panels which are directly clamped to the curved rafter profiles using the MERO Vario Clip system.

Design: MERO

City Plus 2000, Linz/Austria

Filigree lightweight shell structures have proved to be the optimum solution not only for traffic centers, but also for natural light systems used in department stores. For the project City Plus 2000 in Linz, a dome spanning approx. 24 m was erected as a MERO-typical structure made of hollow profiles with prestressed cables, having a dead weight of approx. 15 kg/sqm. An advantage that also has a positive effect on the substructure.

*Arch.: Atelier Plötzl, Linz/Austria
Execution: FERROGLAS, Austria*



Tampines Plaza

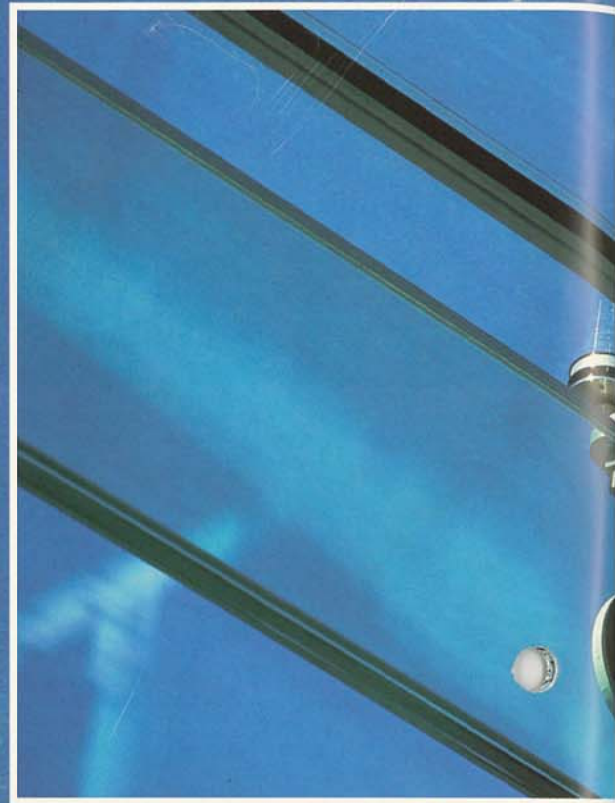
The highest degree of transparency for plane roofs or facades is achieved by using single-layer, prestressed tensile structures. They are especially recommended in cases where the relatively high tensile forces can be transferred into a substructure without problems.

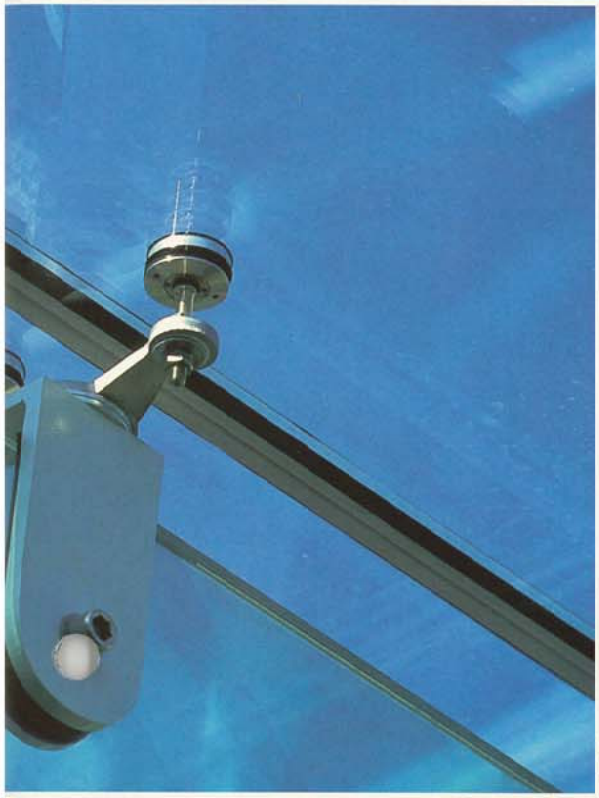
These tensile structures can absorb loads applied at a right angle to the net plane, e. g. dead weight, wind, snow etc., only by deformation, with the tensile loads developing a component opposed to the direction of the load action. The glazing system must be capable of performing under larger deformations.

Arch.: Architects 61, Singapore
Execution: MERO Asia Pacific Pte. Ltd.,
Singapore

Optimization of Transparency

The architecture of the Stadtparkasse savings bank building in Senftenberg called for a plane, gently sloped roof. A rectangular ground floor is spanned by hollow sections with intermediate spaces of 3.75 m. In order to achieve maximum transparency, no additional steel purlins or aluminium rafters, but glass fin structures were used for the roof glazing.





This optimization of transparency for an overhead glazing application at first required a series of FE (finite element) calculations and loading tests. The glass fin structures are dimensioned for triple safety. They consist of three panes (10 mm partially prestressed glass [TVG], 15 mm toughened safety glass [ESG], 10 mm partially pre-stressed glass [TVG]),

each connected to the other with an interlayer of 2.28 mm polyvinyl butyl [PVB] foil. Even if two panes break, the remaining one can bear the maximum live load. The glass fin structures are connected to the main girders by means of stainless steel brackets.

Arch.: Heinle, Wischer und Partner, Berlin/Germany



Facade Structures

Although space frame components such as lattice girders, cables, tension rods, spiders and rotules for facades are identical with those employed for roof structures, it is nevertheless necessary to take into account suction wind loading, higher dead weight shares and differentiated architectural requirements.

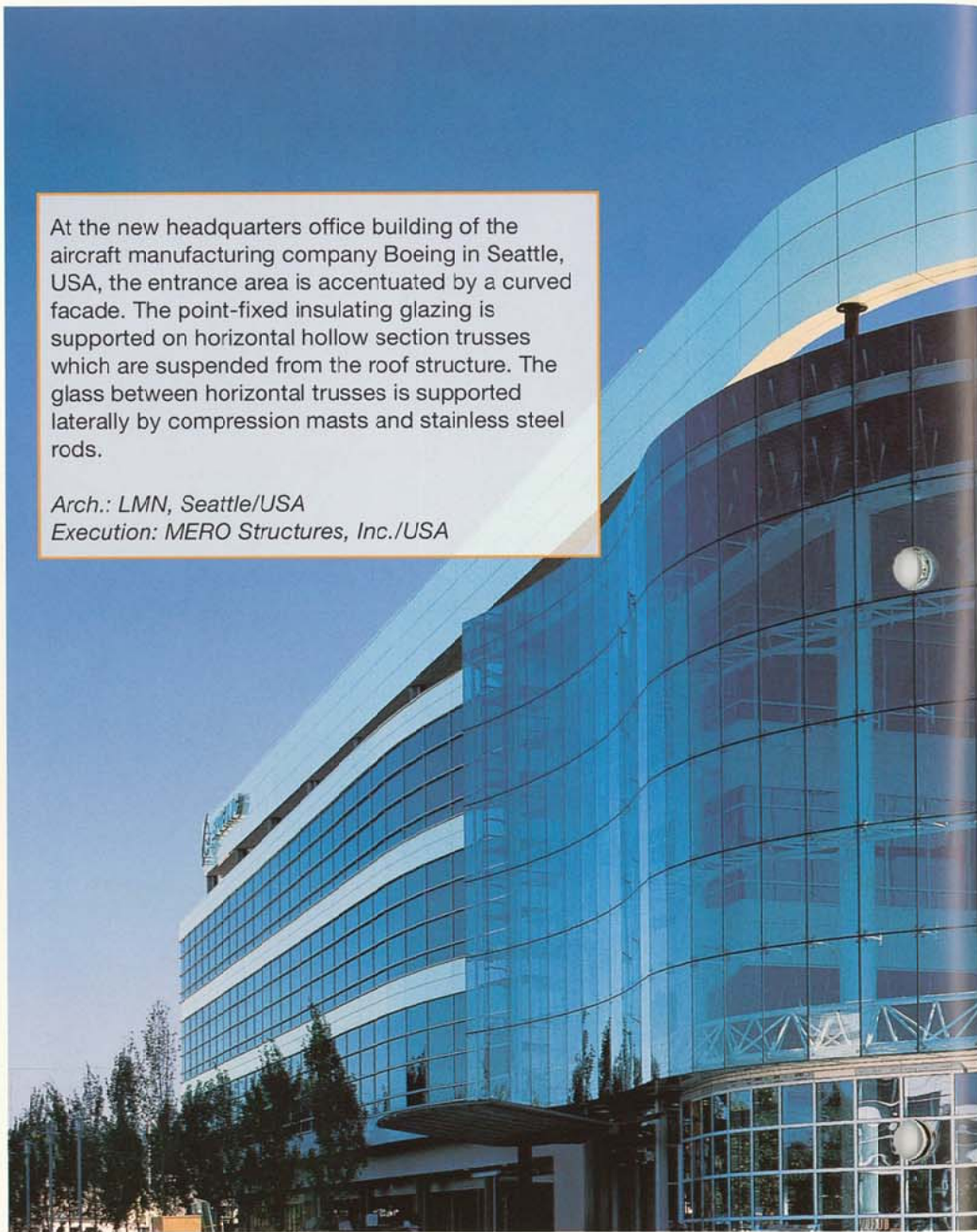


This facade at the dairy center in Gressan, Italy, was executed with horizontal trusses which - following the MERO-typical design with nodes and members - can also absorb suction wind forces.

Arch.: Ing. Pietro Giorgio, Aosta/Italy
Execution: MERO Italiana S.p.A.

At the new headquarters office building of the aircraft manufacturing company Boeing in Seattle, USA, the entrance area is accentuated by a curved facade. The point-fixed insulating glazing is supported on horizontal hollow section trusses which are suspended from the roof structure. The glass between horizontal trusses is supported laterally by compression masts and stainless steel rods.

Arch.: LMN, Seattle/USA
Execution: MERO Structures, Inc./USA



The Far East Square in the heart of Chinatown has become a byword in Singapore. More than 11,000 sqm of steel/glass structures were executed for this building complex comprising a shopping mall, parking garage and recreation facilities. For design purposes, point-fixed glass panels were installed side by side with traditional pressure plate systems. In order to make the different utilizations visible from the outside, the glass panels have different shades of color and frits.

Arch.: DP Architects, Singapore
Execution: MERO Asia Pacific Pte. Ltd., Singapore



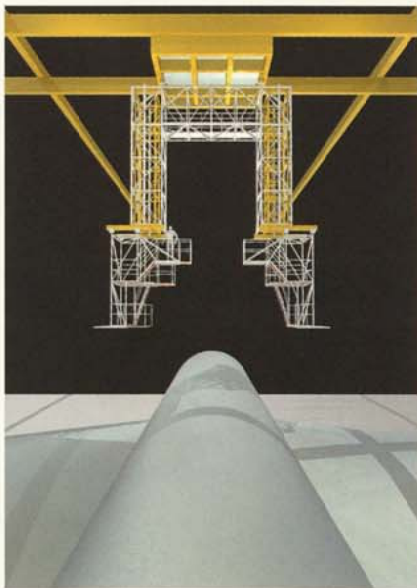
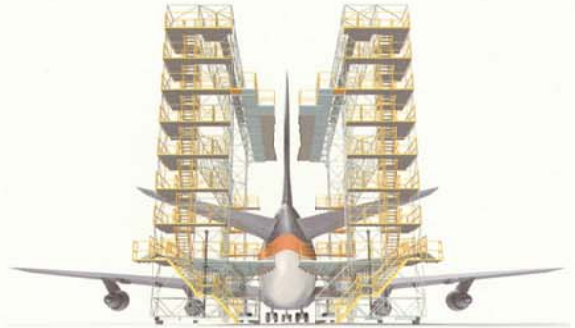
Expansion of Dock Families through New Ideas

Once again the functional and customer-oriented maintenance docks of MERO's Airport-Technik Department have demonstrated their various application possibilities. In addition to orders from the classic dock family, new ideas were developed and added to the program that fit the different demands of individual types of aircraft and hangars.

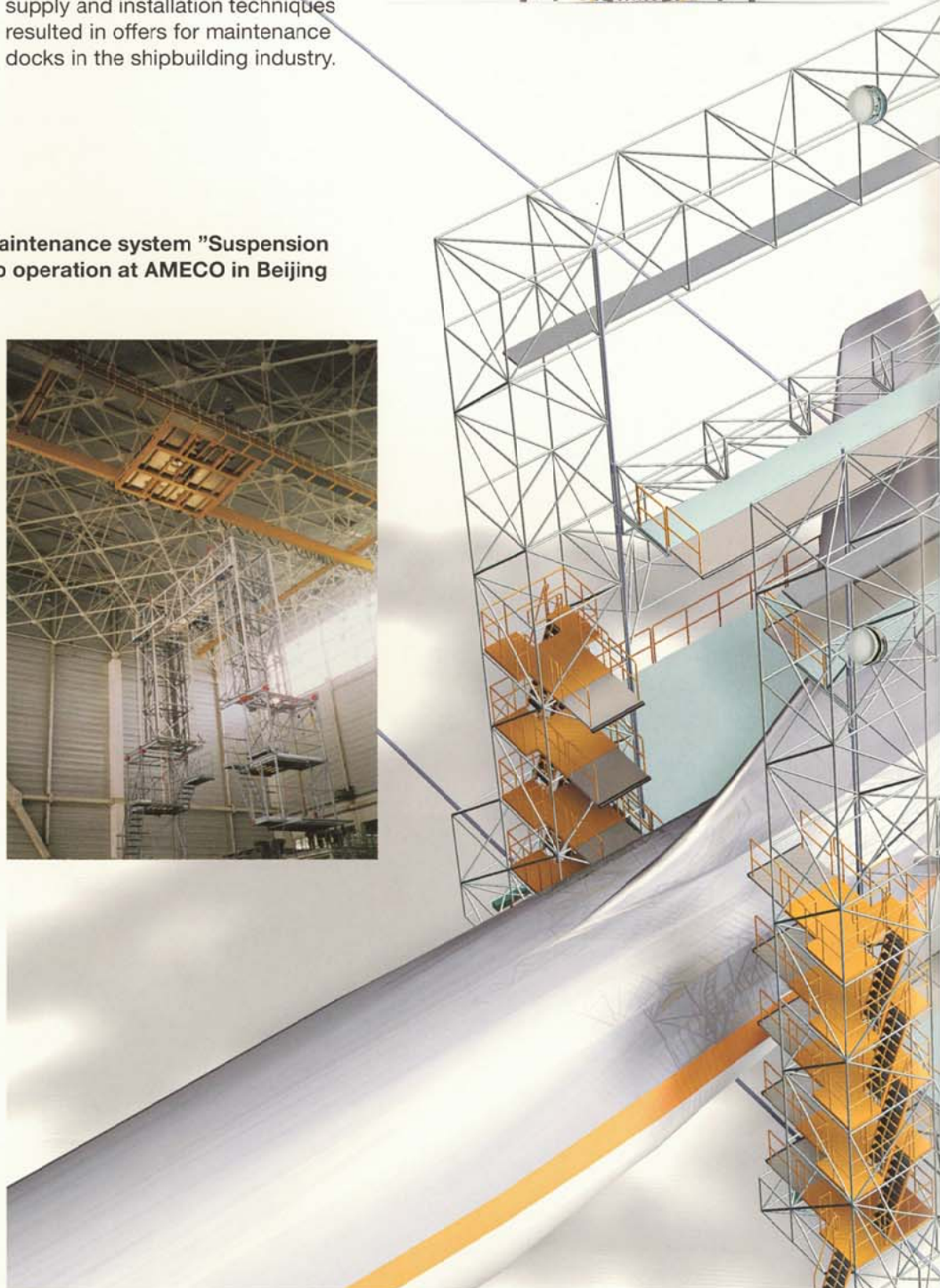
The trend towards intermediate-range aircraft and the constant development of new types of aircraft reflected the inquires for maintenance docks. New design and modification of existing docks has become more and more important.

Our quality and reputation is also becoming popular in the shipyard industry. The proven docks, combined with integrated media supply and installation techniques resulted in offers for maintenance docks in the shipbuilding industry.

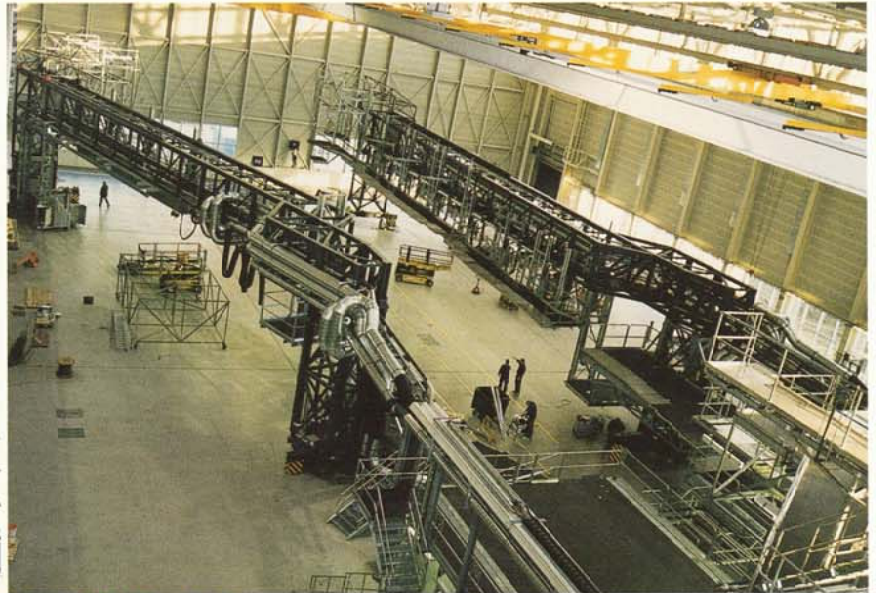
In March 1998 the newly developed maintenance system "Suspension Bridge" has successfully been put into operation at AMECO in Beijing



This patented docking system is suspended from the crane trolley and allows maintenance work on the fuselage of Boeing aircraft series B747 and B777. In parking position the suspension bridge will be placed on a movable carriage and the hangar crane can be used for its original purpose.



... on all Levels



Full-Service-Dock provides short docking times at new Gardermoen airport in Oslo/Norway

MERO Airport-Technik took unconventional steps in design and development of the aircraft maintenance facilities for the new Gardermoen airport in Oslo, Norway. Although it did not seem possible to maintain the various types of aircraft in only one dock, MERO surprised even experienced maintenance personnel by solving this problem with a scissor-type full-service-dock. This type of dock, with its extremely short docking times, impressively demonstrates the efficiency of MERO Airport Technik.



CAD-supported modules facilitate economical processing

Diversity in Application

New press building in Cologne/Germany: 25,000 sqm of cavity floor and access floor in the Neven Du Mont building

In May 1998 the Neven Du Mont building was opened. The five-story building accommodating the newspapers „Kölnischer Stadtanzeiger“ and „Kölnischer Express“ presents a communicative working atmosphere with its transparent construction in glass and steel. Frankness, truthfulness and clearness of the new press building are meant to be symbolized by the entrance hall, the panorama elevators and the open-type stairway. Along with classical individual offices, team rooms and combined office rooms were created. A green courtyard, a cafeteria and symbolic meeting points were designed to meet the demands of a modern office landscape. This variety is also reflected in the different types of MERO access floor and MERO cavity floor comprising a total area of 25,000 sqm. In the office area 22,500 sqm of cavity floor were installed. The cavity floor combines good acoustical characteristics with capacitance and fire protection and can be combined with any type of access floor.

MERO access floor type 6 was also used in office rooms as well as switching stations and corridors. The panels included carpet and rubber covering. For the representative corridors a parquet floor covering was chosen.

Arch.: HPP Hentrich-Petschnigg & Partner KG, Duesseldorf/Germany



with Access Floors and Cavity Floors



Communal Areas, Foyers and Offices

The Sparkasse savings bank in Scheinfeld/Germany

The planners of the Sparkasse savings bank in Scheinfeld were led by a modern and service-oriented concept when designing the new rooms. Their aim was a generous service area with a self-service terminal and a public lecture hall capable of being enlarged.

MERO access floor and MERO cavity floor are particularly suitable for furnishing communal areas, foyers and offices. Installations become invisible but remain constantly accessible as the access floor panels can be lifted easily.

Repair work or changes in office usage are possible at any time. The hall and the office rooms of the upper story were equipped with 700 sqm



access floor type 4 made of non-combustible anhydrite and 70 sqm cavity floor type Combi. Due to the variable construction height the access floor offers a considerable underfloor clearance.

The MERO cavity floor is especially suitable for rooms with low finished floor heights such as corridors and halls.



Arena, Cologne/Germany

The new administration building of the City of Cologne in the district of Deutz unites the individual offices previously scattered throughout the city. MERO supplied a total of 3,500 sqm raised floor type 4 anhydrite and 330 sqm special floor for switching stations with a finished floor height of 2,100 mm (measured from the sub-floor to the panel covering).



Shopping Street in Warsaw

Approximately 32,000 sqm of access floor is being installed at the new „Reform Plaza“ building in Warsaw.

In a central location one of the most modern shopping malls in Poland is being built. The „Reform Plaza“ will be the focussing point of this street. Grand opening is planned for 1999.

German Air Traffic Control built on MERO access floors

The new German air traffic control center „Starship Enterprise“ has opened in Frankfurt-Langen/Germany. In their radar centers, the air traffic control regulates more than two million air traffic movements per year which now will be carried out from their combined offices in this new building.

The designers and architects of the new premises had to overcome the problem of housing the huge switch plants necessary for electronic data processing. These had to be reached easily, securely and with a minimum of delay. The solution was to use MERO anhydrite access floor supplying special fire protection. The integrated perforated panels provide for room ventilation, as well as any electrical installations. In total, MERO installed approx. 1,300 sqm of access floor.



Outstanding Architecture with the 4D System

At CEBIT '98, MERO's sales partner MESSE VISION, Jena/Germany, created a spectacular trade fair stand using the 4D System and thus provided a sensational performance for their client INTERSHOP.

The 93 sqm double deck stand combined aesthetics with full utilization of available space. The basic concept of MESSE VISION was to create a homogenous appearance as well as a representative stand architecture, which can be maintained even if the size of the stand is changed.



Successful Realization of new Development

Introduced to the market in 1997, the fixture M/S is now frequently used for stand designs requiring special effects with glass or metal claddings.

*Design and
Realization:
Revyco, Prague/CZ*



The 4D System for Interior Construction



Tax Free Shops at Manchester Airport

The example on the left shows the Tax Free Shop at Manchester Airport. The facade was completely realized with the fixture M/S which can be used both for cladding M12 or 4D System structures.

*Design and Realization:
Chapman, Taylor & Partner/UK*



The curved trim made of glass, fastened by MERO's M/S fixture, was the eye-catcher of this stand at the „SHK '98“ in Essen/Germany. The space frame in the background, made of M12 System, is barely visible.

*Design and Realization:
Display International, Wuerselen
PPM, Friedrichsdorf/Germany*

Advantec - The Fastest Installing Panel System



With Advantec, MERO Exhibit Systems is launching a wall system which meets all requirements of the market as far as easy handling and reusability of components are concerned.

When Advantec was being developed, fast assembly and simple application combined with an economical principle were the main objectives to be achieved. The construction principle is very simple, uncomplicated and fast. It only takes a few minutes to build a smooth wall area which completely hides the system construction and provides a neutral image. Individual design possibilities result from the compatibility with the other system lines of MERO Exhibit Systems. Sales literature including detailed assembly instructions and component illustrations of the system is available.



Completely hidden system technique

*Design and Realization:
ARPRO, Sao Paulo/Brazil*



Merolite - Designed for Impact - Built for a Lifetime



Merolite which was introduced to the market in 1996/97, has become a successful part of MERO Exhibit Systems' product range. As you can see from the example Bitburger on the left, many well-known companies have decided to use the high performance fiberglass structure to present their products. In 1999, straight walls and so-called „bubble panels“ are to be included in the program.

Graphics: Roger Wirz, Niederweis/
Germany

Brazil presents itself at the Louvre

MERO Exhibit Systems was one of the winners of the Football World Cup. At the Louvre in Paris, on an exhibition area of 4,000 sqm, Brazil presented itself to the international football fans as an aspiring South American country. The dominant

elements as regards to design and function were M12 System space frame constructions, R8 System showcases and voluma displays. The whole appearance was designed by MERO's sales partner ARPRO, Sao Paulo. An international group of

MERO sales partners from Germany, Switzerland and Belgium were responsible for realization and construction.



Events - Visitors - Awards - Fairs

International Meeting in Wuerzburg/Germany

Approximately 100 customers of 20 nations came to our international meeting which took place in Wuerzburg on July 2-3, 1998. The main focus of lectures and demonstrations was the use of new media in design and communication. The imposing architecture of MERO's headquarters office building provided the attractive background for a number of product presentations of our Exhibit Systems division - in particular the new wall system Advantec. From the biggest (4D System) to the smallest (Merolite) system, competent MERO staff was available to deliver valuable information to interested users.



Exhibitor Forum, Duesseldorf/Germany



Our Exhibit Systems division participated at the Exhibitor Forum fair in Duesseldorf (Sept. 9-10, 1998). The booth designed by our sales partner Loth & Partner, Duesseldorf, gave "insights, views and outlooks" on the variety of systems offered by MERO Exhibit Systems.

MERO Systeme GmbH & Co. KG is now maintaining a quality system that meets the requirements of DIN EN ISO 9001. The picture shows from left to right: Josef Rossmannith, Dr. Roland Klose, Rainer Boutter and Armin Koemm.

Workshops and Training Seminars



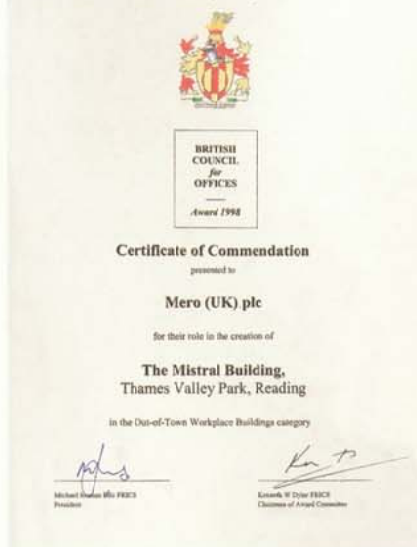
Workshop at our sales partner Expo Expert in Krakow, Poland (July 1998).

Annual training seminars at MERO Wuerzburg or "on site" by our local sales representatives keep our worldwide sales partners up to date on the latest developments of MERO's system technology. Newcomers are also familiarized with the individual product lines by introductory seminars.

MERO's Worldwide Quality now also approved by DIN EN ISO 9001



Award for MERO (UK) PLC



MERO (UK) PLC received a Certificate of Commendation for the execution of the roof structure for the new administration building of British Gas, Thames Valley Park, Reading (Sir Norman Foster).

In view of the environment-friendly architecture wood, steel and glass were used.

Arch.: Sir Norman Foster + Partner
Execution: MERO (UK) PLC

Fematec in Buenos Aires, Argentina

The largest South American fair for the construction business took place in Buenos Aires from May 4-9, 1998. MERO Construction Systems and MERO Floor Systems were present.



Success through Teamwork

The joint stand of the German MERO Performance dealers, namely DEKA Messebau (Augsburg), Display Mueller (Remshalden), Keller Design (Pforzheim) and Thome (Mannheim) at the "Werbetechnik '98" in Stuttgart caused quite a stir thanks to its unusual design with the 4D System and the new wall system Advantec.



Open House at Ludwar

The electrical supply company Ludwar held an Open House in September 1998 at which they also presented their MERO Access Floor.

Performance lays the Foundation for the Future



... was the motto of this year's 50th anniversary of VBM, the Association of Bavarian Metal and Electrical Industries. At the "Ufra '98" which took place from October 10-18, 1998 in Schweinfurt/Germany, MERO introduced their company philosophy along with their product divisions.



You can visit us on the Internet at:

www.mero.de
www.mero.com



Divisions:

Construction Systems

- Space Frames
- Glazed Structures
- Aircraft Maintenance Docks

Floor Systems

- Access Floors
- Cavity Floors
- Services

Exhibit Systems

- Meroform
Modular Construction Systems
- Merolite
Display Systems

Imprint

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Arch.: gmp, Hamburg (GER)
Structural Design: Schlaich,
Bergemann u. Partner, Stuttgart (GER)

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