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LOOK, IT'S WOOD!

TOPIC: IRELAND-SPECIAL



SPREAD YOUR IDEAS

WIEHAG
TIMBER CONSTRUCTION

EDITORIAL:

Dear planners and clients,



Timber is a material which does not only convince in economical and aesthetical terms but also drives the world of construction in manifold ways. Timber continues to gain recognition on an international scale. In addition to our projects in the German-speaking areas, the Austrian quality of our tradition-bound company is in demand especially in Ireland, Italy, Slovenia, Portugal and in the future markets of Eastern Europe. Whether stadiums, multi-purpose facilities, or bridges - the applicability of timber girders hardly knows any restrictions. While there is certainly competition with other materials e.g. concrete or steel, we consider this as a positive challenge which stimulates us to achieve peak performance and conquer new technological limits!

There is still one thing that goes beyond our ambitions: Maximum quality and, thus, safety. We do not consider this term as something superficial but rather regard it as our highest obligation towards people. With our high-quality and durable load-bearing structures we are primarily committed to one thing: the safety of human lives.

A handwritten signature in blue ink, appearing to read 'W. Kronlachner', written in a cursive style.

Dr. Werner Kronlachner
WIEHAG Managing Director

WIEHAG's ADVANTAGE IN LOGISTICS

With load-bearing systems and entire roof systems of unmatched spans, WIEHAG sets industry-wide standards and produces component parts of up to 50 metres of length in the most advanced production site in Europe. The transport of these components from the site of production to the final site of installation requires efficient project logistics and meticulous planning.

If structural elements of often extreme lengths are transported, there is nothing which can be left to chance: WIEHAG's experienced department of internationally recognised logistics and statical experts elaborately plans the cargo's routing and efficiently provides for calculations, the execution of ideas and the project's continuous optimisation processes. It is not only the extraordinary length of the components but especially the official channels, the security regulations, climatic and other particularities that must precisely be considered. The statics must comply with all requirements - whether via ship or as abnormal load with company-owned heavy duty lorries. WIEHAG was able to prove its effectiveness with abnor-

mal loads on multiple occasions with the transport of extremely high and wide prefabricated parts for bridge building or single components. WIEHAG's highest priority is "a minimum handling risk": the loading on the production site is precisely in line with the installation process and avoids an interim storage on the site of construction. Even with projects in Great Britain and Ireland we avoid risky loading processes of the components in the harbour: the lorry uses the ferry as a "swimming road". Even with transports that last several days this procedure guarantees that the lorry will arrive safely with its precious goods on the construction site - and precisely in the same way as it has left the plant in Altheim.

One-stop solutions for perfect workflows

The long-time experience of our statical and logistics experts provides for smooth workflows; extensive prefabrication processes and a well-rehearsed installation team guarantee short installation times. With one-stop construction, production and installation sequences WIEHAG offers future-proof overall solutions and trouble-free implementations even with short-term target dates.

Superior logistics provide for trouble-free implementations as seen with the construction of the exhibition hall in Wels/Upper Austria.



»Some people do something with timber at some places, we do everything everywhere.«

Dr. Erich Wiesner, Owner

WIEHAG's ADVANTAGE IN LOGISTICS

PROJECT COMPETENCE WHICH STANDS OUT

VIP HANGAR, VIENNA INTERNATIONAL AIRPORT

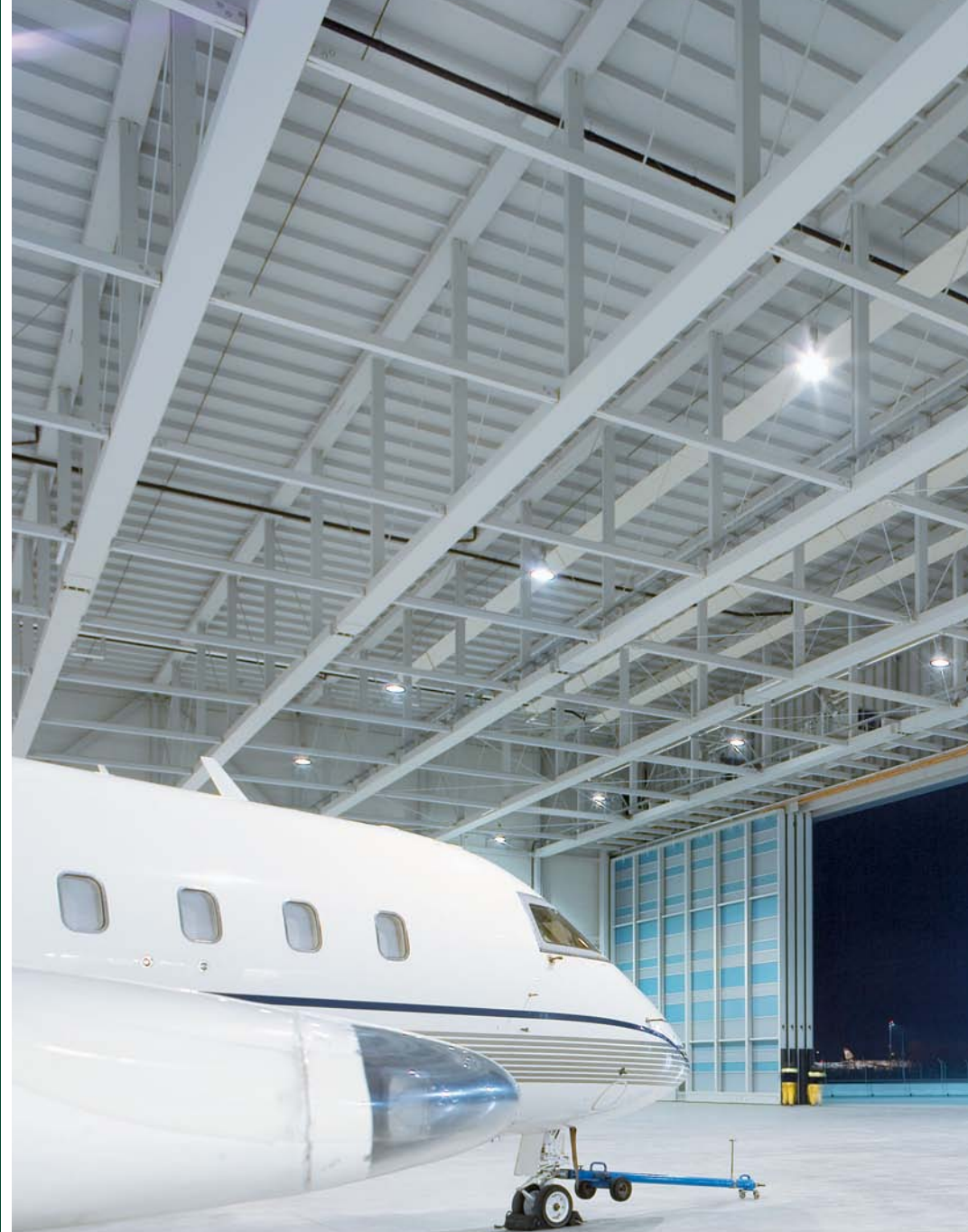
High snow and/or load capacities and an above-average span:
the construction site of the VIP hangar at the Vienna International Airport
required extraordinary standards from the very beginning.



CLIENT Flughafen Wien AG

ARCHITECTS Holzbauer and Partners Architects and
ZT Ges.m.b.H.

TECH. FACTS 75 m free span, surface area 75 x 60 m, 550 m³ glued laminated timber,
height between floor and bottom edge lower chord 13 m,
total height 20 m





With the construction of the VIP hangar at the Vienna International Airport there were numerous restrictions and particular safety regulations due to the proximity to the VIP & Business Centre. A required span of 75 metres to accommodate the extraordinary width of airplanes, deformation behaviour of the gate framework and the overall hall which significantly exceeded given norms, high self-weight loads, snow and/or load capacities as well as unpredictable weather conditions during the construction time posed only some of many additional challenges to the project.

Timber construction as economical and ecological solution.

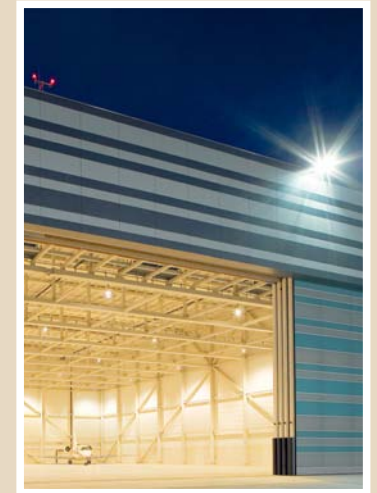
Timber met all of these requirements in a more efficient way than alternative materials and persuaded both in economical and ecological aspects. A great advantage of the

timber construction was the **short installation time** which totaled one week of preparation time and approximately 3,5 weeks of assembly. Due to the low weight of timber it was possible to carry out the pre-assembly works largely on the ground.

Exact calculable reaction to fire

Since timber has a calculable reaction to fire and does not lose its strength in the remaining cross section, it automatically meets the **fire protection regulation R30**. In addition to the shorter installation time with a timber construction, it is possible also to omit the permanent maintenance works of the R30 paintwork. A special challenge was the possible deformation of the gate framework. Even in this case timber could convince via **its low length changes** under thermal fluctuations.

All requirements could be met without any difficulties due to precise planning procedures and the experience all WIEHAG employees already had with major projects such as the Salzburg Arena or the speed skating hall Erfurt. Thus, WIEHAG was able to finish the new VIP hangar in record time.



VIP HANGAR, VIENNA INTERNATIONAL AIRPORT

THE SPAN OF INTERNATIONAL COMPETENCE

Quality knows no limits. Load-bearing constructions of up to 300 metres span and numerous architecturally-challenging major projects have made WIEHAG well-known far beyond its borders. One of Europe's most modern CNC-controlled production facilities and constructive and efficient solutions due to the material advantage of timber as well as the technical know-how of our more than 300 employees allow for a high degree of competitiveness. Year after year WIEHAG increases its global operating range and permanently enters additional markets with new major projects.



Pergola Alcobendas in Madrid (Spain)

An architectural solar roof is the basis for the master station of the waste management centre for the residential quarter of Alcobendas on the northern periphery of Madrid.



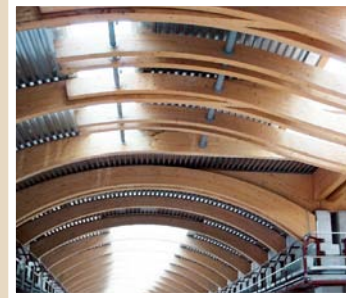
Piscinas Seville in Seville (Spain)

The two baths near Seville are real quick-change artists: In the summer months they will be used as open-air pools, whereas in the cooler seasons a protecting membrane will be put on the glued laminated timber construction in order to allow bathing pleasure independent of the weather.



Multi-Sport Hall in Urretxo (Spain)

The multi-sport hall ordered by the government of Urretxo has been built in the WIEHAG freespan system and reaches a span of 34 metres. After the original steel roof bearing structure collapsed during the heavy winter in 2003/04, the customer subsequently turned to timber.



Shopping Centre in Monfalcone (Italy)

The two alleyways of the entrance area are approximately 140 metres long, and are spanned with a bow-binder construction. In total, over 100 bow-binders with a span of approximately 9 metres were installed. The wave-like construction of the entrance area symbolizes the nearby sea.



STUDY TRIP TO SHANGHAI, THE WORLD'S BOOMTOWN

Formative impressions from a town that embodies architectural extremes:

Futuristic architecture besides traditional courtyard houses, far-eastern savoir vivre combined with the lifestyles of the western world: the 20 winners of the study trip who have been drawn from the incoming questionnaires of the WIEHAG customer poll last year experienced an exclusive insight into the metropolis of Shanghai, the city of extremes, from November 4 - 8, 2006.

In Shanghai the participants of the study trip could see and discuss the futuristic architecture of the new financial district Pudong as well as the classic architecture of historical districts. Among other things, the journey's highlight was the trip to the Jin Mao Tower, which is with 421 metres and 88 storeys the largest building in the People's Republic of China and one of the largest multi-storey buildings of the world.



Informative lectures in the museum of city planning

In the Urban Planning Exhibition Hall, the modern museum of city planning, the participants enjoyed an informa-

tive lecture on Shanghai's architectural highlights, given by the president of the Shanghai Architecture College, who then subsequently led the group through the museum, opened in 2000. On five storeys the museum shows the plans for both past and future constructional deve-

lopments of the city. A visitation of the Oriental Pearl TV Tower, Shanghai's hallmark, and of the Jade Buddha Temple complemented the informative study trip. Inspired, the participants agreed that this trip was an experience from which their future work would profit for a long time.

REVIEW: WIEHAG STUDY TRIP TO SHANGHAI

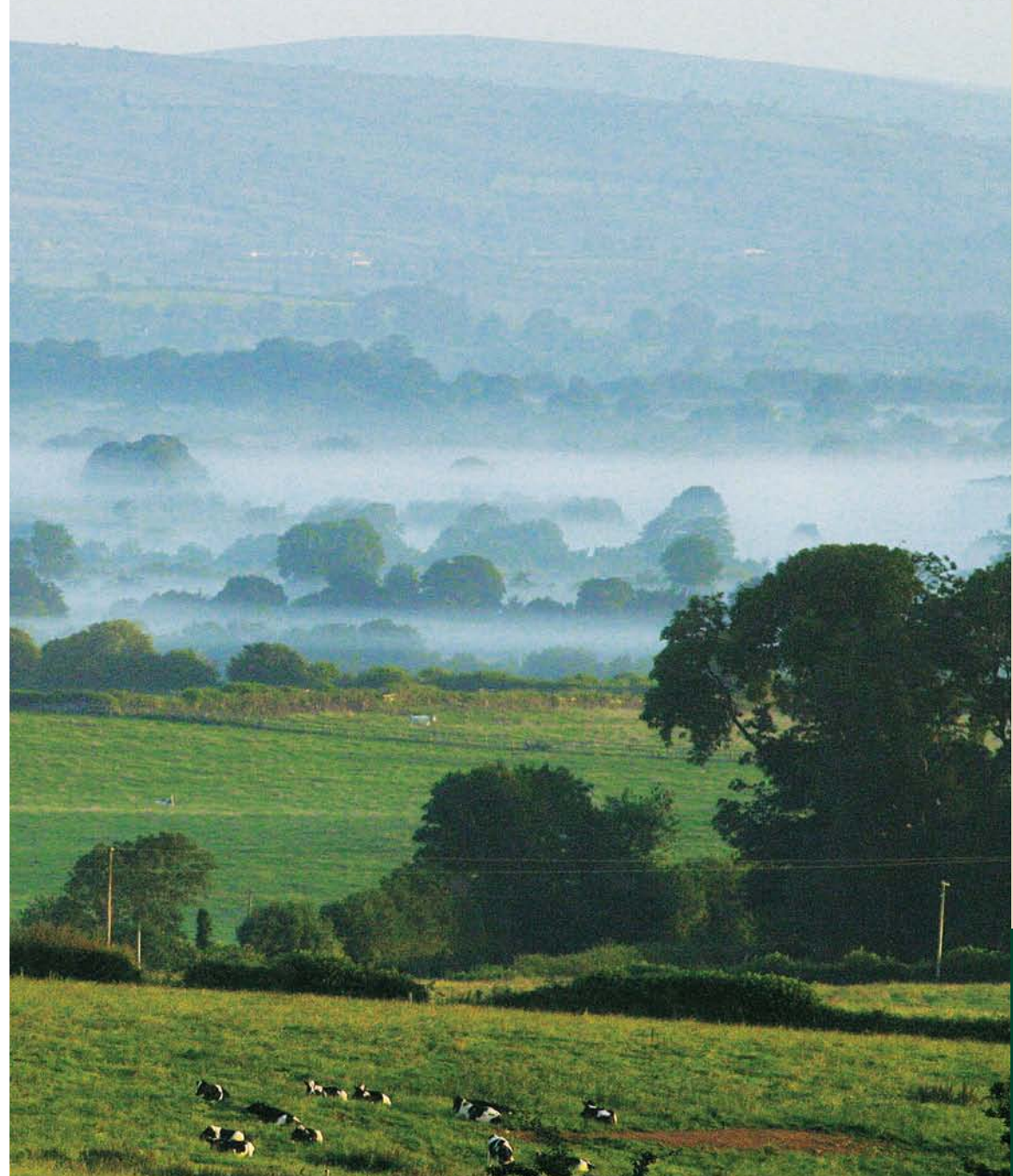
IRELAND – CELTIC TIGER AND GREEN ISLAND

Extensive hilly landscape, impressive cliff lines and the mighty Atlantic Ocean shape the unique scenery of Ireland. The country's nickname "The Green Island" came into being due to its year-round green vegetation.



In recent years, Ireland's economic development has been characterised by high economic growth rates and significantly decreased unem-

ployment rates. This highly positive tendency of the Irish economy has given Europe's former "Workhouse" a second nickname: "Celtic Tiger".



CONSISTENT QUALITY AND HIGHEST DEGREE OF SAFETY – THE “TICKET” TO IRELAND

With the construction of the world's largest chair WIEHAG became listed in the Guinness Book of World Records which originated in Ireland. But also with numerous architecturally-challenging major projects WIEHAG has made itself a name in Ireland. **Expert Johannes Rebhahn, graduate engineer**, tells us about the preconditions to gain a foothold fast and enduringly on the green island and about the challenges of major international projects.



“Internationality demands flexibility”

You have been in charge of WIEHAG's international projects for 5 years now. Year after year the operating range will be extended, new markets will be opened.

What is it that makes international projects so interesting?

GE Rebhahn: One decisive advantage of our export countries e.g. Spain, England and Ireland is that they do not have a winter recess. So, we can profitably use the entire year. We are very adaptable and flexible and can thus perfectly com-



ply with the respective country-specific building regulations and constructional habits.

“Ireland is interesting in economic terms”

What are the advantages of Ireland in relation to other countries?

GE Rebhahn: For us Ireland is primarily interesting in economic terms since it is a country which has a predominantly young population and a high GDP. There, the scepticism towards timber constructions is not as prevalent as we still know it from e.g. some East European countries.

“In Ireland safety is of utmost importance”



How do you explain the great success particularly in Ireland?

GE Rebhahn: As a company which has always considered safety and quality as its utmost maxim, we could easily integrate into the Irish standard. In Ireland it is possible for a company to make itself a name very fast – but only if everything works out fine.

If one makes a mistake even once, it can drive a company out of the market. Thus, we guarantee highest safety standards by means of consistent quality management processes already in run-up phases. An additional factor for success is our well-versed installation personnel that have attended all country-specific safety and machinery courses on site in Ireland. They are responsible for the trouble-free process on the construction site and, lastly, guarantor for further contracts and customer satisfaction. When it comes to sustainability, timber – as a renewable raw material – plays a decisive role. As one of Europe's leading suppliers of timber constructions, WIEHAG commits itself to high ecological standards – e.g. we have our own power plant fed by wood waste from the production.

PERSONAL DATA:

Johannes Rebhahn, graduate engineer, is responsible for WIEHAG's international project business for five years now. Ireland, Spain and England are only some of the markets which have been opened up during the last years.

THE INTERVIEW ON THE SUBJECT

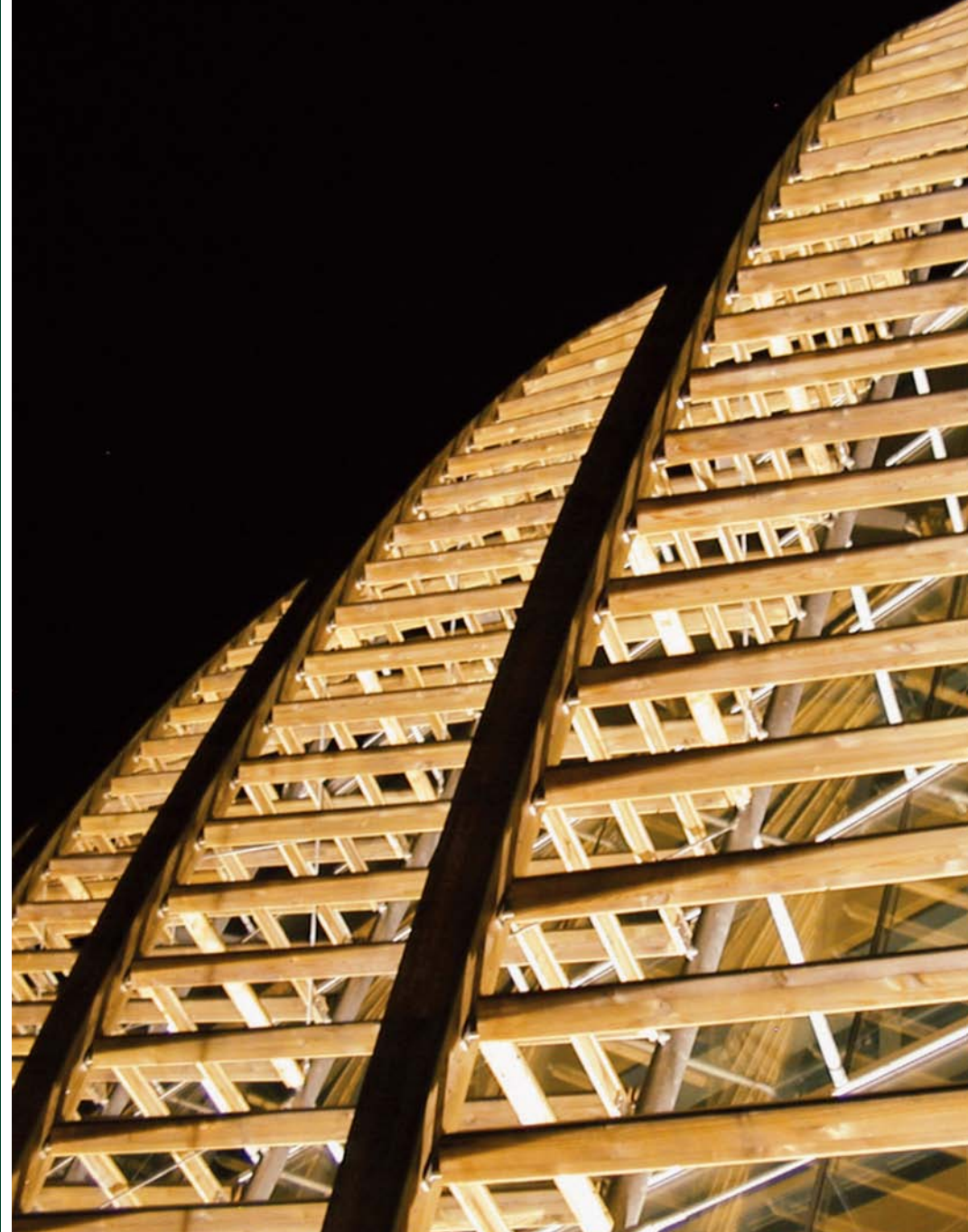
STARTING A SUCCESS STORY

Limerick County Hall

Limerick, the city on the waterfront of the Shannon River, is characterised by numerous historical sites and by picturesque scenery. The former Viking settlement could successfully rid itself of its poor image and has now become a popular travel destination with an urban atmosphere. In this idyllic region WIEHAG began to build the first major Irish project: The Limerick County Hall.



CLIENT	County Council Limerick
ARCHITECTS	Bucholz / McEvoy Architects
ORDERING PARTY	Seele Austria GmbH
TECHNICAL FACTS	Supporting structure for glass façade "upside down", Free atmospheric conditions, thus built with pressure-impregnated pine wood





Limerick's County Hall is situated amidst a park area and is an impressive example of a construction method with timber complying not only with economical but also with modern, creative requirements. As head office of the local authorities, the County Hall had to align with the strict ecological demands in Ireland and, as a modern building,

had to fit into the natural Irish environment. Here, the short assembly time and the ecological construction method could convince as much as the functional aesthetics and the modern scopes for designs. Wooden screens at the front side of the building provide not only for a distinctive visual impression but serve also as sunscreens; the

bow-shaped framework is both a visual element and bearing structure for the glass façade. In successful cooperation with the specialist for superior glass facades, the Seele Austria GmbH, and the architects from Bucholz McEvoy the glass-timber construction obtained its high quality standard.

ADVANTAGES OF WIEHAG'S TIMBER SOLUTIONS

- short installation time
- ecological
- reaction to fire is precisely calculable
- no R30 fire protection coating and thus no maintenance
- not vulnerable to thermal fluctuations
- simple fixing possibilities for wall constructions and roof systems due to self-drilling timber screw connections
- price advantage in relation to steel
- pre-assembly on the ground possible
- high spans

HIGHEST QUALITY, COMBINED WITH FUNCTIONAL AESTHETICS

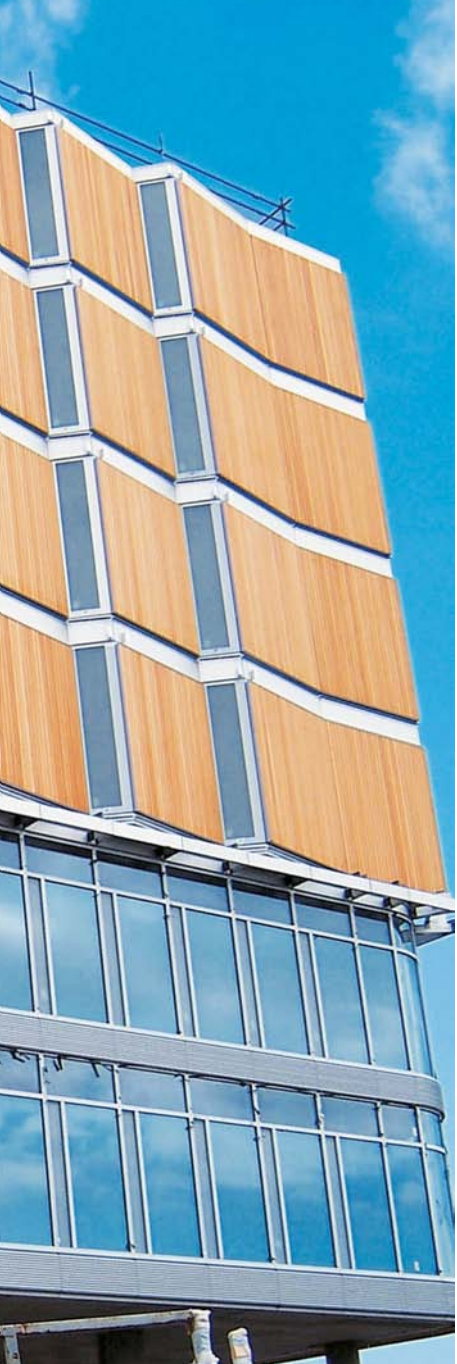
ELM PARK Dublin

In the centre of Dublin lies Dublin 4, the city's most exclusive residential district, which is well-known for its exclusive sports and golf club Elm Park. The best doctors, lawyers and bankers keep company in this district and relax during their free time with drives on the course.



CLIENT	Radora Developments Ltd.
ARCHITECTS	Bucholz / McEvoy Architects
ORDERING PARTY	Seele Austria GmbH
TECHNICAL FACTS	Three Office Buildings (OBA, OBB and OBC) - Largest OBA (Office Block A) with a building length of 110 m, width 17 m, height 30 m, timber used in total approximately 150 m ³





Besides the high Irish safety regulations in the exclusive area around Elm Park, elegant optical requirements were preconditions for the construction of an exclusive office and housing estate. Later the building is supposed to house numerous flats, a hospital, an indoor swimming pool, office buildings, an own helicopter landing site and a hotel complex all under its roof.

When optical requirements and ecology are the decisive factors

Here it was also the timber construction that convinced in terms of ecology, flexibility, safety as well as in aesthetic regards. Together with Seele Austria GmbH, the architects Bucholz McEvoy, the structural de-

signers RFR Paris and McNamara, it was possible to develop a modern design with free-spanning timber bridges and a particularly rangy structure by which the building fits seamlessly into the exclusive environment. The best possible process-quality will be ensured by two WIEHAG technicians who have been on site constantly for two years since the start of construction.



When the exclusive facilities were built timber convinced in all regards.

ELM PARK DUBLIN

TIMBER CONSTRUCTION ON ITS SUCCESSFUL WAY ALL ACROSS THE GREEN ISLAND

WIEHAG has already made a name for itself in Ireland with numerous projects. The effectiveness, economy, flexibility and aesthetics of timber structures did not only convince with the construction of halls for swimming pools but also with industrial halls, leisure centres and car-showrooms. WIEHAG could successfully gain foothold on the green island by means of its adaptiveness, consistent quality management and high safety standards.

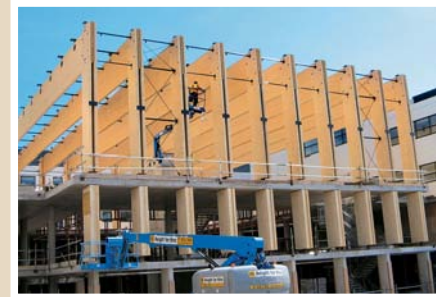


Industrial Hall Brian Wogan, Dunleer

WIEHAG proved competitive even in relation to local steel building companies. Whereas the construction of halls for swimming pools already has tradition for WIEHAG in Ireland, constructions of industrial halls are less common. With the order for the 123 metres long industrial hall Brian Wogan in Dunleer WIEHAG could successfully prevail against the competition of local steel building companies. The hall has a span of 24 metres, all columns and bearers were made from timber.

CLIENT Wogan Distributors

TECHNICAL FACTS 250 m³ glued laminated timber, 123 m length, area: approximately 3.000 m², built-in wooden columns, double pitched beams, 24 m span.



University College Dublin

Works contract for Ireland's largest university. The University College Dublin (UCD) is with more than 20 000 students Ireland's largest university. It is part of the National University of Ireland, a network of various Irish universities. The library's modern architecture utilizing timber and glass makes it a highlight within the entire Health & Science complex.

CLIENT University College Dublin

ARCHITECTS Murray O'Laoire Architects

ENGINEER Arup

CUSTOMER Cleary & Doyle

TECHNICAL FACTS Two-joint frame, 30 m span



SAP Center, Galway

SAP is Europe's largest software company and worldwide the leading supplier of software solutions for the economy. The new plant in Galway, Ireland, offers technological support for SAP customers all around Europe and the USA for the business-management product "Business One".

CLIENT SAP Ireland

ARCHITECTS Bucholz / McEvoy Architects

ORDERING PARTY Seele Austria GmbH

TECHNICAL FACTS Extremely small bearers are the basis for a fishbone-like nested structure that will draw attention from inside and outside due to the transparent glass façade. Span 14 m, height of façade 12 m

ADDITIONAL IRELAND PROJECTS



Toyota, Mc Cabes

Toyota, known as an innovative enterprise and an avant-gardist in terms of ecology (first series production hybrid car), continues its sustainable mindset even with its showrooms in Ireland: Glued laminated timber is one of the most eco-friendly construction materials for widely-spanned roof bearing structures!

CLIENT Toyota McCabes, Ireland

**ARCHITECTS/
ENGINEER** Finn Humphreys

TECHNICAL FACTS Showroom for used cars: 30 m span, showroom for new cars: 23 m span, façade bearers in glued laminated timber



Clondalkin Swimming Pool, Dublin

The refurbishment and the new construction of this sports centre is only one of many projects the city council is undertaking to improve the quality of living conditions in the southwest of Dublin.

CLIENT City Council Dublin

ENGINEER Arup

CUSTOMER PJ Walls

TECHNICAL FACTS Twin bearers with 30 m span, up-side suspension (post & suspension), façade bearers in glued laminated timber



Stadium Park Pool, Sunderland

The Sunderland Stadium Park Pool will serve as a performance centre for the preparation of a UK team for the Olympic Games in London 2012. Its core is the "Olympic Size" pool with 50 m length and 25 m width. A diving pool and the wellness area supplement the pool which is the largest in North England ever built in a timber structure. Two-joint frames with a span of 50 m and an extreme inside radius of only 3 m are the basis for the roof structure. The bearers are 44 cm wide and 2 m high and will be friction-locked on the construction site. Often, more than 150 tons of tractive forces have to be passed on at the joints. This could be achieved due to the first-class performance of the timber construction engineers of WIEHAG and by means of 7700 pieces of special screws with a length of 550 mm.

CLIENT City Council Sunderland

ARCHITECTS RedBoxDesignGroup Architects

ENGINEER Arup

CUSTOMER Balfour Beatty Construction

TECHNICAL FACTS 300 m² glued laminated timber, 50 m span, arched beams: 3 m radius



ADDITIONAL IRELAND AND UK PROJECTS

COUNTYHALL LIMERICK, EISHALLE INNSBRUCK, EISHALLE NÜRNBERG, EISSCHNELLAUFHALLE ERFURT, ERDBERGER STEG, BRÜCKE ZWIESEL, LOGISTIKZENTRUM DUEVILLE, MESSE RIED, MAXIMARKT WELS, NEUE MESSE KARLSRUHE, SALZLAGERHALLE DEUSA, SALZLAGERHALLE SALINE, SALZBURG ARENA, 3-FACH TURNHALLE KIRCHDORF, WELTREKORD WERBESTUHL XXXLUTZ, BRÜCKE LIEZEN, SPAR SCHWAZ, SPAR EGGELSBERG, PISTENÜBERFÜHRUNG KATSCHBERG, MESSE KLAGENFURT, ÖSTERREICHERHAUS NAGANO, AMAG OFENHALLEN, ATOMIC PRODUKTIONSSTÄTTE, DANZAS LOGISTIKZENTRUM, EINKAUFSZENTRUM VILLORBA, MESSE DRESDEN, MESSE FREISTADT, SAP CENTER GALWAY, EINKAUFSZENTRUM MONFALCONE, HORNBACH KREMS, SPAR BOZEN, AQUAPULCO BAD SCHALLERBACH, LOGISTIKCENTER DUISBURG, VIP HANGAR FLUGHAFEN WIEN, MESSE STRAUBING, HALLENBAD PRIENAUVERA, SPORTZENTRUM URRETXU, RUPERTUSBAD, ANITA LOGISTIKZENTRUM, REEDEREI EMDEN, ARA LOGISTIKZENTRUM, HALLENBAD BAD BIRNBACH, HALLENBAD BAD LIEBENWERDA, BAHNHOF RÜSSELSHEIM, HALLE BERTI, BILLA ST. GILGEN, BOCCIODROMO MERAN, BOCCIODROMO TIEZZO, BODEGA PERALTA, SEMINARSCHLOSS BOGENHOFEN, BRÜCKE SCHWERTBERG, BRÜCKE ST. VALENTIN, CAMPO TENNIS CEPPINO, CAPANNONE VEDELAGO, SPORTZENTRUM BOZEN, COIPI PALESTRA LOVADINA, BRÜCKE DRACHSELSRIED, EDIFICIO COMMERCIALE FELTRE, HALLE EGGER, EISHALLE HARD, EMBATEX, RAIKA FELDKIRCHEN, BINDERBERGER HANDENBERG, HALLENBAD PASSAU, HORNBACH WELS, HANNAK SALZBURG, HOTEL HACIENDA PRINCIPE TENERIFFA, KOMPLEXBAU STRASSBURG, KREUZHAUSERHOF SAN, KÖNIGSTHERME KÖNIGSBRUNN, PRODUKTIONSHALLE LÖFFLER, LINDAUPARK, MASCHINENHALLE HÜTTENBERGER, MIBA VORCHDORF, MIEDL MAINKOFEN, ZIMMEREI NIEDERLEITNER, OBSTHOF SEDLMEIER, SCHULE REGENSBURG, REITHALLE HÖFLER, ROTTEHALLE ASTEN, RUDERPAVILLON LINZ, SAB SIGGERWIESEN, SALZBURGER ZIEGELWERKE, STADION SALZBURG, SPAR ST. VEITH, TURNHALLE LIEFERING, PISTENÜBERFÜHRUNG KATSCHBERG, SPAR HABERSDORF, TURNHALLE VATERSTETTEN, UNIVERSITY COLLEGE DUBLIN, HOTEL NEBRADA ANDALUSIEN, COBH LEISURE CENTER, STADIUM PARK POOL SUNDERLAND, POLIDEPORTIVO LAS CRUZES, CASA CONDESTABLE, INDUSTRIALHALL WOGAN DISTRIBUTORS, CLONDALKIN POOL, THURLES POOL, CENTRO COMERCIAL NUEVA CONDOMINA, PERGOLA ALCOBENDAS, PISCINA BEASAIN, BODEGA RUIZ DE TOMINO, PISCINAS SEVILLA, BATIBOIS COLMAR, SPORTHALL KATOWICE

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