

PRESS RELEASE

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Window & Façade Trends 2024

Information on future trends, market development, jurisdiction, construction technology, sustainability, architecture, climate change and construction policy during the 50th Rosenheim Window & Façade Conference

The mood at the 50th Rosenheim Window & Façade Conference was excellent, although the slump in new buildings is a cause for concern. More than 700 participants shared the optimistic outlook presented by Dr Jochen Peichl and Oskar Anders in an entertaining dialogue at the opening. The varied mix of topics also contributed to this. This was particularly true of futurologist Matthias Horx, who called on the participants to constructively shape their own future instead of remaining in the "vale of tears". The 20 speakers not only highlighted current problems, but also identified the great opportunities that lie in the current "economic dip" and the changes brought about by climate adaptation. It is now time to get to work and not just wait for politicians and subsidies. Institute Director Prof. Jörn P. Lass: "With sustainable and climate-safe building products, our industry will convince building owners and make a significant contribution to the modernisation of buildings.

Dr Jochen Peichl (CEO) and Oskar Anders (head of the board) from ift Rosenheim were clearly delighted with the good mood among the 700 participants during the relaxed welcome in the new dialogue format, which ran through the entire programme with discussion rounds and moderation. The new dialogue and discussion formats as well as the entertaining moderation were a welcome refresher and are the result of intensive work before. The consequence was a top programme with competent speakers and a great party where the 722 participants felt completely at ease.



Oskar Anders (CEO ift Rosenheim) and Dr Jochen Peichl (CEO ift Rosenheim) open the 50th 50th Rosenheim Window & Façade Conference in the new "dialogue format"

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The Institute for
Windows and façades,
Doors and gates,
Glass and building materials

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Dr Jochen Peichl (CEO ift Rosenheim) summed it up as follows: "At the 50th Rosenheim Window & Facade Conference, it became very clear how great the opportunities are for the industry and that convincing solutions are available in the fight against climate change and climate extremes. Together with our customers, we want to use these to take a stronger approach to climate-proof building modernisation in Germany after the construction crisis."

Prof. Jörn P. Lass (Director of ift Rosenheim) summarised his impressions as follows "The expertise and the convincing mix of topics covered in the presentations impressively demonstrated that first-hand information is indispensable for the strategic orientation of companies. The response from participants at the Rosenheim Window & Facade Conference was overwhelming and motivates us to organise this leading industry get-together again in 2024 for personal exchange and knowledge transfer."

After welcoming words from **Andreas März** (Mayor of Rosenheim), **Prof Jörn P. Lass** (Director of ift Rosenheim) explained in his plenary speech why the motto "climate-proof building" is so important. Not only the fight against climate change, but also the adaptation to climate extremes such as overheating, flooding, storms and hail is now urgently needed. As standardisation and building law are only being adapted hesitantly, the industry should now define its own requirements and assessment methods for sustainable and climate-resilient building products. In this way, financially strong building owners of the "baby boomer" generation and structural investors (banks, investment funds, listed companies, etc.) who want or need to modernise their properties in a sustainable and future-proof manner can be convinced. To this end, ift Rosenheim has developed the "climate-proof building" assessment system, which is based on the three pillars of sustainability, energy efficiency and climate resilience. Prof Lass emphasised: "Climate resilience is an important plus point in climate-safe construction and makes products that protect against overheating, flooding, hail and storm damage visible". All the parameters of these three subject areas are simply summarised in the "climate-proof building" label, which as an EU certification mark also fulfils the requirements of the EU's "Green Claims Directive", which is intended to prevent misleading greenwashing. The certification makes it possible to credibly fulfil a large number of requirements and proofs in the areas of sustainability and environmental protection with one label and to make them transparent for buyers of construction products. The label is still in the pilot phase and will be finalised by the Fensterbau Frontale trade fair at March 2024 in Nuremberg.

Martin Langen (B+L Markdaten) then presented relevant forecasts for market development to the plenary session, which were unfortunately not as optimistic as they had been in 2022, as the political framework conditions and the subsequent social and media discussions led to great uncertainty and thus to a halt in many construction investments, especially in the construction of new single-family homes. Martin Lange summarised the complex situation in the following key messages:

1. The rise in mortgage interest rates (approx. 4%) is making financing considerably more difficult and is leading to a sharp **decline in new construction** of up to 50%, particularly in residential construction. There will only be an improvement when interest rates are lower, which will not be possible until spring 2024 at the earliest. This makes accounts receivables management a high priority for manufacturers of buildings and construction elements, as many project companies are currently becoming insolvent. Public sector buildings are therefore of interest because they cannot become insolvent in principle.
2. High production capacities have been built up **in serial construction**, which could lead to overcapacities in residential construction in 2024/25.
3. **Building refurbishment** is being severely slowed down by the uncertainty surrounding regulatory law and subsidy conditions. This will make 2023 a "lost" refurbishment year.
4. In the medium term (2024/2025), however, favourable political conditions can be expected, which will favour the modernisation of existing buildings. This will then quickly lead to the expected "**renovation wave**", in particular the replacement of windows. This will also be supported by higher purchasing power due to high wage increases and strong demand for living space as a result of high levels of immigration. However, modernisation through the "relocation chain", which initiates 3-5 renovations for every new build or flat, will only take off once the number of new builds rises again.
5. In the future, the current German government intends to strongly promote the construction of new social housing in particular, in contrast to private housing. In **regulatory law**, a ban of demolition site and possibly also a "refurbishment obligation" can be expected, which will result indirectly from the EU taxonomy rules of the Green Deal. The energy efficiency class of a building already has a major influence on the sale of second-hand properties, meaning that the sales price can be significantly increased through energy-efficient modernisation. The same also applies to commercial properties, as modernised buildings give large companies in particular a better "ESG rating" for sustainability and therefore better credit conditions.

Matthias Horx (Research institute of future trends) stated that we are undergoing an "epochal change". The many crises clearly show that a change to a new normality is underway. Even if people like to think linearly and avoid change, we should all embrace the transformation and think and shape the future positively instead of always looking at the difficulties like a "problem troll". A positive view is heavily distorted by the media, whose business model is to spread bad news in order to capture our attention. Matthias Horx therefore called on the plenum to think back from the future to the present. This recursive view of the future makes it clear what needs to be done to achieve the desired result. Many aspects of the future are already recognisable today, for example:

- Closer and more direct access to nature, which is easier to achieve through mobile working in the countryside, and a migration from the big cities to the regions, in which "co-working and co-living spaces" are emerging.
- Due to the shortage of skilled labour, work is upgraded and capital loses influence. This leads to a humane emancipation in which humanity and empathy are supported in industrialised societies.
- The blue transformation with an enormous increase in renewable energies is in full swing, enabling us to say goodbye to fossil energy production. This is ideal in sparsely populated desert and coastal regions where the sun almost always shines and the wind blows (USA, India, China, Australia, South America, etc.) or on industrial roofs in Germany.

Now it is important for all of us, but especially for entrepreneurs, not to wait for politics, but to actively shape the desired future together with employees and customers.

The fourth plenary lecture by **Prof Christian Niemöller** (SMNG lawyer company) led through the current case law. The focus was on the intelligent drafting of construction contracts, which began with an analysis of **multi-party contracts**. However, practice shows that many technical details are still unclear when the contract is concluded and the allocation of responsibilities becomes increasingly difficult during the course of construction, so that Prof Niemöller advises against multi-party contracts. In general, he criticised the fact that case law is becoming increasingly detrimental to companies that have to deal with unclear, incomplete and erroneous **specifications**, shifting the execution and liability risk to the detriment of the contractor. To avoid this, the contractor must clarify errors and ambiguities by asking the client when processing the tender. Otherwise, he bears the risk of having to provide additional services without remuneration. Here, the construction associations are called upon to achieve a balance in the distribution of risk again by issuing statements (OLG Karlsruhe, judgement of 20.04.2021; IBR 2022, 387). However, it is problematic that it is precisely in this area that the **VOB/B 2016** deviates from the BGB

2018 and an amendment to the VOB/B is currently not foreseeable. (BGH, decision of 5 May 2021; IBR 2022, 337). Therefore, the VOB/B must also be agreed as a whole, as an exclusion of the statutory provisions on contract amendment and remuneration adjustment in the construction contract (Sections 650a et seq. BGB) is not sufficient (LG Hechingen, judgement of 02.11.2021, IBR 2022, 231).

The difference between a detailed and **functional service description**, where the risk lies more with the contractor, is similar. This is because the contractor is generally obliged to provide a functional service and is therefore also liable for defects caused by the client or other commissioned companies. This risk can only be avoided by fulfilling the obligation to inspect and provide information (OLG Hamm, judgement of 06.12.2022, IBR 2023, 340).

A new problem has arisen due to the specification of "**approximate dates**", which, however, is generally not sufficient for a calendar-based determination of the start of work. The determination of a performance time must be confirmed by the client and contractor (BGH, decision of 29 March 2023; IBR 2023, 391).

Judgements on the amount of **security retentions** were also interesting. Clients may not use a construction contract clause in which various retentions add up to more than 5 %. This leads to an invalid security agreement and to the complete return of all securities (OLG Munich, judgement of 4 May 2016; IBR 2016, 693 and BGH, decision of 21 March 2018; IBR 2018, 625).

These examples clearly show the importance of a professional written construction contract, which serves as a reliable basis for the rights and obligations of the contractor and client for the execution of construction work and should therefore be competently drafted. It is advisable to expressly agree the VOB/B in the contract, as it does not automatically apply when a construction contract is concluded.

"Climate-proof building", the motto of the 50th Rosenheim Window & Facade Conference, was explored in depth in two thematic blocks on Thursday. The presentations by Christian Stolte (German Energy Agency, dena), Robert Krippahl (ift Rosenheim) and Prof. Jörn P. Lass (ift Rosenheim), supplemented by a panel discussion with Joachim Oberrauch (Finstral) and Christian Kehrer (ift Rosenheim), moderated by Olaf Vögele (media4technologies UG), explored the question of which requirements and framework conditions are necessary for sustainable and climate-resilient construction. **Christian Stolte** (dena) made it clear that a tripling of the modernisation rate from 0.8% to 2.4% p.a. would be necessary to achieve the climate targets in the building sector. The possible measures such as the decarbonisation of heat (heat pumps, district heating, etc.) and the reduction of heat demand through a higher efficiency and a reduce of the heated area (smaller residential units) were explained in

detail with key figures. The depth of refurbishment (scope and quality of the building envelope) must pursue ambitious targets and "brush-up refurbishments" only for optical reasons should be avoided. In contrast to Germany, the mechanisms of the "European Green Deal" are more ambitious in other EU countries. In Italy, for example, energy-efficient modernisations will still be subsidised by 70% from 2024, thus ensuring a reduction in emissions and good capacity utilisation in the construction industry. The introduction of zero-emission buildings (EPBD) for new builds and renovation obligations (MEPS) for the most inefficient residential buildings (building class F from 2030 and class E from 2033) by the EU is currently still the subject of heated debate and the outcome remains to be seen. The current government has gone from being a promoter to a brakeman and implementation in this government term is unlikely. Furthermore, the known facts about the GEG 2023, the current funding landscape, the Competence Centre for Municipal Heat Transition (KWW), the Climate Neutral Buildings Forum and the "Individual Refurbishment Roadmap" (iSFP) were presented.

Robert Krippahl (ift Rosenheim) then explained in detail how buildings can be better protected against heavy rain, **floods**, hail and hurricanes. Although there is a German law on the "organisation of the water balance", it only covers water management aspects and large-scale flood protection (dams, rainwater systems, etc.) and does not contain any special requirements for flood protection of buildings or construction elements. VDS Guideline 3855 "Flood protection systems for property protection" sets out more specific requirements for indirect and direct property protection. For building elements (windows, doors and gates), there are three classes with specifications for watertightness, ranging from A (0.1-1 l/hm) to C (< 0.01 l/hm). The ift guideline FE-07 "Flood-resistant windows and doors" describes the necessary test procedures in detail, which are compatible with the requirements of VDS 3855 and contain further practical criteria (breakage of glazing and load-bearing components, installation specifications, etc.). The test results and classifications can then be used to optimise and selling the products in order to meet the increasing demand for flood-resistant building elements. The facts about the stronger wind loads surprised most of the participants, as the load of a class 4 or 5 hurricane with wind speeds of 250 km/h and more is twice as high as that of a storm with wind force 12. This corresponds to a dynamic pressure of approx. 3,000 Pa to be tested, which must be taken into account in the future planning and structural design of windows and façades. This shows the stresses that we may have to expect in Europe in the future if the water in the Mediterranean see frequently warms to over 26.5 °C (at a depth of 50 m) and can thus lead to the formation of hurricanes. For this reason, ift Rosenheim has adapted its testing facilities accordingly in order to be able to test in accordance with the American

ASTM E standards 1996, 1886 and 996. Based on the existing co-operation with US bodies, the test certificates of ift Rosenheim can also be used for the necessary certifications.

The presentations on the **QNG quality label** and the revision of DIN 4108-2 on thermal insulation in summer were very popular in the topic block "**Building practice**". **Florian Stich** (DGNB auditor, GROPYUS Technologies) explained very clearly what is behind the "Quality Label for Sustainable Buildings" (QNG and QNGplus) and how this label can be used for BEG funding. The current situation very clearly shows the great importance of the "Federal Subsidy for Efficient Buildings" (BEG) for investments in residential construction, as significantly higher subsidies are possible with the QNGplus seal. This also requires a sustainability certificate that proves fulfilment of the requirements for reducing greenhouse gas emissions (GHG) over the entire building life cycle (GHG in the life cycle < 24 kg CO₂ eq. /m² a, primary energy demand non-renewable in the life cycle < 96 kWh/m² a) as well as other requirements for sustainability and health (renewable raw materials, avoidance of pollutants, accessibility, etc.). This means that the GHGs from production (grey energy), use (solar gains, maintenance, cleaning, etc.) and dismantling (recycling) are also relevant. It is therefore becoming increasingly important for manufacturers of construction products to provide the relevant data, for example as the result of an environmental product declaration (EPD) or through the new "climate-proof building" certification of ift Rosenheim.

In his "workshop report", **Dr Stephan Schlitzberger** (Ingenieurbüro Prof. Dr Hauser) provided a very exciting insight into the current "minor" revision of DIN 4108-2 on **summer thermal insulation** and the "major" revision planned for 2027. This is because a fundamental revision is urgently needed in order to take into account the significantly higher requirements resulting from climate change. The basis for the planned amendment is the creation of forecasts for future test reference years by the German Weather Service (DWD) with information on the occurrence of summer days (outside air temperature > 25 °C), hot days (> 30 °C) and tropical nights (> 20 °C) - it is expected that the average number of hot summer days will double and that future hot summers will five-fold increase (26 instead of 5 days on average between 1988-2007). Initial forecasts show that by 2045, in Germany only the central mountain regions, the high altitudes of the Alps and the coastal regions will fall into the moderate climate regions A and B. The rest of Germany will then fall into the hot summer region C, where periods of heat will last longer and occur more frequently. Extensive simulations (IB Hauser) with future climate data and average building data show that the excess temperature degree hours Gh₂₆, as a key figure for thermal comfort in buildings (with a g-value of 0.6), will also more than double (from 1,182 to 2,549 hours).

Even if there are still no requirements for the modernisation of existing buildings, except for extensions to existing buildings (if the additional area is greater than 50 m²) or if the BEG subsidy for efficiency houses is used, new buildings and renovations should actually also be suitable for the future climate. For a fundamental revision of the requirements and verification procedures, Dr Schlitzberger proposed EN 16798-1 as a new method for comfort assessment, which can be used to better determine the necessary shading. An extensive parameter simulation (10,206 individual simulations) based on the calculation methods of EN 16798-1 as well as different window areas and orientations, U_w values, g values, F_c values, climate data and room geometries resulted in a recommendation for a min. F_c value of 0.5. It is therefore recommended that the system of requirements be changed by limiting the frequency with which the excess temperature degree hours $Gh_{25/26/27}$ are exceeded to 263 h/a (3 %), while at the same time changing the climatic boundary conditions to new future climate data. This would result in the following requirements in the future climate regions in Germany:

- Climate region A (altitude of the Alps and low mountain ranges) roughly constant
- Climate region B (coastal region and central mountain ranges) with a slight to moderate aggravation
- Climate region C (rest of Germany) with a significant intensification

In the future, it would be possible to determine the necessary sun protection on a location-specific basis, which would also allow the impact of local heat centres to be taken into account (urban locations), because the DWD is currently developing a much more precise recording of weather data in the kilometre grid instead of the relatively coarse climate regions (A-C) used to date.

A highlight for façade builders was the block on serial construction, in which the sophisticated façades of the high-rise project "**The Four Frankfurt**" (four residential, hotel and office towers up to 228 metres high) were viewed from different perspectives. Architect **Leila Abdolnazari** (Groß & Partner) represented the client, planner **Volkmar Hovestadt** (Digitales Bauen) was responsible for the digital optimisation and engineer **Herbert Weileder** (Dobler Metallbau) for the façade construction. It quickly became clear that the sustainable construction and operation of complex buildings can best be realised with integrated and almost complete digital planning. This also applies to construction and material logistics, which is a major challenge when building in the heart of a large city. The project company Groß & Partner therefore developed a comprehensive **BIM model** and commissioned a planning office that specialises in digital optimisation and the development of as many identical parts as possible (digital construction) between the design and construction planning, tendering and execution. For that reason the design also had to be

slightly modified for this purpose. As a result, a detailed **component catalogue** or construction kit was developed for the shell, interior fittings and building services, in which identical parts are provided for construction planning and execution. Volkmar Hovestadt also describes serial construction as "pattern recognition, modularisation and the art of tidying up". However, the complexity of the façade was considerably underestimated by the client and the planner. Due to the sophisticated design with rounded, rebounding and recessed façade sections and protruding design and lighting elements, a very large number of individual and special parts were created. When Herbert Weileder (Dobler Metallbau) analysed the first high-rise building of that project, he only came up with a "**standard number of units**" of 1.5. For the 1,250 different element types of the first 18 storeys assembled, this resulted in an incredible number of 18,558 different components (excluding standard parts), including 285 different glass types, 4,040 different sheet metal components, 6,660 different profiles, 250 different mounting brackets and 70 different external blind sizes. The approval planning was created due to the simpler and faster processing, but the variety of types and complexity can **only be** managed in the workshop **and assembly planning in 3D**. The interface between workshop planning and machine control is particularly difficult and still requires manual engineering. Dispensing with printed detailed plans and converting to screen workstations has proven to be sustainable and more efficient. The employees in production can visualise the workpieces in 3D as required and create cuts at any point. To summarise, it became clear that façade construction is still often underestimated by planners and that serial construction is only possible if the façade builder is already involved in the design and work planning and can also influence the design.

The "**Berlin Round Table**", in which **Frank Lange** (Association Window and façade, VFF), **Thomas Drinkuth** (Representation transparent envelope RTG) and **Jochen Grönegräs** (Association building glass BF) gave their assessment of the market and the political development of subsidies and regulatory law, was eagerly awaited. They all emphasised that the sharp decline in new construction and sluggish building renovation was largely caused by the rise in interest rates, the confusion of the German "Heating law" and the subsidy regulations. Although there is still an acceptable order buffer for many companies for 2023, a significant decline is expected for 2024. Even though the government has fundamentally recognised the problem of the construction crisis and housing shortage, the association representatives believe that the seriousness of the problem is not yet fully realised in the current government. Although the 14-point plan presented by the government was considered good, the stimuli are not sufficient to revitalise the construction industry and are more

likely to have a medium-term effect. The decision to increase the subsidy quotas from 15% to 30% for individual measures such as window replacement is the right approach and must now be actively and comprehensively communicated to customers and to be trade and utilised by the window sector. If the funds are not fully utilised, there is a great risk that the subsidies will be discontinued. This would be counterproductive for the industry. The VFF's subsidy wizard (<https://fenster-können-mehr.de/foerdermittel-assistent/>) is helpful for utilisation.

The **Bavarian evening** with "Oktoberfest flair" was a special highlight in the 50th anniversary of the Rosenheim Window & Facade Conference. The party began with the arrival of a "DeLorean DMC-12", which is known as the time machine from the cult film "Back to the Future". World-famous rock and pop songs were played and the "baby boomers" were "beamed" straight back to their youth. Young and old partied into the early hours of the morning in a great atmosphere and were still fit for the first lectures on Thursday.




On Thursday afternoon, more than 30 window and façade experts visited the excellent testing facilities of the new ift laboratories for building acoustics and façades as well as the Technology Centre with fire protection test facilities.





The ift management trio, consisting of Dr Jochen Peichl (CEO), Michael Breckl-Stock (CTO) and Prof. Jörn P. Lass (Institute Director), were delighted with the great response and are looking forward to seeing the industry again at the 51st Fenstertage on 9 + 10 October 2024 and at the Power Workshop on 8 October 2024.

(Lead 961 characters, body text 25,570 characters,
total press text 26,531 characters (each including spaces))


Keywords: future trends, market development, jurisdiction, construction technology, sustainability, architecture, climate change and construction policy



Selection images

No.	Caption and file name	Picture
1	<p>Oskar Anders (CEO ift Rosenheim) and Dr Jochen Peichl (CEO ift Rosenheim) open the 50th Rosenheim Window & Facade Conference in the new "dialogue format" (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_01_Peichl_Anders.jpg</p>	
2	<p>Prof Jörn P. Lass (Director of ift Rosenheim) during his presentation "Climate-proof building for the future - requirements and assessment methods for sustainable and climate-resilient building products" (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_02_Lass.jpg</p>	
3	<p>Martin Langen (B+L Marktdaten) outlines the market outlook, trends and forecasts and shows light at the end of the tunnel of the construction crisis (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_03_Langen.jpg</p>	





No.	Caption and file name	Picture
4	<p>Matthias Horx (Research institute of future trends) inspired the participants with his presentation "The world after 2030 - an outlook on life, living and working based on current futurology" (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_04_Horx.jpg</p>	
5	<p>Prof Christian Niemöller (SMNG lawyer company) provides important tips and recommendations for the correct drafting of window and façade construction contracts (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_05_Niemoeller.jpg</p>	
6	<p>Roland Fischer (ift Rosenheim) and Christian Anders (VFF/ift) will be moderating the programme of the 50th Rosenheim Window & Facade Conference in an entertaining and competent manner (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_06_Moderatoren.jpg</p>	
7	<p>Thomas Drinkuth (Representative Office Transparent Building Envelope, RTG), Jochen Grönegräs (Federal building Glass Association, BF) and Frank Lange (Window + Façade Association, VFF) report on the latest political plans and legislative initiatives in Berlin (from left to right) (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_07_Berliner_Talk.jpg</p>	

No.	Caption and file name	Picture
8	<p>Herbert Weileder (Dobler Metallbau), Leila Abdolnazari (Groß & Partner) and Volkmar Hovestadt (Digital Planning) report on the exciting construction project "The Four Frankfurt" from the perspective of the client, the planner and the façade builder (from left to right) (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_08_The_Four.jpg</p>	
9	<p>Christian Kehrer (ift Rosenheim), Prof Jörn P. Lass (ift Rosenheim) and Joachim Oberrauch discuss the opportunities and problems of climate-proof construction with Olaf Vögele (media4-technologies UG, not in picture) (from left to right) (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_09_klimasicher_Bauen.jpg</p>	
10	<p>The "Fensterbau Frontale" (FF) team congratulates ift Rosenheim on the 50th Rosenheim Window & Facade Conference (from left to right: Marie-Christin Heinemann (FF), Jürgen Benitz-Wildenburg (ift), Prof Jörn Lass (ift), Dr Jochen Peichl (ift), Elke Harreiß (FF), Ruth Tober (FF) and Nicole Neuendorf (FF)) (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_10_Fensterbau.jpg</p>	

No.	Caption and file name	Picture
11	<p>The anniversary dessert is already waiting for the guests of the 50th Rosenheim Window & Facade Conference (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_11_Dessert.jpg</p>	
12	<p>A good atmosphere starts with friendly people at the check-in desk (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_12_Servicepoint.jpg</p>	
13	<p>50th anniversary of the Rosenheim Window & Facade Conference in great summery autumn weather (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_13_Flaggen.jpg</p>	
14	<p>The management team of Löffel Fenster + Fassaden GmbH & Co. KG has been attending the Rosenheim Window & Facade Conference many times to get important trends in technology, standardisation and market perspectives (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_14_Loeffel.jpg</p>	

No.	Caption and file name	Picture
15	<p>The management team of ift Rosenheim informs the trade press about the research projects planned for 2024 and news from standardisation, testing and certification (from left to right: Jürgen Benitz-Wildenburg (Press Spokesman), Dr Jochen Peichl (CEO), Oskar Anders (Chairman of the Board), Prof. Jörn P. Lass (Institute Director) and Michael Breckl-Stock (CTO)) (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_15_PK.jpg</p>	
16	<p>Prof Jörn P. Lass (Institute Director) in an interview with Holger Dirks (Editor-in-Chief of „Glas-Fenster- Fassade“ and „Sicht+Sonnenschutz“) (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_16_Interview_Lass.jpg</p>	
17	<p>The anniversary beer is already waiting for thirsty guests at the 50th Rosenheim Window & Facade Conference on the Bavarian evening (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_17_Jubilaeumbier.jpg</p>	
18	<p>The Bavarian evening with "Oktoberfest flair" was a special highlight in the anniversary year (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_18_Festabend.jpg</p>	

No.	Caption and file name	Picture
19	<p>The party started with the arrival of a "DeLorean DMC-12", which is known as the time machine from the cult film "Back to the Future" (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_19_Auto.jpg</p>	
20	<p>Many guests rocked out to world-famous rock and pop songs and "beamed" the "baby boomers" straight back to their youth (Source ©: Knipserphotography)</p> <p><i>File name:</i> PI231180_Fig_20_Band.jpg</p>	
21	<p>Young and old partied until the early hours of the morning in a great atmosphere and were still fit for the first lectures on Thursday morning (Source: © Knipserphotography)</p> <p><i>File name:</i> PI231180_Fig_21_Party_01.jpg</p>	
22	<p>Women's power of ift Rosenheim in the best party mood (Source: © Knipserphotography)</p> <p><i>File name:</i> PI231180_Fig_22_Party_02.jpg</p>	

No.	Caption and file name	Picture
23	<p>The students from the final semester "Timber Construction" at the Technical University in Rosenheim were in high spirits (Source © Knipserphotography)</p> <p><i>File name:</i> PI231180_Fig_23_Party_03.jpg</p>	
24	<p>Laboratory tour through the test facilities of fire protection (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_24_Brandlabor.jpg</p>	
25	<p>Visit to the new façade laboratory with the "air-boat engine" for façade testing according to North American standards (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_25_Fassadenlabor.jpg</p>	
26	<p>Visit to the modern acoustic laboratory, in which all acoustic tests can be carried out on a façade without the need for conversion work (Source: ift Rosenheim)</p> <p><i>File name:</i> PI231180_Fig_26_Schall-Labor.jpg</p>	

About the ift Rosenheim (for trade press)

ift Rosenheim is a research, testing, monitoring and certification centre that is notified throughout Europe and internationally accredited in accordance with DIN EN ISO/IEC 17025. The focus is on practical, holistic and rapid testing and evaluation of all properties of windows, façades, doors, gates, glass and building materials as well as personal protective equipment (PPE, respiratory masks, etc.). The aim is the sustainable improvement of product quality, construction and technology as well as standardisation work and research. Certification by the ift Rosenheim ensures Europe-wide acceptance. The ift Rosenheim is committed to the transfer of knowledge and therefore enjoys a special status with the media as a neutral institution. The publications document the current state of the art. (807 characters incl. spaces)

About the ift Rosenheim (for the general press)

Good buildings need expertise, technology and experience - this is especially true for windows, façades, doors and gates. Since 1966, ift Rosenheim, with over 200 employees, has been supporting the industry as a neutral scientific institute with technical services. These include testing, research, certification and quality management as well as standardisation, further training and specialist information. In this way, ift Rosenheim promotes the development of usable, environmentally friendly and economical quality products that make life more comfortable, safer and healthier. (588 characters incl. spaces)