

## seele Group of Companies

The seele group, with headquarters in Gersthofen in Bavaria, is one of the world's top companies specialising in the design and construction of façades and complex building envelopes made from glass, steel, aluminium, membranes and other high-tech materials. The owner-managed technology leader in façade construction was founded in 1984.

Some 1,000 employees work at the seele group's 15 locations around the world, together generating an annual turnover of more than €250 million. The seele group of companies manages its corporate activities through the independent operations of its four brands, seele, sedak, sunglass industry and iconic skin:

- **seele** stands for project business in connection with innovative façade designs and exceptional building envelopes worldwide.
- **sedak** is a premium manufacturer of oversize insulating and safety glazing in the very best quality.
- **sunglass industry** is a specialist for curved glass.
- **iconic skin** develops and manufactures the building element GSP®.

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## 1 History

- 1984** Founding of the company by master glazier Gerhard Seele and steelwork engineer Siegfried Gossner
- 1994** Expansion into Austria, France, the UK and Hong Kong
- 1996** Establishment of production in the Czech Republic and expansion into Singapore
- 2001** Expansion into the USA
- 2004** Expansion into Dubai
- 2007** Founding of sedak and establishment of own glass treatments
- 2007** Addition of business lines for membrane and fabric designs, with one location in Germany
- 2008** Establishment of own production for aluminium unitised façades
- 2012** Development of the building elements business line; founding of iconic skin GmbH
- 2013** New office in Russia
- 2015** Expansion into Canada
- 2017** New office in Thailand
- 2018** Founding of s + k projekt GmbH based in Spreenhagen/Berlin, Germany
- 2018** Expansion of manufacturing competencies within the seele group with the Italian company sunglass industry s.r.l.

## 2 Services Portfolio

Exceptional building envelopes are the result of the successful meshing of architectural ideas, constructional expertise and a profound understanding of the materials. As an experienced partner, seele can advise clients, developers and architects and provide support for international construction projects – from the first visionary sketch to the development of the tiniest details. And at every stage, the optimum implementation of a project is just as much a priority as its economic viability. With many years of experience and extensive production skills covering glass, steel, aluminium, membranes and other high-tech materials, seele can design building envelopes to suit virtually any specification.

### 2.1 Consulting



operational processes.

Certification to DIN EN ISO 9001 means that seele has specified minimum requirements for its quality management (QM) system. These must be implemented in order to comply with all demands placed on, for instance, the quality of products or services. A QM system ensures that, for example, the transparency of all operational procedures is improved or error rates, and hence costs, are reduced. The principle of process optimisation anchored in the standard ensures that seele's QM system monitors and checks all

### 2.2 Project Management



Ensuring trouble-free workflows from the design of a building envelope right up to its erection is the responsibility of seele's project management teams. Modern BIM processes and strategies provide support in the form of a central interface between all internal processes plus the work and objectives of all the partners involved in a construction project. Optimum organisation and efficient management guarantee that complex construction projects are completed on time in the very highest quality.

## 2.3 Design



The architect's design brief is seele's guideline for developing bespoke solutions with the help of its superb engineering skills and in-depth understanding of construction. Digital and three-dimensional design are intrinsic to modern engineering and these days indispensable for achieving highly complex geometries. Excellent coordination and collaboration between all the persons and trades involved in a construction project is ensured by way of BIM 3D models containing a wealth of data. Turning digital creations into real structures is achieved

with the help of the very latest software, hardware and analysis options.

From the first sketches of potential solutions to the working drawings and production schedules, seele stamps its mark on the complete creation chain. In order to vary the interdependencies of the complex stipulations and be able to model the various geometrical designs, all the architectural requirements and principles are implemented in the form of parameter controlled scripts. Prior to production, new solutions for façades are tested on mock-ups in seele's own test centre, where all international standards and test scenarios can be adapted and tested.

## 2.4 Production



Building envelopes by seele are designed and produced "hand in hand": manufacturing and automation procedures come together in the machining centres, supported throughout by 3D computer programs. High-quality assemblies in aluminium, steel, glass or membrane materials are therefore created right alongside development.

The client can count on optimum workflows plus maximum precision and dimensional accuracy thanks to the dovetailing between development and production plus digitalisation

throughout the process. Special parts are prefabricated to individual specifications – an advantage that, in the end, guarantees efficient erection.

## 2.5 Logistics and Installation



No matter whether a site is located in the desert or the city, seele's logistics teams always deliver reliably and on time – by road, sea or air. That means seele takes responsibility for the transport logistics worldwide, plus the efficient organisation of the building site in compliance with local regulations. End-to-end quality management enables full documentation and traceability from the raw materials to the final product. Continuous coordination between production and building site minimises storage times for the finished

elements. On site, seele's installation teams carefully assemble all the separate parts and ensure maximum precision.

## 2.6 Maintenance and Repair



Façades, roofs and free-form surfaces must retain their quality, functionality and aesthetics over many decades. Therefore, seele employs efficient testing and measuring procedures as well as individual systems to inspect components and assess their condition. Any maintenance measures necessary can thus be identified in good time and carried out exactly as required.

## 2.7 Research and Development



The demands placed on modern building envelopes are constantly changing. Therefore, existing façade systems undergo continuous further development at seele, and new technologies and materials are researched and introduced. Using modern methods and resources, the R&D team investigates and tests the building physics relationships and constructional interdependencies in order to improve current processes. Such work often results in valuable patents that secure the company's future and competitiveness. The

primary goals of research and development at seele are to push back architectural boundaries and define new standards for the creation of building envelopes.

## 2.8 Product solution ISOshade®



mjISOshade® is an insulating glass unit with a factory integrated sun protection system. The unit consists of triple glazing and a sun protection system in a cavity – a venetian blind or a vertical blind. The external pane protects the sun protection system from dirt and weather influences. The cavity within ISOshade® conditions itself via a volume-dependent system. Pressure differences caused by temperature fluctuations in the space between the panes are regulated by the element itself via a maintenance-free

mechanism. This reduces the planning effort in advance and the energy costs during building operation

### 3 Quality, Energy and Environment

As part of its management system at its headquarters in Gersthofen, seele is certified to DIN EN ISO 9001 for quality, DIN EN ISO 14001 for environmental issues and DIN EN ISO 50001 for energy management. The implementation of these standards combines and harmonises the requirements placed on our organisation.

Upon request, we can incorporate the stipulations for the certification of sustainable buildings in our design work. That includes, for example, requirements according to the DGNB, LEED and BREEAM certification systems. Examples of BREEAM-compliant buildings with façades by seele are the office complex at 5 Broadgate, London, and the new European headquarters of Bloomberg, also in London.

#### 3.1 Quality



Certification to DIN EN ISO 9001 means that seele has specified minimum requirements for its quality management (QM) system. These must be implemented in order to comply with all demands placed on, for instance, the quality of products or services. A QM system ensures that, for example, the transparency of all operational procedures is improved or error rates, and hence costs, are reduced. The principle of process optimisation anchored in the standard ensures that seele's QM system monitors and checks all essential operational processes.

#### 3.2 Energy



Constant improvements to energy-related issues is the aim of the energy management system to DIN EN ISO 50001. The standard specifies requirements for the introduction, operation and ongoing optimisation of an energy management system. By implementing this approach, seele is always improving its performance in energy matters, increasing energy efficiency and at the same time optimising energy consumption. Renewable energy sources are also taken into account.

#### 3.3 Environment



The environmental management system certified to DIN EN ISO 14001 ensures that seele applies environmental protection requirements and hence contributes to reducing environmental impacts and improving sustainability in all areas of the company. This is always carried out in accord with economic, social and political requirements.

## 4 References

The following is a selection of projects.

For details and further projects please go to [www.seele.com](http://www.seele.com).

<b>Project</b>	<b>Location</b>
<b>33<sup>rd</sup> Street Penn Station Entrance</b>	New York/USA
<b>5 Broadgate</b>	London/UK
<b>Apple Retail Store Piazza Liberty</b>	Milan/Italy
<b>Apple Retail Store, Union Square</b>	San Francisco/USA
<b>Canary Wharf Crossrail Station</b>	London/UK
<b>Capricorn Bridge</b>	Dusseldorf/Germany
<b>Central Library Seattle</b>	Seattle/USA
<b>Chadstone Shopping Centre</b>	Melbourne/Australia
<b>Château Margaux</b>	Margaux/France
<b>European Central Bank</b>	Frankfurt am Main/Germany
<b>Grand Hall</b>	Montreal/Canada
<b>ICONSIAM</b>	Bangkok/Thailand
<b>InterContinental Davos Hotel</b>	Davos/Switzerland
<b>K11 Musea</b>	Hong Kong
<b>King Abdulaziz Center for World Culture</b>	Dhahran/Saudi Arabia
<b>King's Cross Railway Station</b>	London/UK
<b>Messturm Frankfurt</b>	Frankfurt am Main/Germany
<b>Moynihan Train Hall</b>	New York/USA
<b>PUMA Flagship Store</b>	New York/USA
<b>Strasbourg Railway Station</b>	Strasbourg/France
<b>TEC Bridge</b>	Toronto/Canada
<b>Väven Umeå</b>	Umeå/Sweden