

Architecture and concept geared to future work environments

Space for imagination: The WITTENSTEIN Innovation Factory

Designed by HENN Architekten, the internationally renowned Munich architects, the WITTENSTEIN Innovation Factory makes a stunning impression with its seven metre high glass façade and huge shade sails. Glass – symbolizing transparency – also dominates on the inside of the new complex with its three storeys, overall height of 14 metres and footprint measuring 133 x 97 metres. With around 18,000 square metres of usable floor space, the Innovation Factory is roughly the same size as the six existing production shops at the WITTENSTEIN headquarters in Igersheim-Harthausen and offers room for 500 staff – more than 300 of whom have already moved into the new building.

A gallery provides customers and visitors with a panoramic view of the facility: spacious, light production areas create optimal opportunities for innovative, process oriented manufacturing workflows in terms of resource efficiency, environmental awareness and work conditions. Short lines of communication are guaranteed to the office workplaces with their insulated acoustic ceilings and glass fronts looking out onto several inner courtyards – there is never any shortage of daylight here. The triple glazing familiar from so-called passive houses, WITTENSTEIN's own combined heat and power plant for energy production and the photovoltaic system on the roof are only a few instances of the consistent ecological and economic concept applied throughout, which has already been awarded a precertificate in gold by the DGNB (German Sustainable Building Council).

Quality seal for sustainable building: DGNB pre-certificate in gold

The Factory already complies with the strict requirements of the DGNB – whose certificates are conferred in recognition of the outstanding fulfilment of up to fifty sustainability criteria under the headings ecology, economy, sociocultural aspects, technology, processes and location. The pre-certificate confirms 80% or more fulfilment of these criteria at the time the new building was opened. The natural shell limestone from the local region, the FSC[®] 100 certified wood used for the entire parquet flooring, the partial

May 23, 2014

High-tech products made by WITTENSTEIN fly into space and win Formula One races. Intelligent drive systems – from the world's smallest high-performance servo drive to the latest state of the art in medical technology – are developed, produced and marketed by a team of around 1800 employees. With a blend of dedication and enthusiasm, we set benchmarks – every day – worldwide.



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cladding of the façade components with Resysta material and the decision to forego installation foam are just a few examples.

Inside the factory the client attached considerable importance to an "inspirational atmosphere" – all workstations, regardless of whether they are used by production of administrative staff, are designed to the same high quality, clean and tidy, quiet and brightly lit. Spacious, open, transparent rooms and offices on wheels guarantee efficient interaction and maximum flexibility. Desks and other furniture items can be reconfigured as and when necessary depending on the type of work to be done – a practice that is already established in Production.

Responsible and sustainable

The new building represents a logical continuation of WITTENSTEIN's deep-rooted conviction: that there is no alternative to responsible investments in a sustainable future. The owner family is guided in everything it does by a duty to future generations, and it was therefore only natural that the Innovation Factory should be built in line with the latest state of the art using innovative technologies. The heavy investment is already paying off: the company's operating costs will be halved compared to the other buildings on the same site – despite full air conditioning and the fact that all the air inside the facility is recirculated in only three hours.

Tightly interconnected and highly flexible

Innovative products inevitably go hand in hand with innovative production strategies. The WITTENSTEIN Innovation Factory sets an outstanding example here: the Development, Sales & Marketing and Production functions of the Group's three mechatronic subsidiaries WITTENSTEIN motion control, WITTENSTEIN cyber motor and WITTENSTEIN electronics will in future be united under one roof. The "articles of manufacture" are mechatronic components and systems comprised of mechanics, controls, sensors and software for customer applications in a variety of industries such as semiconductors, power generation or automotive.

The complete value creation process will take place within a thirty metre radius in the Innovation Factory – from the initial idea to the finished product. All process partners will be brought closer together instead of work groups going about their respective tasks more or less in isolation – the interfaces between different departments have been optimised to encourage information sharing among staff. The Development, Sales and Production spaces are arranged along a single axis. The architecture meets the high standard stipulated by the client for the building in every possible way: the special structural measures permit highly flexible and adaptable production processes

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as well as prompt reactions to changing customer requirements. Lead times will in future be shorter thanks to this fruitful proximity: the ability to execute projects thirty percent faster on average and realize prototypes much quicker than before is a decisive advantage. The numerous open communication spaces with lounge furniture and bistro tables and the small conference rooms will also have a positive impact.

On the way to Industry 4.0

Industry 4.0 is a vision. Experts estimate that this process will take around thirty or forty years. The aim is no longer simply to facilitate the continuous optimization of industrial processes; WITTENSTEIN is also engaged in a quest for completely new methods of production involving intelligent interaction in value added networks. In addition to technological advances and innovative products, it is particularly new processes and services and in some cases complete business models and social innovations that are important focal areas. "Computerized production" provides answers for the future. The goal is the "smart factory", which will sustainably enhance productivity and flexibility.

WITTENSTEIN AG has just taken a big step towards the fulfilment of this vision with the official opening of the WITTENSTEIN Innovation Factory.

The WITTENSTEIN Innovation Factory – key data

Capital investment Architect Height Footprint	35 million euros HENN Architekten, Munich 14 m, 3 storeys 133 x 97 m, approx. 18,000 m² usable floor space
Hybrid building	Combination of production and office areas
Production space	6000 m², completely open-plan
Façade	Superinsulated exterior, partially with treble glazing, either natural shell limestone slabs from the local region or Resysta (hybrid material offering the look and feel of wood and produced from rice husks, common salt and mineral oil), glass fronts totalling approx. 1800 m ² , 3 inner courtyards visible from all sides

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Energy supplies	Own combined heat and power plant using fossil fuel (natural gas) to meet base heat load, 15% of cooling load (absorption refrigerators), hot water requirements and entire electricity needs as well as part of electricity demand for development and production processes.
	The cold produced by the absorption refrigerators enables the heat generated by the CHP plant to be utilized in summer as well.
	All electricity produced by the 40 kWp photovoltaic system is fed into the grid.
	The ventilation system has a heating and cooling function with a heat recovery rate of between 70 and 75%.
Lighting and acoustics	Daylight linked lighting control, soundproofed ceiling and floor cladding in project spaces and offices
Special features in production areas	Flexible layout Optimal flow of goods from inbound delivery to shipping, clean assembly environment because all goods are repacked in ESD compliant storage and supply containers, pilot project: dynamic production environment (assembly on wheels)
Products	Mechatronic components and systems comprised of mechanics, controls, sensors and software for customer applications in a variety of industries such as semiconductors, power generation or automotive. The benefits of all these solutions will be enjoyed by people – from drivers of electric vehicles to users of mobile phones and electricity consumers. In the long term, other words, the Innovation Factory will supply "technology for people"

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Outdoor area

Extension of the existing WITTENSTEIN World Garden (currently Germany's only botanical garden belonging to an industrial enterprise), use of shell limestone from material excavated at the site for the inner courtyards.

All roof runoff water is collected in five retention ponds, where it either drains away or evaporates

Construction projects at the WITTENSTEIN headquarters: a chronology

The WITTENSTEIN Innovation Factory represents the latest milestone in a long series of construction projects at WITTENSTEIN's Igersheim-Harthausen facility.

- 1996: The new administrative headquarters are inaugurated on what was still a greenfield site, initially with one 2500 square metre production shop.
- 1999: Topping-out ceremony for a development and sales centre, training and communication centre (WITTENSTEIN academy), second assembly shop and new logistics hall; the floor space has already been doubled.
- 2002: Construction of a second logistics hall (Hall 4).
- 2004: Production continues to grow with the addition of Hall 5.
- 2007: Hall number six rounds off the design concept by Schwäbisch Hall architect Günther Obinger.
- 2008: The nearby WITTENSTEIN talent arena, the Group's creative learning and training workshop, is officially opened.
- April 30, 2012: Ground-breaking dig for the WITTENSTEIN Innovation Factory.
- December 20, 2012: Topping-out ceremony for the WITTENSTEIN Innovation Factory.
- May 23, 2014: Official opening of the WITTENSTEIN Innovation Factory.

Photos:

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- 2. Fruitful proximity: the office areas in the Innovation Factory encourage close networking both in specific projects and across different functions. Optimized interfaces and shorter lead times are the outcome.
- 3. The production space, optimized for process oriented manufacturing, offers ample room for business growth.
- 4. Glass symbolizing transparency also dominates on the inside of the new complex with its three storeys and overall height of 14 metres.
- Quality seal for sustainable building: the WITTENSTEIN Innovation Factory has already been awarded the DGNB precertificate in gold.
- For all the latest information on the WITTENSTEIN Innovation Factory, see www.wittenstein.de

Texts and photographs in printable quality can be downloaded from http://www.wittenstein.de/presse.html.

WITTENSTEIN AG - one with the future

With around 1800 employees worldwide and sales of €250* million in 2013/14 (* provisional figure), WITTENSTEIN AG enjoys an impeccable reputation for innovation, precision and excellence in the field of mechatronic drive technology – not just in Germany but internationally. The group comprises eight pacesetting Business Units with separate subsidiaries for servo gearheads, servo actuator systems, medical technology, miniature servo units, innovative gearing technology, rotary and linear actuator systems, nano technology and electronic and software components for drive technologies. Through its 60 or so subsidiaries and agents in approximately 40 countries, WITTENSTEIN (www.wittenstein.de) is additionally represented in all the world's major technology and sales markets.

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