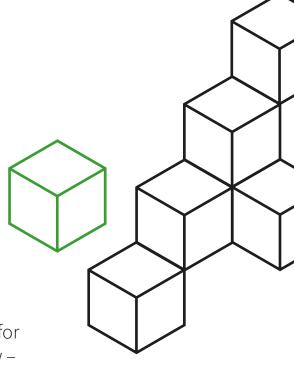




The pluggable, prefabricated electrical installation for the serial, modular building of today and tomorrow – innovated by **Wieland Electric.**



SKILLS SHORTAGE
HOUSING NEED
DIGITISATION
TIMEPRESSURES

Service of the servic

OUR ELECTRICAL INSTALLATION SOLUTION FOR THE ISSUES OF THE MOMENT





"

Welcome to the most revolutionary electrical installation for modular prefabrication."

Welcome to Wieland Electric – the global market leader in pluggable electrical installation!

For more than 40 years, with our gesis® and RST® installation connector systems, we have been supplying time-saving, prefabricated solutions for electrical installation in buildings – tested, safe, reliable.

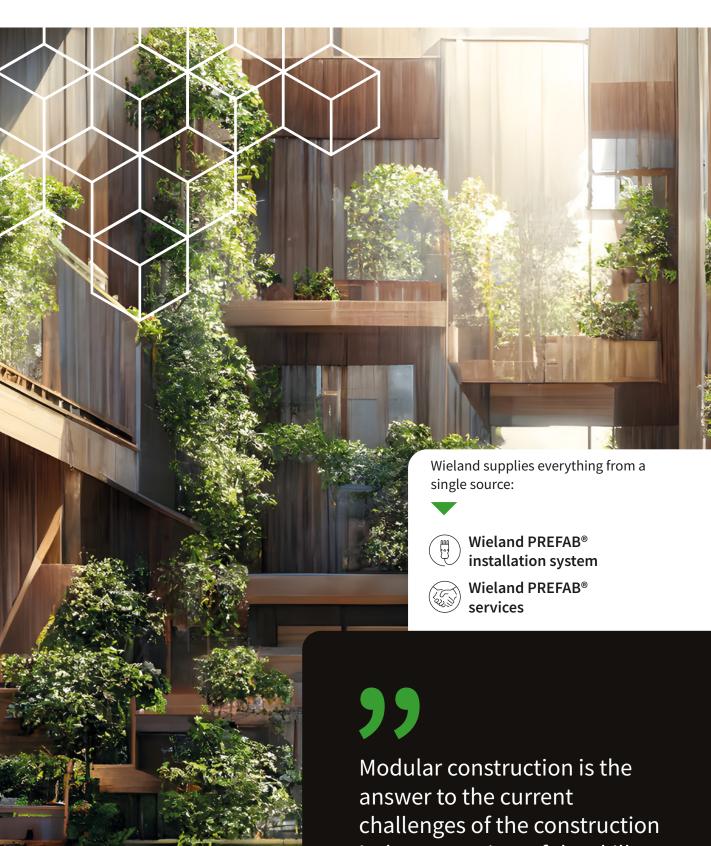
Our expertise has been extended and advanced with innovative solutions to enable us to create the Wieland PREFAB® modular system for electrical infrastructure in modular construction. Our philosophy remains unchanged: reducing construction time through industrial prefabrication. We believe that the future of construction lies in highly integrated modular construction and that PREFAB significantly increases the degree of integration for all construction methods.

Wieland PREFAB® embodies innovative thinking and a new way of working for the future – be inspired and benefit from the "innovation behind".

PETER KAUF

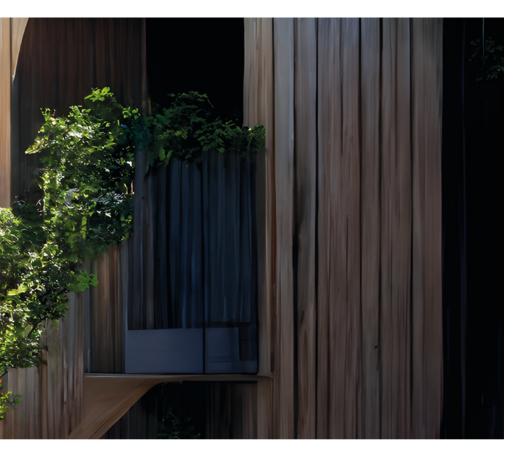
Head of Strategic Project Infrastructure & PREFAB



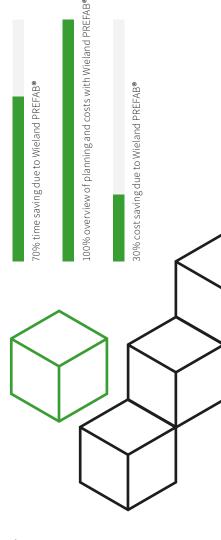


Modular construction is the answer to the current challenges of the construction industry. In view of the skills shortage and cost pressures, time-consuming activities in the factory and on the building site must be reduced to a minimum."





THE **CONSTRUCTION** OF THE FUTURE IS **MODULAR** + PLUGGABLE



optimized for industry.

Anyone who already integrates the electrical installation into industrial prefabrication during the construction of modular buildings saves on time, costs, and labor. The electrical trade is being revolutionized from the ground up with the completely pluggable Wieland PREFAB® solutions. Conventional production and construction processes can be optimized with the help of the Wieland PREFAB® modular system and Wieland PREFAB® services, both in the factory and on the building site. This saves on time, costs, and human resources.

sustainable.

The electrical installation is a key aspect of the construction of sustainable buildings. Due to the high degree of prefabrication and plug & play functionality, Wieland PREFAB® solutions are particularly suitable for modular types of construction. The installation can be carried out quickly, safely, and easily from the distributor to the socket. The concept also allows for subsequent changes and dismantling. As a result, the Wieland PREFAB® electrical installation is not only efficient, but also sustainable.

cooperative.

Wieland Electric sees itself as a versatile partner – with products, systems, and services. We advise and support building owners, architects, planners, and companies, from the building planning stage through to realization, with customized solutions to suit their needs, all from a single source. Let us benefit from each other's know-how and work together to achieve the goal of more buildings in less time. Trust in us and build with us.



Our gesis® and RST® installation connector systems, now firmly established in building construction, conform to standards and are continuously being refined and optimized. Special tests have now ensured the suitability of the gesis® CLASSIC and RST® CLASSIC Wieland PREFAB® series for industrial, modular building production. Both systems can be installed without any hesitation in areas that are no longer accessible at a later stage, such as walls, insulation material, or concrete – to date, they are the only ones on the market for which this can be done.

Applications in which Wieland PREFAB® systems are used >



Modular and prefabricated timber and steel construction



Modular concrete construction



Prefabricated components



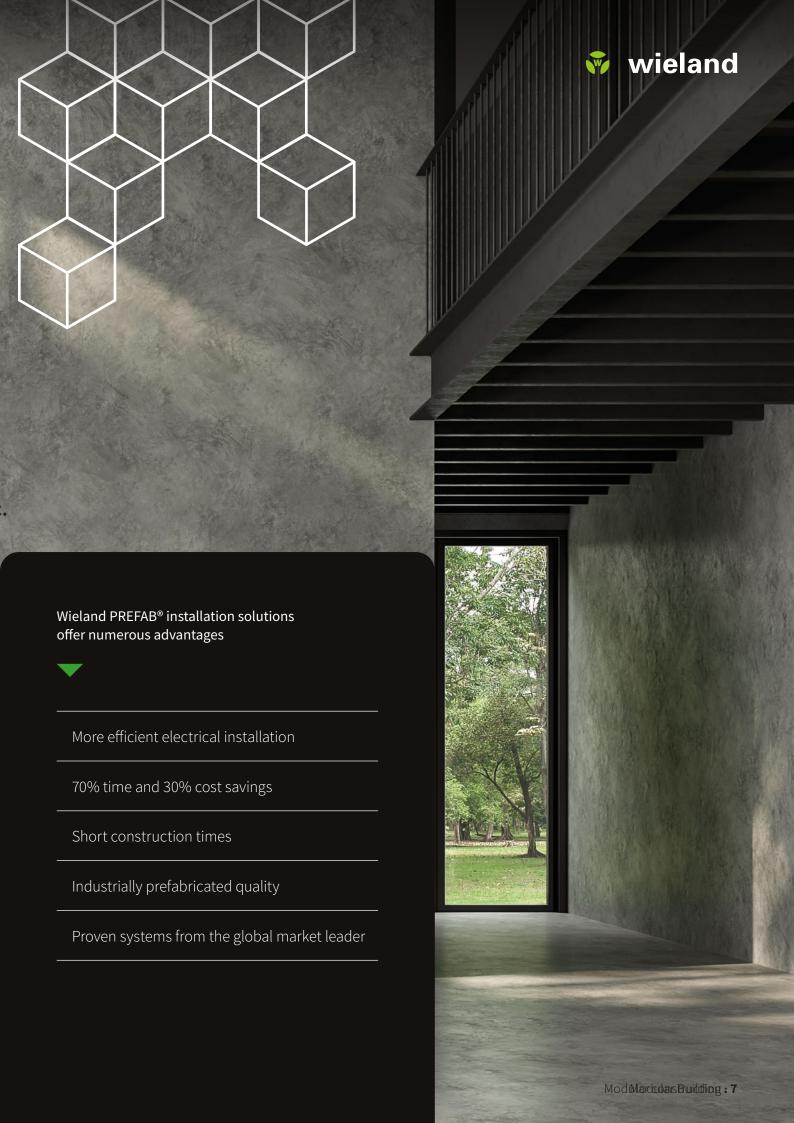
Complete room



Room-in-room modules



Container modules







Wieland PREFAB® CONCEPT SERVICE

We will advise you on possible applications and on how to integrate Wieland PREFAB® into your process. Based on this, we will develop a scalable concept with a common goal. The result: A reference plan for the electrical infrastructure that is tailored to your requirements – the innovative basic concept for all your future projects.



Wieland PREFAB® CUSTOMER SERVICE

We will define a reference shopping cart tailored to your requirements, from which you can retrieve all the systems products you will need for your future construction projects. The components contained will be made ready to be plugged straight in. System modules, such as distributors, sockets, switch units, or complete installation profiles, will be custom-made for you.



Wieland PREFAB® LOGISTIC SERVICE

You can retrieve coordinated supplies for your projects from your cart. This saves time and simplifies on-site execution. We will deliver on schedule to your desired address – factory or building site. For this purpose, we will pick the system components by order and combine them logically by room, installation section, or level. We will gladly complete products for you with customized labeling or assembly instructions.

Wieland PREFAB® project cycle – as a strong partner, we will support you at every stage.

We are a professional partner to all manufacturers of industrially prefabricated buildings and components and supply industrially prefabricated, electrical infrastructure. Following the philosophy of "everything from a single source", Wieland Electric offers not just product solutions, but also a comprehensive and needs-oriented Wieland PREFAB® service portfolio that takes into account all planning and logistics aspects and can be adapted individually to customer needs and the construction process.

Interested?

We are happy to advise you!





for planners + architects.

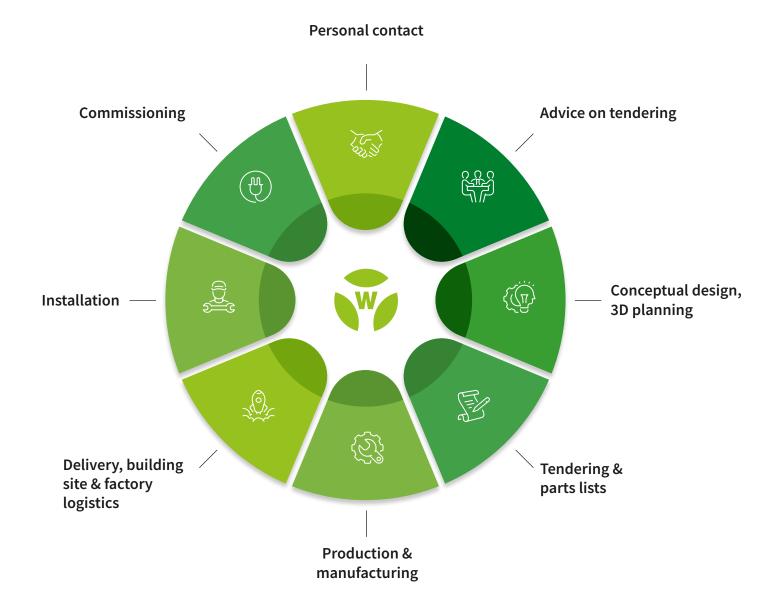
Wieland Electric offers a comprehensive personalized service that includes advice and digital planning support right up to the creation of the parts lists.

for on-site installation.

The introduction of prefabricated installation solutions has a positive impact on project costs and installation time. The efficiency of the building site is increased.

for factory production.

Wieland Electric works with you to design and optimize serial factory installation. Processes and components are standardized and the degree of integration is maximized. This saves on time, costs, and labor.





WIELAND PREFAB® – THE WORLD FIRST FOR THE FACTORY PRODUCTION OF CONCRETE MODULES

innovative + revolutionary.

What was previously laborious is now made quick and easy: The moisture protected RST® CLASSIC cabling (IP69 protection rating) is installed in precast concrete elements at the factory easily without any empty conduits. This approach to handling and installation is a world first in practice and transforms the traditional installation in concrete construction from the ground up – with revolutionary advantages.

quick + pluggable.

The system components are planned, pre-assembled, and delivered. In place of empty conduits, they are then inserted into the element formwork in the component plant, plugged together, and then cast with concrete together with the steel reinforcement. Only small RST® CLASSIC interfaces remain freely accessible for pluggable connection of the concrete elements. There is no need for subsequent cable pulling and installation.

safe + durable.

RST® CLASSIC is resistant to moisture and is extremely durable and reliable due to the use of high-quality materials and state-of-the-art technologies, making it an ideal solution for use in the factory production of concrete modules. Suitability for this special application has been proven by extensive testing.





"

We are proud to offer this innovative solution that will transform the degree of integration in precast concrete construction."

Wieland PREFAB® installation solutions in concrete offer numerous advantages





Increase in the degree of prefabrication

Eligible for concrete construction

Solution for skills shortages

No empty conduits required

Can be installed directly in concrete

Significantly reduces the construction time



Wieland PREFAB® – discover the future of modular concrete construction The innovation behind >





WIELAND PREFAB®

AS A PLUGGABLE SOLUTION FOR FACTORY PRODUCTION IN **DRY CONSTRUCTION**

optimized for industry.

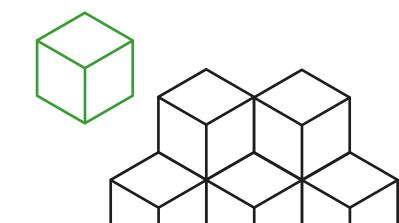
Our gesis® CLASSIC installation system is perfect for electrical installation in modular prefabrication in dry construction. It is part of the Wieland PREFAB® modular system and the innovative solution for the pluggable infrastructure cabling of buildings or building parts.

serial + complete.

With the Wieland PREFAB® modular system, the complete electrical installation can be modeled and designed for factory pre-assembly. Alongside the gesis® CLASSIC connector, prefabricated sub-distributors, installation profiles, sockets, and switching points complete the universally pluggable infrastructure.

pluggable + quick.

Say goodbye to complicated wiring and cluttered cables. There is no need for the laborious processes of stripping cables, shortening cables, and wiring thanks to the prefabrication of pluggable cables and components. All gesis® CLASSIC product groups complement each other and enable a cost-effective installation with 70% time and 30% cost savings.







"

Our pluggable electrical installation for modular dry construction with timber and steel further optimizes factory production in terms of quality and cost efficiency."

Wieland PREFAB® – discover the future of modular dry construction

The innovation behind >



All-in-one solution

70% time saving

Maximum degree of integration

Excellent standard of quality

Easy installation without specialist personnel



Wieland PREFAB® installation solutions for on-site use in



Suspended ceilings

Raised floors and underfloor systems

Drywalls

Cable support systems and ceiling ducts

Floor and plinth ducts

Prepared wall cut-outs for complete PREFAB installation profiles

"

Even for prefabricated buildings that are still erected without a factory-integrated electrical installation, the Wieland PREFAB® system is the best choice to shorten construction times. On the building site, only plugging and no longer wiring is done."

Wieland PREFAB® – Installation and use directly on the building site

The innovation behind >





PLUG & PLAY INSTALLATION OF WIELAND PREFAB® SOLUTIONS ON THE BUILDING SITE

on schedule.

Prefabricated components and elements are the solution, especially in efficient and timely construction. Our Wieland PREFAB® modular system with the gesis®CLASSIC and RST®CLASSIC installation connector systems provides the appropriate electrical infrastructure. It will be easier for the electrical trade to overcome the ever increasing time pressures on the building site.

coordinated.

Wieland PREFAB® can be used universally for all building construction projects – whether they involve dry or concrete construction. Through early coordination as part of our Wieland PREFAB® service, the components and modules can be designed in a way that creates the necessary installation space.

ready to connect.

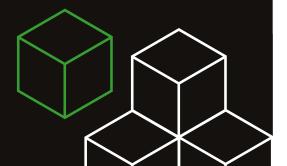
The Wieland PREFAB® system includes pluggable sub-distributors, decentralized system distributors, and controllers as well as pre-assembled sockets and control points. Even plugin designer installation profiles that have already been equipped with all room functions can be flush-mounted in prepared wall niches – with maximum savings on time and labor.



WIELAND PREFAB® MODULAR SYSTEM – QUITE SIMPLY EVERYTHING HAS BEEN THOUGHT OF

Wieland PREFAB® installation profiles > Complete room functions pre-installed ready to plug in

All building functions can be mapped entirely with the Wieland PREFAB® modular system."



Sample Wieland PREFAB® application with powerline



Wieland PREFAB® Distribution box pre-installed ready to plug in



Wieland PREFAB®
Infrastructure
industrially prefabricated

Wieland PREFAB® User interfaces pre-assembled sockets + switch programs



SMART WIELAND PREFAB® CONTROL SOLUTIONS

alternatives.

Other customer-specific control technologies, such as the radio systems EnOcean, Zigbee, and Bluetooth LE, as well as analog circuits with corresponding gesis® CLASSIC blocks of switches, can also be realized on request.

expansion options.

Wieland PREFAB® installations with KNX and powerline offer not only basic Smart Home functions but also the prerequisite for future IP-based Smart Home systems with app control or cloud services. The Wieland PREFAB® powerline controller integrates the measurement of the energy consumption of individual circuits and electrical devices.

central controller with star topology.

The Wieland PREFAB® distribution box contains all the protective devices for the low-voltage circuits and is also equipped with KNX components for controlling lights, blinds, and other building functions. All luminaires, motors, and other electrical consumers are supplied by the Wieland PREFAB® distribution box in a star topology. In parallel to the gesis® CLASSIC/RST® CLASSIC infrastructure, pluggable bus cabling is used.

decentralized control with decentralized topology.

Our Wieland PREFAB® distribution box contains all the protective devices for low-voltage circuits. Equipped with basic KNX supply, it supplies the socket circuits and the decentralized KNX control modules. Luminaires, motors, and switches are plugged into decentralized KNX system distributors. In parallel to the gesis® CLASSIC infrastructure, pluggable gesis® NV bus cabling is used.

decentralized powerline control in pluggable bus topology.

Electrical devices such as luminaires, blinds, radiators, and pushbuttons can be plugged into the gesis®/RST® infrastructure and networked with the help of powerline technology. There is no need for a separate lead for the building controller. The Wieland PREFAB® powerline solution is configured for the basic functions of lighting and shading using plug & play. It is extremely easy to implement, making it ideal for modular construction.





INNOVATION THROUGH WIELAND PREFAB® TOOL SUPPORT

The digital 3D model of your pluggable electrical infrastructure made quick and easy.

> COMING SOON!

Wieland PREFAB® DIGITAL PARTNER

Become a digital partner and let us teach you how to use the planning tools. Our experts look forward to working with you!

Wieland PREFAB® software Find out more >





BSC BUILDING SOLUTIONS CONFIGURATOR

- Online tool
- Wieland PREFAB® application schemas with just a few clicks
- Further use of the application schemas in the BSD

BSD BUILDING SOLUTIONS DESIGNER

- 3D planning tool for pluggable electrical infrastructure
- Use of BSC application schemas
- Data exchange with established 3D and BIM planning software through IFC import/export
- Generation of Wieland PREFAB® parts lists for the subsequent digital process

BIM BUILDING INFORMATION **MODELING**

Digital twin of the building. Enables collaboration independent of time and place, and improves data consistency in the planning process.

tool support.

BIM plans offer many advantages, especially in industrial prefabrication and modular construction. All the information required for the series production of highly integrated components and the interplay between various trades can be seen on the digital twin. Wieland Electric has started developing digital tool support for its PREFAB customers so that the pluggable electrical infrastructure can also be included in 3D planning.

application planning.

The selection of suitable PREFAB reference applications is supported by the BSC even in the early conceptual phase. The application schema generated is supplemented as the project progresses until the PREFAB infrastructure is mapped entirely in 3D in the BSD. Data can be exchanged easily at any time with the usual 3D planning tools using import and export functions.

digital + then real.

The individual products for the customer-specific Wieland PREFAB® solutions are determined using the BSD; these are the starting point for the subsequent digitally supported process through to series production and customized delivery.

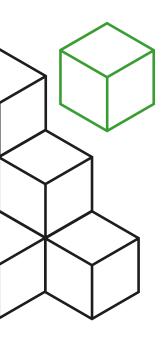
Modula

Advantages of our Wieland PREFAB® software tools: Initial application schemas with just a few clicks End-to-end tool chain, efficient planning process IFC Import/export with established 3D software tools Transparent parts list and basis for calculations



INTERVIEW WITH ISOLECTRA BV PLUG & PLAY ELECTRICAL INSTALLATION IN PRECAST CONCRETE CONSTRUCTION

Dutch company Isolectra BV, based in Rotterdam, is a specialist in pluggable electrical installation in buildings and public spaces. When it comes to modular construction, Isolectra enables the installation to be poured directly into precast concrete parts, using Wieland PREFAB® solutions portfolio. Casper Bontenbal, Marketing Manager at Isolectra, provides an insight into the process and explains the benefits of the system.



What requirements and challenges are associated with electrical installation in precast concrete construction?

It goes without saying that the installation must be resistant to the chemicals in the concrete and able to withstand the conditions during casting and hardening of the concrete. In addition, the electrical installation must meet all the requirements set and be appropriately tested and certified. Finally, it must be easy to connect the electrical installations in the poured concrete parts. This sounds logical and simple, but it is difficult to achieve.

Why did you opt for Wieland Electric as a partner, and what are the benefits of using Wieland RST® CLASSIC and Wieland PREFAB® solutions?

How could we have chosen anything other than the products of our trusted partner Wieland Electric, the inventor of the pluggable installation?

Quite apart from this, Wieland offers the watertight RST® CLASSIC installation system, which has proven its reliability in harsh conditions for many years now. When we were looking for a way to cast the electrical installation directly into precast concrete parts, our first choice was easy: RST® CLASSIC already fulfills a broad range of the requirements for such installations, including IP69 protection, watertightness, chemical resistance, mechanical robustness, a long life expectancy, and appropriate electrical specifications. The connector

system did not have to be changed. All we needed to do was to make the right cable, perform the endurance tests, and start the certification process.

In which projects have you used the Wieland solutions so far?

We have already supplied prefabricated concrete installations for many house projects. Starting with five pilot projects in 2020, we have now implemented installations for hundreds of houses. These installations have been cast into prefabricated floors and walls, making them "pluggable" on site. Many of these houses were produced and then built in the Netherlands, but some houses were even exported to the Caribbean as a kit and assembled abroad.

Can you tell us about the feedback you have received from customers? What experiences have your customers had so far in terms of cost savings and process benefits?

Our customers are thrilled. The benefits, especially the rationalization and acceleration of the construction process, are obvious. The elements of the building are delivered pre-assembled. On the building site, they are then simply plugged together and the system is ready to be connected to the control cabinet – also via plug & play. This not only reduces time and costs, it also requires fewer people and less traffic on the building site. This makes planning easier and cuts down carbon and nitrogen

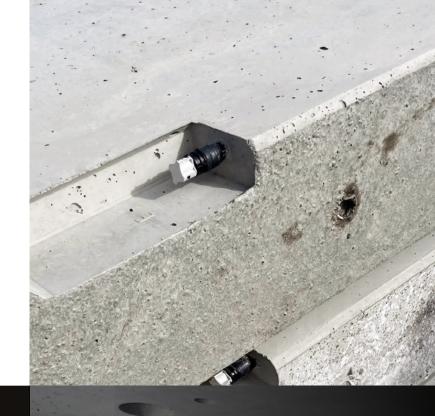


CASPER BONTENBALMarketing Manager at Isolectra BV

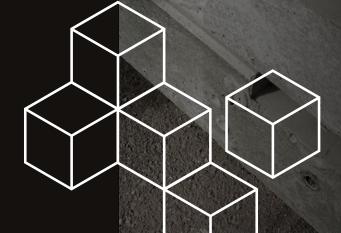
emissions. However, it is very important to thoroughly educate all parties involved in the process about the thinking behind pluggable installation and about how to handle the products.

In your opinion, how will the market for plug & play installation in precast concrete construction develop over the next five to ten years?

Due to the high demand for more and affordable houses in the Netherlands, at a time when skilled workers are in short supply, combined with the need to reduce carbon and nitrogen on building sites, we expect to see a very strong increase in modular buildings, especially prefabricated houses. Most of them will be prefabricated concrete houses or hybrid houses with prefabricated concrete floors and timber walls. There are numerous innovative initiatives and several companies building factories to produce prefabricated houses. We are confident that the market for prefabricated houses will continue to grow in the coming years.



We expect to see a very strong increase in modular buildings. Most of them will be prefabricated concrete houses or hybrid houses with prefabricated concrete floors and timber walls."





STANDARDIZED SAFETY AND UNIQUE QUALITY





Suitability for use in factory prefabrication with modular construction has been proven for the two series gesis® CLASSIC and RST® CLASSIC with specific tests. They now meet all the specific requirements for incorporation into walls, insulation material, and concrete and can be used without hesitation.

Compliant use

All connections maintenance-free

Product tests and test procedures as per IEC/EN standards

Eligible for application in excess of product standards

Quality from the global market leader Made in Germany

Tried, tested, and continuously enhanced for use for over 40 years

accredited and approved.

Our installation connector systems are developed and manufactured according to special product standards and meet all legal requirements. They have been established in the electrical installation of buildings for over 40 years and have proven their quality there a million times over.

According to the applicable installation regulations and extensive suitability tests, the Wieland PREFAB® systems gesis® CLASSIC and RST® CLASSIC can also be used in inaccessible areas. This was confirmed by an independent expert opinion.

expert safety included.

Our experts have compared the entire body of standards and regulations for pluggable electrical installations. The standards situation is clear: The pluggable electrical installation constructs an electrical system. This must be planned and executed by skilled personnel, or execution must be monitored and approved by skilled personnel. To this end, the installation regulations must be adhered to and country specifications must be observed. The experts from Wieland Electric are also on hand here to answer any questions you may have.









EN 61535





"

Our gesis® CLASSIC and RST® CLASSIC installation couplers are suitable and approved for permanent use in inaccessible areas"

successful together.

There is no faster, safer, or easier installation than the pluggable, modular electrical installation. With a successful suitability test, we have created perfect prerequisites for the use of our connectors in modular construction. Get to know our Wieland PREFAB® system, let our experts support and advise you – together we can realize the electrics in a future-oriented manner.

We stand by your side as a partner



Analysis of the actual situation with a proposal for a Wieland PREFAB® pluggable installation

Selection of the Wieland connector systems to be used

Analysis of country specifications for international projects

If required, explanation of the normative basis for usability

Support for the qualification of assembly workers



SUCCESS STORY

Wieland PREFAB® project partner – plug & play for factory installation.

WOLF System GmbH, based in Osterhofen in Lower Bavaria, is one of the most productive companies in the construction industry. In addition to container, agricultural, steel, industrial, and commercial construction, the company's service portfolio also includes the planning, production, and erection of prefabricated houses. For the electrical installation of modular buildings, the experts at WOLF rely on Wieland PREFAB® solutions and benefit from a high degree of planning certainty and smooth construction processes.

The demand for prefabricated houses continues to increase. Key factors in this decision are speed and standardized production quality. We provide support with detailed planning and product picking per wall and house, and we deliver directly to the production lines within the defined time frame. WOLF-HAUS and other renowned prefabricated house manufacturers already rely on Wieland PREFAB® products and services.

Our portfolio for **WOLF-HAUS**

- gesis® CLASSIC cables
- gesis® CLASSIC distributors
- gesis® CLASSIC distribution boxes



SABRINA ZIEGLER

Master Electrician for Energy and
Buildings • Wolf System GmbH

"We started doing modular construction three years ago, and we have been working with Wieland Electric ever since – firstly on the model houses and then on the prefabricated houses for our end customers. At that time, we were looking for someone who could make individual plans for us and who was willing to build, dismantle, and rebuild the modular house with us in the factory – without much effort.

We send our plans to Wieland Electric and get back a plan showing the pluggable components of the electrical installation. The pluggability of the Wieland system enables us to simply plug the electrical installation back together on the building site in a plug & play manner using small boxes where the modules join together. Then the electricity is there and everything is perfect!"





WIELAND PREFAB® PARTNERS

A strong network for a complete plug & play solution.

The core competence of Wieland Electric is the gesis® and RST® connectors. These enable the plug & play functionality of Wieland PREFAB®. For a complete Wieland PREFAB® electrical installation solution, we pre-assemble the necessary products, such as distribution boxes, controllers, sockets, and control points, in a pluggable manner.

Benefit from our partner network or make your own choice >















REAL REFERENCES

Our products and services have already been used successfully in countless national and international construction projects.



THYSSENKRUPP Headquarters Essen



THE CIRCLE (Offices + Hyatt Hotel) Zurich Airport



MARIENTURM Frankfurt



PETRONAS TOWERS Kuala Lumpur, Malaysia



YOUR WIELAND PREFAB® CONTACTS



WOLFGANG LOHR Advice + support for your PREFAB concepts



CHRISTIAN MERKEL
Advice + support for your
PREFAB concepts



SVEN GÜNTHERPoint of contact for international projects



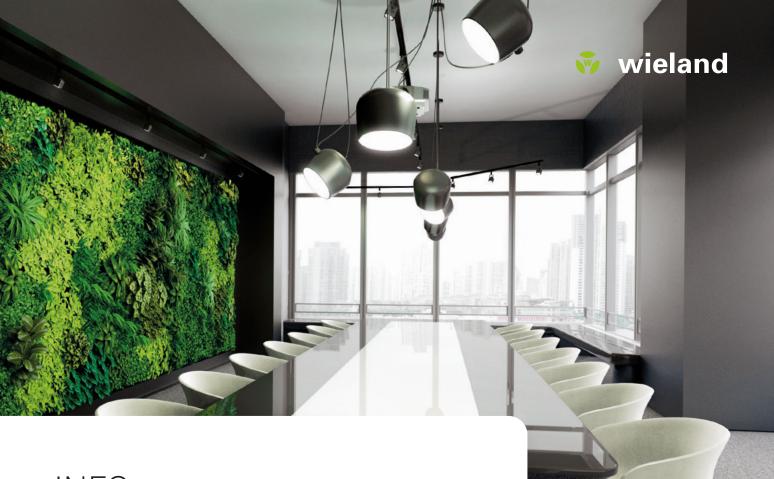
THOMAS NIEBORG
Expert in digital PREFAB tools +
system integration



ANDREAS FENN
Expert in suitability testing +
use of our connectors



PETER KAUFHead of Strategic Project
Infrastructure & PREFAB







All Wieland Electric brochures are available for download here

https://www.wieland-electric.com/en/support/downloads



GESIS® CATALOG

Pluggable electrical installation for indoor use

Art. No. 0670.1



RST® CATALOG

Pluggable electrical installation with the highest IP rating

Art. No. 0690.1



GESIS® RAN DISTRIBUTION BOXES

Decentralized energy, signal, and data distribution for smart buildings

Art. No. 0702.1

Together we will find the solution for you:





PREFAB & Building Solutions



2 +49 951 9324-996



prefab@wieland-electric.com

Wieland on YouTube > Watch our solutions in action

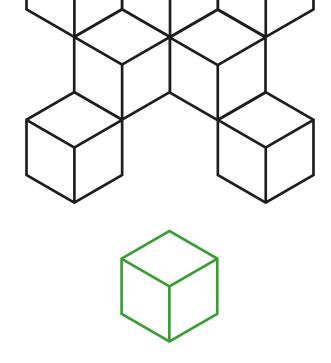




HEADQUARTERS

Wieland Electric GmbH Brennerstrasse 10 – 14 96052 Bamberg · Germany

Phone +49 951 9324-0 Fax +49 951 9324-198 info@wieland-electric.com



Represented in over 70 countries worldwide: