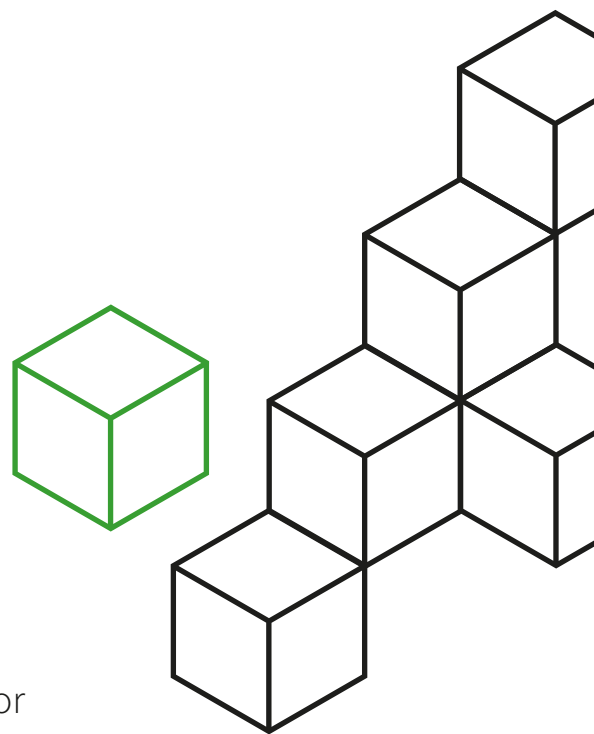


wieland

WIELAND **PRE** **FAB**[®]

The innovation behind.

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



SKILLS **SHORTAGE**
HOUSING **SHORT-**
T A G E
DIGITISATION
TIME **PRESSURES**

PRE **E** FAB

OUR **ELECTRICAL**
INSTALLATION
SOLUTION FOR
THE **ISSUES** OF
THE **MOMENT**



”

Welcome to the most revolutionary elec- trical installation for modular prefabrication.”

Welcome to Wieland Electric –
the global market leader in pluggable electrical installa-
tion!

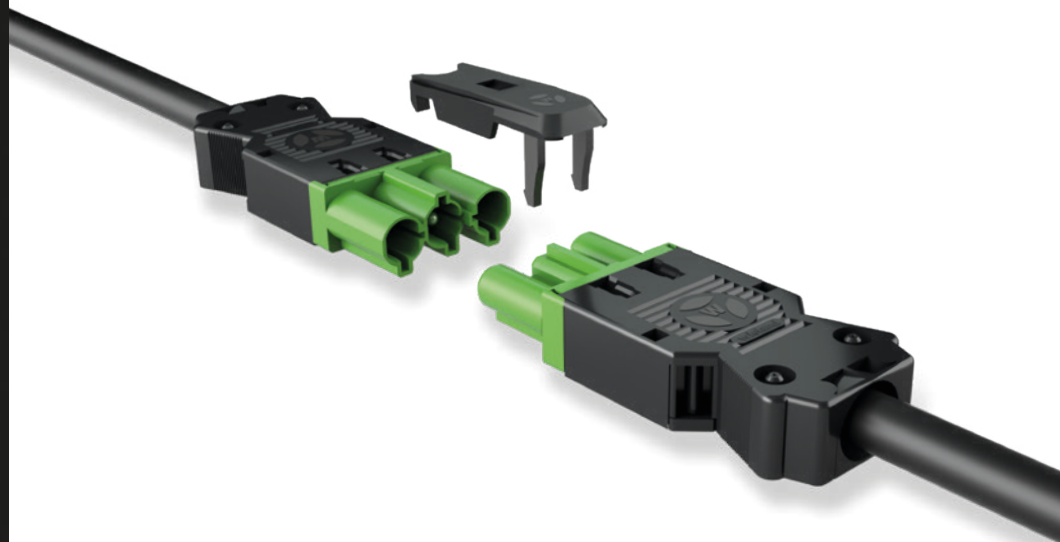
For more than 40 years, with our gesis® and RST® installati-
on connector systems, we have been supplying time-sa-
ving, prefabricated solutions for electrical installation in
buildings – tested, safe, reliable.

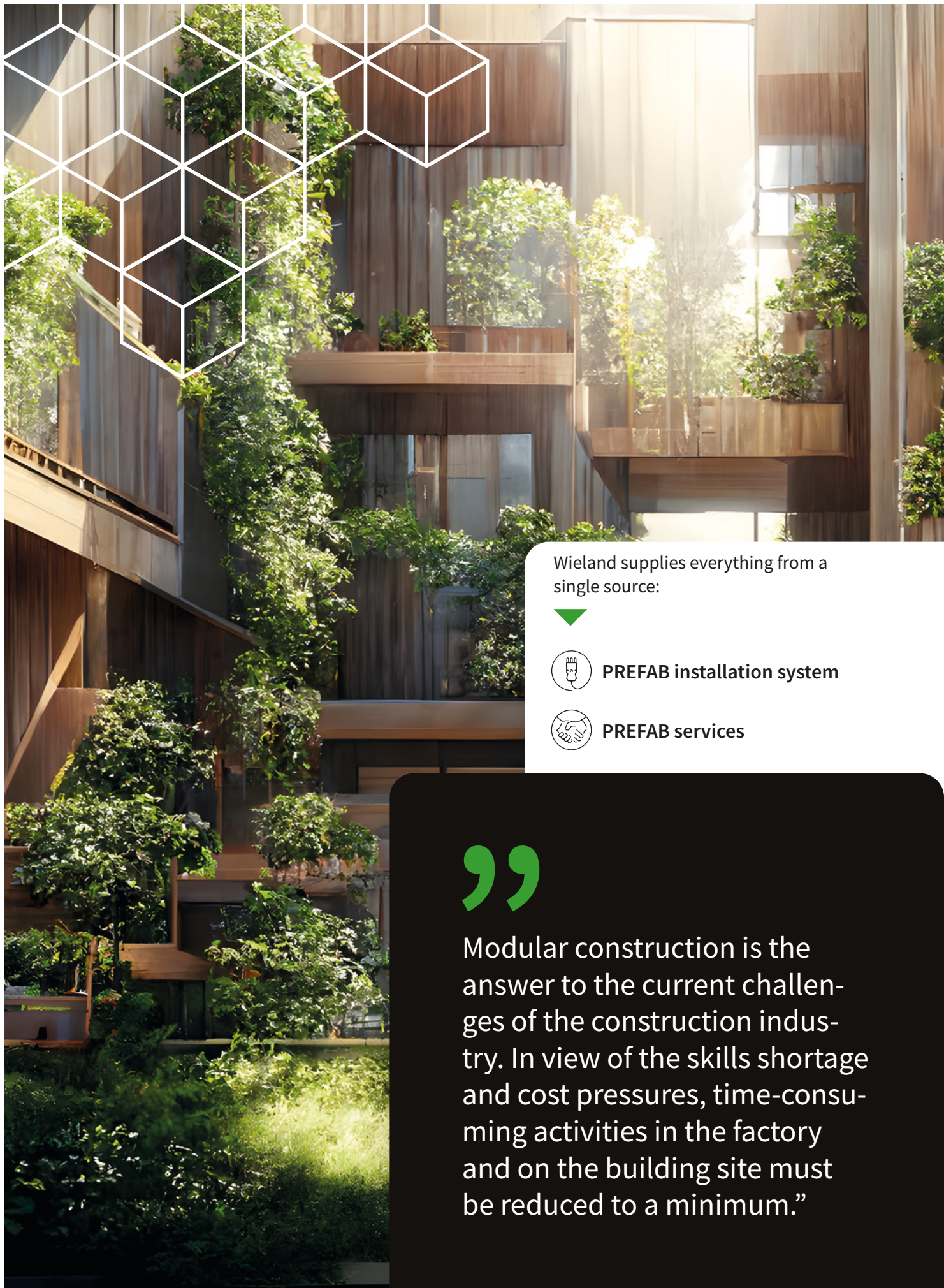
Our expertise has been extended and advanced with
innovative solutions to enable us to create the PREFAB
modular system for electrical infrastructure in modular
construction. Our philosophy remains unchanged: redu-
cing construction time through industrial prefabrication.
We believe that the future of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

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





Wieland supplies everything from a single source:



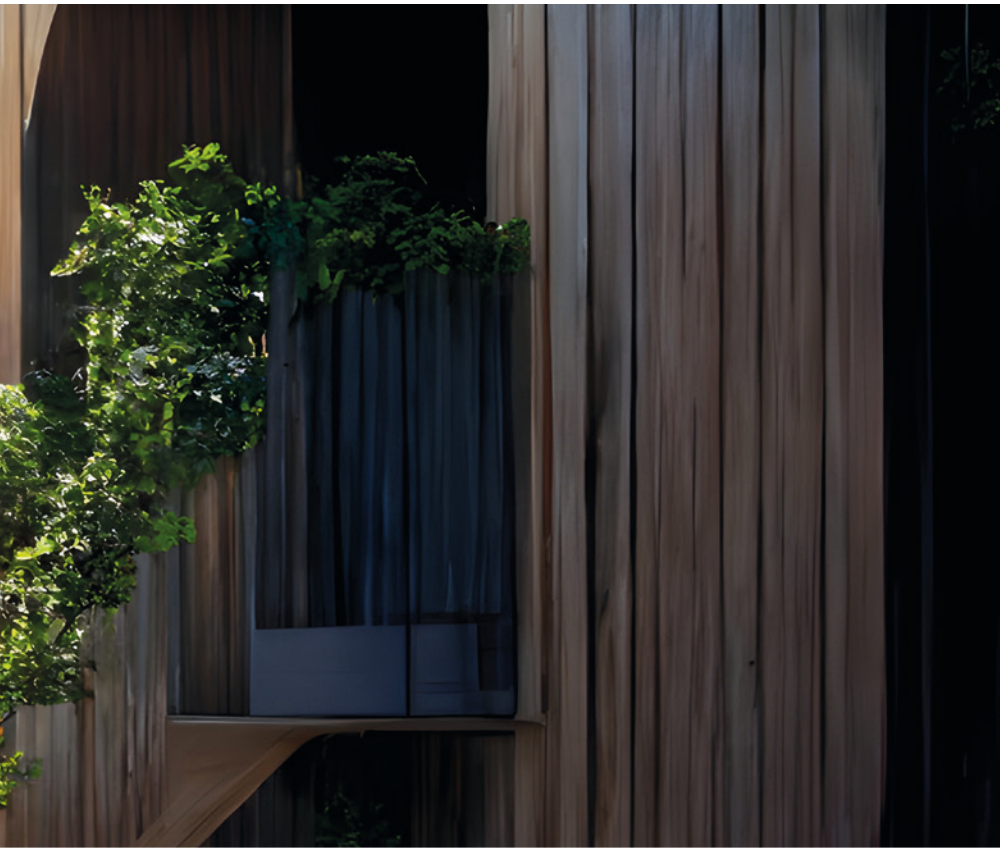
PREFAB installation system



PREFAB services

”

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.

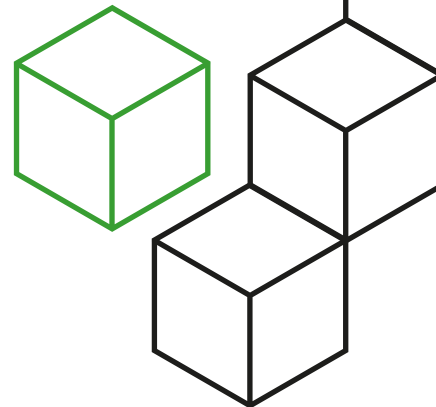
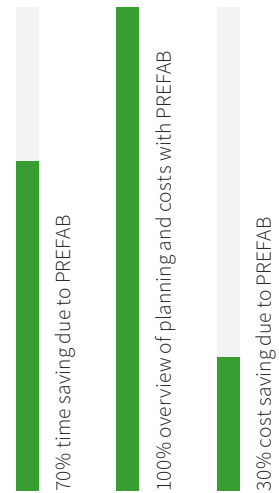
Anyone who already integrates the electrical installation into industrial prefabrication during the construction of modular buildings saves on time, costs, and labor. The electrical trade is being revolutionized from the ground up with the completely pluggable PREFAB solutions from Wieland. Conventional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





PLUGGABLE **INSTALLATION** SOLUTIONS FOR **MODULAR** CONSTRUCTION

PREFAB – the prefabricated modular system for pluggable electrical installation innovated by Wieland Electric.



gesis®



RST®

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 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 concrete construction



Modular concrete construction



Prefabricated components



Complete room units



Room-in-room modules



Container modules



wieland

Wieland PREFAB® installation solutions
offer numerous advantages



More efficient electrical installation

70% time and 30% cost savings

Short construction times

Industrially prefabricated quality

Proven systems from the global market leader





SERVICE OFFERING FOR PLANNERS, ARCHITECTS, INSTALLERS, FACTORY PRODUCTION



PREFAB CONCEPT SERVICE

We will advise you on possible applications and on how to integrate 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.



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.



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.

**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 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.

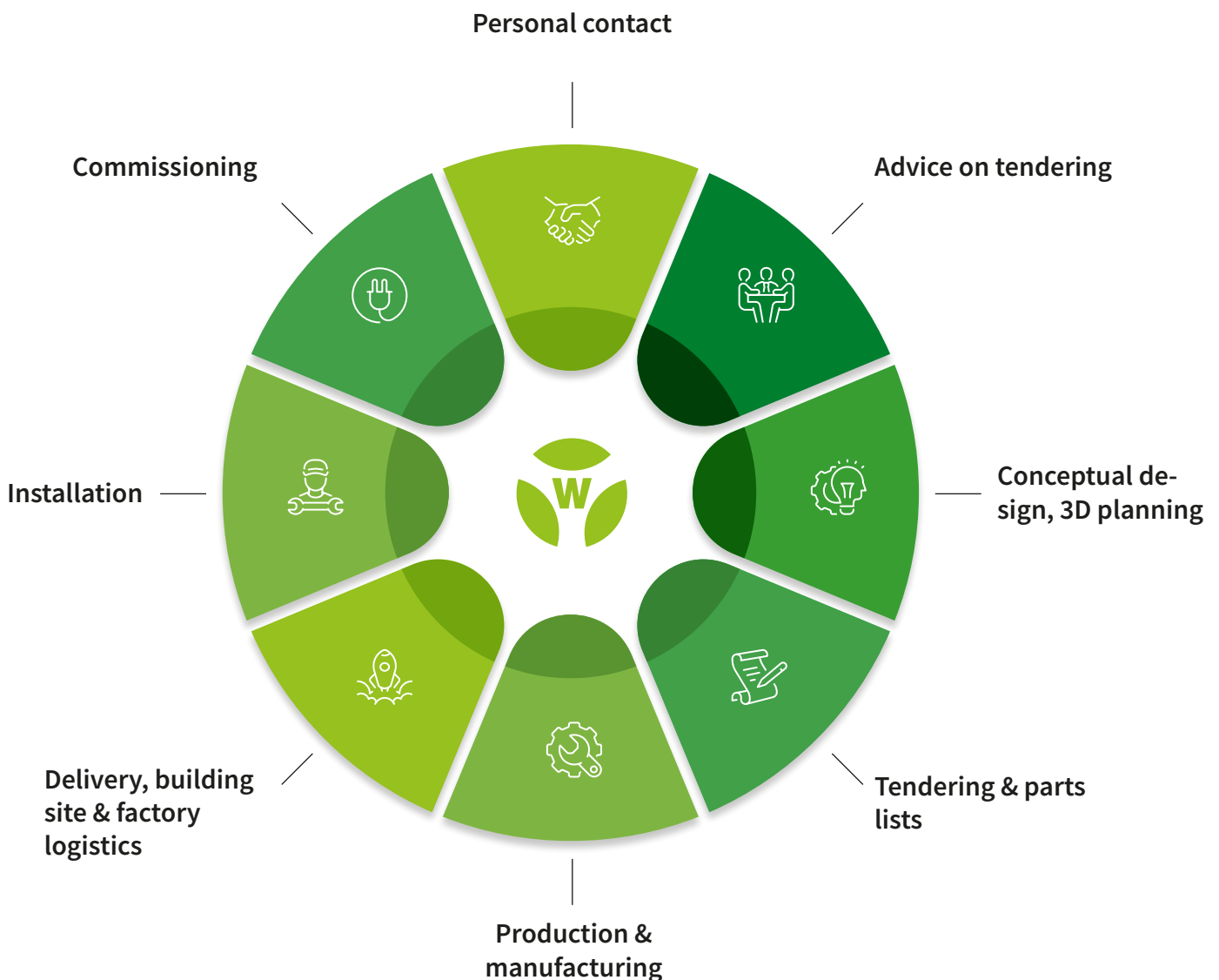
Wieland Electric offers a comprehensive personalized service that includes advice and digital planning support right up to the creation of the parts lists.

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.





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.

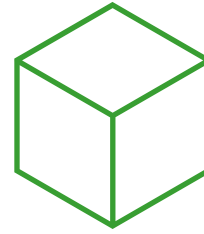
The system components are planned, pre-assembled, and delivered. In place of empty conduits, they are then inserted into the element formwork in the component plant, plugged together, and then cast with concrete together with the steel reinforcement. Only small RST®CLASSIC interfaces remain freely accessible 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.



wieland



”

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

Wieland PREFAB® installation solution 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 >





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

optimized for industry.

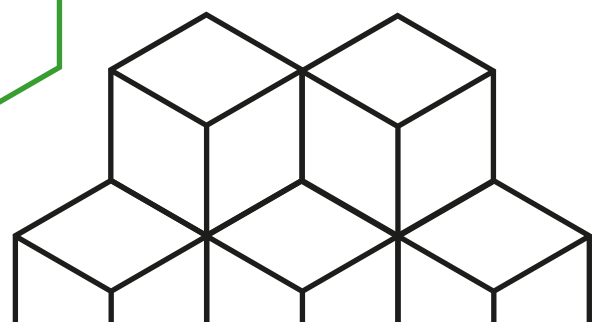
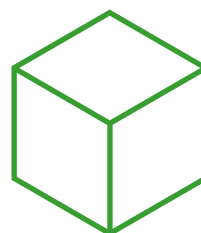
Our gesis® CLASSIC installation system is perfect for electrical installation in modular prefabrication in dry construction. It is part of the PREFAB modular system and the innovative solution for the pluggable infrastructure cabling of buildings or building parts.

serial + complete.

With the 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 PREFAB system is the best choice to shorten construction times. Everything is simply pluggable on the building site, with wiring no longer required.”

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

The innovation behind >





PLUG & PLAY INSTALLATION OF **PREFAB** SOLUTIONS ON THE **BUILDING SITE**

on schedule.

Prefabricated components and elements are the solution, especially in efficient and timely construction. Our 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.

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

ready to connect.

The PREFAB system includes plug-gable sub-distributors, decentralized system distributors, and controllers as well as pre-assembled sockets and control points. Even plug-in 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.

PREFAB MODULAR SYSTEM – QUI- TE SIMPLY **EVERYTHING HAS BEEN THOUGHT OF**

PREFAB installation profiles >

Complete room functions
pre-installed ready to plug in

”

All building functions can
be mapped entirely with
the PREFAB modular sys-
tem.”

Sample PREFAB application with powerline



PREFAB distributor
pre-installed ready to
plug in



PREFAB infrastructure
industrially prefabricated



PREFAB user interfaces
pre-assembled sockets +
switch programs

More info
online >



SMART 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.

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 PREFAB powerline controller integrates the measurement of the energy consumption of individual circuits and electrical devices.

central controller with star topology.

The PREFAB distributor 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 PREFAB distributor in a star topology. In parallel to the gesis® CLASSIC/ RST® CLASSIC infrastructure, plug-gable bus cabling is used.

gesis® FLEX controller with decentralized topology.

Our PREFAB distributor contains all the protective devices for low-voltage circuits. Equipped with basic KNX supply, it supplies the socket circuits and the decentralized gesis® FLEX KNX control modules. Luminaires, motors, and switches are plugged into gesis® FLEX. 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 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.



DIGITAL CONSTRUCTION – INNOVATION THROUGH PREFAB TOOL SUPPORT

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

PREFAB DIGITAL PARTNER

Become a PREFAB 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 ➤



COMING
SOON!

BSC BUILDING SOLUTIONS CONFIGURATOR

- Online tool
- 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 import/export
- Generation of 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 PREFAB solutions are determined using the BSD; these are the starting point for the subsequently supported process through to series production and customized delivery.

Advantages of our PREFAB software tools:



Initial application schemas with just a few clicks

End-to-end tool chain, efficient planning process

Import/export with established 3D software tools

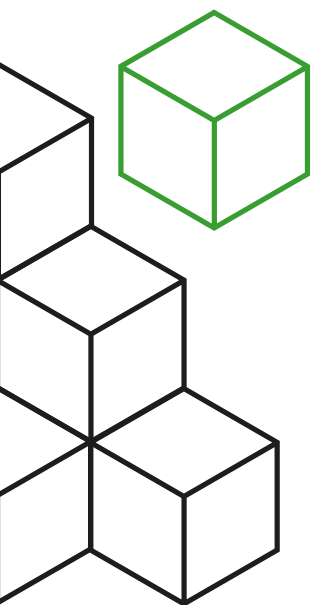
Transparent parts list and basis for calculations



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 Electric's 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 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 emis-



CASPER BONTENBAL

Marketing Manager at Isolectra BV

sions. 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.

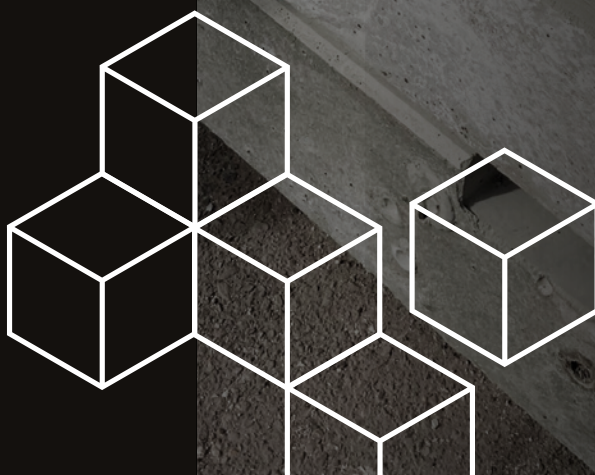
In your opinion, how will the market for plug & play installation in precast concrete construction develop over the next five to ten years?

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.



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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 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 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 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

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 PREFAB solutions from Wieland Electric 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 PREFAB products and services from Wieland Electric.



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!”

Our portfolio for **WOLF-HAUS** >

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



PREFAB SYSTEM 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 PREFAB. For a complete PREFAB electrical installation solution, we pre-assemble the necessary products, such as distributors, controllers, sockets, and control points, in a pluggable manner.

Benefit from our partner network or make your own choice >

PREFAB system partner network:



Plug+go with gesis® pre-assembled sockets and switch units as well as KNX devices.



Recessed receptacles, junction boxes, and distributor housings for modular construction using dry methods and concrete.



Proven powerline technology, pre-assembled in a pluggable manner for the gesis® and RST® infrastructure.

OPTION 1: You define your desired system products

We assemble your desired products with our connectors and make them PREFAB-ready.

OPTION 2: You use system products from the partner network

Our partners' products have already been optimized for PREFAB use.

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

”

As a professional, you know exactly where you need support. As professionals, we know what this should look like. Contact us – the best way is for us to chat in person about how we can support you.”

YOUR **PREFAB** CONTACTS



WOLFGANG LOHR

Advice + support for your
PREFAB concepts



LEROY MCINTURFF

Advice + support for your
PREFAB concepts



SVEN GÜNTHER

Point 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 KAUF

Head of Strategic Project
Infrastructure & PREFAB



INFO TO GO ▶



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:



Wieland Technical Consulting

PREFAB & Building Solutions



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Wieland on YouTube ▶
Watch our solutions in
action



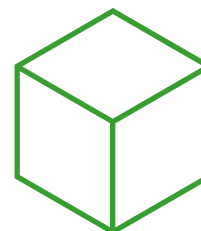
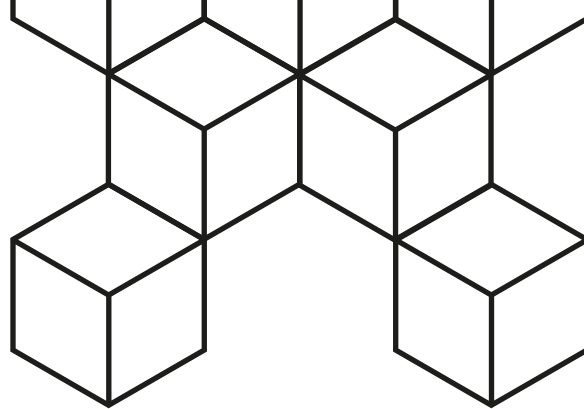


wieland

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