

Attraktive AND LONG-LASTING



CABLING SYSTEMS

 **FORSCHNER**
We know.



BLOSSOMING DIVERSITY AND VARIANCE

In everything related to cabling systems, would you like to rely on an experienced partner who takes care of your every need? Even though you require proven quality with ever newer functions and innovations – and for almost countless wiring harness variants? With the Forschner cabling systems division, your requirements bear fertile fruit.

PRODUCT OVERVIEW

Our range of cabling systems extends from wiring solutions for individual subassemblies, e.g. in the engine compartments of automobiles, all the way to complete wiring harnesses and onboard wiring systems.



RANGE OF SERVICES

- Consulting
- Customized development
- Simulation
- Production and assembly
- Series startup and change management
- Documentation and logistics

On-site for you

We've developed a wealth of experience in cabling systems ever since the early 1990s. To ensure that our international customers get optimal service, we have continually expanded our company with new locations worldwide. In the future, too, we'll continue to be precisely where our customers and target markets need us.



**Spaichingen site,
Germany**

Our headquarters is supported by the individual production plants with regard to calculation, development, IT and purchasing. Projects in the cabling systems sector are managed during the startup phase. As a platform for knowledge transfer, the newly-built Technology Center opens up international synergies.



**Swaljawka site,
Ukraine**

With its spacious, state-of-the-art machine park, this site is ideal for mass production. Especially high volume production thus takes place in Svalyava. The plant was established there in 2003.



**Uherské Hradiste site,
Czech Republic**

The plant serves as a control center for cabling contracts, and is focused on Europe. This is why the site also has an engineering center alongside its prototype production department. The machine park also enables complete processing of high-volume series production. Forschner has been active in Uherské Hradiste since as far back as 1995.



**Istanbul site,
Turkey**

We've had a presence in Turkey – a market especially important for commercial vehicle production – since 2001. This is why we combine all our regional activities in Istanbul, as well as those for the whole of the Near East. Individual cable systems are also produced and assembled here too, of course.

Further sites

In Northern China we have a joint venture: the Ningbo Forschner Co. Ltd. is facilitating our access to the Asian markets. For maximum market proximity in America, too, Forschner is currently building a further production plant in Mexico, in the region of Queretaro.



Jörg Krieger (Dipl.-Ing., FH),
Dr. Gert Forschner and
Dietmar Geiger run the
family-owned company

The Forschner company

With around 2,000 employees and numerous international locations, Forschner offers far more than cabling systems. Our portfolio is enhanced further by our Precision Turned Parts and Electromechanical divisions. With our own developments FOR-hybrid, FORblue, and our development support FOR-tech, we also prove our creativity and innovative strength.

INDIVIDUALITY MAKES THE DIFFERENCE

Cabling systems from Forscher come in numerous different versions – whether for automobiles or electrical appliances.



Extensive certification

All Forscher sites for cabling systems are certified to the following norms. It goes without saying that we also carry out the relevant follow-up audits.

- DIN ISO 14001
- DIN ISO 9001
- ISO TS 16949
- VDA 6.1
- UL certificate

Unique consulting expertise

Which wiring harness architecture suits your planned logistics concept in series production? Which modularization and segmentation guarantees you maximum cost efficiency across the entire value chain? What would be the optimal design of your onboard wiring system, taking relevant environmental conditions into consideration? As specialists for everything related to cabling systems in commercial vehicles, buses and electric subassemblies, we know that the best solution is always based on individual answers. We create concepts that fit perfectly – and that can be implemented with long-term economic efficiency. We realize methodology development, construction and prototyping hand in hand. Before assembly and production, therefore, we can guarantee that all parameters are perfectly in place before series production begins.

From cable to complete wiring harness

Single-core standard cables, multi-core special cables for data transfer via car-phone or iPod, innovative coaxial and flat lines, all kinds of shields, geometries, core and sheath materials: the properties of cables are just as varied as their target applications. Forscher is thoroughly familiar with all their idiosyncrasies, and can rely on a great wealth of experience. Countless cables are combined into functional subassemblies, and in integrated complete processes for low, medium and high volume production. With numerous intelligent details, we create efficient production processes. Exemplary here: our networked cable harness assembly with optimized cut sequences, or the modularized breadboard assembly to reduce downtimes.

LINE ASSEMBLY

PRE-ASSEMBLY

MODULE PREASSEMBLY

FINAL ASSEMBLY

SPECIAL PROCESSES

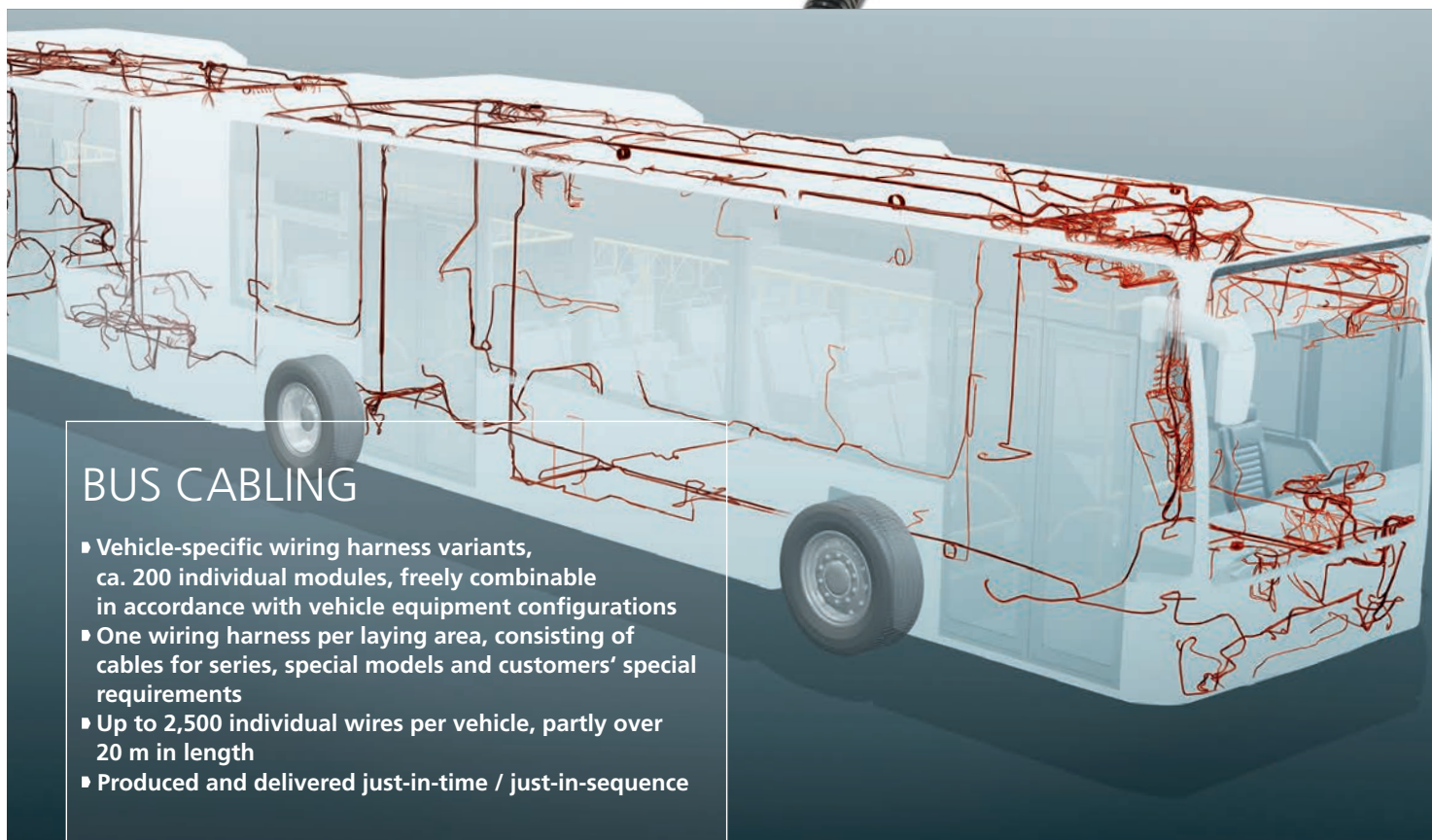
TESTING

PACKAGING/LOGISTICS

Exemplary successes

Our cabling systems carry on operating reliably for years and years: whether as engine cabling systems for special vehicles or commercial vehicles, or as systems for doors, heating and seats. Here, we are in a position to produce the highest volumes. We also have excellent references for everything related to complete onboard wiring systems with high failsafe performance and an overall length of up to 20 meters. This enabled us, for instance, to equip all the Unimog series from 1991 onward – and also city busses and coaches made by the world's leading manufacturers.

The EvoBus is just one example that gives you an idea of an extensive and no less complex onboard wiring system.





► **BETTER CONNECTIONS**

Klaus Conzelmann works at Forscher as Head of Development for Cabling Systems.

THE FACTS

We know ...
... that however diverse and varied a cabling system is,
the quality always has to be high throughout.

YOUR BENEFITS

- Unrivalled flexibility
- High degree of innovation via cooperation with leading vehicle manufacturers
- Just-in-time deliveries thanks to intelligent production and logistics concepts
- Experience and expertise in low, medium and high volume production
- Economically efficient series production at the highest quality level
- Further impulses from successful own developments for the automotive industry

OUR REFERENCES

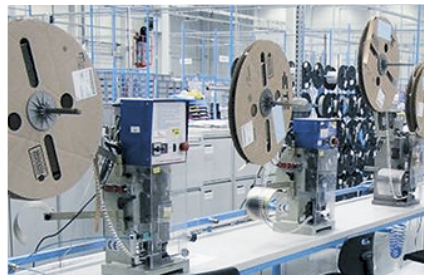
- Daimler
- Elring Klinger
- EvoBus
- Grammer
- Hamm
- Jungheinrich
- Ondal
- Philips
- Sirona
- Vögele
- Webasto
- ZF



► **BETTER POSSIBILITIES**

STATE-OF-THE-ART TOOLS GROW WITH YOUR REQUIREMENTS

The path from customer requirement to the finished cable harness follows a processing chain with state-of-the-art 2D and 3D development tools. At Forschner, experienced designers and engineers, motivated by a high level of responsibility, ensure that the advanced tools give customers excellent time benefits – together with high flexibility, transparency, and the required rapid reaction times. Economic efficiency is further enhanced by rational production at several international sites – as well as automated technology. Find out about the highlights of our machine park!



DEVELOPMENT TOOLS

- Siemens NX
- Inventor
- CATIA V5
- LDorado
- Own prototype construction

PRODUCTION FACILITIES

- Komax fully automatic machines
- Ultrasonic welding plants for connections
- Harness braiders
- Fully automatic bandaging machines



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