



# INTELLIGENT POWER & CONTROL SYSTEMS

WÜRTH ELEKTRONIK MORE THAN YOU EXPECT





# WÜRTH ELEKTRONIK ICS

Würth Elektronik ICS is part of the Würth Elektronik Group and belongs to the family-run Würth Group, the world market leader for assembly and fastening materials.

As a supplier of intelligent systems and components, we develop and produce solutions for signal and power distribution as well as function control, display and operating solutions.

Be it a central electrical unit, CAN controller, HV PDU, display solution or a high current contact: Our products convince through compactness and cost-effectiveness as well as intelligent and robust design. With their long durability and reliability, they impress even the most demanding customers.

Whether in terms of **service** or customer specific **product development**: every ICS customer is individually accompanied, advised and served – from the initial idea to the series production. And, if desired, even beyond that. True to our motto: '**More than you expect**'.



Visit our website and learn more about our company, our competences and our innovative products and solutions!

[www.we-online.com/ics](http://www.we-online.com/ics)

# PRODUCTS AND SOLUTIONS FOR INDUSTRIES FULL OF POWER

The customers of our electronic and electromechanical solutions include well-known manufacturers of construction and agricultural machinery as well as special and commercial vehicles. Würth Elektronik ICS also supplies industries such as industrial technology or renewable energies with high-quality standardised or customer-specific products.

**'More than you expect' means:**  
We systematically combine our products, services and competences to find the perfect solution – for you and your success.



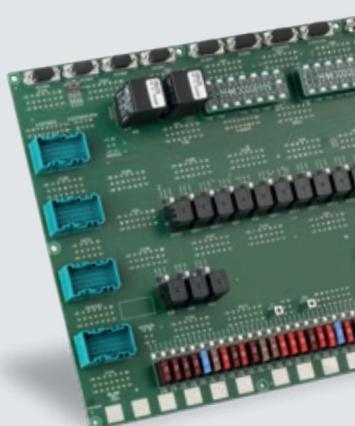
PRODUCTS & SOLUTIONS



SERVICES

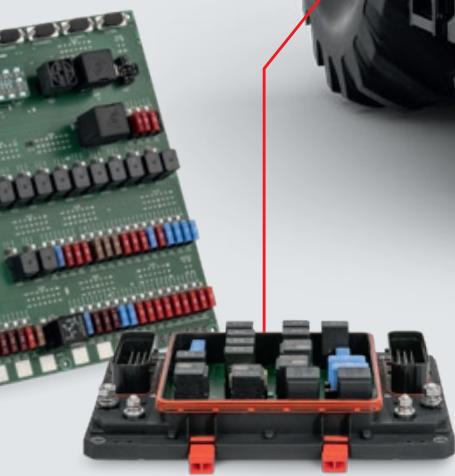


COMPETENCES





Control and monitoring of functions



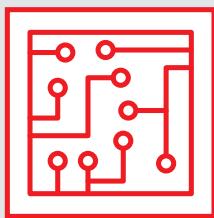
Power distribution and power protection



Display and operation



Electrification (HV solutions)



# PRODUCTS AND SOLUTIONS

## SYSTEMS FOR MOBILE MACHINES AND COMMERCIAL VEHICLES



POWER DISTRIBUTION



HIGH VOLTAGE SOLUTIONS

HMI SOLUTIONS



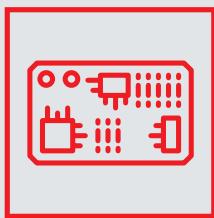
# POWERFUL COMPONENTS FOR A WIDE RANGE OF APPLICATIONS



## ELECTRONIC CONTROLS

## PCB COMPONENTS





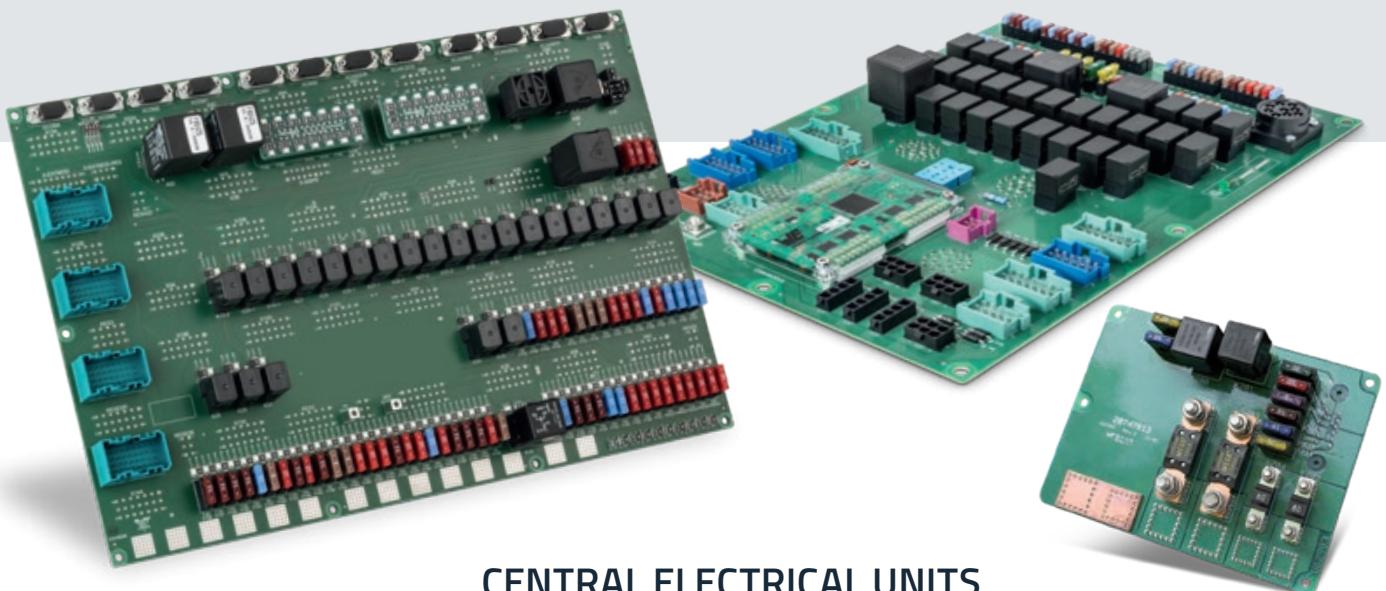
# POWER DISTRIBUTION

Systems for power distribution belong to the most important components in a vehicle's electrical system architecture. With our central electrical units, power boards and Power Boxes, we offer individual and standardised PCB-based power distribution solutions.

**Compactness, robustness, cost-effectiveness** – all these features ensure that our products are the ideal solution for power distribution and function control in your application.

## Convincing advantages:

- High mechanical stability, vibration resistance and durability
- High modularity for flexible customer specific adaptations
- Simple and fast assembly and maintenance



## CENTRAL ELECTRICAL UNITS

The central electrical units installed in vehicles from different manufacturers are as different as the vehicles themselves. We develop them tailor-made, according to your specific requirements.





## REDLINE POWER BOXES

The REDline Power Boxes are a platform for customised power distribution solutions in standard housings. The platform is characterised with its short time-to-market, high efficiency, modularity and convincing service concept. It currently includes six boxes: Twin, Hybrid, M Plus, Medium, Mini and 6F.

### The REDline Power Boxes concept stands for:

- Space, time and cost-effective solutions for power distribution, signal transfer and function control in vehicles
- Customisable electrical systems
- Standardised housings



Robustness & durability



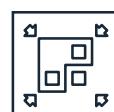
Fast project processing



Convincing service concept

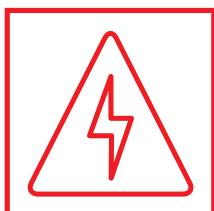


High economic efficiency



Compact & modular architecture





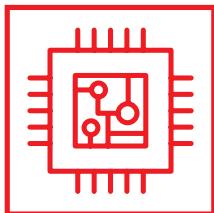
## HIGH VOLTAGE SOLUTIONS

We develop and produce high voltage solutions for power distribution in different vehicles. Our high voltage solutions cover a voltage range from 48 VDC to 1000 VDC and are based on PCB technology. In combination with our press-fit technology, we distribute high currents ideally on the PCB.

### **Convincing advantages:**

- Compact & robust design in IP-protected housing
- Realisation of plug & play solutions possible
- Simple installation & maintenance
- Integration of safety-relevant mechanisms (e.g. HVIL loop, diagnostic and measuring functions)
- Individually adaptable to applications & customer requirements





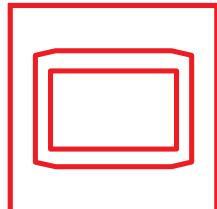
## ELECTRONIC CONTROLLERS

Whether as stand-alone modules or integrated on power boards and central electrical units: With our ICCS controllers and power distribution controllers, you can perform simple functions as well as complex logical control tasks. As part of a electrical system, they ensure an intelligent and efficient power supply and control of the consumers in the vehicle.

### **Convincing advantages:**

- Compact, powerful and easy to program
- Easy integration into the electrical systems
- Possibility of cost-effective expansion of existing systems
- Connection of the electrical systems with the vehicle's communication network





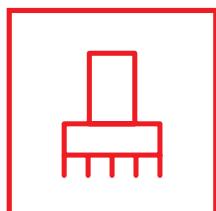
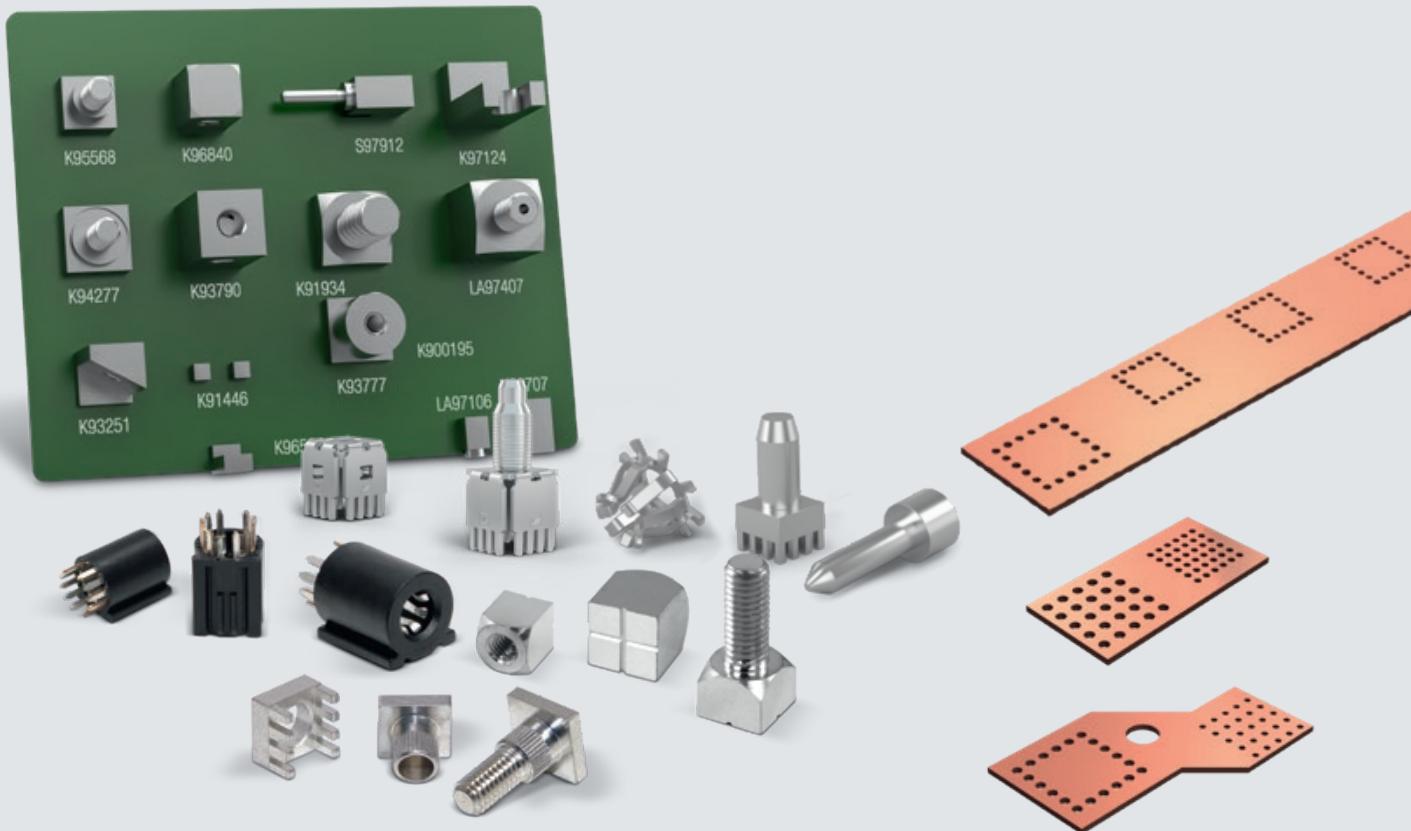
## HMI SOLUTIONS

From simple symbol clusters to CAN-capable multifunctional WEcabin Displays: With us, you will find high-quality HMI solutions for the display and operation of various vehicle and comfort functions. You can integrate these into new or existing cabin concepts – standardised or individually adapted.

### **Convincing advantages:**

- Robust and attractive design
- Simple and intuitive GUI programming with our programming tool WEcabin Designer
- State-of-the-art technology
- Various customer specific adaptations possible





## PCB COMPONENTS

Würth Elektronik ICS is the specialist for PCB connecting technologies and the technology leader in press-fit technology.

### **Our portfolio includes:**

- **Powerelements** for supplying or distributing high currents in PCB-based systems, now also lead-free
- **PowerBusbars** – for the targeted distribution of high currents on the PCB
- **PowerSockets** such as fuse holders or relay sockets to connect blade fuses and relays to the PCB
- **SKEDD connecting solutions** can be connected and disconnected directly to the PCB without tools





## **SERVICE –** **WE ARE THERE FOR YOU!**

### **From the initial idea to series production – and beyond**

What distinguishes outstanding service? At Würth Elektronik ICS, we believe that you should be completely satisfied. That is why we are always at your side. As a competent partner, we offer comprehensive services from a single source. We help you select the right product or develop a customer specific solution and supply you reliably with serial products. Whether simple components or complex systems – we support you with the right solutions.



### A round-up of our services:

- **Consulting & project implementation** – Together we will find the right product for you or develop the best specific solution if required. Our experienced sales engineers, technical project managers and field application engineers are there to support you. For more information watch our ICS TECH TALK videos and webinars. Or, if you want to try our products for free, use our Try & Buy Kits.
- **Production & flexible supply** – We supply you reliably with high-quality serial products and offer flexible delivery and packaging concepts according to your requirements. Our competent contact persons are at your disposal for all questions about products and order processing – You choose the communication channels that suit you for order processing and scheduling.
- **Long-term partnership** – With Würth Elektronik ICS, you have a reliable partner who is also available in the long term – with advice and assistance beyond development, production and delivery. For example, when it comes to the procurement of spare parts or the re-design of existing products.



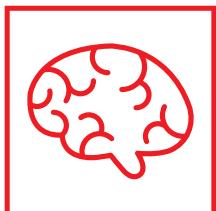
## TECH TALK

In our ICS TECH TALK product videos, our product managers summarise the most important functions and features of selected products for you. Here, you get to know our products in just a few minutes.

## TRY & BUY KITS

Our Try & Buy Kits offer you the opportunity to test products and development tools for three months free of charge and without obligation. After that, you decide whether you want to return or keep it.





## COMPETENCES

**YOUR SPECIALIST FOR**  
**INTELLIGENT POWER**  
**DISTRIBUTION AND**  
**CONTROL**

# INDUSTRY KNOW-HOW

We know the special requirements of a wide range of industries and customers. Our engineers and application developers

- therefore know exactly which features are must-haves for our solutions
- are always focused on the long service life of vehicles in demanding environments
- have a high level of expertise in all aspects of vehicle and on-board network architecture for mobile machines and commercial vehicles

Whether it's about individual products or systems with a focus on power distribution, function control or display and operation: we guarantee to find the right solution for you.

## TECHNOLOGY AND DEVELOPMENT COMPETENCE

As a specialist for PCB-based connecting solutions and electromechanical assemblies, we have a high level of expertise when it comes to power distribution and protection. For contacting the PCBs, we rely primarily on solid press-fit technology. For 40 years, this technology convinces with its high-current carrying capacity, outstanding robustness and proven durability.

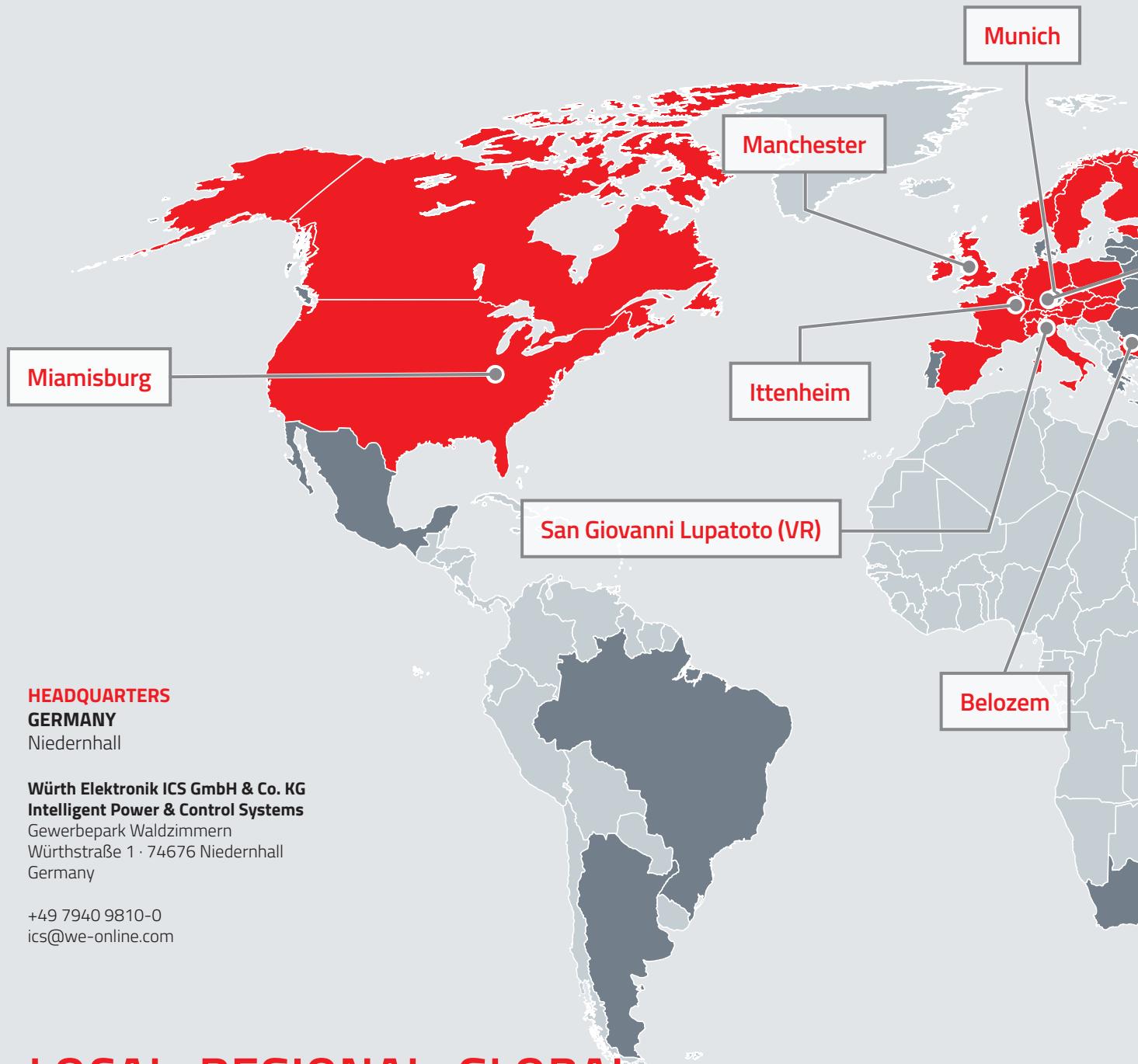
Central electrical units and power boxes in machines and vehicles that are in use for many years – often under harsh conditions – benefit from this. Press-fit technology also inspires in the field of high-voltage solutions (electromobility).

Based on this know-how, our engineers develop standard- and platform-solutions as well as customer-specific components or assemblies. In the field of electronics and control solutions, we also have highly qualified teams of developers and field application engineers for hardware or software solutions.

## PROCESSES AND PRODUCTION

From product development to production and delivery: all our processes are designed to meet your industry-specific requirements and to ensure consistent high quality and flexibility. This is confirmed by customer feedback as well as ISO 9001 and IATF 16949 certifications.

In order to realise the most diverse requirements, we use different technologies for PCB connections in our technology and production centre in Niedernhall-Waldzimmern: From press-fit technology, SMT and THT soldering to the innovative SKEDD technology.



#### **HEADQUARTERS**

#### **GERMANY**

Niedernhall

#### **Würth Elektronik ICS GmbH & Co. KG**

#### **Intelligent Power & Control Systems**

Gewerbepark Waldzimmern

Würthstraße 1 · 74676 Niedernhall

Germany

+49 7940 9810-0

[ics@we-online.com](mailto:ics@we-online.com)

## **LOCAL, REGIONAL, GLOBAL –** **WE ARE WHERE YOU NEED US!**

#### **FRANCE**

Ittenheim

#### **Würth Elektronik France**

#### **Intelligent Power & Control Systems**

Le Bonaparc, 3 rue Daniel Gruber  
67117 Ittenheim  
France

+33 388 112611

[ics-france@we-online.com](mailto:ics-france@we-online.com)

#### **UK**

Manchester

#### **Wurth Electronics UK Ltd.**

#### **Intelligent Power & Control Systems**

21a Manchester One, 53 Portland Street  
Manchester M1 3LD  
United Kingdom

[ics-uk@we-online.com](mailto:ics-uk@we-online.com)

#### **ITALY**

San Giovanni Lupatoto (VR)

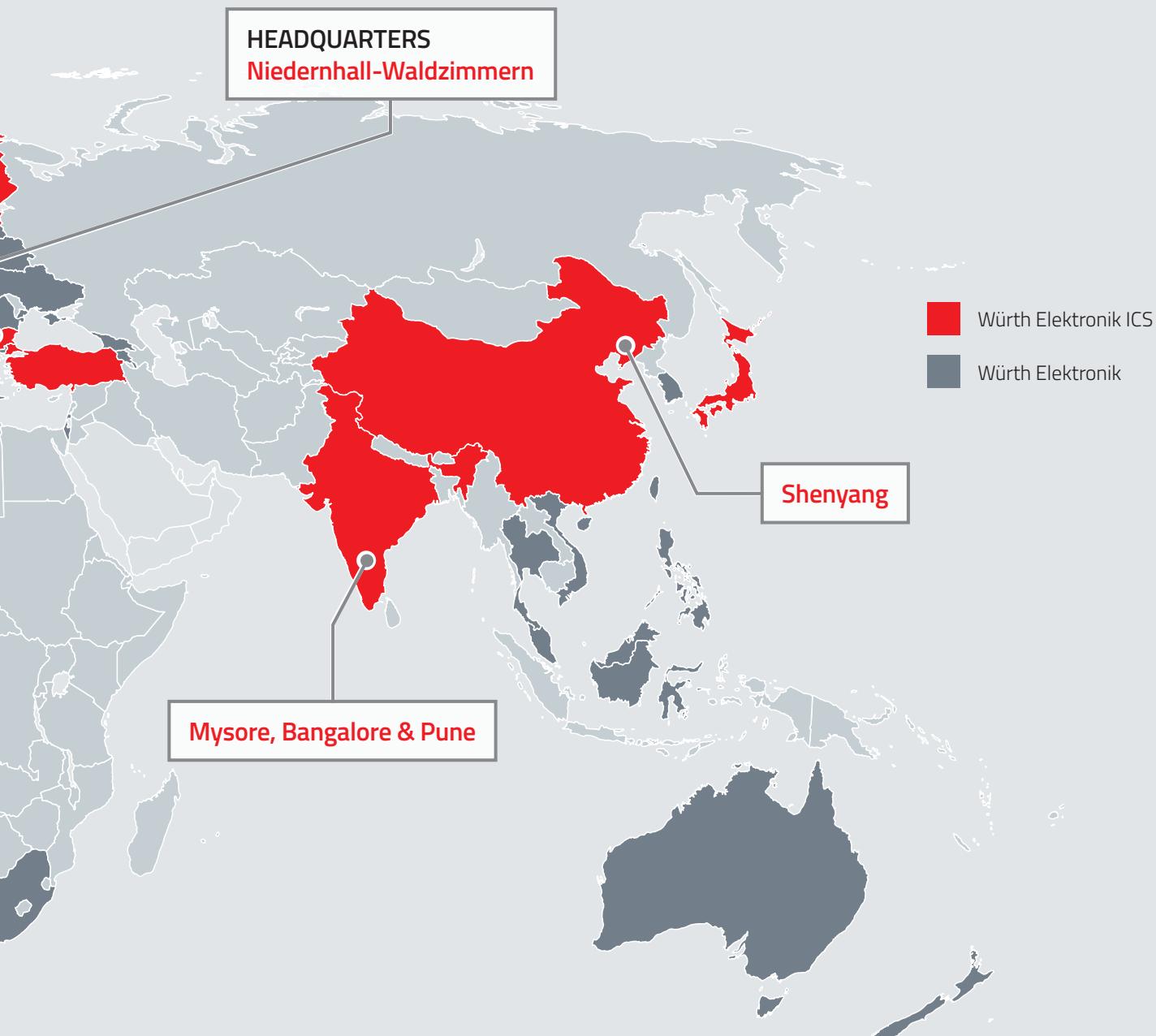
#### **Würth Elektronik ICS Italia s.r.l.**

#### **Intelligent Power & Control Systems**

Via Monte Fiorino 9  
37057 San Giovanni Lupatoto (VR)  
Italia

+39 045 4157020

[ics-italy@we-online.com](mailto:ics-italy@we-online.com)



**USA**  
Miamisburg (OH)

**Wurth Electronics ICS, Inc.**  
**Intelligent Power & Control Systems**  
1982 Byers Road  
45342 Miamisburg, OH  
USA

+1 877 6902207  
cs@we-ics.com

**INDIA**  
Mysore, Bangalore & Pune

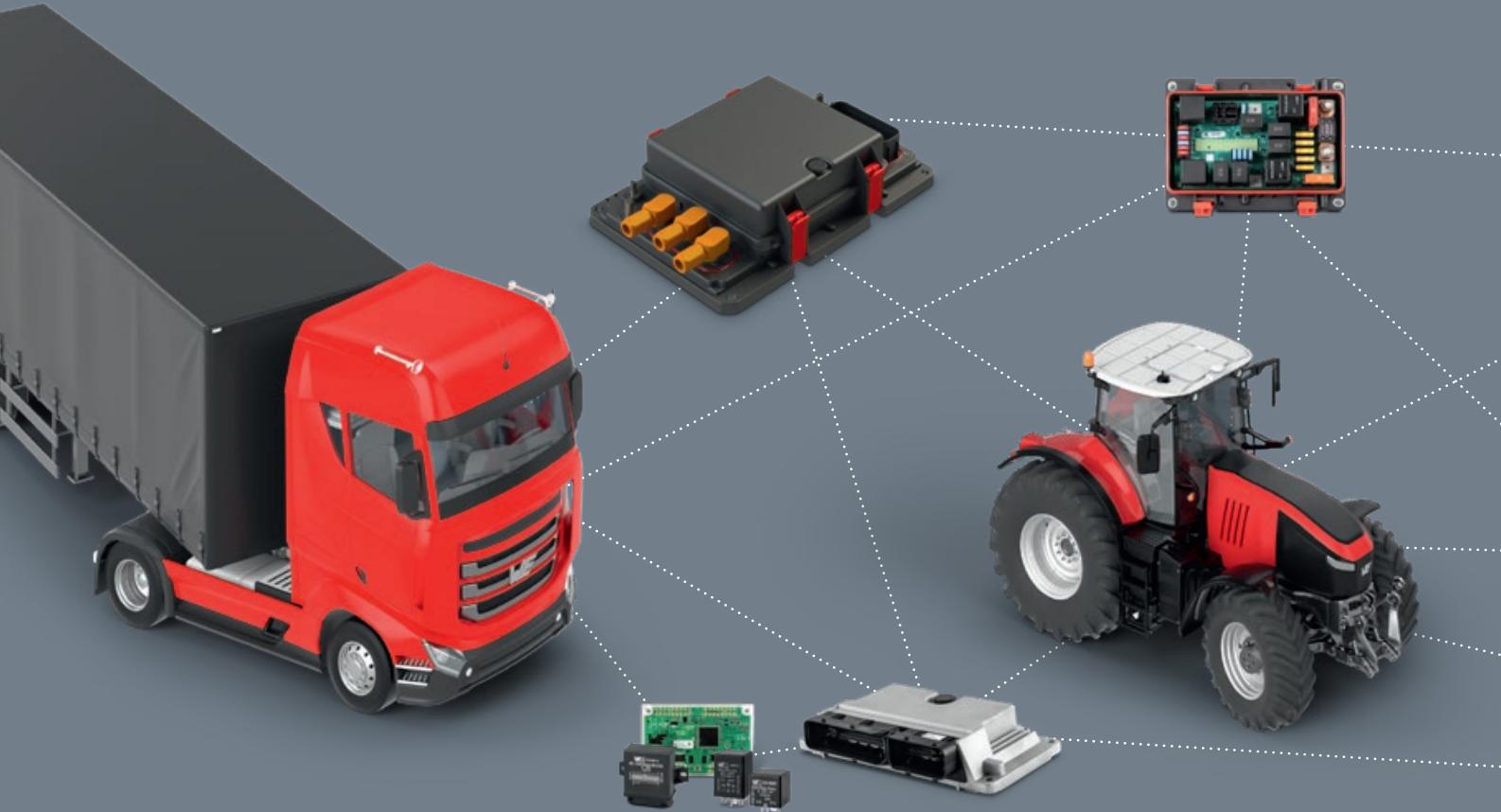
**Wuerth Elektronik India Pvt Ltd**  
**Intelligent Power & Control Systems**  
Brigade Software Park, Block 'A' 3<sup>rd</sup> Floor  
No. #42, 27<sup>th</sup> Cross · Banashankari 2<sup>nd</sup> Stage  
560027 Bengaluru, Karnataka · India

+91 821 2305325  
ics.sales-india@we-online.com

**CHINA**  
Shenyang

**Wurth Elektronik ICS (Shenyang) Co., Ltd.**  
119 – 3 Jianshe Road · Dadong District  
110122 Shenyang, P. R. China  
**伍尔特电子控制系统(沈阳)**  
有限公司 辽宁省沈阳市大东区建设路119-3号

ics.china@we-online.com



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