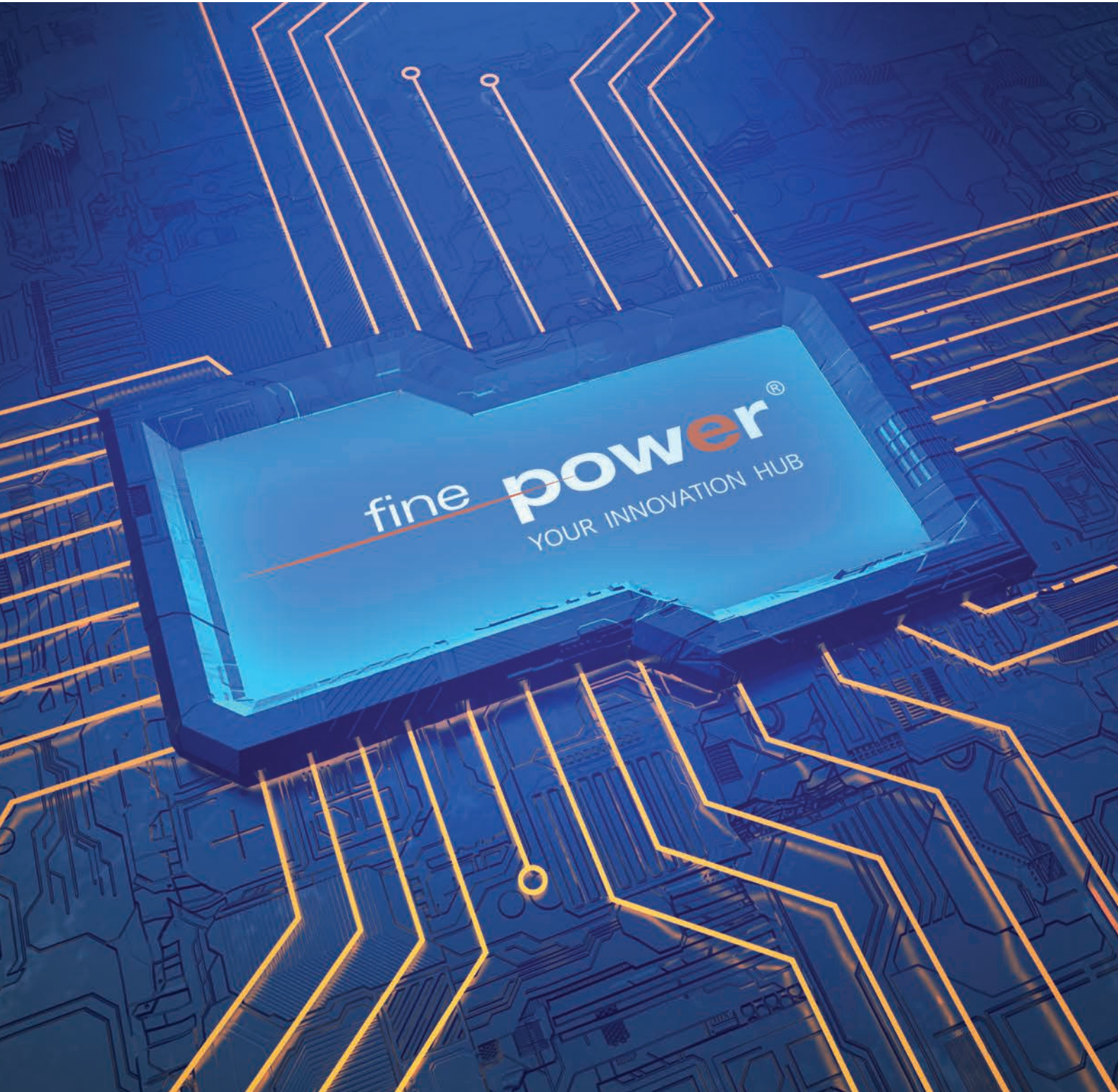


**fine power**<sup>®</sup>

YOUR INNOVATION HUB



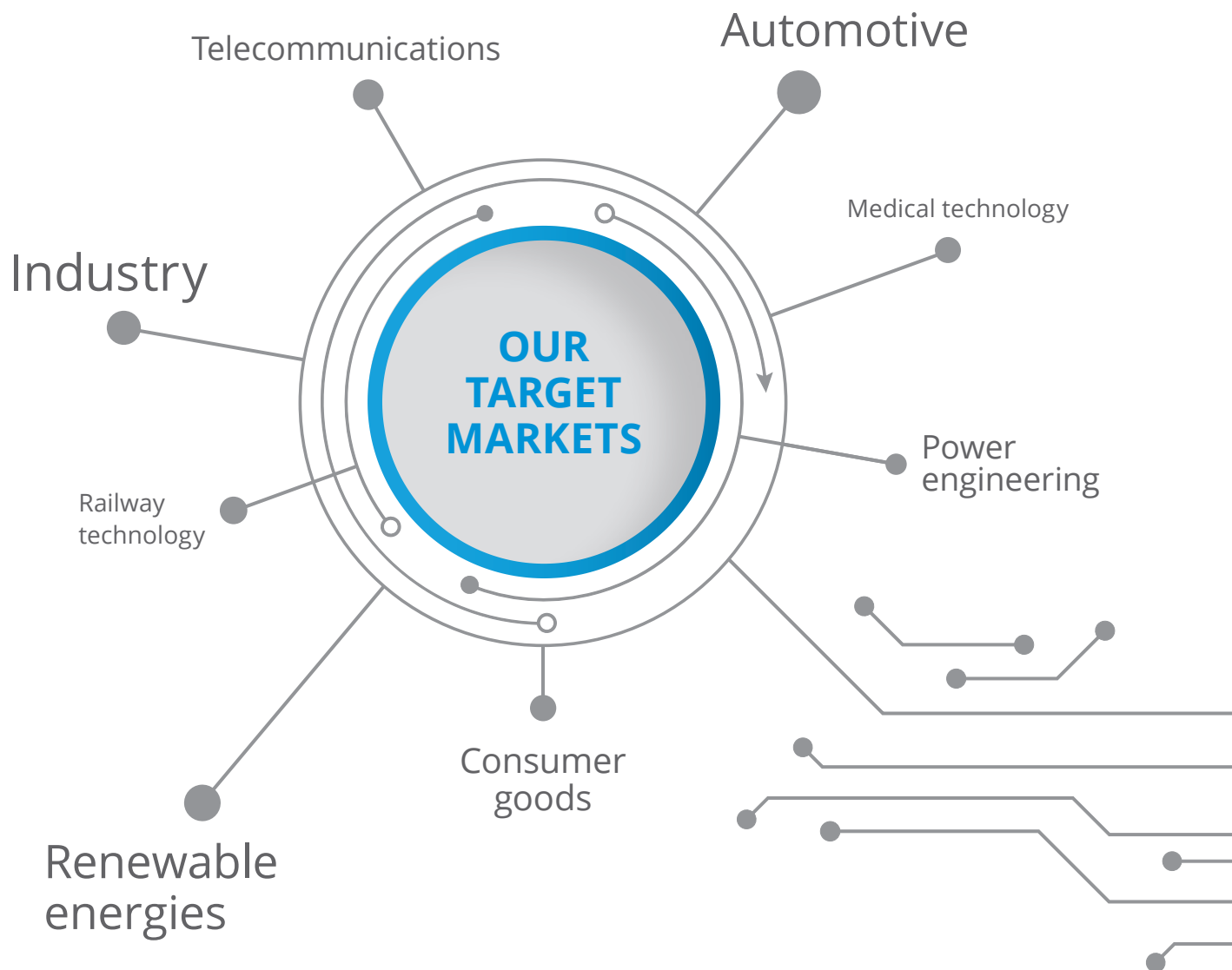
**ENGINEERING & DISTRIBUTION**

## FASTER MARKET ENTRY THANKS TO EFFICIENT PROCESSES

Finepower is an internationally operating engineering and distribution company with focus on modern power electronic applications. Since 2001 we are a competent and reliable partner for our global customers and suppliers. With branches in Germany and China we can provide local support for the European and Asian market.

As a company, we support our customers to accelerate their development process and create a clear advantage in their targeted markets.

Because we are **Finepower – YOUR INNOVATION HUB.**





## DISTRIBUTION

As a distributor we cooperate with international partners to offer a wide range of products, in particular:

- ➔ Power semiconductors
- ➔ Passive components
- ➔ Complete power supplies and DC/DC converters
- ➔ Fans and heat sinks

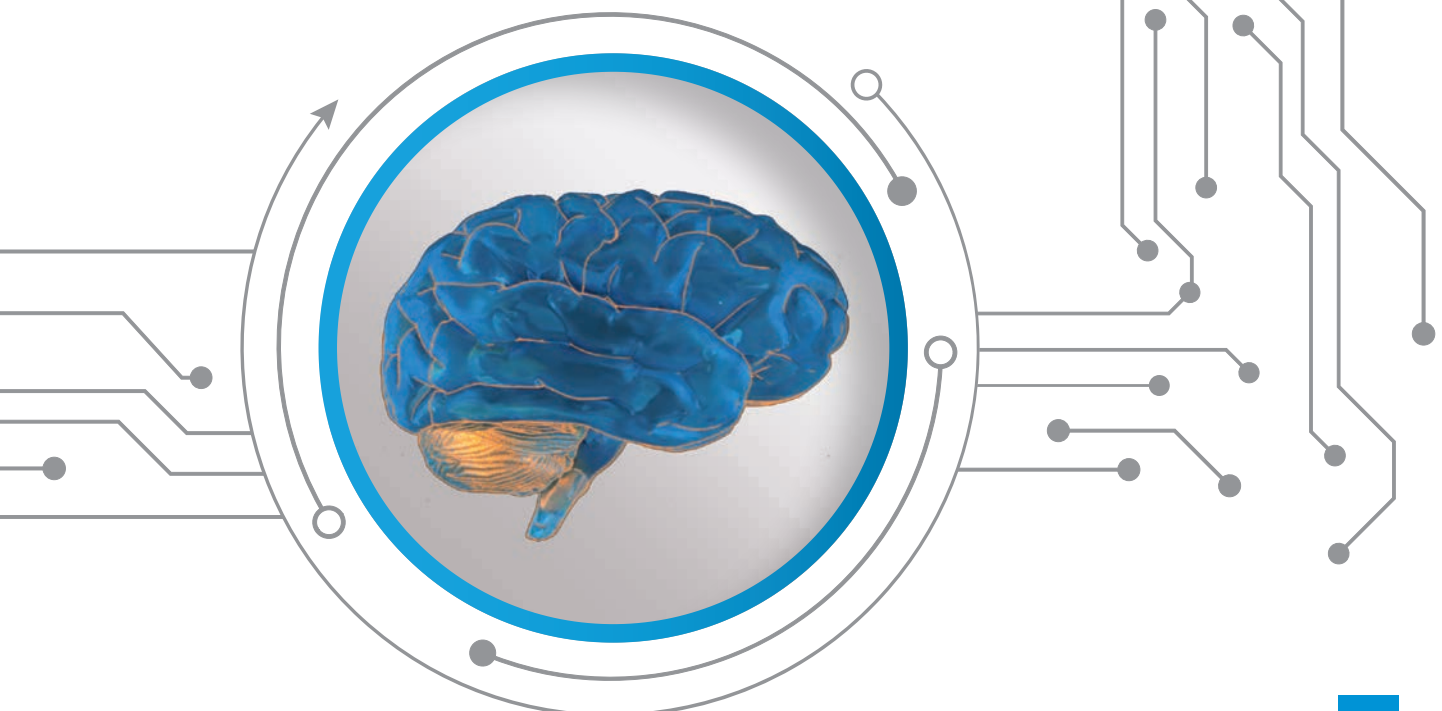
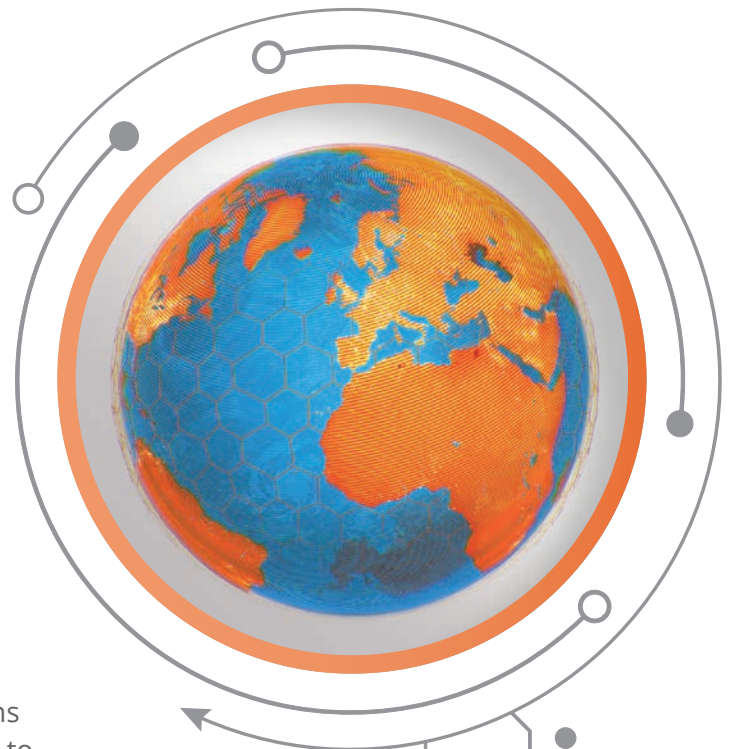
To provide the optimum product as quickly as possible, we combine our reliable global logistics with intensive technical consulting.

## ENGINEERING

Our development team offers individual solutions for electrical energy conversion, e.g. with regard to

- ➔ Feed-in of renewable energy sources
- ➔ Battery charging for electric cars with or, without cable,
- ➔ Adaptation of different voltage levels in vehicles,
- ➔ Supply of industrial automation systems

We not only realize specific industrial assignments, but also actively participate in the latest research, so that we always know and master innovative technologies.

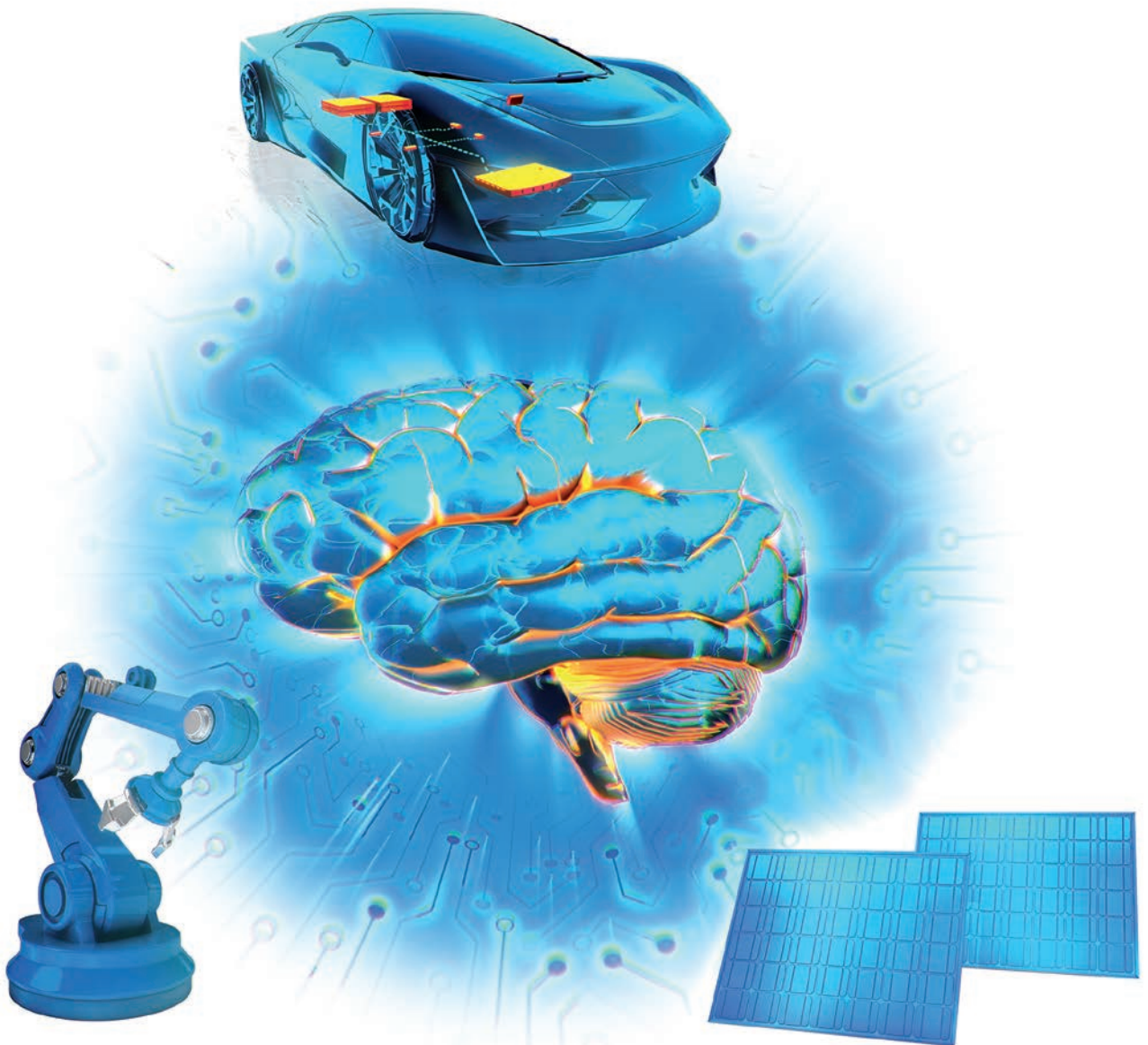


# FAST DEVELOPMENT OF INNOVATIVE PRODUCTS

Our experienced engineering team develops hard- and software solutions for innovative power electronic systems.

In addition to the development of complete devices, our expertise covers thermal and electrical calculations and simulations, as well as the design of complex magnetic components. Many years of know-how and flexible structures enable us to react fast and effectively on customer requirements.

Our wide range of services extends from consulting, feasibility studies and simulations to the development of prototypes and their transfer into mass production.

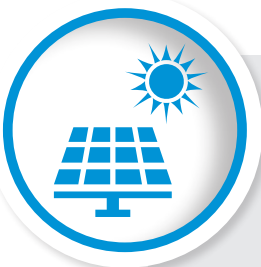
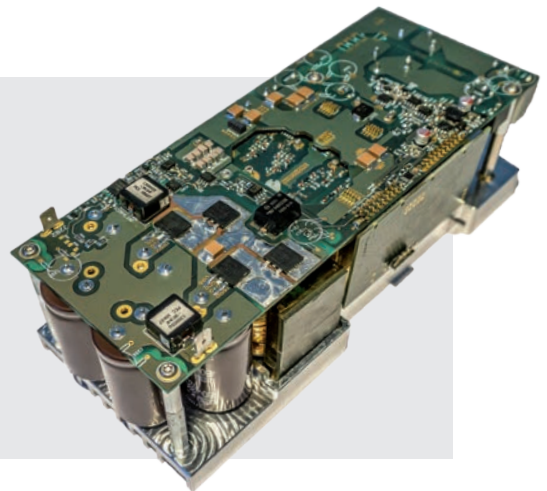




## E-MOBILITY

### CORE COMPETENCE: CHARGING TECHNOLOGY

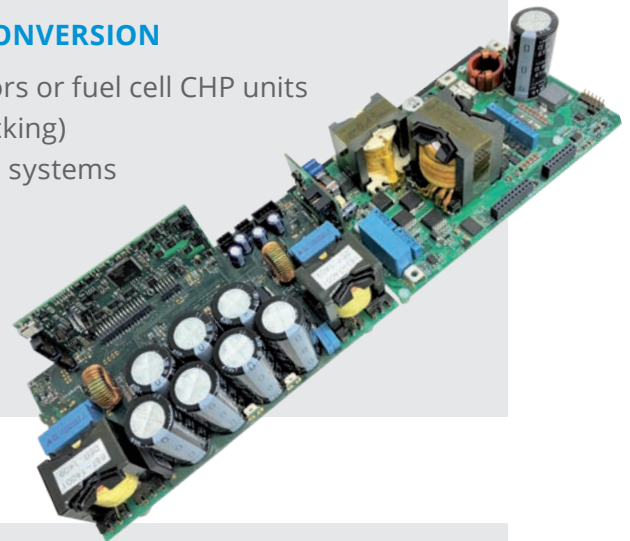
- ➔ Conducted or wireless
- ➔ Uni- or bidirectional
- ➔ Isolated or non-isolated
- ➔ Charging power up to 50 kW



## RENEWABLE ENERGIES

### CORE COMPETENCE: ENERGY CONVERSION

- ➔ Inverters, e.g. for PV generators or fuel cell CHP units
- ➔ Power optimization (MPP-tracking)
- ➔ Integration of battery storage systems (high or low voltage)
- ➔ Grid connected or island operation
- ➔ Isolated or non-isolated
- ➔ Uni- or bidirectional



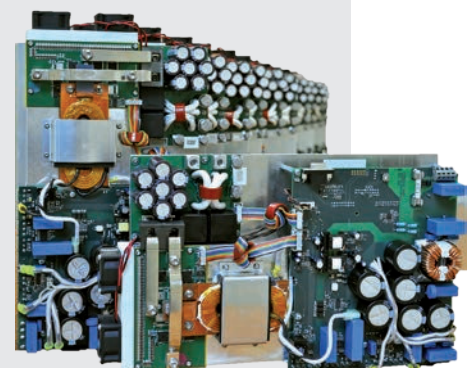
## INDUSTRIAL POWER

### CORE COMPETENCE: POWER FACTOR CORRECTION (PFC)

- ➔ 1-phase or 3-phase input
- ➔ Buck and boost mode
- ➔ DCM / CCM / Bridgeless
- ➔ Uni- or bidirectional

### CORE COMPETENCE: DC/DC CONVERTERS

- ➔ Hard switching and resonant topologies (Phase shifter, LLC, DAB, ...)
- ➔ Isolated or non-isolated
- ➔ Uni- or bidirectional



### GET THE OPTIMUM PART AS QUICKLY AS POSSIBLE



**POWER  
SEMICONDUCTORS**



**PASSIVE  
COMPONENTS**



**THERMAL  
MANAGEMENT**



**DC/DC &  
POWER SUPPLIES**



ABB supplies Swiss quality semiconductors for high performance applications in the traction, industrial and power distribution segments.

#### **HIGH-PERFORMANCE SEMICONDUCTORS**

- ➔ IGBT and diode modules (Single / HB, 1700 – 6500 V, 150 – 3600 A)
- ➔ Bipolar snubber and welding diodes (200 – 6000 V, 250 – 13.000 A)
- ➔ Thyristors (GCT, BCT, IGCT, GTO, 1600 – 6500 V, 200 – 6100 A)



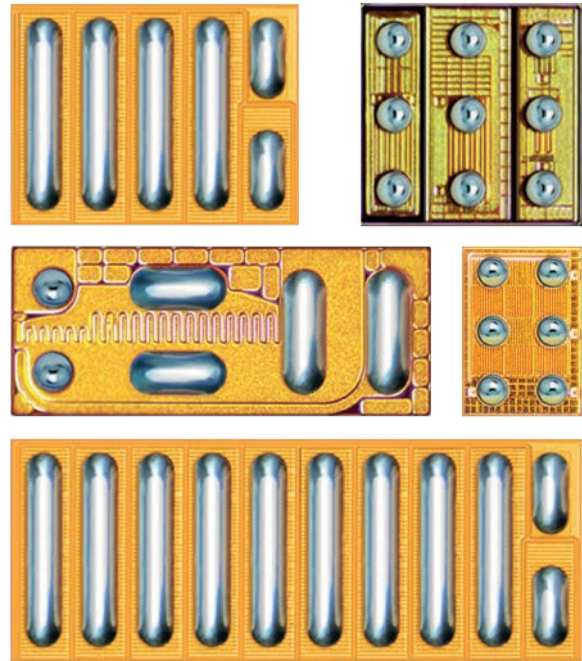




EPC (Efficient Power Conversion) is convinced that GaN represents the logical future of semiconductor technology and already offers a broad product portfolio of 15 – 350 V industrial and automotive qualified GaN power transistors that provide all the outstanding advantages of GaN.

### GaN POWER TRANSISTORS

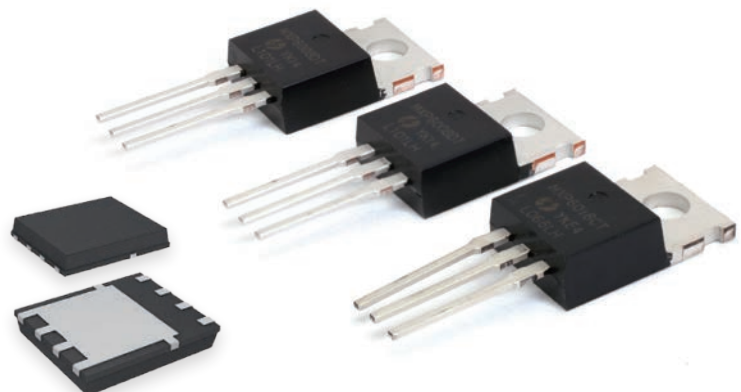
- ➔ Discrete switches (10 – 350 V)
- ➔ Integrated half bridges
- ➔ System-on-a-chip solutions with driver and GaN-FET
- ➔ AECQ-101 automotive products



MaxPower is a technology company based in Silicon Valley, California, that combines the experience gained from early semiconductor design with the flexibility of global manufacturing. This combination allows MaxPower to offer leading-edge technological products on a competitive basis and to react flexibly to customer requirements.

### Si- / SiC-TRANSISTORS

- ➔ Low voltage MOSFETs (20 – 300 V)
- ➔ High voltage MOSFETs (500 – 950 V)
- ➔ SiC MOSFETs (600 – 1200 V)
- ➔ Flexible adaptations and new development according to customer requirements

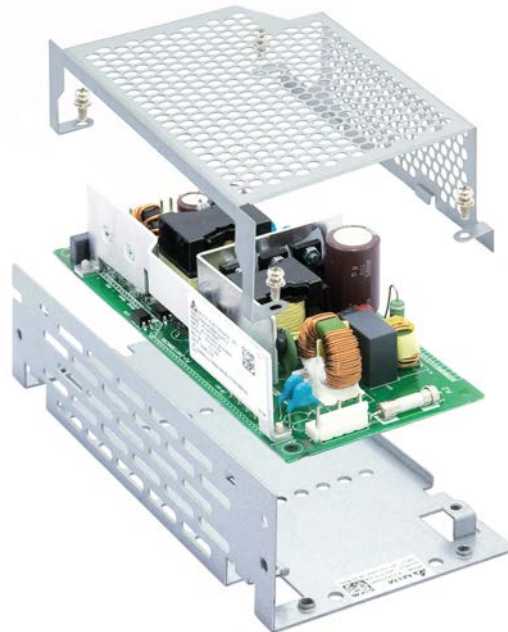




The Delta Group is one of the world's leading companies specializing in power electronics and energy management. The power electronics division offers a broad spectrum of high-quality active and passive components.

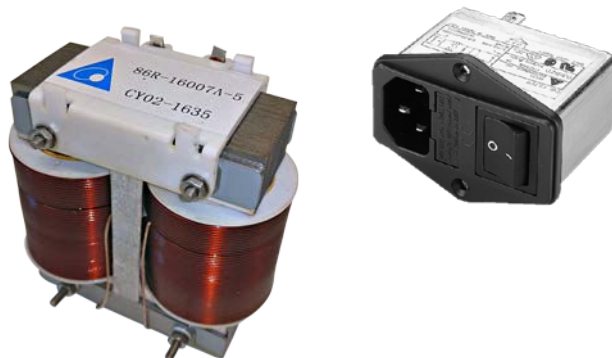
### AC/DC & DC/DC CONVERTERS

- ➔ DIN rail modules
- ➔ Open frame power supplies
- ➔ Board-mounted
- ➔ Galvanically isolated DC/DC converters
- ➔ Brick converter
- ➔ POL /  $\mu$ -POL converter



### ELECTRONIC COMPONENTS

- ➔ Ethernet sockets and transformers
- ➔ EMI filter for a wide performance range
- ➔ SMD current measuring resistors
- ➔ SMD Inductors



### THERMAL MANAGEMENT

- ➔ Axial and radial fans with AC and BLDC motors
- ➔ Heat sinks with integrated heat pipes
- ➔ Heat exchangers for cabinet climate control with air-to-air-exchangers or peltier elements







立德電子股份有限公司  
LEADER ELECTRONICS INC.

Leader Electronics Inc. is a Taiwan-based manufacturer of inductors and switching power supplies. The company has long been established in the Asian and American markets and, in partnership with Finepower, would now like to achieve greater prominence in Europe as well.

#### POWER SUPPLIES AND CHARGERS

- ➔ Notebook power supplies
- ➔ Adapters
- ➔ Open-frame power supplies
- ➔ Battery chargers
- ➔ LED drivers



#### HIGH POWER INDUCTORS

- ➔ 50/60 Hz transformers
- ➔ dv/dt filter
- ➔ Sine filter
- ➔ PFC chokes
- ➔ Current measuring transformers

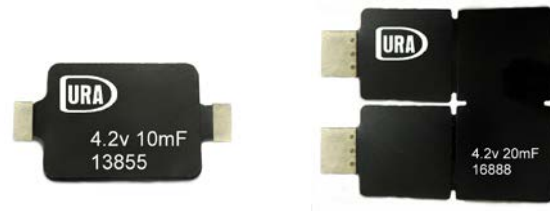




DURA TECH L.L.C. develops and produces passive components like the patented SLIM-type super capacitors, thin-film and polymer capacitors, as well as batteries and shunt resistors.

### CAPACITORS AND RESISTORS

- ➔ Thin film capacitors
- ➔ Polymer solid electrolytic capacitors
- ➔ Current measuring resistors



## >> PEC-Coil >>

PEC-Coil is an innovative Taiwanese company, which focusses on development and production of high quality inductive components. The semi-automated production in China ensures high product quality at competitive cost. The portfolio includes both customized and standard components.

### CUSTOMER-SPECIFIC AND STANDARD INDUCTORS

- ➔ SMD standard inductors (with or without shielding)
- ➔ High current inductors (SMD and THT)
- ➔ PFC chokes
- ➔ Common-mode-chokes
- ➔ Transformers for switch mode power supplies
- ➔ Gate drive transformers
- ➔ Current measuring transformers
- ➔ Industrial and automotive certification





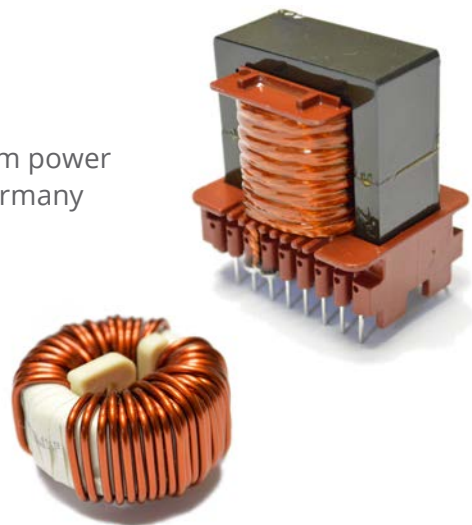
PTR HARTMANN GmbH acts as an independent company within the Swiss Phoenix Mecano Group. It unites the long-established brands HARTU, HARTMANN and PTR to form a new, successful supplier of electromechanical components.



HARTU is an expert for inductors in the small and medium power range. The development and prototype production in Germany ensures a fast reaction time in early design phases.

#### CUSTOMER-SPECIFIC INDUCTORS

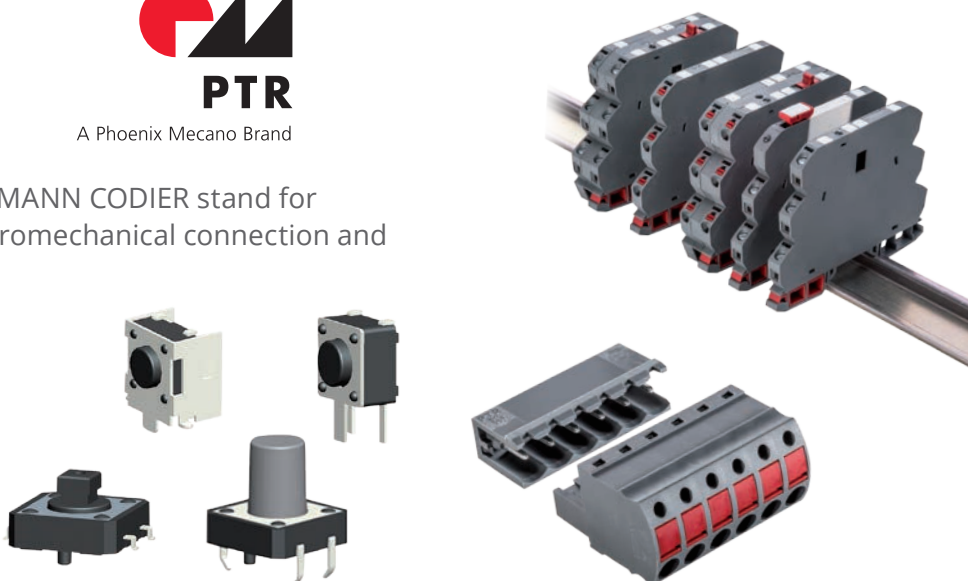
- ➔ Power supply transformers for all topologies
- ➔ (Flyback, LLC, forward converter, ...)
- ➔ PFC and storage chokes (form/ toroidal core)
- ➔ Filter chokes (common-mode and push-pull)



The brand names PTR and HARTMANN CODIER stand for innovative and high-quality electromechanical connection and operating elements.

#### ELECTROMECHANICS

- ➔ Terminals for PCB and DIN rail mounting
- ➔ Pushbuttons and microswitches
- ➔ Rotary coding and slide switches





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