HK SYSTEMS
...connects

HARMONY BETWEEN MAN AND MACHINE

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WE CONNECT: IDEAS TO FINISHED PRODUCTS

About us

HK Systems...connects!

Hoffmann + Krippner connects individual components to work in harmony with each other. Multiple corporate stakeholders motivate us to bundle the core competencies of each individual into a technology network. We created HK Systems as an umbrella brand for this network.

The HK SYSTEMS companies deliver combined expertise and custom solutions in the areas of operating systems, capturing data, and establishing networks. We develop and produce custom input devices, intelligent sensor applications, and enclosure and software solutions that can be connected via the cloud. Through close cross-company cooperation, we deliver custom complete solutions from a single source that meet the challenges of Industry 4.0 and digitalisation.

Whether partial components or complete systems, we offer custom products based on the latest technologies to meet your individual requirements.
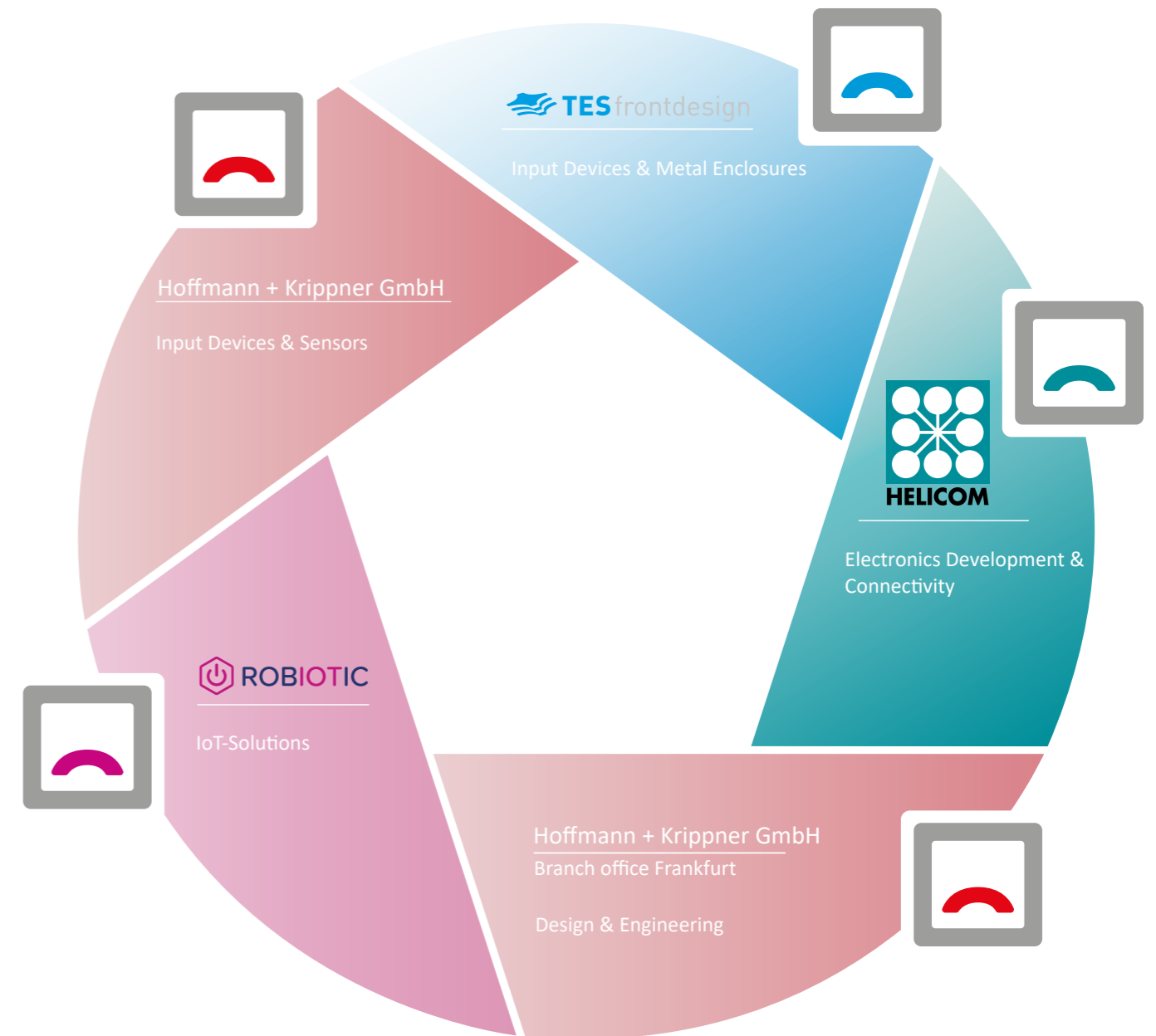
Our mission

Complete solutions from a single source

CONNECTIVITY is the buzzword of digitalisation. The HK SYSTEMS companies develop custom HMIs and sensor technologies solutions, offer integrated solutions for connected electronics used in IoT applications, and create access to cloud platforms. HK SYSTEMS offers a multitude of components and complete solutions for Industry 4.0, ranging from custom hardware and software solutions to the integration of different wireless technologies, all from a single source.

Our vision

Tradition and innovation: solutions for the future

Our clients' needs are as diverse as the solutions we offer. Whether our production uses traditional manufacturing processes and materials or modern additive 3D manufacturing and printed circuits, each of our products are designed and manufactured to provide the perfect solution based on the client's needs. The HK SYSTEMS companies stand for custom product development with a focus on success-oriented solutions.

TES frontdesign
Input Devices & Metal Enclosures

Hoffmann + Krippner GmbH
Input Devices & Sensors

HELICOM
Electronics Development & Connectivity

ROBIOTIC
IoT-Solutions

Hoffmann + Krippner GmbH
Branch office Frankfurt

Design & Engineering

YOUR PARTNER FROM PROTOTYPE TO SERIAL PRODUCTION

Our focus is on providing clients with detailed and individual consultation and support. Starting with the initial design concept all the way to the finished product, we work with our customers to develop tailor-made, targeted solutions!

Whether individual components, assemblies, or complete devices, we design, develop, program, and produce what you need in different batch sizes.

Supporting your development

We offer technical support and organised project management as relief to your in-house development team. Our experts can help you recognise opportunities and provide a concept for and further develop your projects, so you can make best use of your limited time and budget. As an extended workbench for your project, our experts are familiar with the various requirements of your industry.

Production

HK SYSTEMS offers an extensive range and depth of products made in the heart of Europe. For you, this means short response times and quick adjustments to your individual specifications.

At our locations in Buchen just east of Heidelberg and Neuruppin just north of Berlin, we manufacture in-house membrane switches and modern touch systems. The pride of our technology network is a complete electronics production with many automated manufacturing processes: we can handle the complete assembly of the printed circuit boards with electronic components to the automated assembly of components on foil.

Plastic or metal enclosures developed individually for you ensure an optimal complete system and round off our complete range for you. You can also choose from standard enclosures, which we can be further processed and customised for you.

We can handle small, medium, and large productions runs. We also use the latest additive manufacturing processes to make as many as a million pieces or just the one!

>> Whether you seek help online or would like to meet in-person, we will get your project moving <<

MANUFACTURING DEPTH PROVIDES FLEXIBILITY

Modern touch system or reliable membrane switch? Which technology is right for your specific application? We use our expert knowledge to support you in making the right decision.
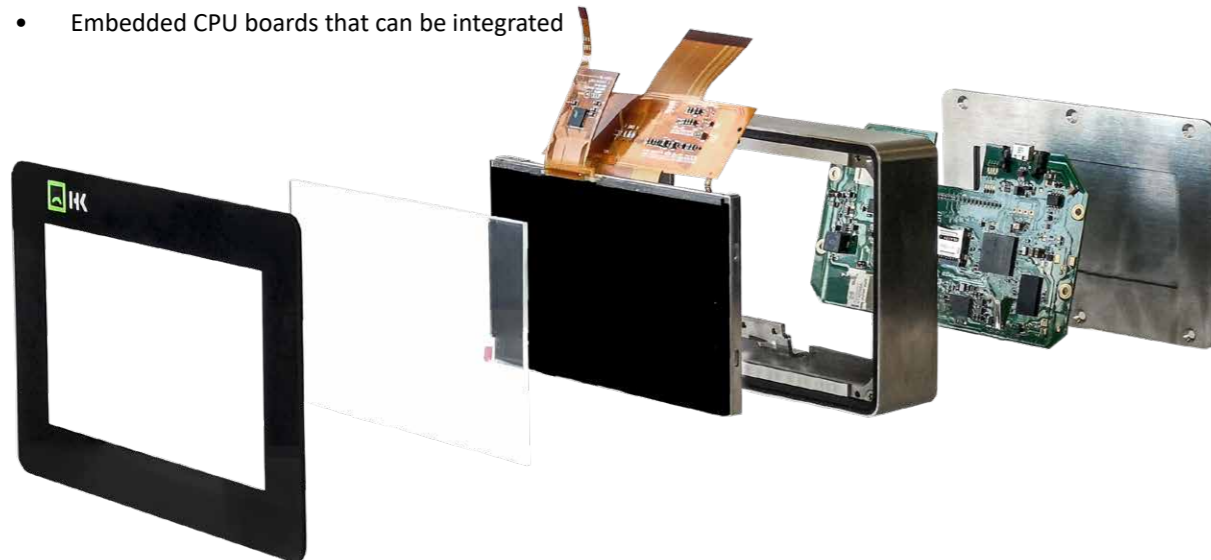
Touch and embedded systems

Thanks to our many years of experience as a manufacturer of control units, we have the necessary experience to implement optimal solutions for custom touch systems. Depending on the required application and operating environment, we'll go over the pros and cons of the various touch technologies with you. A resistive touchscreen, for example, is mainly used where operators wear gloves and where the space available for installation is restricted. For optically more demanding and robust applications, we recommend capacitive touchscreens, otherwise known as PCAPs.

We will refine your HMI according to your specified corporate design with printed or mechanically

treated glass fronts. Complement your touch system with ARM and x86 embedded CPU boards to make your device intelligent. We can offer a large selection of standard processor boards or implement customer-specific developments for your embedded system.

We develop touch and embedded systems for you:

- Capacitive and resistive touch screens
- Capacitive buttons, also with lighting
- Display integration
- Optical bonding in-house
- Glass printing using both screen and digital printing
- Embedded CPU boards that can be integrated

Optical bonding

Thanks to optical bonding (bonding with highly transparent adhesives), the troublesome air gap between cover glass and touch screen or touch and display will be a thing of the past. The optical bonding fills the air gap and eliminates disruptive reflections, prevents the penetration of moisture, increases the brightness, and improves the robustness against temperature fluctuations. The highest requirement when laminating with sheet adhesive (OCA), as well as bonding with liquid adhesive (Liquid Optical Adhesive - LOCA) is cleanliness!

The bonding process is therefore carried out exclusively in our specially designed clean room to avoid impurities.

>> Customized touch systems, also in small and medium quantities <<

Membrane switches

With and without tactile feedback, rigid or flexible, all depending on the application, membrane switches can offer exactly the functions you require. Surface finishes such as embossing or GT technology (moulded key domes) on key surfaces even make blind operation possible.

The lighting technology we have developed in-house ensures that almost every button shape will illuminate brightly and homogeneously in any colour of your choosing. The circuit board required allows for enough room in the back to integrate your own electronics, making a second PCB no longer necessary.

- Illumination via SideLED technology
- Electronics equipment
- With and without tactile feedback
- Limitless design options
- Embossing or moulded key domes (GT technology)

ELECTRONICS RELIABILY PACKED

Enclosure solutions

Individually coordinated carrier plates, holding frames, or enclosures made of plastic or metal ensure an optimal complete system. Choose from standard enclosures that can be tailored for you or let us develop and manufacture a custom solution.

- Plastic, stainless steel, or aluminium enclosure and carriers
- Welding and pressing of connectors
- Sealing and protection concept
- Chromated, passivated, anodised, and pickled surface finishe
- Powder coating
- Surface finish by grinding, brushing, polishing, scotching, or glass bead blasting
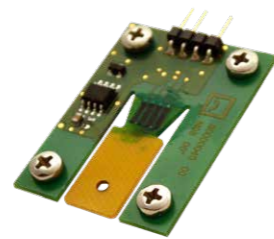
YEARS OF EXPERTISE USING PRINTING TECHNOLOGY TO MAKE INNOVATIVE PRODUCTS

Many of our sensor technology projects are based on fully developed standards, which we can easily customised for you.

Sensofoil® membrane potentiometer

Flat, durable, and sealed displacement and angle sensors. Available both on polyester and on FR4 material.

Polymer strain gauges (P-DMS)

for detecting strains and compressions, based on a FR-4 module. Printed directly on FR4 material, this technology avoids the otherwise process-critical gluing or bonding of an ordinary strain gauge. A direct integration into the PCB design is possible.
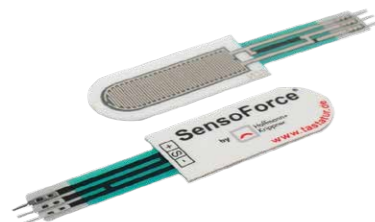
SensoInk® polymer potentiometer

Flat, durable, and open displacement and angle sensors, based on its own wear-free and chemical-resistant, printed polymer paste. Our sensors are based on polyester and are also available on FR4 material.
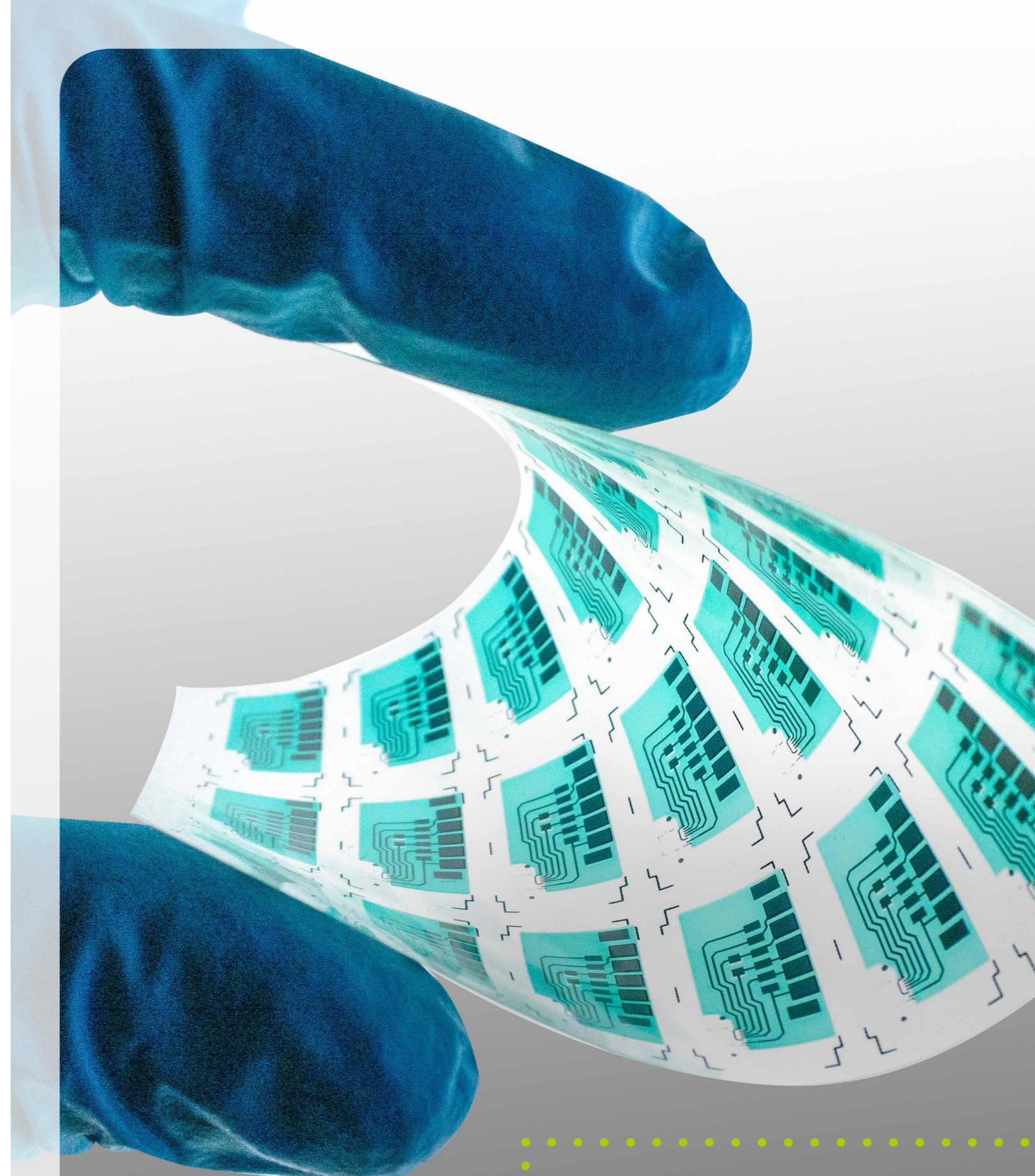
Capacitive sensors

are printed on polyester or printed circuit board and can be easily adapted to your requirements. Single or multi-coloured lighting of surfaces, symbols, or frames is also possible.

SensorForce pressure-sensitive sensors

They change their voltage as a function of pressure and, among other applications, can be used to measure fill levels.

>> Printed functions create space-saving solutions in the most diverse areas of application <<
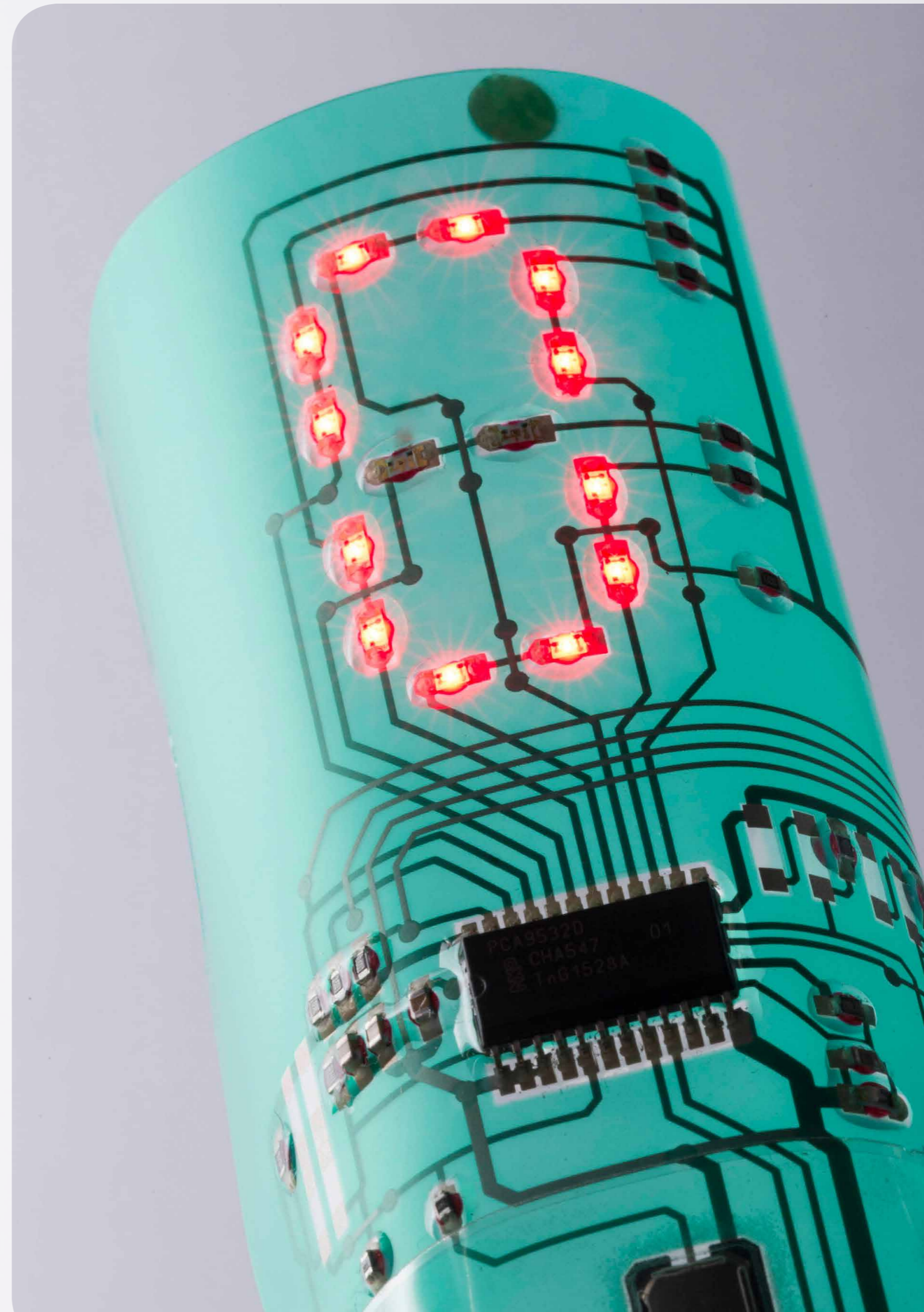
Functional foils

The first membrane switch was developed and produced in 1978 using printed electronics. Conductive pastes can now also be printed on substrates such as paper, textiles, or metal in addition to polyester. Our functional foils enable minimised, compact, and extremely efficient electronic products that are used in every industry. Processing intelligent pastes that have various physical properties enable the production of new and innovative applications in minimised form factors without the use of additional, highly complex electronic components.

>> Flat, flexible and light electronic assemblies for every industry<<

Sample applications:

- Printed circuits and resistors
- Transparent, translucent touch foils
- Hybrid assemblies (printed functions in combination with silicon based electronics)
- Meanders for security technology
- Heating foils with PTC pastes
- In-mould electronics (printed functions in combination with injection moulding technology)
- Smart packaging
- Printed batteries (primary and secondary cells)
- Printed antennas

IOT FROM SENSORS TO PAYMENTS

Connectivity: complete package for industrial SMEs

Capturing, transferring, and visualising data increases productivity and creates transparency.

If you want to connect your product, machine, or sensor data to the "Internet of Things" (IoT), there are a lot of questions that you need to ask.

Which transmission technology is the right one? Who is a reliable service provider for transmission technology and security, for example in mobile communications?

How can the required SIM cards be integrated and managed?

Where does the data go and who will take care of the cloud connection?
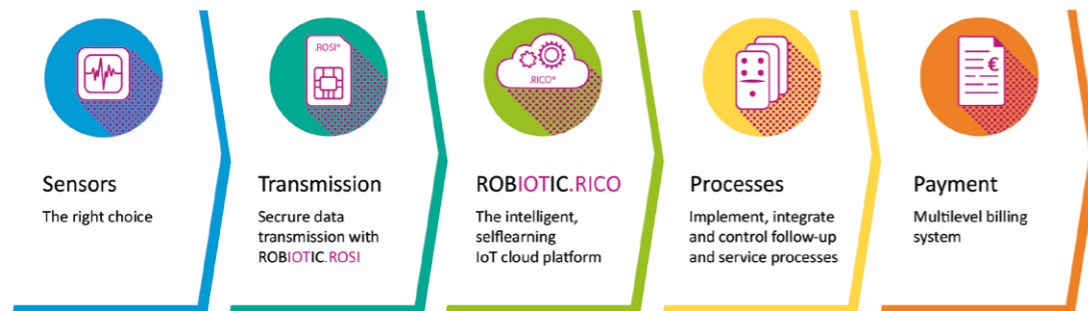
How can I give employees or customers access to their data (and only their data), ideally via app or mobile device?

How does important data end up in the ERP system and how can business processes be connected?

How can I save money with such IoT-based business processes efficiently or make money with a business model?

We have the answers!

Individual IoT solutions from the sensor, via data transfer, connection to cloud platforms and ERP systems up to transparent accounting models.

You get everything from a single source: advice, development, delivery - we accompany your project each step of the way.
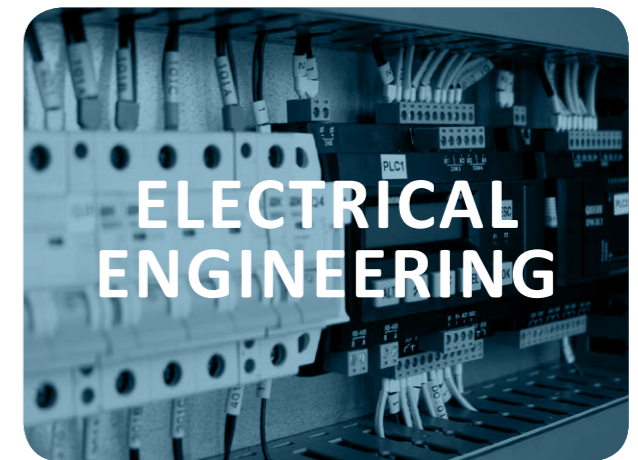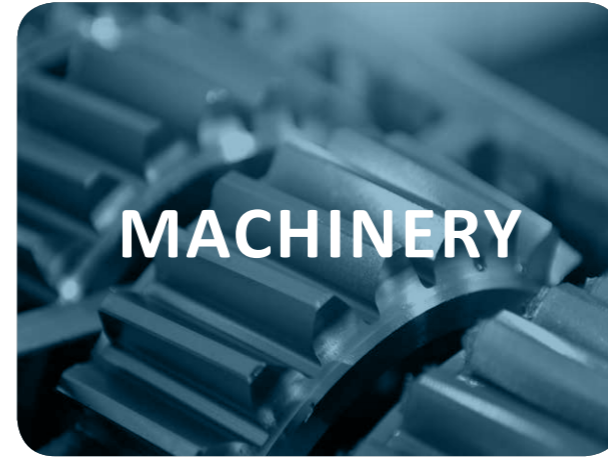

Sensors	Transmission	ROBIOTIC.RICO	Processes	Payment
The right choice	Secrure data transmission with ROBIOTIC.ROSI	The intelligent, selflearning IoT cloud platform	Implement, integrate and control follow-up and service processes	Multilevel billing system

Your holistic IoT solution:

- sensors (custom or standard)
- data transmission via mobile communication
- IoT gateway (can be equipped with a large number of sensors)
- Secure transmission protocols (MQTT or HSPP2)
- Innovative transmission standards (mobile radio, NB-IoT, LoRa)
- Cloud platforms (Salesforce, Microsoft Azure, Amazon Web Service)
- Define rules, trigger processes
- ERP / CRM connection (Salesforce Heroku / Microsoft / SAP / Siemens Mindsphere)
- Data backup (end-to-end encryption)
- Payment (multi-level and dynamic accounting systems)

**THIS IS JUST A SMALL SELECTION OF THE
SERVICES WE OFFER**

MEDICAL TECHNOLOGY

AUTOMOTIVE MANUFACTURING

MACHINERY

SAFETY

AVIATION AND SPACE

CATERING

LABORATORY EQUIPMENT

ELECTRICAL ENGINEERING

FOOD TECHNOLOGY

HOUSEHOLD APPLIANCES

MEASUREMENT AND CONTROL TECHNOLOGY

ENVIROMENTAL TECHNOLOGY

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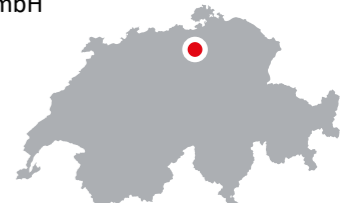info@helicom.de

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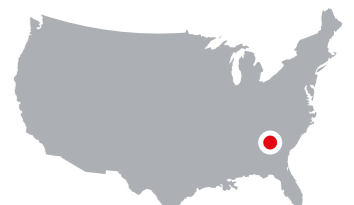Fax: +49 (0) 62 81 52 00 90
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QUESTIONS ?

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