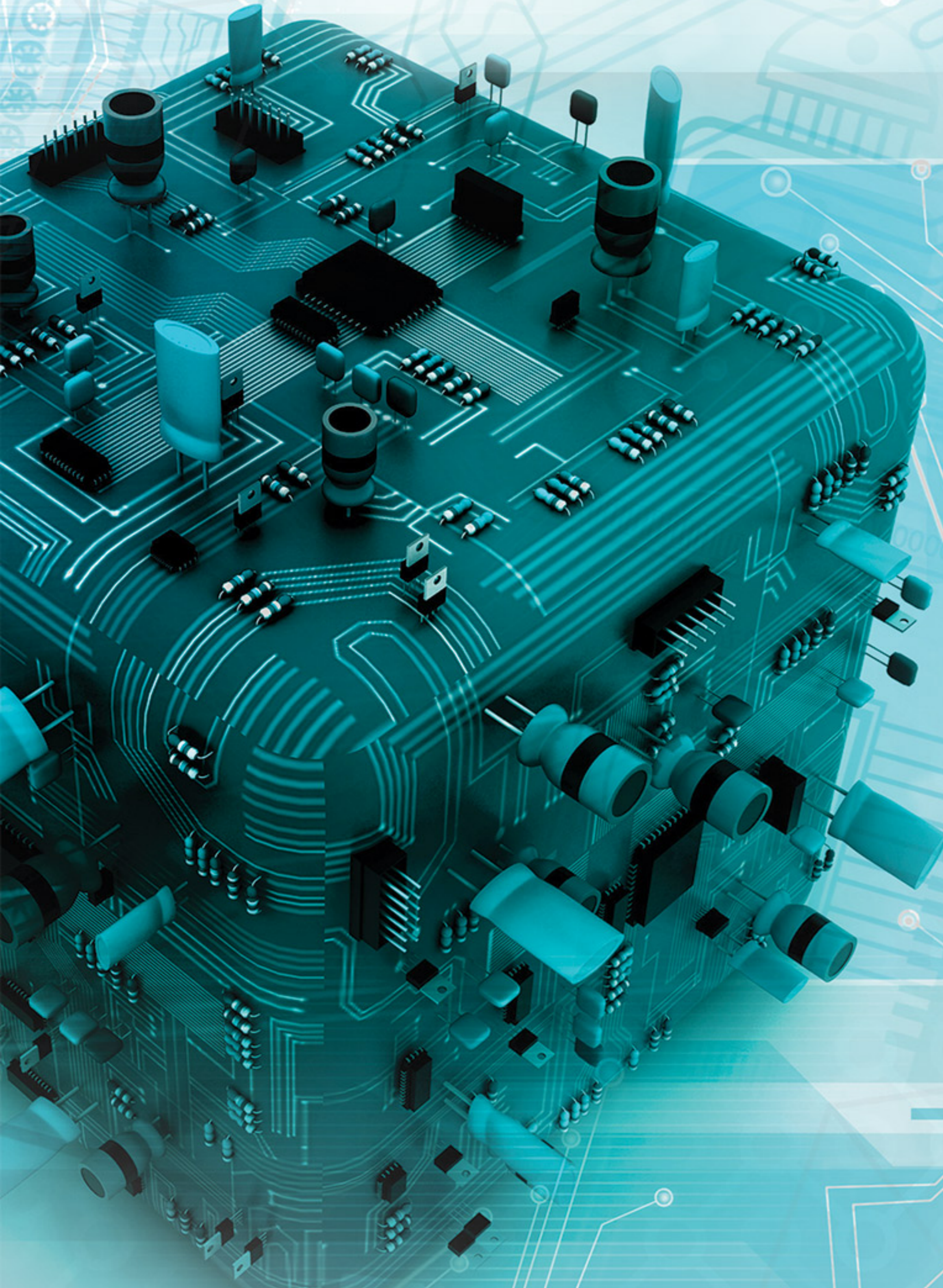




EMAG-SERWIS



*Unlimited possibilities
Flexibility
Quality*



SERVICES
EMAG-SERWIS

ABOUT US

Emag-Serwis Ltd.

Company with
over 20 years experience

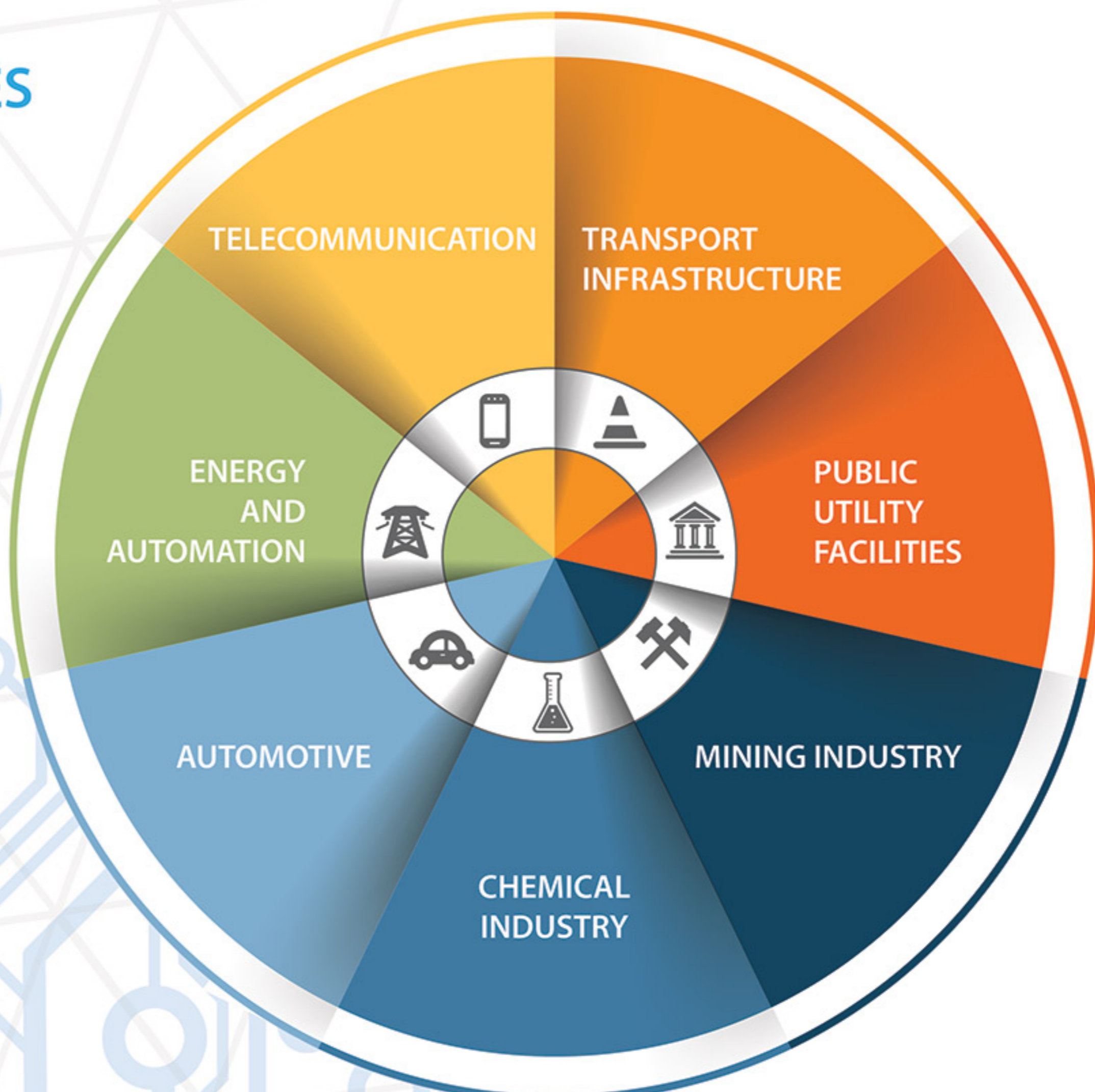


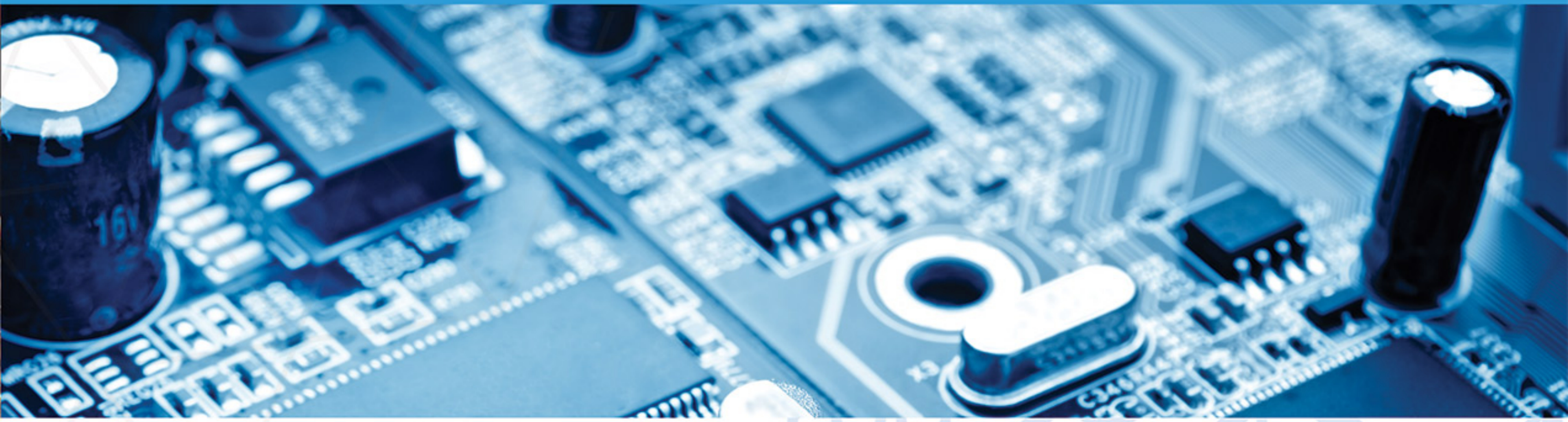
The company specializes in the manufacture of models and prototypes, unit production and low-volume manufacture of equipment and complete systems for electronics, electrical engineering and automation industries.

Our production, measuring and testing equipment enables production based on our own designs as well as customer-provided design documentation. Our company is able to offer comprehensive services.

Highly qualified and experienced technical staff ensures professional performance of the services by the optimisation of costs and technical solutions. Our offer includes outsourcing services for small, mid-sized and large companies both in the domestic and international markets.

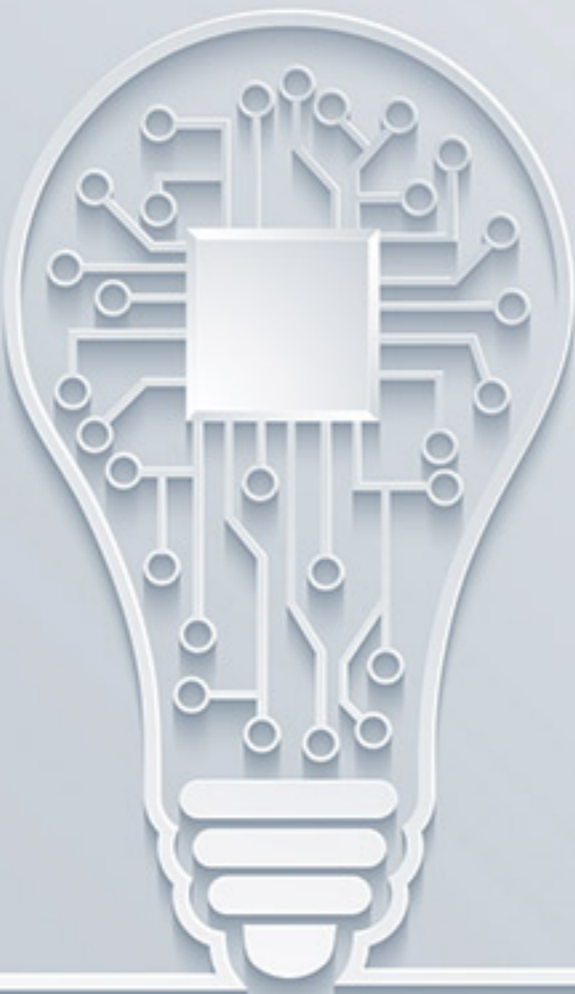
OUR ACTIVITIES





DESIGN

Designing and engineering works are performed by the team of highly qualified engineering staff using advanced CAD/CAM software based on ALTIUM DESIGNER, SOLID EDGE, GIBBS CAM, etc. which ensure high level of our services. Designing is performed in co-operation with the Client on the basis of the presented requirements.



Our offer includes:

- development of Printed Circuit Boards,
- designing and building of prototype electronic devices,
- assurance of conformity with directives,
- production implementation of new products,
- technological preparation of production on the basis of simplified customer's documentation,
- technical advice and consulting for project implementations,
- documentation development,
- description of test procedures of sub-assemblies and complete products, ensuring their verification
- cooperation in structural testing of implemented products using our own laboratory and measurement facilities.

LOGISTICS SERVICES

Our company provides comprehensive logistic services.

With our broad network of regular suppliers we can provide high quality of components at competitive prices.

We provide:

- purchase of necessary components needed for the realization of the project:
 - printed circuits,
 - electronic components,
 - mechanical components,
 - electric components,
- performance of templates for the application of soldering paste,
- professional storage services (with electrostatic protection),
- flexibility and punctuality in the range of planning orders,
- real-time monitoring of the production process with the full history of the manufacture,
- full traceability on the level of materials, semi-products and finished products,
- packaging and delivery to the customer.





SMT ELECTRONICS ASSEMBLY

SMT components assembly with using modern and high-precision assembly lines.

Our offer:

- single and double sided SMT assembly,
- lead and lead free assembly,
- paste and glue application using a template or feeder.

The assembly is performed as per the IPC-A-610E standard under the ESD conditions.

SMT services are performed by two production lines:

- SMT assembly line for mid-size production batches (fully automated):
 - efficiency of 20.9 thousand elements per hour,
 - EKRA X3 screen and stencil printer,
 - JUKI KE-3020L SMT automatic moulder,
 - ERSO HOTFLOW 2/12 oven,
- two independent automatic devices for prototypes and small production batches:
 - efficiency of 5 thousand elements per hour,
 - PBT UNIPRINT semi-automatic printer,
 - Mechatronika M60 pick and place system,
 - Mechatronika M80 pick and place system.



THT ELECTRONICS ASSEMBLY

THT assembly is performed by our professional, knowledgeable and highly skilled staff with long experience regarding international standards in force.

We have specialists certified for IPC/WHMA- A -620, IPC- A - 610D and IPC- 7711A/7221 A.

Assembly implementation:

- manual soldering station,
- selective soldering with EPSON automated centre,
- production of wire harnesses,
- lead and lead free soldering.

Production capacity:

- 10 stations for manual THT assembly,
- 1 station for selective assembly.

CONTROL TESTING LAUNCHING

Our modern laboratory, equipped with advanced measurement systems and environmental chamber, allows us to provide a wide range of services related to testing and controlling product parameters as per the expectations of a demanding Client.

In justified cases, we also develop specialist 'testers' enabling efficient and comprehensive checking of a product before its delivery to the Customer.

It is also possible to utilise our measurement facilities, including the environmental chamber, for testing of products at their development stage.

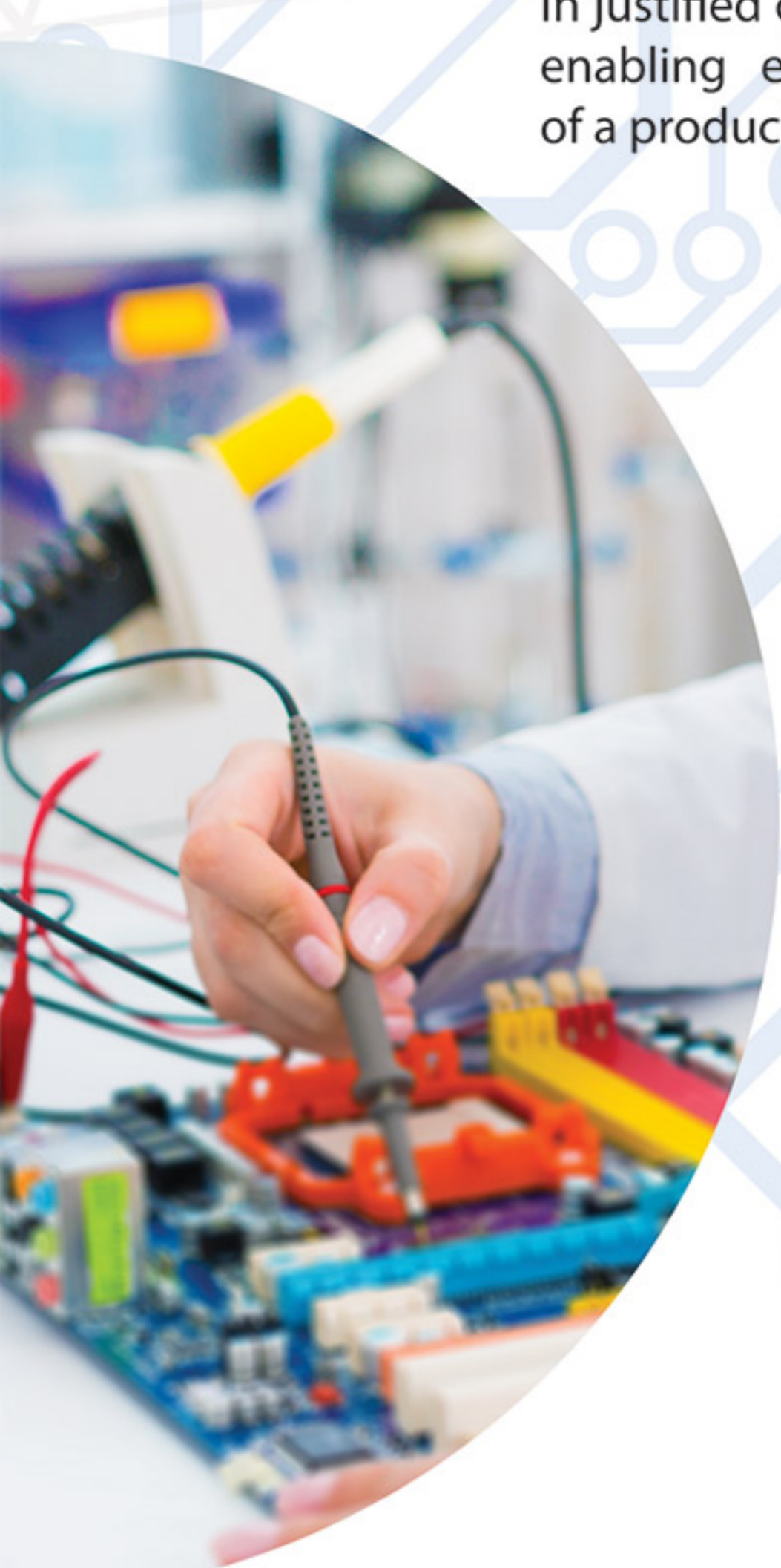
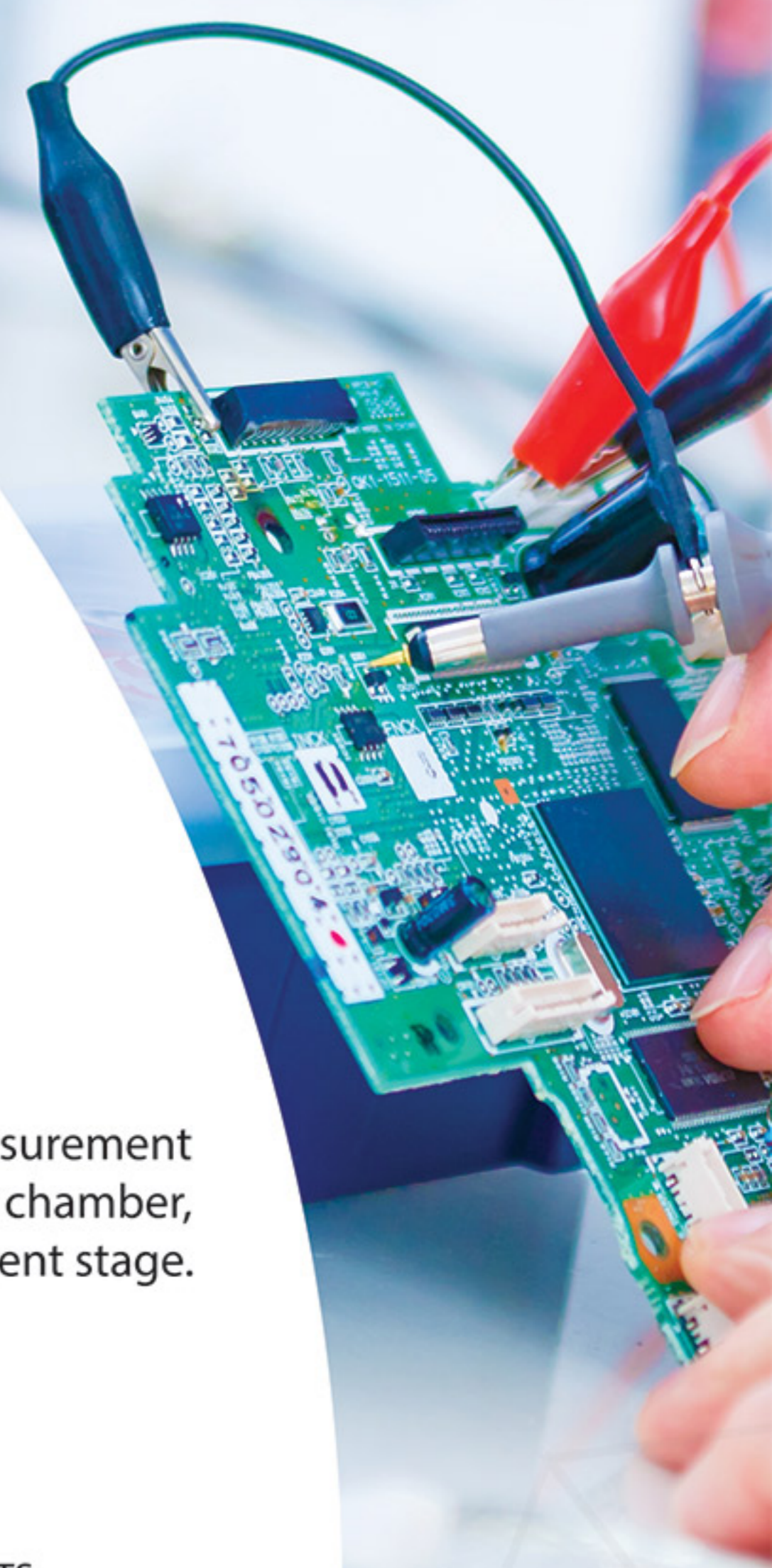
Control is performed with:

- Vi-1 K automatic optic inspection,
- measuring systems by NATIONAL INSTRUMENTS, AGILENT, CROMA, HAMEG and GW INSTRUK,
- testing of sub-assemblies and equipment in the environmental chamber,
- AXIOM TOO CNC coordinate measuring machine.

ENVIRONMENTAL PROTECTIONS

Our offer includes:

- spray cleaning – ensuring high effectiveness of flux removal from electronic circuits after SMT and THT assembly. All stages of the process are performed in one chamber and include: detergent washing, pre-rinsing, rinsing with deionised water and drying with heated compressed air.
- application of protective coatings over the electronic circuits (varnishing, covering with resins, encapsulating). We have at our disposal 3 fully automatic comprehensive stations for the application of conformal coatings for:
 - single component, low-viscosity materials,
 - single component, high-viscosity materials,
 - two component materials.



MACHINING

Machining services, on the basis of documentation provided either by the Client or developed by our company, are performed both on modern CNC machining stations and traditional equipment.

The control of mechanical parameters of the machining is performed with high-accuracy coordinate measuring equipment.

Our company offers a wide range of services:

- milling,
- turning,
- drilling,
- threading.

Our machinery:

- PUMA 2600SY turning centre,
- PUMA 1500SY turning centre,
- DNM500 milling centre,
- HAAS milling centre.

PRODUCT LABELLING

In our production processes we take advantage of labelling both final and semi-final products:

- laser labelling – text, graphics, 1D and 2D bar codes,
- labelling on industrial labels – BRADY industrial printers.

FINAL ASSEMBLY

Our company offers also the final assembly process which is performed by experienced fitters. We have at our disposal very well equipped specialized production centres for mechanical and electronic assembly.

We are able to perform the following operations:

- mounting of electronic components in casings,
- providing electric connections between components with cables and cable harnesses,
- assembly of electronic apparatus and control cabinets,
- comprehensive product assembly,
- hot and cold bonding.



EMS ALL INCLUSIVE

Our Clients can also take advantage of our comprehensive contracted production 'from design to delivery' of the finished product which includes:

- complete design (designing of electronics systems and the relevant mechanical components),
- engineering testing of the designed equipment,
- technological preparation of the production process,
 - logistical preparation of the production process (purchase of production materials and components),
- production of electronic SMD and THT components,
 - production of mechanical components,
- environmental protection of the assembled components (conformal coating and encapsulation),
 - electromechanical final assembly,
- testing and measuring of the assemble components and products,
 - packaging and delivery to the customer.

Our company can ensure high quality of contracted production services due to:

- competent and experienced staff,
- implemented ERP and MES integrated computer system for enterprise management,
- high quality of logistic services,
- the latest in design support software,
- modern technological and production facilities,
- our modernly equipped measurement laboratory.

High quality of our services is confirmed by certificates:

- Certificate issued by TÜV NORD CERT GmbH Essen – Germany with TGA accreditation for the Quality Management System as per EN ISO 9001:2008.
- Certificate issued by TÜV NORD Polska Sp. z o.o – with PCA / Polish Accreditation Centre / accreditation for the Quality Management System as per PN-EN ISO 9001:2009.
- "Notification of Quality" for production and testing of equipment and systems for use in ATEX areas – Directive 94/9/EC; issued by the Central Mining Institute – CERT.



RELIABILITY

due to innovative solutions and modern technology



20 YEARS EXPERIENCE IN INDUSTRY



EMAG-SERWIS

EMAG-SERWIS Ltd.

33 Leopolda Str., 40-189 Katowice

tel.: +48 32 70 02 100

fax: +48 32 25 89 300

e-mail: emagserwis@emagserwis.pl

MEMBER OF

Scientific and Industrial Centre EMAG

 **Silesian
Nano Cluster**

www.emagserwis.pl