Electronics Manufacturing Services (EMS)

SERVICE PORTFOLIO OF THE ERNI GROUP
# Electronics Manufacturing Services (EMS)

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Intelligent solutions. Experienced partners.

ERNI offers you outstanding standards of service and quality. That includes ongoing innovation, production optimization, efficient manufacturing and, last but not least, reduced costs. Our 30 years of experience in the Electronics Manufacturing Services sector spans the full scope of the development process and guarantees verified services that deliver what is expected of them in every single phase. Specifically for our clients in the automotive, industrial automation, transport, medical and communications industries, we develop intelligent solutions by identifying their requirements early on in the process so that we can meet them.

We have over 100 experts at locations in Europe, North America and Asia engaged in activities that are designed to strengthen your position in the market. We give you access to the ERNI network, to guarantee you quality, safety, logistical and cost advantages that will translate into hard cash.

Our developers oversee and support electronics applications from the product idea through to series production. You have access to ERNI’s extensive range of future-proof product solutions, tailor-made to your requirements. Development, special contacts, cable assembly, pressfit technology, soldering technology, coating, testing technology and manufacturing of subracks and housings. We take charge of the production of individual components or entire assemblies from one source, with just one person as your point of contact throughout the entire process.
Creative product development. Efficient manufacturing

Do you have an idea? ERNI has a solution: no matter how far your concept has matured, ERNI will develop your products and components from the first idea through to series production. Our engineers’ many years of experience in contact technologies and connectors, ERNI’s mature products and superior production techniques guarantee you supreme quality. ERNI solutions mean ingenious details by expert engineers. Your advantage: even small production runs with clever ideas, fit for demanding applications. With the dynamism of a global player and the thoroughness of a medium-sized business, ERNI thinks globally and produces locally in Europe, North America and Asia. ERNI always sees the bigger picture in planning projects and making products to meet your needs.

TECHNOLOGIES

• Interconnects / Highspeed
• Sensor systems
• Actuator systems
• Analog high frequency
• Mechanics
• Thermo design / heat dissipation
• Power supply
• VMEbus
• Compact PCI(R), ATCA, uTCA
• Ethernet-on-backplane
• Central electrical units

SERVICES

• PCB and EMS expertise
• Embedded systems microcontroller designs
• FPGA design
• Operating systems
• Hardware-relevant programming and firmware
• Housing technology: metal paneling, profiles, plastic
• Backplanes
• Subracks
• Cable assemblies
• Special contact solutions (full-custom design)

METHODS

• Flexible, agile development with project management
• Effective processes
• Feasibility
• FMEA / risk analysis
• Project management
• Design-to-cost, design-to-X

TOOLS

• High-speed and HF design with CST microwave
• Studio and Agilent ADS
• Circuit design with Mentor Expedition,
• Orcad, Pulstronic and Bartels
• Solidworks for mechanics
1. ELECTRONIC ASSEMBLIES

Electronic assemblies of the highest caliber

ERNI equips your PCBs with state-of-the-art electronic components. Whatever technology is involved, we meet the requirements for your boards and systems. ERNI examines every assembly individually for the functionality of the component parts and the complete system. No assembly leaves the company without intensive examination of the functions it is meant to perform. To satisfy very rigorous test criteria, hand in hand with our customers we develop testing software and build test adapters in our own test equipment construction department.

TECHNOLOGIES

- SMT fine-pitch assembly (BGA, BF 0201, ERNI Microspeed)
- SMT and THR reflow soldering
- THT wave soldering (lead-free and containing lead)
- Protective coating with Novec EGC-1700, Peters SL1307-FLZ and Bectron PK4340
- Automated optical inspection (AOI)
- In-circuit (ICT) and functionality test (FT)
- Boundary scan test
- Component programming (individually and on-board)
- Test equipment construction and development of test software
APPLICATION EXAMPLES

LIGHTING TECHNOLOGY

ENERGY ELECTRONICS

SO WHY ERNI?
2. BACKPLANES

Backplanes with pioneering pressfit technology

Innovation is what drives us. For many years, ERNI has led the way in solderless pressfit technology. Alongside a wide range of standard backplanes (CompactPCI, VME, ATCA, etc.) we make custom products to order. We develop and produce the tools and machinery needed for such tasks in-house. Before shipping, the products are tested to very high standards. This enables ERNI to identify problem areas and risks beyond those that will be routinely picked up. Its own materials procurement network gives ERNI access to the most cost-effective channels available.

TECHNOLOGIES

- Pressfit (semi-automatic/ fully automatic)
- SMD, THR, THT and manual soldering
- Assembly
- Process monitoring
- Test robots for electrical testing and automatic optical inspections
- Connection tests
- Insulation testing
APPLICATION EXAMPLES

RAIL TECHNOLOGY

COMMERCIAL VEHICLES

SO WHY ERNI?
Cable assembly for every application

Whatever type of connection you need, ERNI always offers the best technical solution for your application, from pre-manufactured connectors to individual cables. ERNI engineers develop solutions for every challenge in the realm of connector technology. Our production locations in Thailand, China, USA, Germany and Switzerland make pre-manufactured ERNI contacts on attractive terms and supreme-quality innovative custom solutions. Highly available, durable and efficient – that is what ERNI means by reliability.

TECHNOLOGIES

- Cable preparations (cutting, stripping, Tin-plating, shield processing)
- Contacting (crimping, soldering, crimping and soldering (microflame), IDC, Pressing, welding, screwing, bonding, coax)
- Final assembly (screwing, binding, shrinking, overmolding)
- Testing (mechanically, optically, electrically)
- Labeling and packaging (inkjet, laser, labels, heat-shrink grommets, metal badges, hot-stamping)
Superior equipment manufacturing and assembly

Are you planning to manufacture equipment? No matter how unique your application is, ERNI can offer complete solutions customized to your requirements. We use top-quality, specially adapted sheet-metal bending devices or standard profiles, depending on the requirements. In that connection we offer assembly installation, wiring of attachments and electrical checks of the entire system. ERNI implements software, packages and labels, and manages serial numbers – a personal service that you can rely on in every phase.

TECHNOLOGIES

- Assembly (screwing, riveting, bonding)
- Assembly wiring
- Integration into subrack and other housings
- Safety test (protective conductor, insulation, leakage current, dielectric strength)
- Functionality test
- Product-specific labeling
APPLICATION EXAMPLES

INDUSTRIAL AUTOMATION

TELECOMMUNICATIONS

SO WHY ERNI?
ERNI represents the benchmark

A one-stop shop – something ERNI can offer thanks to its high vertical integration and stable network of suppliers.

Thoroughly trained engineers will advise you from the first idea to series production.

We identify potential, create interfaces with your departments and assure high-quality, efficient results.

You can source all modules from us for your successful product solutions: plugs, housings, cables. System products with a manufacturer guarantee and a promise of quality from ERNI.

Engineering from ERNI seeks to get more value out of your projects. That means an edge in terms of time, cost and production, coupled with high reliability.

High synergy benefits reflected in both attractive prices and ERNI’s reliable, continuous service – since 1952.
OUR EMS MANUFACTURING LOCATIONS

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