

cicor



Creating Together
From Design to
Finished Product

About Cicor

Markets	4
Global Footprint	6
Quality	7
Corporate Responsibility	7

Solutions

Engineering Services	8
Electronic Manufacturing Services	10
Printed Electronics	11
Power Supply	11
Precision Plastics	12
Hybrid Circuits	14
Printed Circuit Boards	15

Creating Together

Cicor Group is a solutions provider with worldwide operations and a globally unique portfolio of services and technologies. With about 4,600 employees in 14 countries, Cicor supplies customized products and services from design to finished product from one source.

Cicor offers highly complex comprehensive electronic manufacturing services including microelectronic assembly, as well as engineering services, printed circuit boards, hybrid circuits, precision plastics and printed electronics. The latest discoveries combined with many years of experience, state-of-the-art technologies together with exceptional expertise make Cicor a dependable and innovate partner in the development and production of compelling electronics solutions.

Cicor's 16 ISO Class 5 to 8 cleanrooms are highly controlled environments designed to minimize particulate contamination, ensuring strict compliance with international standards for cleanliness in sensitive manufacturing or research processes.



< Explore more about Cicor
on cicor.com



Markets

Cicor is a global provider of full-cycle electronics solutions, from research and development to manufacturing and supply chain management, serving leading companies in the healthcare technology, industrial and aerospace & defence markets.

Cicor creates value for its customers by combining customized development solutions, high-tech components and electronic device manufacturing.



Healthcare Technology

Medical devices are essential to improving healthcare worldwide. Cicor has been developing and manufacturing medical devices for decades, incorporating increasingly sophisticated functions in the smallest of spaces, ultimately enabling people around the world to hear, see and live better.

Examples of use

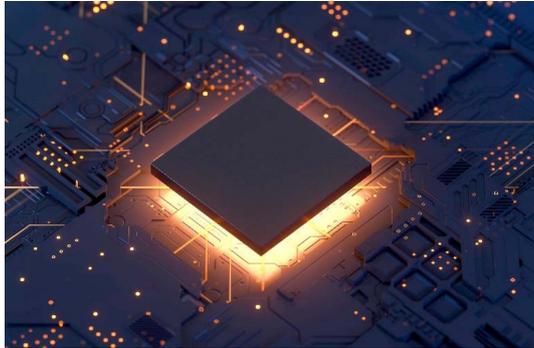
- Hearing aids and cochlear implants
- Pacemakers and defibrillators
- Medical imaging
- Intraocular pressure sensor implants
- Drug delivery systems
- Back training devices

Certifications

- ISO 9001
- ISO 14001
- ISO 13485
- ISO 15378



< [cicor.com/medical](https://www.cicor.com/medical)



Industrial

For more than 50 years, Cicor has supported its customers in the development and production of complex solutions for industrial electronics and building technology products that meet the high demands of today and tomorrow.

Examples of use

- Temperature control
- Control units for energy sector
- Camera sensors
- Electronic Shelf Labels (ESLs)
- Smart Water and Gas Management Systems
- Sanitary Systems
- Door Systems

Certifications

- ISO 9001
- ISO 14001
- IATF 16949



< cicor.com/industrial



Aerospace and Defence

Highly reliable equipment is essential for mission- and life-critical applications. For more than 30 years, Cicor has supported strategic international programs and worked with market-leading prime and tier one companies.

Examples of use

- T/R modules
- 3D digital magnetic compass
- Cable assembly
- High frequency modules
- High-end aerospace electronics

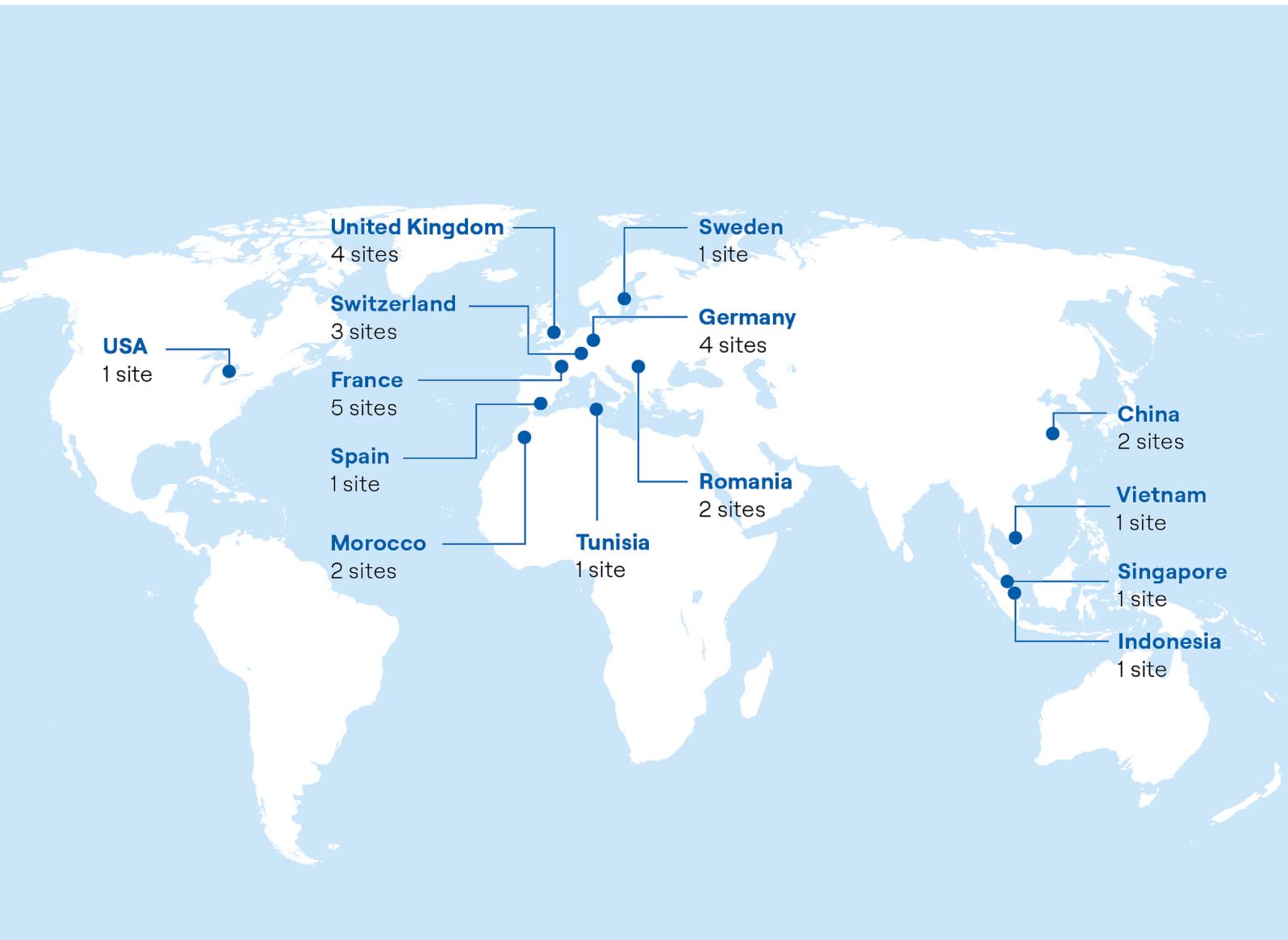
Certifications

- ISO 9001
- ISO 14001
- ISO 27001
- EN 9100
- JOSCAR



< cicor.com/aerospace-defence

Global Footprint



Cicor has grown from a printed circuit board company in western Switzerland to a global technology group. With a global network in 14 countries and 16 clean rooms across four continents, Cicor is always close to the customer.



< cicor.com/locations

Quality Management

By consistently focusing on the requirements of its customers and comply within internationally recognized standards, Cicor ensures that customers receive the most reliable and high-precision products possible.

Cicor's quality data management system goes far beyond statutory requirements and has an incredible range of functions. These are configured in line with specific customer requirements, ensuring seamless transparency in all production and after-sales processes across all sites.

All Cicor sites are audited at regular intervals, with processes constantly being reviewed and analyzed. An overview of all certificates is available of the Cicor website.

> [cicor.com/quality](https://www.cicor.com/quality)



Corporate Responsibility

Cicor places a high priority on its sustainability agenda, which affects all levels of the company. CO₂ reduction programs and renewable energy initiatives at production sites are paving the way for a greener future.

For Cicor, social value is as important as environmental KPIs. The company promotes social responsibility not only for its own employees, but also for its partners throughout the supply chain.

Cicor operates according to the principles of fair business practices and good corporate governance. With the Sustainability Report integrated into the Annual Report, Cicor provides comprehensive and transparent information on how it minimizes its environmental impact, develops its employees and productivity, and creates value beyond the business implementing the latest GRI standards.

> [cicor.com/corporate-responsibility](https://www.cicor.com/corporate-responsibility)



Engineering Services

The Cicor Group has more than 400 well-trained engineers working on customer projects, whose interdisciplinary skills make the engineering department a unique selling point for the company. Using efficient methods and tools, they support Cicor customers in the areas of hardware and software engineering, PCB layout and component selection, test engineering, tool design, printed electronics, as well as process and quality management throughout the entire product life cycle.



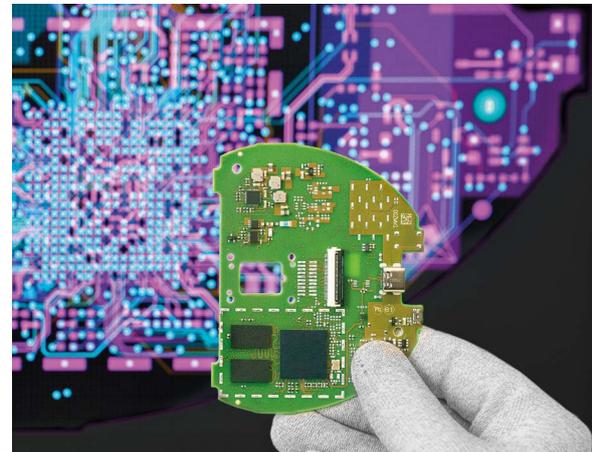
< cicor.com/engineering

Product Development

Technological advances in the design and manufacture of electronic products and regulatory requirements present significant challenges to OEMs. Cicor develops innovative electronics and associated software for healthcare and industrial customers, supporting them from the idea to the finished product. The development process is ISO 9001 and ISO 13485 certified and Cicor also meets the requirements for the development and production of accessories for mobile devices from a leading manufacturer.

The development engineers work closely with the production department. This results in an intensive exchange of know-how and technology. Target-costing, design-for-manufacturing, design-for-testability and design-for-traceability are put into practice on a daily basis.

> cicor.com/product-development



Process Engineering

At Cicor's manufacturing sites, engineers are continuously working on processes to provide our customers with products that meet the highest quality standards at a competitive cost level. This includes tasks such as:

- Defining process parameters and test procedures based on required efficiency and effectiveness
- Optimizing productivity and product quality by developing and implementing new procedures
- Tracking and monitoring processes
- Providing operational documents such as work instructions, checklists, and control and maintenance schedules
- Training operators
- Elaborating equipment specifications, defining acceptance criteria, and releasing equipment for production
- Assist in the evaluation and qualification of new materials
- Aligning activities with international standards and sustainability

> cicor.com/process-engineering

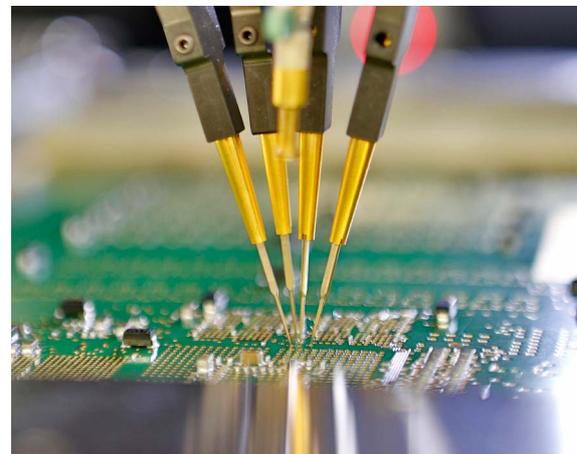


Test Engineering

Due to strict standards and regulations, comprehensive testing of electronic components, PCBs and circuits is becoming increasingly important. This requires automated test systems with high reliability and repeatability. Cicor has many years of experience in developing product-specific tests and test systems, from in-circuit testing to complex functional test systems. Ideally, test engineering is integrated during the development phase so that the requirements for subsequent test execution can be covered during product design. This includes in particular:

- Test concept development (AOI, Flying Probe Test, ICT, function test, X-ray, Boundary and Frame Scan)
- Setup and programming of test systems
- Integration of test systems into the production environment
- Quality data management with traceability over the entire life cycle of the product

> cicor.com/test-engineering



Electronic Manufacturing Services

Cicor offers outsourcing solutions for the development and manufacture of electronic assemblies and complete devices and systems. As a globally active company, the Group exploits synergies and offers solutions based on many years of know-how.



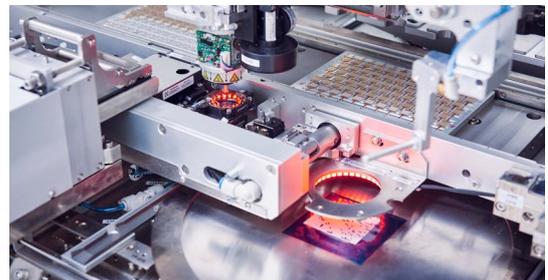
< cicor.com/ems



Printed Circuit Board Assembly

Cicor produces customized electronic modules efficiently and to the highest quality. This covers the entire spectrum from small to large series. Thanks to its global production network, Cicor offers cost-effective structures that can be tailored to the customer's needs.

> cicor.com/pcb-assembly



Microelectronic Assembly

Cicor offers a comprehensive portfolio of assembly and interconnection technologies for the production of microelectronic modules and assemblies. Several production lines for fully automated and semi-automated processes are available. The main assembly technologies are SMD mounting, chip assembly, wire bonding, encapsulation, screening and testing.

> cicor.com/microelectronic-assembly



Cable Assembly

Cutting, stripping and crimping of cables is as much a part of our daily business as is automatic stranding. The production unit is complemented by a 2K horizontal injection molding machine, where connectors and cables are overmolded and protected against moisture and other environmental influences. We take care of the sourcing of materials, complete cable assembly and logistically appropriate packaging.

> cicor.com/cable-assembly



Box Building

Cicor offers services ranging from box building to complex assembly of complete systems and equipment. As a partner throughout the product lifecycle, Cicor reduces the number of suppliers and contacts, thereby saving costs. Cicor supports its customers right from the idea and development of products suitable for production in order to ensure the most cost-effective production possible.

> cicor.com/box-building

Printed Electronics

Printed electronics offers significant advantages over conventional manufacturing processes and opens a new chapter in miniaturization. Cicor maintains two laboratories for printed electronics, reinforcing its commitment to technological leadership.

> cicor.com/printed-electronics



Power Supply

Cicor offers top-tier AC/DC and DC/DC power solutions ranging from 1W to 1.2KW. All solutions are catering to your requirements and specialising in both healthcare technology and industrial grade solutions. Our services include engineering support, custom modifications, and full design cycle assistance, ensuring seamless integration and reliability.

> cicor.com/powersupply



Precision Plastics

Cicor designs and manufactures high-quality precision plastic injection tools and molded parts. The company specializes in miniature parts with complex geometries, with the goal of achieving absolute repeatability with uncompromising tolerances in production.

Time and precision are the core values. Cicor supports its customers with fast development cycles using proven validation methodologies. Design for Excellence (DfX) is implemented early in the development process to integrate best-in-class manufacturing technologies and processes to deliver market-leading solutions for the customer's precision requirements.

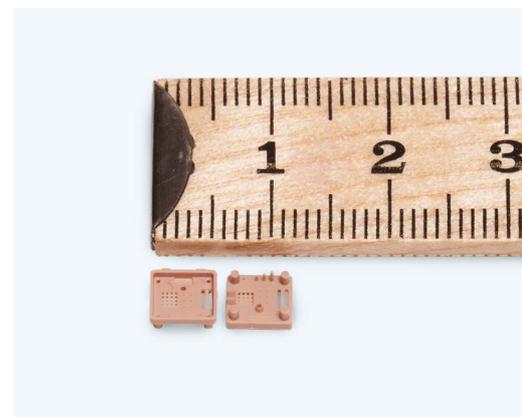
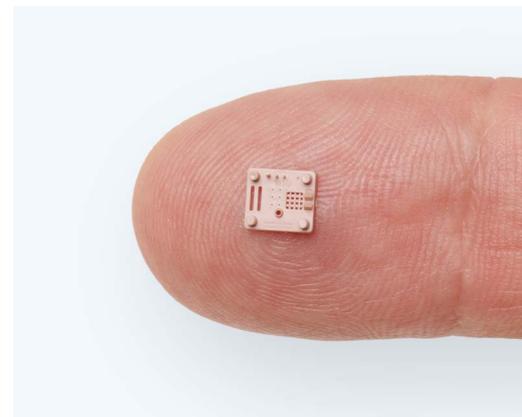


< cicor.com/precision-plastics

In partnership with the French Clayens Group, Cicor offers one-stop development and manufacturing solutions for demanding medical device and industrial applications, with a focus on intelligent drug delivery systems.

The collaboration between Cicor and Clayens brings together complementary global manufacturing capabilities, a shared vision for innovation and excellence, and extensive technology and market expertise in their respective fields.

> clayens.com/en



Tool Design and Fabrication

Cicor specializes in the manufacture of precision steel injection molds that meet the highest quality requirements and ensure flawless production at high capacity throughout the product life cycle. Engineers use state-of-the-art software to convert even the most complex product designs into precision plastic parts. Sophisticated mold designs meet the most demanding customer requirements.

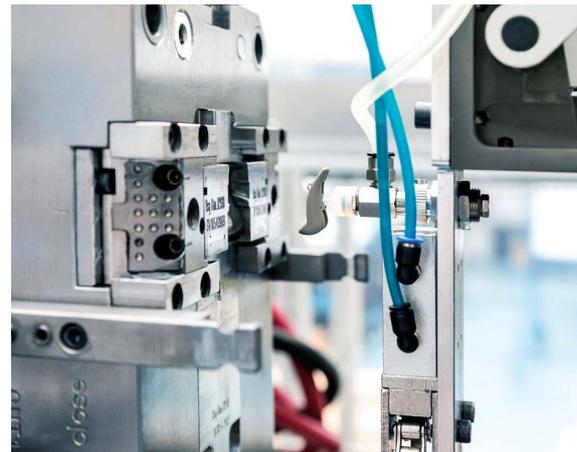
> cicor.com/tooling



Plastic Injection Molding

Cicor designs and manufactures high-quality, precision plastic injection molded parts and offers plastic injection molding with vertically integrated secondary processes and assembly of complete products. The portfolio includes 2K injection molding, insert molding, thin-wall molding/precision molding and micro-molding of plastic parts as small as 2 mm in diameter with micro-structures.

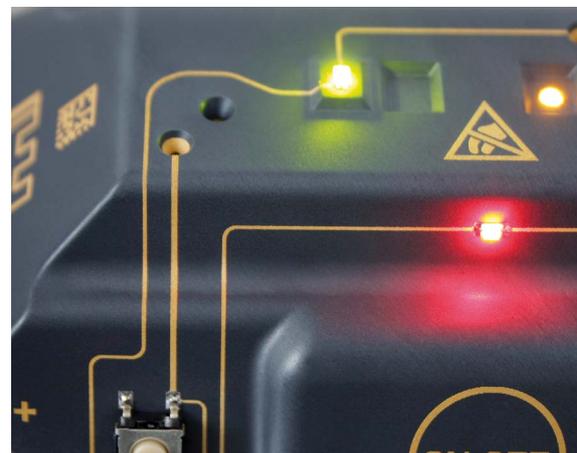
> cicor.com/plastic-injection-molding



3D-MID

3D-MID (3-Dimensional Molded Interconnect Device) technology allows mechanical and electronic functions to be integrated into a single component in a very small space. The electronic circuitry is integrated into the plastic part or housing, significantly increasing compactness and function density. The number of components can be reduced to one.

> cicor.com/3D-MID



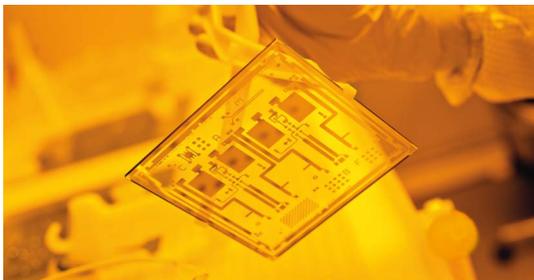
Hybrid Circuits

Thin-film substrates are used where conventional PCB technologies cannot provide an adequate technical solution. Rigid and flexible multilayer circuits can be produced with the highest resolution (10 µm). Thin-film technology uses semiconductor and microsystem technologies to produce circuit carriers on ceramic or organic materials.

Thick-film technology is a sophisticated technology that has been in use for decades. The use of ceramics as a substrate provides the highest reliability under the harshest environmental conditions.



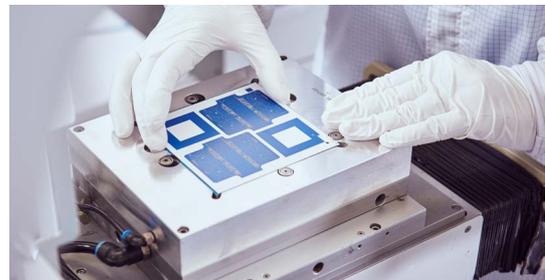
< cicor.com/hybrid-circuits



Thin-film Substrates

Thin-film technology uses semiconductor and microsystem technology processes to create circuits on ceramic or organic materials. Thin-film technology differs from printed circuit board technology in that the metal is deposited using vacuum processes, and in particular in the flexibility that can be achieved in terms of thickness and type of metallization.

> cicor.com/thin-film



Thick-film Substrates

Thick-film substrates are clearly superior to printed circuit boards in terms of temperature resistance and lifetime. The main advantages of this technology are the use of ceramics as substrates with excellent heat conduction properties and the realization of printed resistors over a wide spectrum with the possibility of producing any value by laser trimming.

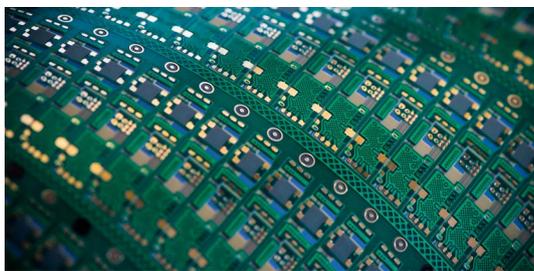
> cicor.com/thick-film

Printed Circuit Boards

For more than 55 years, Cicor has been designing and manufacturing advanced printed circuit boards from concept to prototype to volume production. With extensive expertise in multilayer boards (MLBs) and high-density interconnects (HDIs), the combination of our PCB processes with our thin-film technology can produce innovative circuits.

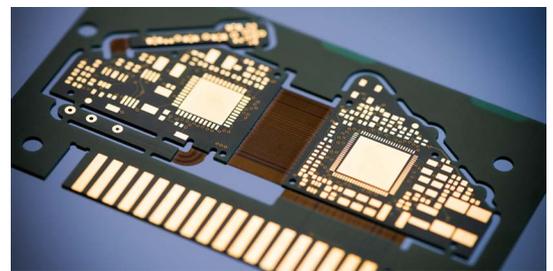


cicor.com/pcb



Flexible PCB

Flexible printed circuit boards offer the highest level of 3D miniaturization. Very small bend radii combined with ultra-high density interconnects make it possible to build increasingly smaller and highly integrated devices.



Rigid-flexible PCB

Combining the benefits of rigid and flexible PCBs improves signal integrity and reliability, especially in environments with vibration, acceleration and other harsh conditions.



DenciTec®

DenciTec® capabilities include line widths and spacings down to 25 μm with copper thicknesses of $20 \pm 5 \mu\text{m}$ on all conductive layers, laser via diameters of 30 μm , annular rings of 30 μm diameter for inner layers, and copper filled blind vias with the option of via stacking and vias-in-pads.



Rigid PCB

Rigid PCBs are available in many different types, which differ in the number of layers, base materials used, construction methods, interconnection schemes and applications. Cicor offers rigid PCBs with 1-20 layers with a clear focus on miniaturization.



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