Production sites
Global presence
«The future is the result of innovative ideas.»
Within the electronics industry, the Cicor Group and its specialized, leading companies play a significant role in various industries around the world. Different industries, different applications, different cultures, but one thing in common: in high demand as high-tech manufacturing partners with a high degree of specialization, unique skills and services.

Global setup
Cicor is a globally active group of leading companies in the electronics industry. It is organized into two divisions: Advanced Microelectronics & Substrates (AMS) and Electronic Solutions (ES). The Group’s companies provide complete outsourcing services and a broad range of technologies for the manufacture of highly complex PCBs, 3D-MID solutions, hybrids and electronic modules. With more than 1,900 employees at eleven production sites worldwide, the Group supplies high-quality customized solutions to clients in Europe, the US and Asia.
Production sites

1. Switzerland
   Bronschhofen
   Boudry
   Moudon
   Wangs

2. Germany
   Radeberg
   Ulm

3. Romania
   Arad

4. China
   Suzhou

5. Vietnam
   Ho Chi Minh City (Saigon)

6. Singapore
   Singapore

7. Indonesia
   Batam
Cicor Group – global and local presence
S.C. Sytronics S.R.L manufactures products of consistently high quality using state-of-the-art equipment. The site creates value for our clients through flexibility and a clear focus on solutions.

Sytronics offers complete outsourcing solutions for the manufacturing of electronic component assemblies as well as complete devices.

Production site in Arad, Romania

Floor space: 7500 m²
Competencies and services

Traceability
- PCB barcode laser (Asys)
- Individual PCBA and component batch traceability

SMT production
- Fully automatic in-line printer incl. stencil cleaning system, automatic optical in-line paste printing inspection
- Print image size min. 70 x 60 mm, max. 600 x 450 mm

Adhesive bonding
- From chip 0603
- Adhesive printing

Components
- Chip up to 0201 (0.5 x 0.25 mm)
- Fine-pitch assembly up to 0.4 mm pitch (in serial production)
- µBGA up to 0.5 mm pitch

Assembly
- 15 SMD assembly machines Siplace S-/SX-Series
- In-line operation

Reflow soldering
- 5 Nitrogen full convection reflow systems (SMT)
- Individual soldering profile
- Max. reflow soldering width of 460 mm
- Optical inspection before and after reflow soldering

Rework
- SMD and BGA repair stations

THT production

Component preparation
- Automatic cutting
- Bending, crimping
- Manual assembly stations

Wave soldering
- 5 nitrogen wave soldering systems
- Max. circuit board dimensions of 440 x 390 mm
- Different, subsequent soldering programs controlled via barcode
- Partial soldering with soldering masks
- Min. circuit board dimension of 95 x 95 mm and max. 400 x 500 mm
- Timely optical inspection

Process monitoring
- Soldering profile
- Wave height
- Solder bath temperature
- Regular solder analyses
- Residual oxygen

Coating
- Dip coating (KC coating machine)
- Standard coatings (Peters SL1309N)
- Silicone coatings

Optical inspection / AOI
- Inline AOI systems (TRI) with QDM integration
- All PCBA are scanned in accordance with IPC-A-610
- Initial sample testing for new projects
- Serial initial sample testing for each batch

Box building
- System assembly
- Product-specific assembly workplace
- Functional testing
- Configurations management

Quality management
- Recording of all assembled modules using serial numbers and barcodes (traceability)
- Unique barcode on PCBA level for in-depth traceability
- Recording and analysis via validated quality management system (QDM)
- Seamless process monitoring and checks
- Certified IPC-Trainees

Portfolio
- Test engineering
- PCB assembly
- Cable assembly
- Box building
- System assembly
- After-Sales-Service

Markets
- Automotive
- Consumer
- Defense and security
- Industrial
- Telecommunication
- Traffic and transport

Certifications
- ISO 9001 Quality management system
- ISO 14001 Environmental management system
- ISO/TS 16949 Quality management system for the automotive industry
- OHSAS 18001 Occupational health and safety management system

Electronic Solutions
PT Cicor Panatec is strategically located in Batam, Indonesia, only one hour away from Singapore. This Singapore-Batam combination offers the best of the engineering and management excellence of Singapore and the cost-competitiveness of Batam.

Total floor space: 6,740 m²
Production molding: 1,630 m²
Production assembly: 1,950 m²

«State-of-the-art manufacturing facilities combined with highest quality standards.»
Competencies and services

Plastic injection molding
- Molding machines ranging from 45 tons to 468 tons
- Machine types: Engel, Demag, Netstal, Sumitomo, JSW, Haixing, Haitian and Multiplus
- 2K molding
- Insert molding

Assembly/sub-assembly/cleanroom assembly
- Precision assembly
- Miniature assembly
- Spot welding
- Ultrasonic welding
- Coil winding (wire size: 0.03 mm – 0.70 mm)
- Pad printing (normal and rotary) (Max plate size: 100 mm x 100 mm)
- Silkscreen printing (max size: 400 mm x 600 mm)
- Cleanroom assembly (class 8)
- Cleanroom molding (class 8)

Services
- Pre-production to mass production
- Raw to box-build operation
- Ultrasonic welding

Test
- Product reliability test – humidity/temperature/packaging
- Salt spray test

Portfolio
- Plastic injection molding
- Box building
- Cleanroom assembly
- Coil winding

Markets
- Consumer
- Industrial
- Medical technology

Certifications
- ISO 9001 Quality management system
- ISO 13485 Quality management system for medical products
- ISO 14001 Environmental management system
- OHSAS 18001 Occupational health and safety management system
- Manufacturing of Products with UL
- Cleanroom ISO 8: molding and box building
- GMP (good manufacturing practice)
Working closely with our customers in the medical, automotive, aerospace & defence, telecommunication and consumer industries, Cicorel SA develops and produces sophisticated rigid, rigid-flexible and flexible printed circuit boards (PCBs) and has comprehensive expertise in multilayer boards (MLBs), high-density interconnects (HDIs), reel-to-reel and 3D MID technology.

«Guaranteed reliability by being more than a manufacturing partner.»

Floor space: 5,200 m²
Competencies and services

Substrates
PCBs
- Rigid, rigid-flexible and flexible PCBs
- High-density interconnects (HDIs)
- Multi-chip modules (MCM)
- 1–32 layer rigid PCBs
- Multilayer circuits on polyimide, polyimide glass, LCP, FR-4, high-Tg, HF substrate
- Panel and reel-to-reel production
- Circuit board structures down to 25/25 µm
- Laser microvias down to 30 µm
- Mechanical vias down to 75 µm
- Filled blind vias
- Stacked/staggered microvias to 6-n-6
- +/-5% impedance-controlled circuit boards
- Thin base materials down to 12.5 µm
- Circuit boards down to 4.0 mm thickness
- Laser cavities
- Materials for temperature management
- Extensive portfolio of surface finishes
  - Immersion Sn
  - Immersion Ag
  - ENIG
  - ENePig
  - OSP
  - ASIG
  - Galvanic Ni/Au
  - HASL
- Electrical, optical and thermal testing

Portfolio
- Rigid PCBs
- Rigid-flexible and flexible PCBs
- MCM
- HDI
- Reel-to-reel production
- Cavities
- 3D-MID technology

Markets
- Aerospace and defense
- Industrial
- Medical
- Telecommunication
- Testing
- Watchmaking

Certifications
- ISO 9001 Quality management system
- ISO 14001 Environmental management system
- OHSAS 18001 Occupational health and safety management system
Swisstronics Contract Manufacturing AG develops and manufactures products of high quality using state-of-the-art equipment. We offer complete outsourcing solutions for the development and manufacturing of electronic component assemblies as well as complete devices and systems. The site creates value for our customer through flexibility and a clear focus on customer-specific solutions.

«Development and manufacture of customized electronic products.»

Floor space: 6,000 m²
Competencies and services

**Traceability**
- PCB barcode laser (Asys)
- Individual PCBA and component batch traceability

**SMT production**
- Fully automatic in-line printer incl. stencil cleaning system, automatic optical in-line paste printing inspection
- Print image size min. 70x60 mm, max. 600x450 mm

**Adhesive bonding**
- From chip 0603
- Adhesive printing

**Components**
- Chip up to 01005 (0.4 x 0.2 mm)
- Fine-pitch assembly up to 0.3 mm pitch (in serial production)
- μBGA up to 0.35 mm pitch
- Flexprint assembly
- Assembly of THR components (Through-hole-reflow)
- PoP assembly (Package-on-Package)

**Assembly**
- 9 SMD assembly machines (Siplace S-/SX-Series, Mydata My100)
- In-line operation

**Reflow soldering**
- 4 Nitrogen full convection reflow systems (SMT)
- Individual soldering profile
- 460 mm max. reflow soldering width

**Rework**
- SMD und BGA rework stations (ZEVAC)

**THT production**

**Component preparation**
- Automatic cutting
- Bending, crimping
- Partially automated assembly stations
- Manual assembly stations

**Wave soldering**
- 2 nitrogen wave soldering systems (Seho)
- Max. circuit board dimensions of 440x390 mm
- Different, subsequent soldering programs controlled via barcode
- Partial soldering with soldering masks

**Selective wave soldering**
- 1 dual port selective soldering system (Ersa)
- Min. circuit board dimension of 95x95 mm and max. 400x500 mm

**Process monitoring**
- Soldering profile
- Wave height
- Solder bath temperature
- Regular solder analyses
- Residual oxygen

**Optical inspection / AOI**
- Inline AOI systems (Göpel) with QDM integration
- All flat modules are scanned in accordance with IPC-A-610
- Initial sample testing with EFA inspection system

**Coating / potting**
- Conformal coating line (Nordson)
- Standard coating (Humiseal 1B73)
- Epoxy resin and silicone potting
- UV Adhesive bonding
- Hotmelt potting
- Manual coating

**Box building**
- System assembly
- Product-specific assembly workplace
- Functional testing
- Configurations management

**Test**
- Development of product-specific test concepts
- In-circuit (Teradyne, TRI), flying probe (Spea) and functional test (Custom built)
- Frame scan and boundary scan implementation
- Development and set up of product-specific test systems
- High-voltage, run-in and burn-in tests

**Portfolio**
- HW/SW Development
- PCB layout
- Test engineering
- PCB assembly
- Box building
- System assembly
- Medical device assembly
- After-sales service

**Markets**
- Consumer
- Defense and security
- Industrial
- Medical technology
- Traffic and transport
- Telecommunication

**Certifications**
- ISO 9001 Quality management system
- ISO 13485 Quality management system for medical products
- ISO 14001 Environmental management system
- AQAP 2110 – NATO quality assurance requirements for design, development and production
- Production according to IPC A-6100 class II and III
- Manufacturing of products with UL-registration
- Rework according IPC 7711/21

**Quality management**
- Recording of all assembled modules using serial numbers and barcodes (traceability)
- Unique barcode on PCBA level for indepth traceability
- Recording and analysis via validated quality management system (QDM)
- Seamless process monitoring and checks
- Certified IPC-Trainers
- Life cycle and obsolescence management
- FDA registered manufacturing plant
Cicorel SA manufactures low-profile, fine-pitch microcircuits that respond to the requirements of leading companies in the access control, automotive, instrumentation, medical, telecommunications and watchmaking industries.

A particular specialty of Cicor SA is the production of ultra-thin flexible circuits with a thickness as low as 100 microns. Additional manufacturing skills allow for high-volume production of very high-quality single- or double-sided circuits with a pitch of 160 microns.

This facilitates the realization of particularly ambitious applications, such as watches, hearing instruments, contactless radio frequency identification (RFID) devices, electronic keys, sensors and oscillators, or wherever portability, space and weight are important.

Floor space: 560 m²

«Future-proof technological expertise and scalable production volumes.»
Competencies and services

- Rigid single- and double-sided circuits
- High-volume production
- Reel-to-reel production (length 150 m)
- Solder resist, electroless and galvanic finish
- Lines/spaces 80/80 µm
- Copper plating

Portfolio
- Rigid PCB
- Reel-to-reel
- High volume production

Markets
- Automotive
- Consumer
- Watchmaking

Certifications
- ISO 9001 Quality management system
Cicor Anam Ltd. located a mere 20 km from Ho Chi Minh City (Saigon) in the Vietnam-Singapore Industrial Park, hosts the latest, state-of-the-art machinery for printed circuit board assembly (PCBA).

The dedicated team in Ho Chi Minh City (Saigon) is currently serving customers in a variety of sectors, including the medical, industrial, automotive and consumer industries. Cicor Anam Ltd. is ISO 9001, ISO 14001, ISO 13485-certified and comply the RoHS Directive.

Floor space: 4,000 m²

«We always strive to offer professional services, advanced design solutions, favorable and reasonable prices, and a punctual delivery.»
Competencies and services

**SMT production**
- 3 complete SMT lines, solder paste printer, SMT mounters, reflow (N2) and AOI
- SMT loading capacity: 150K chips/hour
- Comp. types: Q201–1206 / SOP: 6P–28P, PLCC: 10–32mm, QFP: 10–32mm, BGA 10–32mm, connectors

**Adhesive bonding**
- From chip 0603
- Adhesive printing

**THT production**
- THT assembly stations
- Preparation of THT parts
- Nitrogen wave soldering system (ERSA)

**Chip-on-board wire bonding**
- Alu wire 0.8–2mil
- 10K wires/hour

**Sub-assembly**
- 20K–10mil parts/year
- Ultrasonic welding
- Coil winding
- ACF bonding

**Test**
- AOI, In-Circuit- and functional test (Teradyne ICT Spektrum 8862, TRI 5001)

**Injection molding**
- Molding machines ranging from 50 tons to 180 tons (Engel)
- 2K injection molding

**Finished goods**
- PCBA
- Plastic parts
- Sub-assembly
- Box building

**Toolshop**
- Production jigs and fixtures
- Repair of equipment

**Coating/potting**
- Manual coating

**Portfolio**
- PCB assembly
- Test: AOI, ICT, functional testing
- Coil winding
- Chip-on-board wire bonding
- ACF bonding
- Plastic injection molding
- 2K injection molding
- Box building

**Markets**
- Automotive
- Consumer
- Industrial
- Medical technology

**Certification**
- ISO 9001 Quality management system
- ISO 14001 Environmental management system
- ISO 13485 Quality management system for medical products
RHe Microsystems GmbH is equipped with the latest in assembly and interconnect technology and is specialized in the manufacture of highly complex substrates in thick-film technology and micro assembly. RHe Microsystems GmbH covers the entire value chain from design to fully tested and certified product. The products are highly reliable and can withstand even the harshest conditions.

The production site has more than 900 m² of cleanrooms up to class ISO 5 (class 100), enabling it to process highly sensitive optical components. The fully automatic and manual SMD assembly (down to SMD 01005) and chip-and-wire line also allow the microassembly of highly sophisticated substrates. Customer-specific packaging solutions round off the technological spectrum.

«Decisive quality and the highest level of reliability.»

Floor space: 2,000 m²
Competencies and services

Cleanrooms from class ISO 8 to ISO 5 (class 100,000 to 100), 900 m²

Fully and partly automatic bonding machines
- Thin-wire bonding
- Ultrasonic (wedge/wedge)
- Thermosonic (wedge/wedge, ball/wedge)
- Thick-wire bonding
- Ultrasonic (wedge/wedge)
- Ribbon bonding
- Thermosonic (wedge/wedge)
- Beam lead bonding
- Thermosonic
- Die bonding
- Flip chip bonding

Fully automatic and manual SMD assembly line
- Die attach, COB, flip chip, chip, MMICs, SMD (min. 01005), (μ)BGA
- Chip and wire
- 3D-MID assembly

Packaging
- Seam welding machine (hermetic packaging)
- Circuit protection (passivation, glob top, paint coating, etc.)
- MEMS/RF MEMS packaging
- Vacuum and reflow soldering kiln

Portfolio
- Thick-film substrates
- Microassembly
- Packaging
- Screening/testing

Markets
- Aerospace and defense
- Industrial
- Medical technology
- Optoelectronics
- Research and development
- Sensors and biosensors
- Telecommunication

Certifications
- ISO 9001 Quality management system
- ISO/TS 16949 Quality management system for the automotive industry
- EN 9100 Quality management for the aerospace industry
- KTA 1401 Quality assurance in nuclear power plants
- ESA-PSS-01-606-Qualified manufacture of thick-film hybrids

Production standards
- MIL-STD-883
- MIL-PRF-38534
- ECSS-Q-ST-60-05
Cicor Ecotool Pte Ltd., thanks to its more than 30 years of experience in the production of high-quality, complex technical molds and plastic parts, is well positioned to offer customers speedy, efficient, cost-effective tool design and fabrication and plastic injection molding.

Production site in Singapore, Singapore

«Excellence in tool design, fabrication and injection molding.»

Floor space: 2,000 m²
Competencies and services

Tool design
- Fully integrated advanced 3D software for mold design and fabrication
- Unigraphic, AutoCad CAD/CAM software

Plastic injection molding
- Molding machines ranging from 20 tons to 200 tons
- High-precision mold with hot runner system
- Multi-cavitation of up to 8 cavities
- Tool life warranties for up to 1,000,000 shot cycles
- Thin-wall molding
- Insert molding

Tool fabrication
- High-quality European brand machine (Agie Charmilles, Mikron)
- Micromolding plastic parts of 2 mm diameter with micro-structure
- Critical dimensions control +/– 0.02 mm

Quality control
- High-quality metrology equipment
- Statistical process control and capability
- Process control

Portfolio
- Tool design and fabrication
- Plastic injection molding
- Thin-wall molding
- Insert Molding

Markets
- Automotive
- Consumer
- Industrial
- Medical technology

Certifications
- ISO 9001 Quality management system
- ISO/TS 16949 Quality management system for the automotive industry
Suzhou Cicor Technology Co. Ltd is located in the eastern coastal region of China, a mere 18 km from Suzhou City and 100 km from Shanghai’s port. Equipped with the latest state-of-the-art equipment, toolmaking and machinery designed to produce customer-specific products. Suzhou Cicor is well positioned to offer customers speedy, efficient, cost-effective tool design and fabrication and plastic injection molding.

«Innovative, leading expertise in 3D-MID technology, tool design and fabrication and plastic injection molding.»

Floor space: 9,207 m²
Competencies and services

3D-MID technology
- Miniaturization, tighter electronic packaging
- Design flexibility, economization, environmental compatibility

Tool design and fabrication
- Advanced CAD-CAM software: Unigraphic and Pro-E
- CNC, EDM, wire cutting, grinding, drilling machine
- Visual OGP Smartscope, 3D Family measurement scope, ZPT CMM

Plastic injection molding
- Injection molding machine with a range of from 50 tons to 468 tons
- Material feeding system with dehumidifier/hopper dryer
- Swing/traverse robot arm for all machines
- 2K injection molding
- Insert molding

Assembly
- Ultrasonic welding
- Pad printing
- Dehumidifying chamber
- Sub-assembly
- Box building

Portfolio
- Tool design and fabrication
- Plastic injection molding
- 2K injection molding
- Insert molding
- Ultrasonic welding
- 3D-MID technology

Markets
- Automotive
- Consumer
- Industrial
- Medical technology

Certifications
- ISO 9001 Quality management system
- ISO/TS 16949 Quality management system for the automotive industry
- ISO 13485 Quality management system for medical products
- Manufacturing of products with UL-registration
Reinhardt Microtech GmbH is specialized in the manufacture of highly delicate flexible substrates in thin-film technology and has a very high level of development in this area. Both the manufacture and structuring of base materials (polyimide films) are completed directly on site, with the related processes being constantly developed further.

Reinhardt Microtech GmbH offers its customers a special service in the form of a fast prototyping program, which allows ceramic prototypes to be delivered within 10 working days.

«The continuous development of our technologies is our greatest asset.»
Competencies and services

Cleanrooms from class ISO 7 to ISO 5 (class 10,000 to 100), 1,000 m²

Fast prototyping program for ceramic prototypes

Thin-film technology
- Rigid and flexible substrates, multilayers
- Metallic coating
- Sputtering
- Electroplating (copper, nickel, gold)
- Photolithography
- Wet etching, dry etching (RIE)

Automatic laser trimming
- Laser trimming using a YAG laser
- High-value resistors

Forming and singulating
- CO₂ laser cutting
- Diamond cutting

Portfolio
- Thin-film substrates
- Rigid and flexible substrates (LCP, polyimide)
- Fast prototyping program

Markets
- Aerospace and defense
- Diagnostics
- Industrial
- Medical technology
- Optoelectronics
- Sensors and biosensors
- Telecommunication

Certifications
- ISO 9001 Quality management system
Reinhardt Microtech AG has state-of-the-art production facilities, which are characterized by a modular design that allows the site to adapt its capacities to individual customer requirements. The site primarily manufactures rigid and flexible thin-film substrates in small to large volumes, and has cleanroom facilities up to class ISO 5 (class 100).

It also produces high-precision components for high-frequency applications and products with integrated high-level resistors.

Floor space: 1,300 m²
Competencies and services

Cleanrooms class
ISO 7 and ISO 5
(class 10,000 and 100),
660 m²

Thin-film technology
- Rigid and flexible substrates, multilayers
- Metallic coating
- Sputtering
- Electroplating (copper, nickel, gold)
- Photolithography
- Wet etching,
dry etching (RIE)
- Eutectic AuSn by evaporation

Automatic laser trimming
- Laser trimming using a YAG laser
- High-value resistors

Forming and singulating
- CO₂ laser cutting
- Diamond cutting

Portfolio
- Thin-film substrates
- Rigid and flexible substrates
  (LCP, polyimide)
- Set-up for small, medium and
large volume production

Markets
- Aerospace and defense
- Diagnostics
- Industrial
- Medical technology
- Optoelectronics
- Sensors and biosensors
- Telecommunication

Certifications
- ISO 9001 Quality management system
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