

smiths interconnect

a **molex** company



Medical

Connectivity Solutions

CUTTING-EDGE
CONNECTIVITY

About Smiths Interconnect



We Offer



Smiths Interconnect, a Molex company, is a leading provider of high reliability connectivity products and solutions serving segments of aerospace and defence, medical, semiconductor test and industrial markets. It designs and manufactures technically differentiated electronic components, as well as microwave, optical and radio frequency products and sub-systems that connect, protect and control critical applications.

Smiths Interconnect is the supplier of choice for safe and reliable connectivity in the medical device industry. Our interconnect solutions are used extensively in areas where signal integrity and reliability are essential to the well-being of the patient. We create value while mitigating risk through expert design and manufacturing, reliable end-to-end solutions and a deeply consultative approach to meet the specific requirements of the medical industry.

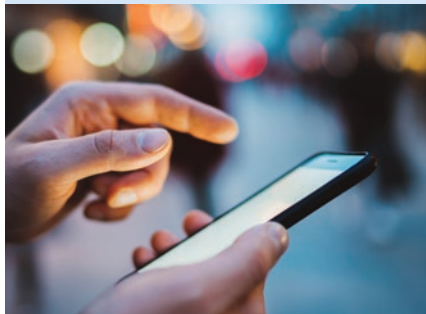
Our technology brands (EMC, Hypertac, IDI, Lorch, Plastronics, Reflex Photonics, RF Labs, Sabritec and HSI) are synonymous with exceptional performance in technologically advanced, high quality solutions required for a high degree of safety and durability. Our extensive product portfolio includes high reliability electrical connectors and cable assemblies, rugged embedded transceivers and a wide range of innovative RF and microwave solutions.



Defence & Aerospace



Communications



Industrial



Your partner
of choice for
cutting-edge
connectivity
solutions

80+

Years
Experience

Technology

Broad Range of Advanced
Interconnect Technologies

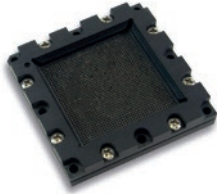
Flexibility

High Volume Product Platforms
& Complete Tailored Solutions

Service

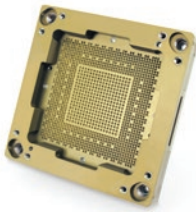
Global Reach with
Local Support

Technology Brands



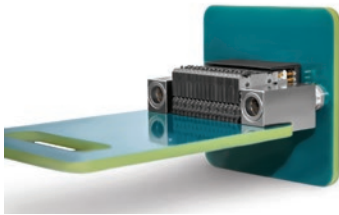
PLASTRONICS

A leading supplier of burn-in test socket solutions for all the latest packaged devices. With the most comprehensive QFN catalog in the world, in addition to a large portfolio of sockets for burn-in, HAST, failure analysis and other test requirements for Leaded, LGA and BGA devices.



IDI

World's most comprehensive offering of spring probe based solutions, including: contacts, connectors, interposers, semiconductor test sockets, and ATE interfaces. Proven off-the-shelf and custom products deliver the best solution for the customer's specific application.



HYPERTAC

Premium interconnect solutions for electrical and electronic applications requiring optimised quality, performance, and reliability. Hypertac connectors utilise the original high performance hyperboloid contact technology; ideal for harsh environments and safety critical applications.



HSI

Joint venture with Sichuan Huafeng Enterprise Group Co. Ltd, one of the major manufacturers of electronic components in China. Industry-leading connectivity solutions for commercial aerospace and railway markets in mainland China.



SABRITEC

High speed quadax, twinax, fibre optic, filter, coax and triax connectors, contacts and cable assemblies. Custom multi-pin circular, D-Sub rack and panel connectors and MIL-Spec interface type products.

Connectors

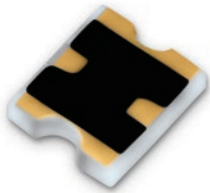
Fibre Optics & RF Components

Semiconductor Test

Connectors

Fibre Optics & RF Components

Semiconductor Test



EMC

Board-level components incorporating advanced resistive and signal distribution technologies for a broad range of frequency spectrum applications. Extensive portfolio of RF devices used to attenuate, level, or terminate signals available in a variety of packages and footprints.



LORCH

Innovative solutions for the electronics and communications industries. Ranging from high performance wireless and RF products to micro-miniature, cavity, discrete, waveguide, tunable, ceramic, and printed filters and integrated assemblies.



REFLEX PHOTONICS

Embedded transceivers and transmit/receive modules for advanced interconnect-based solutions. Targeting high data rate interconnects where ruggedness and radiation resistance are required for defence, space, commercial aerospace and industrial applications.

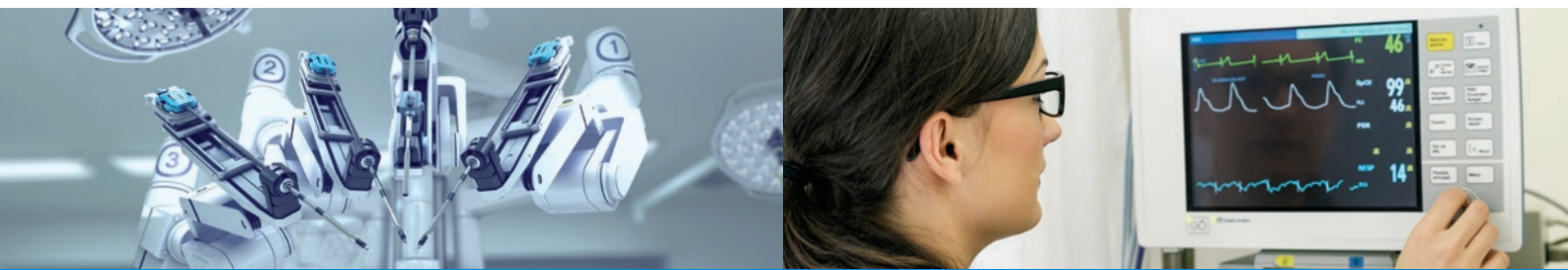
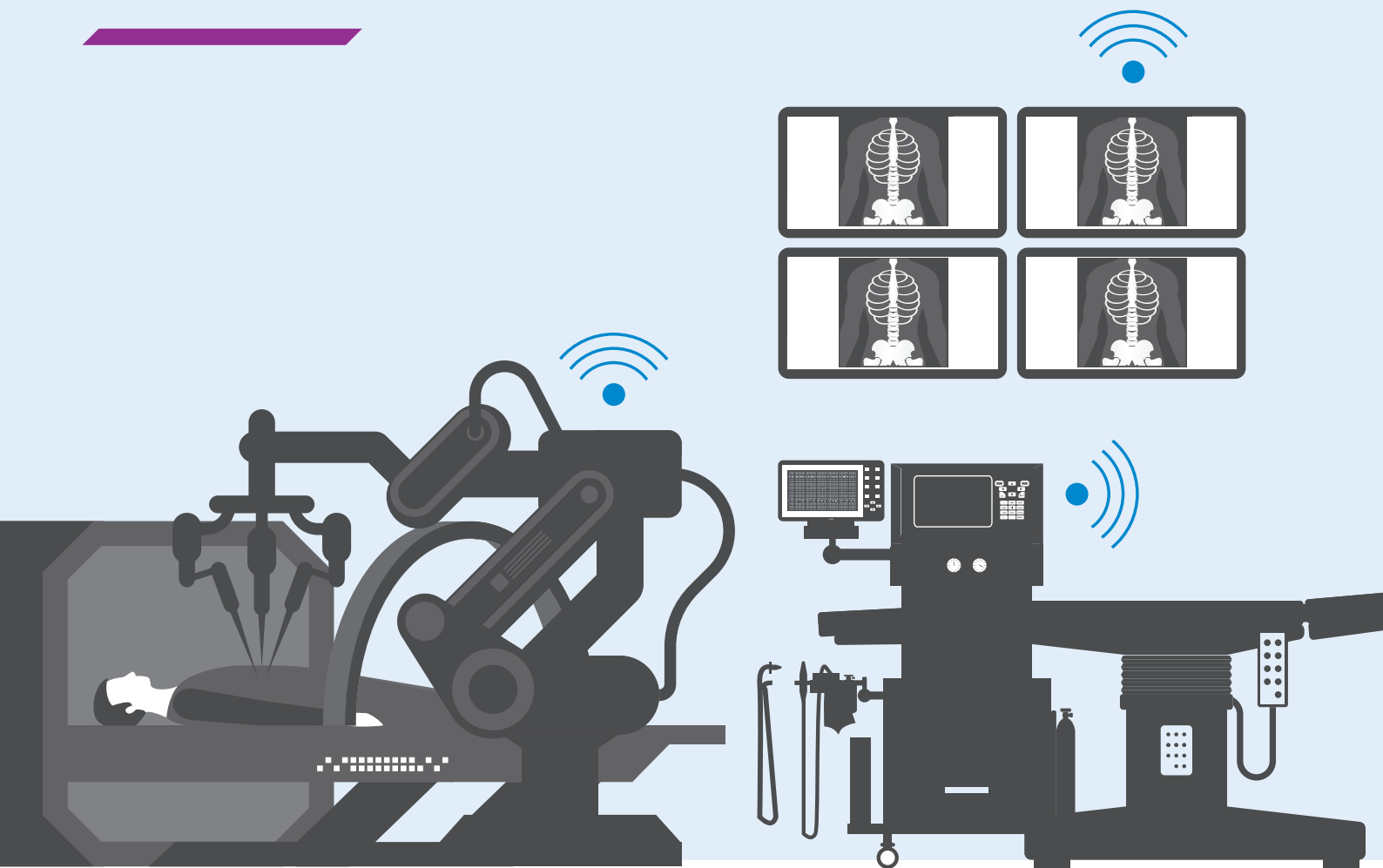


RF LABS

High performance microwave cable assemblies and coaxial components supporting high performance operations, application-specific premium interconnects for high durability and harsh environments.

**Synonymous with High Performance,
Reliability and Safety.**

Applications



Surgical & Monitoring Systems

- Surgical Robots
- Surgical Equipment
- Hybrid Operating Rooms
- Endoscopy
- Infusion Pumps
- Patient Monitoring
- Dental Tools/Chairs
- Portable and Wearable Devices
- Home Health Monitors
- Automated External Devices

Providing A Competitive Advantage

Reliability is the essential attribute in the cutting-edge technologies that we utilize. We offer proven quality and innovative connectivity solutions, constantly adapting our products to tomorrow's needs while meeting our customer requirements. We leverage our application specific expertise to design and manufacture superior connectors, cable assemblies and RF components that ensure optimal performance, durability and safety.



Imaging Systems

- Magnetic Resonance Imaging (MRI)
- CT Scanning Systems
- Digital X-ray
- Ultrasound
- Positron Emission Tomography

Disposables

- Electrophysiology Catheters
- Invasive Probes
- Painless Needle Systems
- Blood Gas Analysers

Connectors



Reliability & Safety

Through our Hypertac, HSI, IDI and Sabritec technology brands, we supply application-specific, high-reliability electrical interconnect solutions from highly integrated assemblies to microminiature connectors and spring probe contacts. Our reliable contact technologies are the core of our advanced interconnect solutions: Hyperboloid, Spring Probe, High Speed, Fibre Optic, High Power and High Temperature.

**Providing
exceptional
performance
in critical
applications**

Push Pull High Density

HyperGrip® Series

- Mechanical keying and colour coding connector with push/pull latching design allowing for one-hand disconnect
- Signal, power, coax, fibre optic and spring probe solutions available
- Sterilisable: Autoclave, EtO, Sterrad protocols
- Finger proof design to IEC 60601 and flammability rated to UL94 V0
- Shielded versions with continuous EMI and RFI shielding protection of 50dB @3GHz available
- Disposable receptacle and plug options that withstand at least 30 cycles



Push Button

D Series

- From 3 to 82 contact positions
- Virtually intuitive mating, D-shaped housings prevent mismating
- Hybrid signal, power and coaxial contact technologies
- Housing alignment and polarization
- Disposable and reusable versions available
- Custom cable assemblies and autoclavable versions available



Edge Card

Eclipta-ECL Series

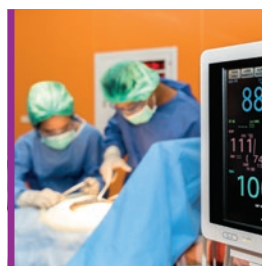
- Double-ended edge card contact design
- Mates to PCB board on the disposable connector side
- High mating cycle life
- Plug and play design
- Meets typical sterilization requirements
- Quick intuitive mating
- Embedded electronic for greater design flexibility



Custom Grid Array

RF Performance Contact Layouts

- Cost-effective and smaller alternative to coaxial RF contacts
- Multiple custom configurations for different purposes
- Low cost of ownership due to high number of mating cycles (up to 100,000)
- Low contact resistance $\leq 50m \Omega$
- RF performance from DC to 300MHz



Did you know?

Our medical contact technologies within monitoring systems help improve patient outcomes from reliable and accurate diagnostic results.

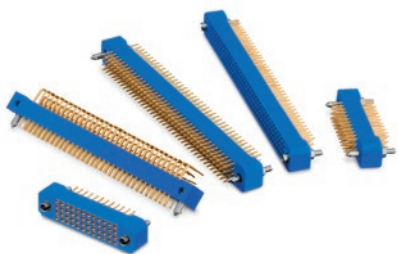
Bringing technology to life



PCB

Multiple Configurations

- Low, medium and high-density connectors with long life cycle
- Signal, power, coaxial and high speed, RF contacts and spring probe solutions
- Immunity to shock and vibration fretting
- Straight dip, right angle solder, crimp, solder cup and Wire Wrap® terminations
- Board-to-board, cable-to-board, cable-to-cable and stacking



Modular Rack & Panel

L Series

- Mixed signal, power, coaxial, data, fibre optic and pneumatic modules
- Provides up to 200 amp power
- Cable to chassis and rack & panel; plastic backshell with strain relief and half turn quick disconnect jackscrew
- Float mountable for blind mating
- Configurations compliant to EN 45545 standards
- Large offering thanks to the modularity
- High reliability contact technology
- Several locking devices and hood are proposed
- Floating version



Mini Modular

H/N Series

- High-density mini modular connectors
- Allows up to 900 contact positions
- Building block system composed of custom module combinations within a unique connector frame
- Keying system available
- Jack screws available in half-turn quick disconnect
- Float mountable for blind mating



Cable to Board Solutions

KS10 Series

- Single and dual row connector designs
- Up to 100,000 mating cycles
- Immune to shock and vibration
- Minimal contact resistance
- Robust insulator design
- Broad temperature rating: -55°C to 85°C
- Available "first mate, last break" system



When
integrity is
essential to
health



Cable Assemblies

Rugged Hybrid & Custom Cable Assemblies

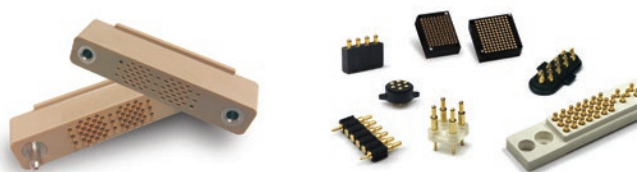
- Signal, power, coax, fibre optic and spring probe solutions customised high quality cable harnessing
- Customisable overmoulds for cable bend/strain reliefs
- Integrated electronics and PC boards
- Coax and fibre optic terminations
- Fine wire termination down to 48AWG for single/multi strand, twisted pair and coax
- Biocompatible materials: ISO 10993, USP class VI
- Customer specified connectors to mate with existing systems
- Advanced testing capabilities



Miniature and Docking Systems

Spring Probe Connectors & Interposers

- Standard probes offered in custom configurations
- Ground, power and signal probe options
- Non-magnetic high density docking connectors
- Lowest stacking height
- Surface mount, thru-hole & solder cup terminations



Hypertac Contacts

- Reusable Hypertac hyperboloid contacts mating to simple drawn pins
- Ultimate signal integrity & power contact capabilities
- Up to 100,000 mating cycles



MR Socket Contacts

- Screw machined 0,4 mm crimp contact
- Standard industry cycle life: mechanical life minimum 2,000 cycles
- Low level contact resistance and low insertion/extraction forces



Spring Probe Contacts

- Reusable spring probe connectors mating to PCB in the disposable connector
- Extremely high density
- Allows for self-correction of target misalignment



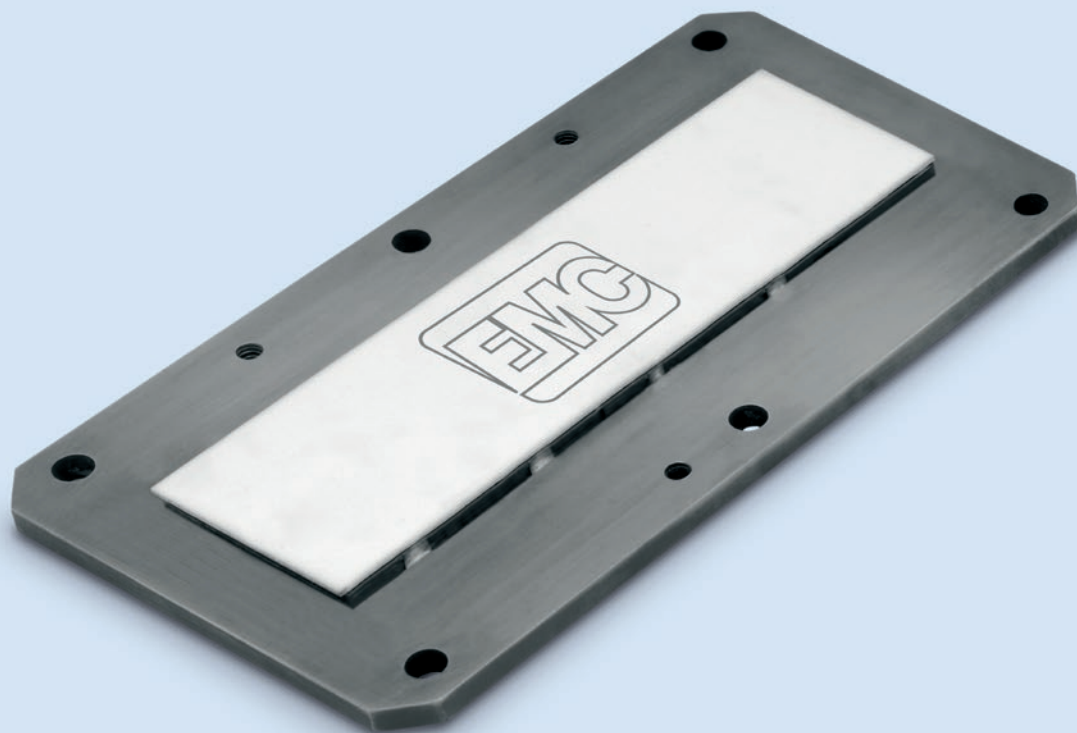
Disposable Contacts

Stamped Hyperboloid Contacts HCS

- Ideal for high volumes requiring a fully automated crimping process
- Delivered on reels for crimping machines with automatic feeder lines
- High reliability wire and insulation crimp



RF Components



Superior Performance

Medical imaging equipment requirements continue to drive interconnect solutions to enable high-quality images to be generated faster and with superior resolution. Smiths Interconnect's innovative and durable connectivity solutions allow large volumes of data to be transmitted at high-speeds with high signal integrity.

**High
reliability in
a sensitive
environment**

Non-Magnetic RF Components

Terminations

- Wide band response
- High power
- Low VSWR
- Easy installation
- Excellent heat transfer
- RoHs complaint ALN solution



High Power Waveguide Load

10TE25

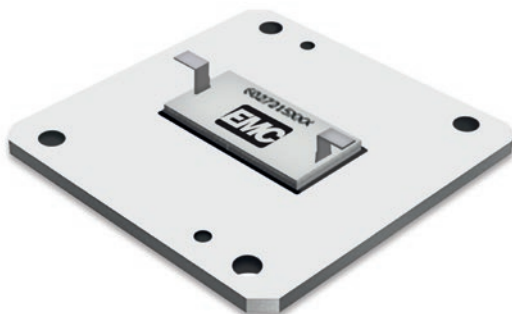
- High power water cooled
- S-Band waveguide
- Designed for imaging and clinical oncology treatment machines



Non-Magnetic RF Components

Resistors

- 10 to 400 Ohms
- High power
- Low VSWR
- Easy installation
- Excellent heat transfer
- RoHs complaint ALN solution



Did you know?

Smiths Interconnect's non-magnetic technologies help hospitals increase the number of patients they can scan in a day. Our connectivity solutions are used for connecting the mobile MRI scanner beds to the main system.

Global Capabilities



Reliable Solutions

In-house capabilities encompassing design, development, manufacturing and testing to anticipate market needs, respond quickly and accurately to customers, and provide the most reliable connectivity solutions.

Market-leading
Engineering and
Technology Solutions

80+

Years
Experience





Certifications, Standards & Compliance

- AS9100D
- ISO 9001
- ISO 10993
- ISO 13485
- ISO 14001
- ISO 45001
- NF F 61-030
- NF F 61-032
- NF F 16-101
- NF F 16-102
- NF-C 93421
- DIN 41612
- DIN 43652
- EN 50124
- EN 45545-2
- IEEE-1101.2-'92
- IEC 1076-4 101
- IEC 60601
- IEC 61373
- IEC 61984
- HE 501
- HE 704
- UTE C93-425
- UL94
- RoHS compliance
- IRIS
- FDA registered

Engineering

- 3D EM Modelling
- Advanced RF & System Modelling
- CAD/CAM & Solid Modelling
- Finite Element Analysis
 - Thermal Analysis
 - Shock & Vibration Analysis
- Reliability Analysis

Prototyping

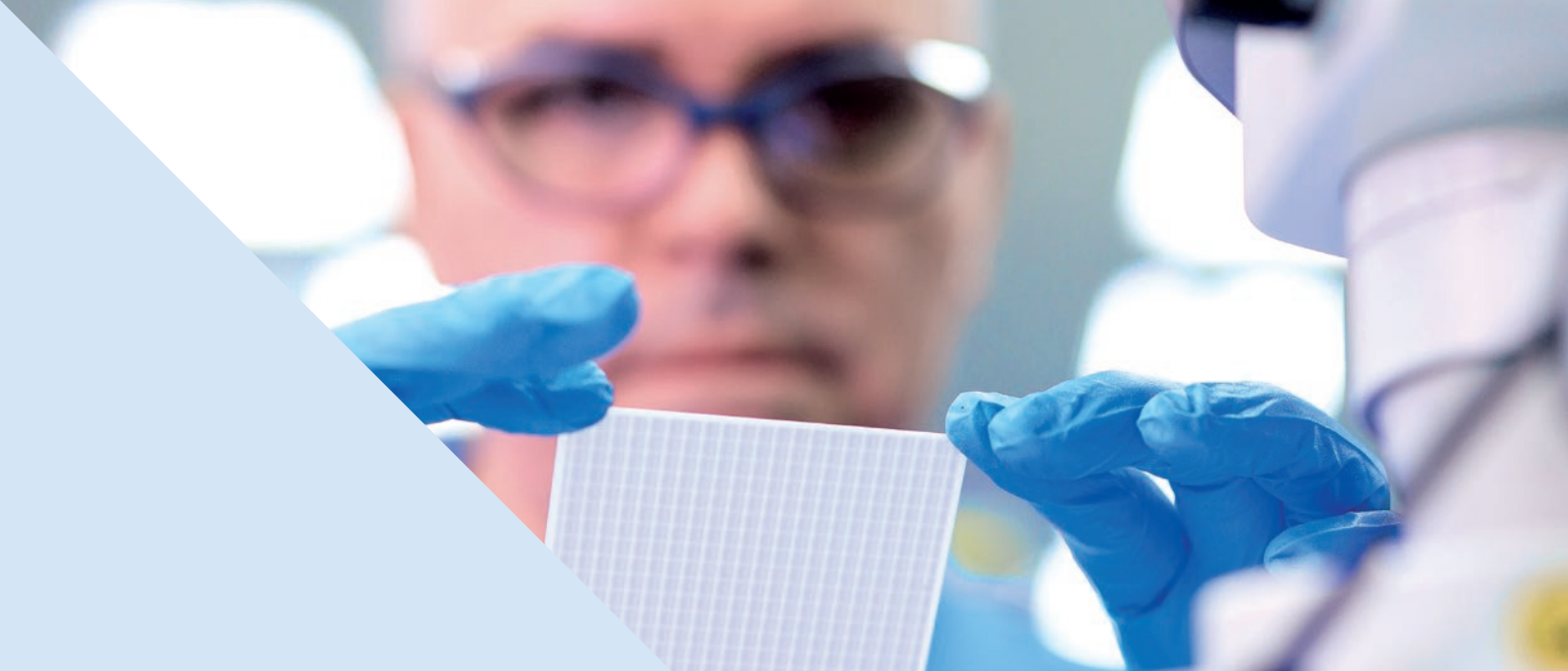
- CNC Turning & Milling Centres
- Cabling / Prototype Assembly
- 3D Printing
- Ceramic Grinding
- EDM
- Circuit Board Routing

Manufacturing

- Precision Machine Shops
- Connector, Contact & Cable Assembly
- Automated PCB Assembly & Inspection
- Automated Hybrid Assembly
 - Die Placement
 - Wedge & Wire Bonding
 - Gap Welding
- NASA Certified Soldering
- Automated Test & Tune
- Optical Alignment
- System Integration
- Validation Testing

Testing/Qualification

- Electrical Acceptance & LOT Test
- RF Test Capability, up to 325 GHz
- High Speed Digital
- Anechoic Chamber Testing
- ESS Environmental Qualification
- ESS Temperature, Shock & Vibration
- Metallurgical
- Real Time X-Ray
- Thermal Vacuum
- High Power RF Testing
- Optics Lab
- Multi paction, SRS mechanical shock



Connecting Global Markets

Smiths Interconnect's strong focus on serving international markets and customers is supported by our sales and technical teams across the Americas, Europe and Asia.

smithsinterconnect.com



Business Unit

Connectors

Fibre Optics &
RF Components

Semiconductor
Test

Worldwide Support

Americas

Sales

connectors.uscsr@smithsinterconnect.com

Technical Support

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Europe

Sales

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Pioneers of Progress

Advancing the world through cutting-edge connectivity

We aim to be the partner of choice for innovative connectivity solutions where reliability, high quality, technical expertise, application knowledge, and a reputation for excellence is vital.



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