

smiths interconnect



Medical

Connectivity Solutions

CUTTING-EDGE
CONNECTIVITY

About Smiths Interconnect



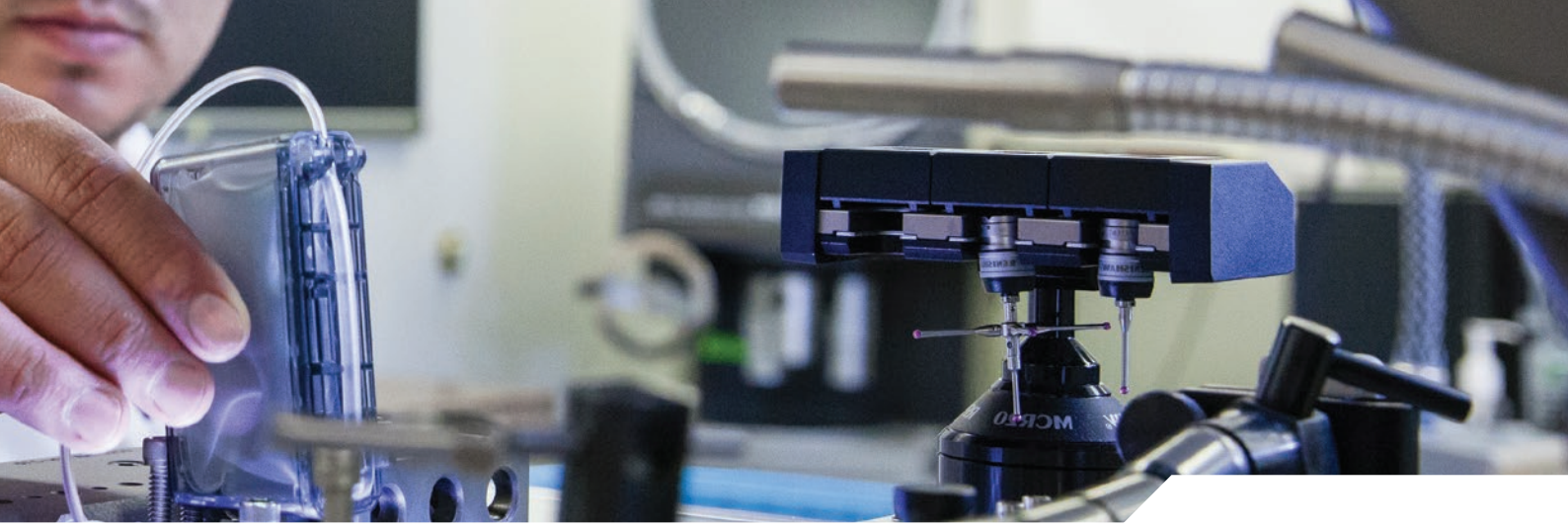
We Offer



Smiths Interconnect is a leading provider of technically differentiated electronic components, subsystems, microwave, optical and radio frequency products that connect, protect and control critical applications in the Defence and Aerospace, Communications and Industrial markets.

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, Millitech, Reflex Photonics, RF Labs, Sabritec, TECOM, TRAK 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, solutions for antenna systems, and a wide range of innovative RF and microwave solutions.



Defence & Aerospace



Communications



Industrial



Your partner of choice for cutting-edge connectivity solutions

60+ Years Experience

Technology

Broad Range of Advanced Interconnect Technologies

Flexibility

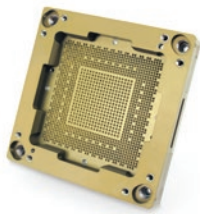
High Volume Product Platforms & Complete Tailored Solutions

Service

Global Reach with Local Support

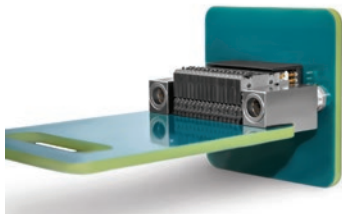
Smiths Interconnect is part of Smiths Group plc, a global leader in applying advanced technologies for markets in threat and contraband detection, energy, communications and engineered components. Smiths Group has a presence in more than 50 countries.

Technology Brands



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.



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 tubular 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.



MILLITECH

Specialising in the engineering, manufacturing, and testing of millimetre-wave components, assemblies, and fully integrated subsystems for space, SATCOM, test and measurement, radar, and scientific applications.



TECOM

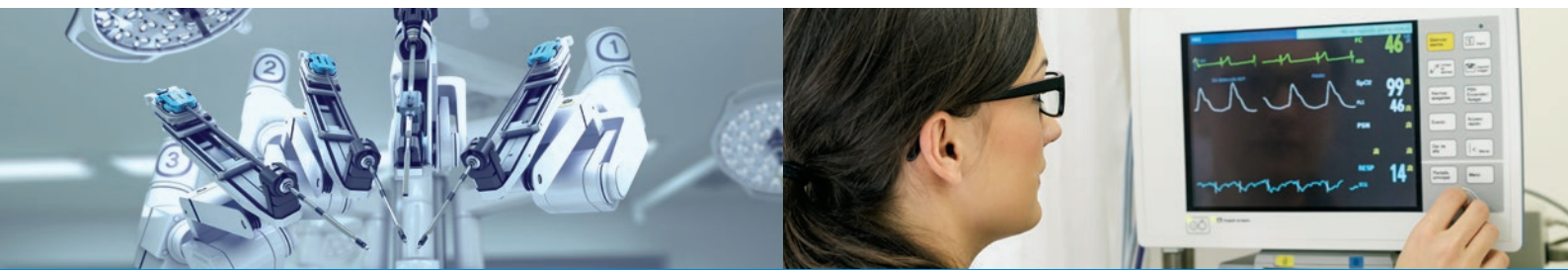
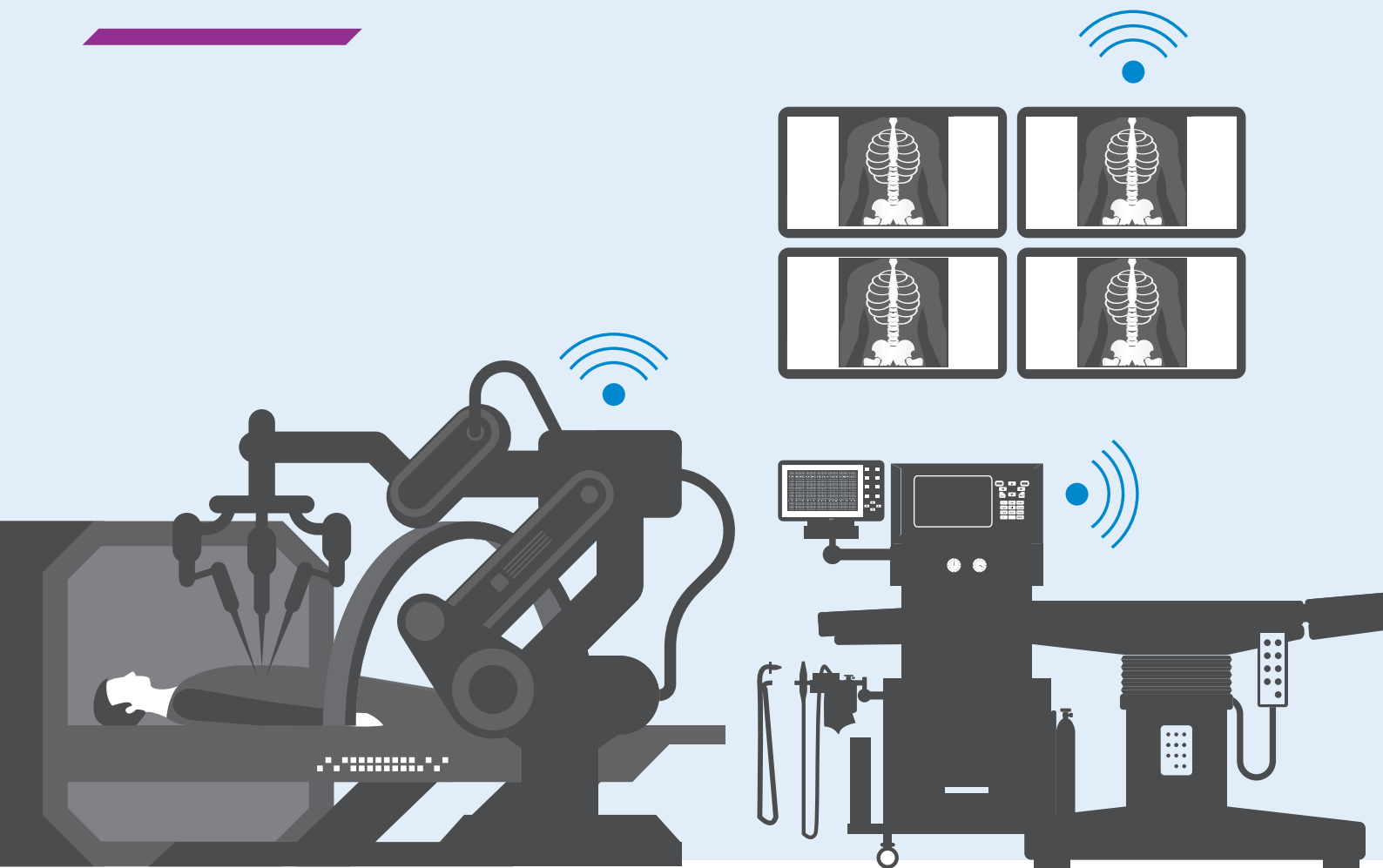
Industry leading innovator of antennas and positioning systems for SATCOM in-flight connectivity, instrumentation, datalink, command & control, and telemetry applications integrated into the world's most advanced commercial and military platforms.



TRAK

High reliability multi-function RF systems, ferrite microwave products, and precision time & frequency systems for defence, commercial aerospace, space, homeland security, and public safety applications.

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 and cable assemblies, RF components and sub-systems 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 plug options that withstand at least 30 cycles



Push Button

D Series

- Virtually intuitive mating, D-shaped housings prevent mismatching
- 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 $\leq 50\text{m } \Omega$
- 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.

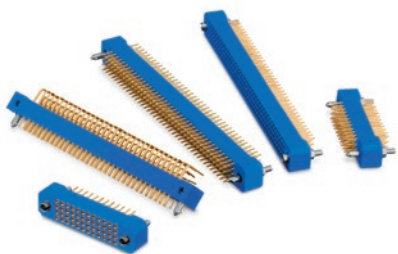
Bringing technology to life



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, 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

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

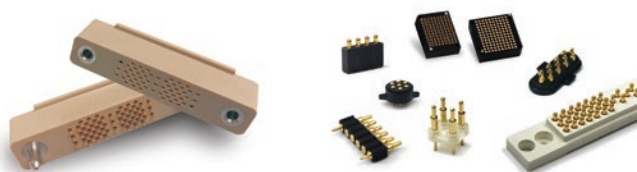
- Signal, power, coax, fibre optic and spring probe solutions customised high quality cable harnessing
- Customisable overmoulds for cable bend/strain reliefs
- Integrated electronics and PC boards
- Custom overmoulded connectors
- Coax and fibre optic terminations
- Fine wire termination down to 46AWG for single/ multi strand, twisted pair and coax
- Customer specified connectors to mate with existing systems
- Advanced testing capabilities



Miniature and Docking Systems

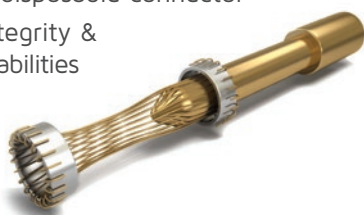
Spring Probe Connectors & Interposers

- 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 contact mating to simple drawn pins in the disposable connector
- 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 & Cable Assemblies



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



Semi-rigid, Non-Magnetic RF Cable Assemblies

Lab-Flex® S

- Excellent frequency response DC-40GHz
- Robust solder sleeve designs improve electrical performance
- High power designs available
- Cable designs for increased flexure life
- A broad range of customer specific cable solutions can be offered



High Power Waveguide Load

10TE25

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



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

60+

**Years
Experience**





Certifications, Standards & Compliance

- ISO 9001
- ISO 13485
- ISO 14001
- ISO 45001
- EN 45545
- IEC 60601
- UL94 V0

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

Manufacturing

- Precision Machine Shops
- Connector, Contact & Cable Assembly
- Automated PCB Assembly & Inspection
- Automated Hybrid Assembly
 - Die Placement
 - Wedge & Wire Bonding
 - Gap Welding
- Automated Test & Tune
- 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
- High Power RF Testing
- Mechanical
- Environmental



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.

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Business Unit

Connectors

Fibre Optics &
RF Components

Semiconductor
Test

RF/MW
Subsystems

Worldwide Support

Americas

Sales

connectors.uscsr@smithsinterconnect.com

Technical Support

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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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