Medical Connectivity & System Solutions

Edition 2023

Advanced integrated connectivity solutions for healthcare

HUBER+SUHNER develops and manufactures innovative components, provides system solutions and engineering services for the medical device industry in the fields of prevention, early diagnosis, microwave therapy and monitoring. With a global footprint and extensive inhouse design, our agile team of experts can deliver customized solutions to meet the exacting standards and requirements of the most advanced medical devices. HUBER+SUHNER prides itself on its industry-renowned quality standards and speed-to-market.

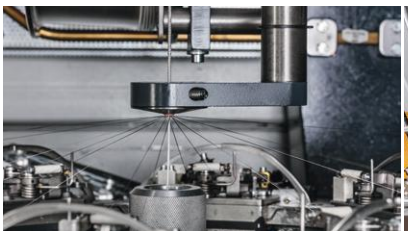
From a single component to a customized overall concept

HUBER+SUHNER offers a wide range of cable assemblies, connectors, antennas and sub-systems based on the key technologies of radio frequency, fiber optics and low frequency.

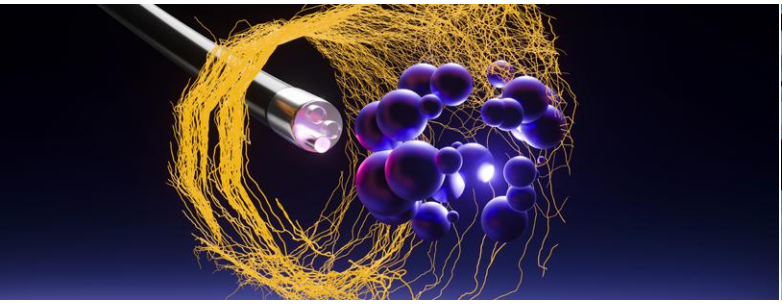
Our solutions engineering experts support in the early project phase with electrical and thermal simulations well before creating hardware. For proof of functionality (GLP), they develop concepts and rapid prototypes of the system or device. Subsequently, projects are transferred to the R&D and industrialization team directly at the production site, to cover both design-to-cost and design-to-manufacturability (GMP), while complying with the quality management requirements for medical devices (ISO Standard 13485).

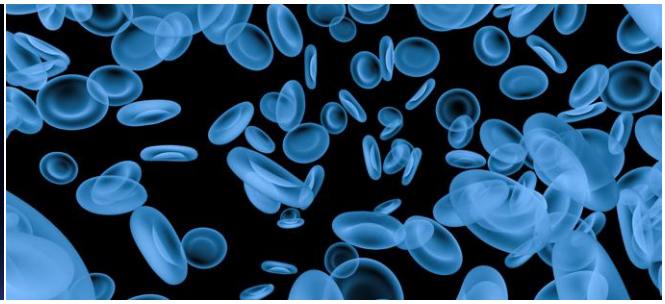
The core technologies to drive innovative solutions

- High-grade extrusion
- Electron-beam crosslinking
- High precision injection-moulding for microstructures
- Mechanical machining
- Plating and assembling technology

Leading-edge interconnects for radiology, nuclear medicine, oncology, cardiology and emergency medicine — enabling improved quality, patient-focused, highly efficient care.





Microwave Ablation

Minimally invasive techniques such as image guided thermal ablation are increasingly used in the treatment of cancer tumors. Microwave ablation (MWA) is one of the newer modalities of thermal ablation and has proven its safety and efficacy. MWA is used in the treatment of primary and secondary liver, kidney, lung malignancies, renal and adrenal tumors, and bone metastases.

As a pioneer and key player in the microwave ablation device industry, the HUBER+SUHNER active and passive interconnectivity portfolio includes low loss cables, assemblies, connectors and antennas. Integrated solutions incorporate RF/DC multi-connections, moulded housings, cooling and thermal sensors for the disposable device as well as the connectivity to and inside the MW generator.

Our comprehensive solutions enable radiologists to ablate lesions of various shapes and sizes with a high predictability and precision.

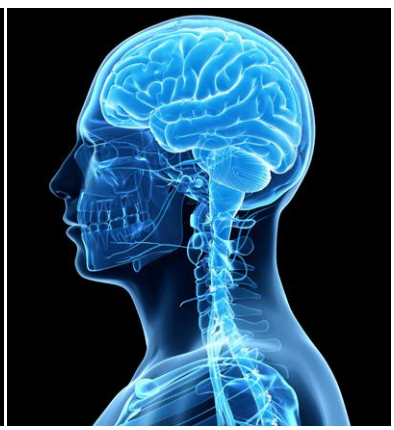
- Low loss microwave components and system solutions
- Cooling system
- Thermal sensory

Imaging and Diagnostics

Medical imaging and diagnostics are crucial to diagnose diseases at an early stage. The latest devices require higher resolution, 3D imaging, and faster image capture time, increasing demands on the underlying electronic components.

HUBER+SUHNER offers high performance components ideal for the RF connectivity between the generator and the transmission coil in MRI scanners, as well as for the receiver circuitry of imaging devices in general. Non-magnetic cables and connectors for use in body coils are also included in the portfolio.

Typical applications are MRI, ultrasonography, x-rays, computed tomography or PET scanners. We support the design and development of the interfaces for the most demanding environments to ensure precise, reliable performance for the most accurate imaging results.



The choice for precision, versatility and continuity.

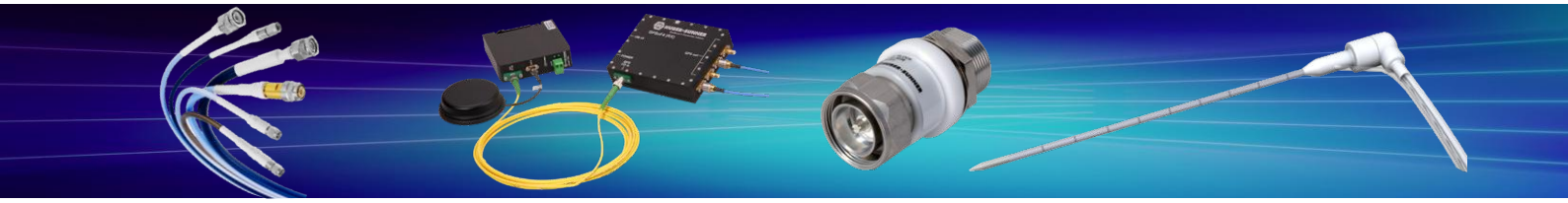
Benefit from our expertise and many years of experience to stay ahead. Make use of our product portfolio to configure and co-develop with us the solution you need.

Connectors, Cables & Cable Assemblies

- Common connector types in-house
- Non-magnetic (RF, MW, optics, LF/DC)
- 50, 75, 78, 95, 100, 135 ohm
- Coax, Twinax, Triax
- Multi-pin and multi-contact
- Micro-miniature
- Low-loss & ultra-low-loss
- Test & lab cables
- Test assemblies (off-the-shelf)
- Bend-to-the-end & bend-insensitive
- Semi-rigid & hand-formable
- Coils & delay lines
- Spuma LL foam cable (LMR equivalent)
- Coax/feeder line including plenum
- CPR & UL cable
- Cabling systems (i.e. hospital, campus)
- FO multi-mode, single-mode, POF
- Drag-chain fiber

Passive and Active Electronics

- PCBA's / integrated circuits
- DC-blocks, loads
- Coils & baluns
- Optical switches
- RF/ LAN/ power over fiber
- Transceivers (SFP, SFP+, QSFP)
- Optical amplifiers, attenuators, multiplexer
- Fiber Bragg sensor (thermal & position)
- Thermocouple
- Antennas & wireless connections
- Data center systems
- Healthcare DAS & network systems
- Backhaul portfolio



From idea to solution – with one partner.

We accompany you with our competencies backed by highly efficient engineering teams and manufacturing sites through the entire development and product life-cycle.

Design

- Full system solutions
- Components, cables, assemblies
- Cable routing / harness design
- Antenna pattern
- RF/MW simulation
- Thermal simulation
- Fluid flow
- Test, validate, certify

Wire and Cable Extrusion

- Ultra-flexible
- Hybrid (wire, tube, fiber)
- Micro coax
- High temperature
- Multi-conductor
- Flat/ribbon profiles
- Low frequency/DC cabling
- Twisted pair
- High-voltage / high power
- Signal integrity shielding
- Jacketing / braiding
- Thermal management
- PTFE, ePTFE, FEP, RADOX®
- Tape wrap
- Rotary swaged inner conductors
- Radiation resistance
- Harsh environment

Injection Molding

- Horizontal / vertical
- Single / dual-shot
- Insert-molding
- Over-molding
- Low-pressure
- High-precision
- Metallization (PVD)
- 3D channels

Tube Extrusion

- Single / multi lumen
- Co-extrusion
- Heat-set coiled
- Metal reinforced
- Tipping / skiving
- Textiles
- USP class VI

Metal Fabrication

- Machining, turning, milling
- Prototype to volume
- CNC to hydromat
- In-house plating

Mechanical Solutions

- Integrated solutions
- Box builds (custom and build to print)
- Fluid fittings & manifolds
- Ferrules
- Enclosures, brackets, racks
- Ceramics, dielectrics, beads
- 3D print (plastic & metal)
- Additive manufacturing (FDM, SLA, SLS)

Assembly and Completion

- Complete device
- Complex Harness Assembly
- Manual & automated
- Medical grade packaging
- Various solder technologies
- Fiber optic termination
- Laser stripping/cutting/marking
- Pad printing
- Laser welding
- UV & solvent bonding
- Curing
- Stress relief / mechanical aging
- Statistical process control
- Full test (Hypot, VNA, x-ray etc.)

Your vision is our drive.

Leveraging our technical and operational competencies and experience in a wide variety of applications we strive to provide interconnectivity turnkey solutions that fit your expectations.

Custom design

Comprehensive, customized solutions for a variety of medical applications

Design flexibility

Design flexibility from component to sub-system levels

Cost effective

Design-to-cost and reliability for reduced cost-of-ownership

Highest quality

Quality monitoring at every step during R&D and production

A short step from development to manufacturing – together.

HUBER+SUHNER ensures compliance with relevant medical regulations and standards, while pursuing continuous improvements, uncompromising quality, efficiency and sustainability.

- Global Production/Warehousing
- Global Sales & Service Network
- Logistics and Customs
- Free-Trade-Zone (FTZ)
- ISO 9001, 14001, 13485
- Global Quality Management Systems

Interconnectivity solutions that significantly improve the quality of healthcare.

Contact our experts.

HUBER+SUHNER AG (Switzerland)
+41 (0)71 353 4111
info@hubersuhner.com

HUBER+SUHNER GmbH (Germany)
+49 (0)89 612010
info.de@hubersuhner.com

HUBER+SUHNER LIMITED (UK)
+44 (01869) 364100
sales.uk@hubersuhner.com

HUBER+SUHNER, Inc. (USA)
+1 704-790-7300
info.na@hubersuhner.com

HUBER+SUHNER T&C CO., LTD (SHANGHAI)
+86 (0)21 51901111
industry.cn@hubersuhner.com

HUBER+SUHNER is certified according to ISO 9001, ISO 14001, OHSAS 18001, EN(AS) 9100, IATF 16949 and ISO/TS 22163 – IRIS.

More information:
hubersuhner.com