



Interconnect solutions that save lives

The evolution of healthcare & connectivity	3
LEMO's expertise in medical connectivity	4
Empowering Care	5
Medical applications	6
The challenges of the medical environment	8
Solutions for every medical need	10
Spotlight on Key Innovations	11
End-to-end medical connectivity	12
Partnering with medical innovators	14
Quality assurance & product authenticity	15

Advancing patient care through reliable connectivity

The healthcare industry is evolving rapidly, driven by innovations that enhance patient care, improve diagnostics, and enable life-saving treatments. As medical technologies grow more advanced, the need for uncompromising precision and reliability becomes critical. In environments where every second counts, the performance of medical devices hinges on flawless connectivity.

LEMO's high-performance connectors—renowned for their durability, signal integrity, and uncompromising quality—are trusted in surgical suites, imaging systems, and monitoring equipment worldwide. Engineered to meet the highest standards, they ensure medical professionals can rely on fail-safe connections when failure is not an option.

LEMO is committed to continuing powering the next generation of medical technologies with high-reliability connectors engineered for excellence.

LEMO, trusted partner in medical connectivity

For over 75 years, LEMO has been a proven partner in high-performance interconnect solutions for the medical industry.

With innovation at the core, LEMO continues to develop state-of-the-art connectors that enhance the performance, safety, and longevity of medical devices.



Innovative solutions from design to patient

LEMO's solutions seamlessly integrate into the medical ecosystem, ensuring excellence and reliability at every stage of the value chain.

Device design & engineering



- ✓ Precision connectors for innovative medical devices.
- ✓ Custom cables for rapid prototyping.
- ✓ A wide range of connector configurations to fit any need.
- ✓ Technical support for seamless integration.

Manufacturing & system integration



- ✓ Quick time-to-market.
- ✓ Rigorous testing and quality control.
- ✓ Efficient, scalable manufacturing for any volume.

Handling by healthcare professionals



- ✓ Ergonomic Push-Pull connector for secure use.
- ✓ Color coding to minimize errors.
- ✓ Fast, secure interconnections saving critical time.
- ✓ Durable, reliable solutions for intense use.

Patient care



- ✓ Secure, high-performance connections for critical treatments.
- ✓ Ensuring safe, stable interconnects to enhance care.
- ✓ Fully compliant with medical standards.

Trusted by leading medical device manufacturers

LEMO expertise

- **Uncompromising reliability for daily care** thanks to rugged, reliable connectors designed to withstand intensive handling and frequent cleaning.
- **Hygiene and safety at the core of care:** Fully compliant with medical standard (IEC 60601-1, biocompatibility, easy cleaning) to ensure patient and operator safety.

Applications

- Patient monitoring equipment
- Portable diagnostic units
- Examination instruments

General Medicine



LEMO expertise

- **High precision for critical procedures.** Modular, miniaturized, and high-performance connectors for specialty devices where every millisecond and millimeter matter.
- **Reliable connections in high-stakes environments.** Signal integrity and high-voltage resistance guaranteed, even under extreme medical conditions.

Applications

- Robotic surgery
- Interventional neurology
- Advanced therapy systems (PFA, electroporation, etc.)

Specialized Medicine



LEMO connectors are integrated into some of the most critical medical applications worldwide, ensuring safety, precision, and reliability.

LEMO's commitment to innovation, durability, and regulatory compliance has established it as the preferred partner for global medical technology leaders.

Laboratory Specialties

Applications

- Diagnostic analyzers
- Molecular biology systems
- DNA sequencing equipment

LEMO expertise

- Reliable and repeatable for lab-grade accuracy. Engineered for **precision-driven** environments, ensuring **stable electrical** contacts over **thousands of cycles**.
- **Flexible integration and customization.** A broad range of modular configurations to meet the complex design needs of modern laboratory instruments.

Medical Imaging

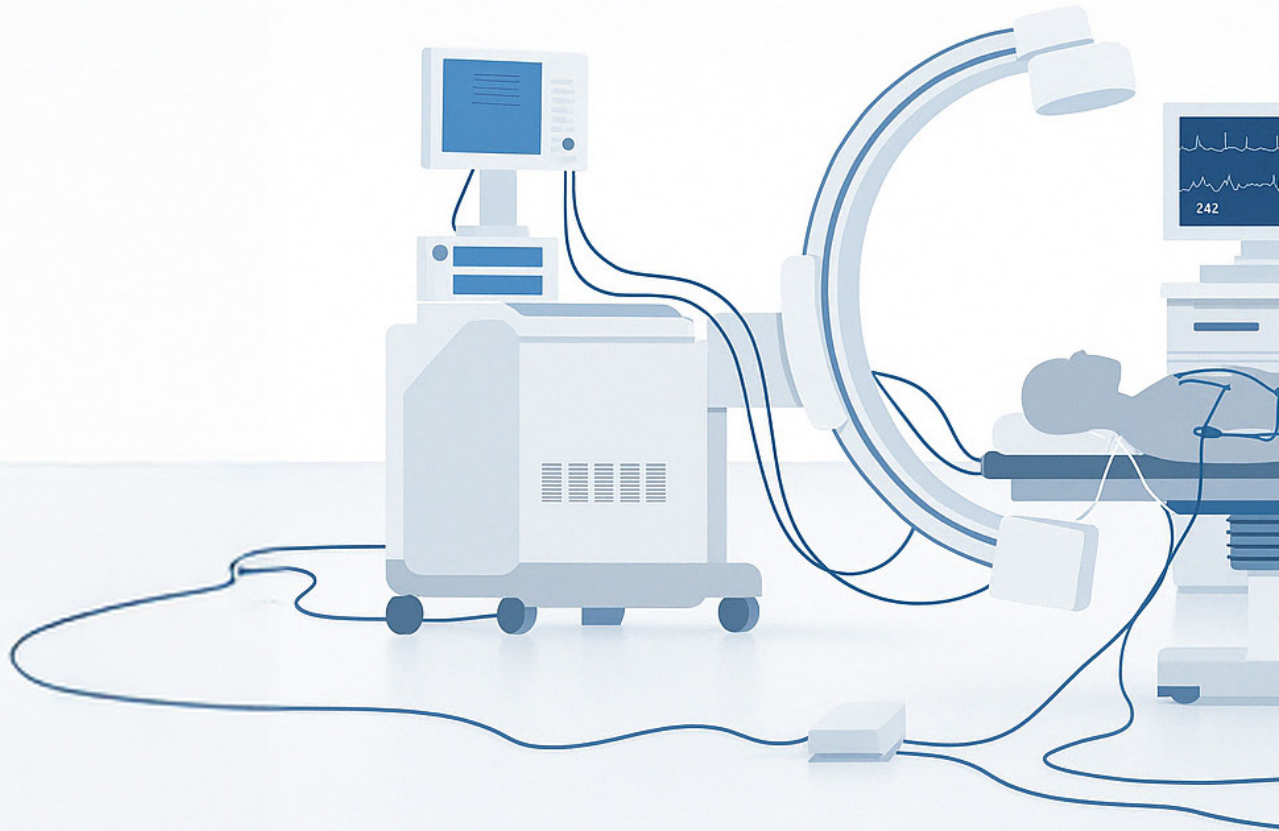
Applications

- MRI
- Ultrasound
- CT scanners
- Video endoscopy

LEMO expertise

- **Image clarity through signal purity.** High-performance shielding ensures interference-free data transmission in electromagnetically noisy environments.
- **High-density contacts in a compact footprint.** Enabling seamless integration into advanced imaging systems — delivering exceptional signal precision for enhanced performance in both mapping and general imaging applications.

Demanding medical conditions require exceptional solutions



Best signal quality for life critical connections

Designed for demanding environments — such as high magnetic fields or high-voltage applications — LEMO connectors ensure flawless signal integrity and secure latching, where even the slightest accidental disconnection is not an option.



No unwanted shutdowns or disconnections

LEMO connectors ensure fail-safe, rock-solid connection reliability and signal integrity under all conditions, to eliminate accidental disconnections.



Zero compromise, custom connectors

LEMO delivers tailored connectivity solutions to meet even your most specific design and performance requirements — for seamless integration into any medical device.

Medical environments are among the most demanding settings for electronic components. From emergency rooms to MRI suites, meeting the highest standards for medical safety and performance. Because failure is not an option, connectors must withstand the harshest medical environments.



Fluids, contaminants & intensive sterilization protocols

LEMO connectors are fully sterilizable (Steam, Gamma, EtO) following the protocols and tests in line with ISO 11134 and IEC 60601-1 standards. When sterilization is not protocolled, LEMO proposes a wide array of single-use connectors.



Human errors & mishaps

LEMO connectors are intuitive and easy to use. Push-pull latching systems combined with an extensive selection of colors and keyings ensure a failsafe connection and prevent mishaps.



Compliance & Regulation

Widely used in FDA-approved and globally certified devices, LEMO solutions offer strong compliance assurance for medical designs.

LEMO solutions for medical applications



REDEL SP Series

Remarkable design delivering top performance

REDEL P Series

Market leading and ultra versatile connector

REDEL MP Series

First circular Push-Pull modular plastic connector

B Series

LEMO original IP50 metallic Push-Pull

Locking	Inner Push-Pull	Push-Pull	Inner Push-Pull	Push-Pull
Size [ø diameter]	1 size ø 15.5 mm [plugs]	3 sizes from ø 14.0 to ø 21.2 mm [plugs]	1 size ø 24.4 mm [plug]	8 sizes from ø 6.4 to ø 35.0 mm [plugs]
Keying	3 keyways + 5 color options	6 keyways + 6 color options	4 keyways + 4 color options	8 keyways options
Shell Type	Over 8 shell styles	Over 12 shell styles	Over 6 shell styles	Over 60 shell styles
Shell Material	PPSU	PEI / PSU	PPSU	Brass
Plating	—	—	—	Chrome
Cable Diameter	2.5 to 7.5 mm	1.7 to 9.5 mm	Module selection dependent	1.4 to 25 mm
NB of contact	4 to 22	2 to 34	2 to 144	2 to 64
AWG	18 to 32	12 to 32	20 to 32	8 to 32
Contact types	Multipole	Multipole / Coax / Fiber Optic / Fluidic / High Voltage / Mixed / Thermocouple	Multipole / Coax / Fiber Optic / Fluidic / Hybrid / Mixed	Multipole / Coax / Fiber Optic / Fluidic / High Voltage / Mixed / Thermocouple
Contact Termination	Solder / Crimp / Print [PCB]	Solder / Crimp / Print [PCB]	Solder / Crimp / Print [PCB]	Solder / Crimp / Print [PCB]
Data Protocols				USB 2.0 / USB 3.1 / Eth Cat6a / SPE
Sterilization	Steam / EtO	Steam / EtO / Gamma	Steam / EtO	Steam / EtO / Gamma
Sealing level	IP50 / IP68	IP50 / IP66	IP50	IP50 / Hermetic sockets
Temperature range	-50°C to 170°C	-55°C to 170°C	-50°C to 170°C*	-55°C to 250°C**
Mating Cycles	> 5000	> 5000	> 2000	> 5000
Hybrid configurations available	—	✓✓	✓✓✓	✓✓
Mixed configuration and usage	✓	✓✓	✓✓✓	—

*with all modules except PCB modules

**maximum temperature valid for short periods of use.

LEMO also offers additional series and custom solutions to meet any specific need.

Innovation in focus

At the forefront of medical connectivity, LEMO drives innovation with cutting-edge interconnect solutions tailored to the evolving demands of modern healthcare.



High Voltage - High Density - PFA application models

- ✓ Patent-pending design bringing 5kV on 34 contacts in only Ø 18 mm
- ✓ From 2x18 kV up to 34x5 kV
- ✓ Best-in-class LEMO Push-Pull self-latching system
- ✓ Perfect User Safety: compliant with IEC60601-1 regulation
- ✓ Available in the REDEL 2P Series



Modular Plastic connector

- ✓ One connector, infinite possibilities
- ✓ Modular and configurable connector system
- ✓ Extreme high-density and space saving design
- ✓ Expandable and future-proof connectivity solution
- ✓ A new Series in the REDEL product family



IP 68 Models

- ✓ IP68 sealing for reliable performance after immersion, sterilization, and intensive use.
- ✓ Premium materials, high-grade PPSU SP connectors ideal for repeated sterilizations.
- ✓ Compact and durable, maintaining flawless connection over thousands of mating cycles
- ✓ Available in the REDEL SP Series



Disposable Models

- ✓ Reliable connection, single-use simplicity
- ✓ Secure mating, flawless signal integrity and mechanical reliability with a simplified design.
- ✓ Flexible, scalable, easy to integrate
- ✓ Up to 34 pins, keying options, and snap-in design for medical devices
- ✓ Cost-efficient, ready to use
- ✓ Available in the REDEL P Series

From connector to connection



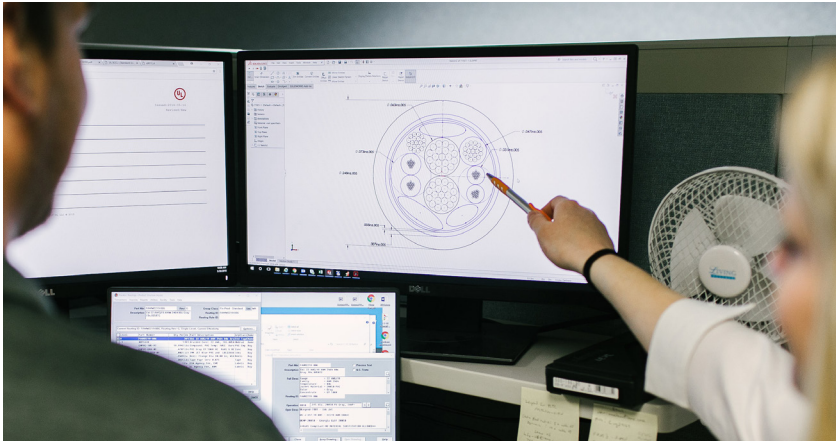
In the evolving landscape of medical technology, seamless and reliable connectivity is essential. LEMO and Northwire, as an integrated force, offer a comprehensive interconnect solution designed to meet the unique challenges of the medical industry.

This complete offering provides a one-stop solution, ensuring signal integrity, electrical performance, mechanical durability, and compliance with medical standards.

Cables engineered for Medical excellence



Custom medical-grade cables designed for flexibility, biocompatibility, sterilisation resistance, and signal integrity.



BioCompatic® – A high-performance USP Class VI

- **Patient-friendly & biocompatible:** Free of bisphenol, phthalate, latex, and halogen
- **Durable & chemical-resistant:** Withstands chemicals, cuts, crush, and abrasion
- **Sterilization ready:** Endures steam autoclave (500 cycles at 134°C), Gamma, EtO, and STERRAD™
- **Extreme temperature resistance:** Operates from -80°C to +105°C
- **Medical-grade compliant:** USP Class VI, ISO 10993-5:2009, ISO 10993-10:2021, RoHS3
- **Highly flexible:** Designed to bend, torque, and retract repeatedly
- **Faster lead times:** No curing needed, enabling quicker time to market

Cable assemblies you can trust

Comprehensive cable assembly capabilities from design to production, we deliver plug-and-play assemblies that ensure seamless integration and reliability.

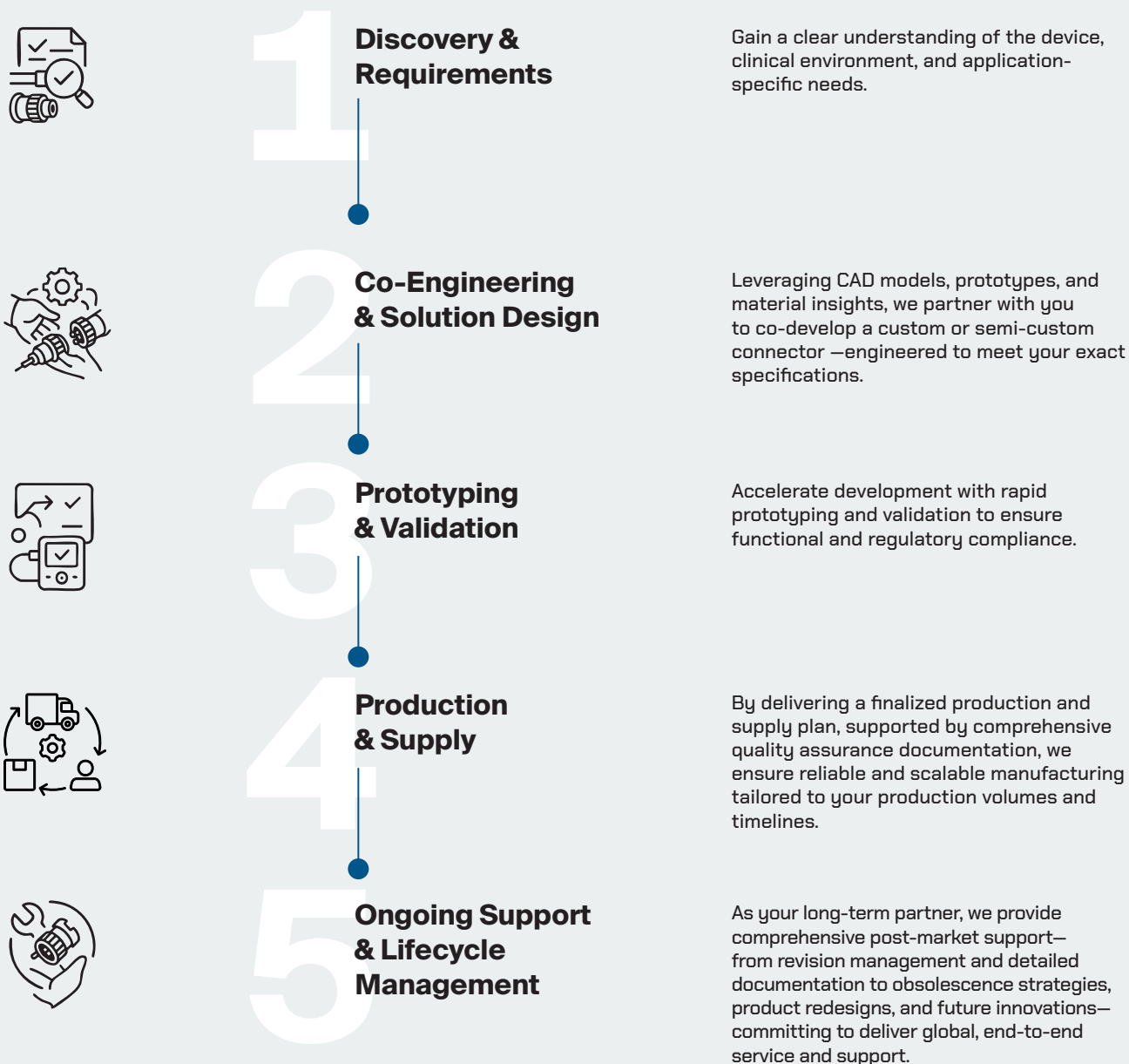
- **Full-Service offering:** Pre-assembled cable and connector sets tailored to your application, tested and ready for integration.
- **Custom solutions:** Expert in complex cable harnesses, assemblies, and thermoplastic overmoulding.
- **Private labelling:** Tailored branding for sensitive projects.
- **Certified quality:** IPC-620, ISO 9001, AS9100, and more. Several LEMO cabling sites comply with ISO13485 requirements.
- **Sustainability:** Eco-conscious manufacturing aligned with strict industry standards.
- **End-to-end support:** From design to delivery, with timely and reliable service.
- **Single point of contact:** One trusted partner from connector and cable selection to final cable assembly delivery.
- **Global support:** Available worldwide through LEMO's international network, with local support and logistics.
- **Design & engineering support:** Technical drawings, system-level expertise.
- **Extensively tested:** Each assembly undergoes rigorous electrical, mechanical, and visual testing to guarantee performance and safety.



How we partner and innovate with you

From early ideation through prototyping, validation, and post-market support, our team works side-by-side with yours — ensuring every connector meets the highest standards of performance, usability, and regulatory readiness.

With LEMO, you are never working alone. You gain a committed partner focused on delivering not just a component, but a trusted, patient-centric solution — engineered with precision and delivered with care.



Genuine quality, unmatched reliability

Protecting our legacy, defending your trust

LEMO's cutting-edge technologies are a global standard in the industry, attracting imitations and counterfeits. While look-alike products may appear similar, they fall short of the precision, durability, and performance of genuine LEMO connectors.

Protecting innovation and integrity

Our connectors are protected by patents, providing legal safeguards against counterfeit and unauthorized versions. Using non-genuine connectors, or mixing them with competitors' products, compromises the safety, performance, and compliance of your systems. LEMO cannot be held liable for any issues arising from the use of unauthorized, modified, or counterfeit components.

Regulatory Commitment

Ease of FDA Certification

LEMO provides documentation and guidance on ensuring connectors meet health and safety regulations such as FDA or CE bodies.

IEC 60601-1

Compliance with 3 required aspects: ESD (Electrostatic Discharge) 15 kV, MOPP (Means of Patient Protection) and MOOP (Means of Operator Protection), Test finger

**With LEMO, you choose Swiss
precision and engineering
excellence – delivering
medical-grade reliability and
patient safety you can trust.**

Empowering connectivity

About LEMO

With a strong legacy of excellence and innovation, the LEMO Group is a global leader in providing high performance custom interconnect solutions. From the depth of the oceans to the far reaches of outer space, no matter how harsh the environment may be, our connectors and cable solutions are chosen, wherever connections are too critical, precious, or vital to fail. Offering over 90,000 product combinations that continue to grow through custom specific designs, our

subsidiaries and 20 distributors have built a global network of strong, dedicated local resources with unmatched technical expertise and understanding of customer requirements. Thanks to our global network, we serve more than 150,000 customers in over 80 countries worldwide. All our staff of 2,000 people are united to accomplish the same mission: to guarantee to our customers interconnect solutions that exceed their current requirements and anticipate their future expectations.

Years of experience	+75
Employees	+2000
Custom solutions	+90000
Subsidiaries	20
Distributors	+20
Customers worldwide	+150000
Countries	+80

LEMO, your ideal partner

One-on-One local engineering expertise and technical support for system integration

Strong supply chain and global distribution network

Custom interconnect solutions for specific project requirements including rapid prototyping

Certified interconnect solutions in compliance with industry standards

Vertical integration ensuring reliable, high-quality interconnect solutions and sustained availability



HEADQUARTERS
Switzerland

LEMO SA
Tel: +41 21 695 16 00
info@lemo.com

Subsidiaries
& distributors



Product finder



Lemo.com

