



Your partner for life-changing medical solutions

Advancing development and manufacturing
to solve tomorrow's medical needs.



Ready to make a difference?

Alleima partners with leading OEMs to design, develop, and manufacture life-changing medical solutions that sense, measure, transmit, stimulate, catch, or cut. Our precision manufacturing capabilities include fine-wire drawing, coating, electroplating, grinding, braiding, shaping, laser processing, stranding/twisting, coiling, cut-to-length, stripping, eroding (EDM), electropolishing, sandblasting, soldering, and cleanroom assembly.

Our expertise extends to various medical applications, such as remote monitoring, neuromodulation, cochlear implants, cardiology, oncology, urology, flexible robotic, and endoscopic surgery.

Trusted partner



Partner of world class OEMs to develop unique wire-based solutions.

End-to-end operator



Active controlled supply chain from melt to finished product.

Precision manufacturer



Precision manufacturer with high quality fine wire down to 6 μ (0.006 mm / 0.00023").

Supplier



Supplier of a broad selection of polymer coatings and custom blends.

"Our flexibility is key to our ability to thrive in an industry that changes so much so quickly."

Gary Davies
Vice President Strategic Business Development Medical

Nitinol experts



Experts in processing the smart material – nitinol.

Best-in-class e-plating



Provider of state-of-the-art electroplating service – reel-to-reel, barrel and rack.

Engineer supporter



Direct engineering support on product development projects.

One-Stop-Partner



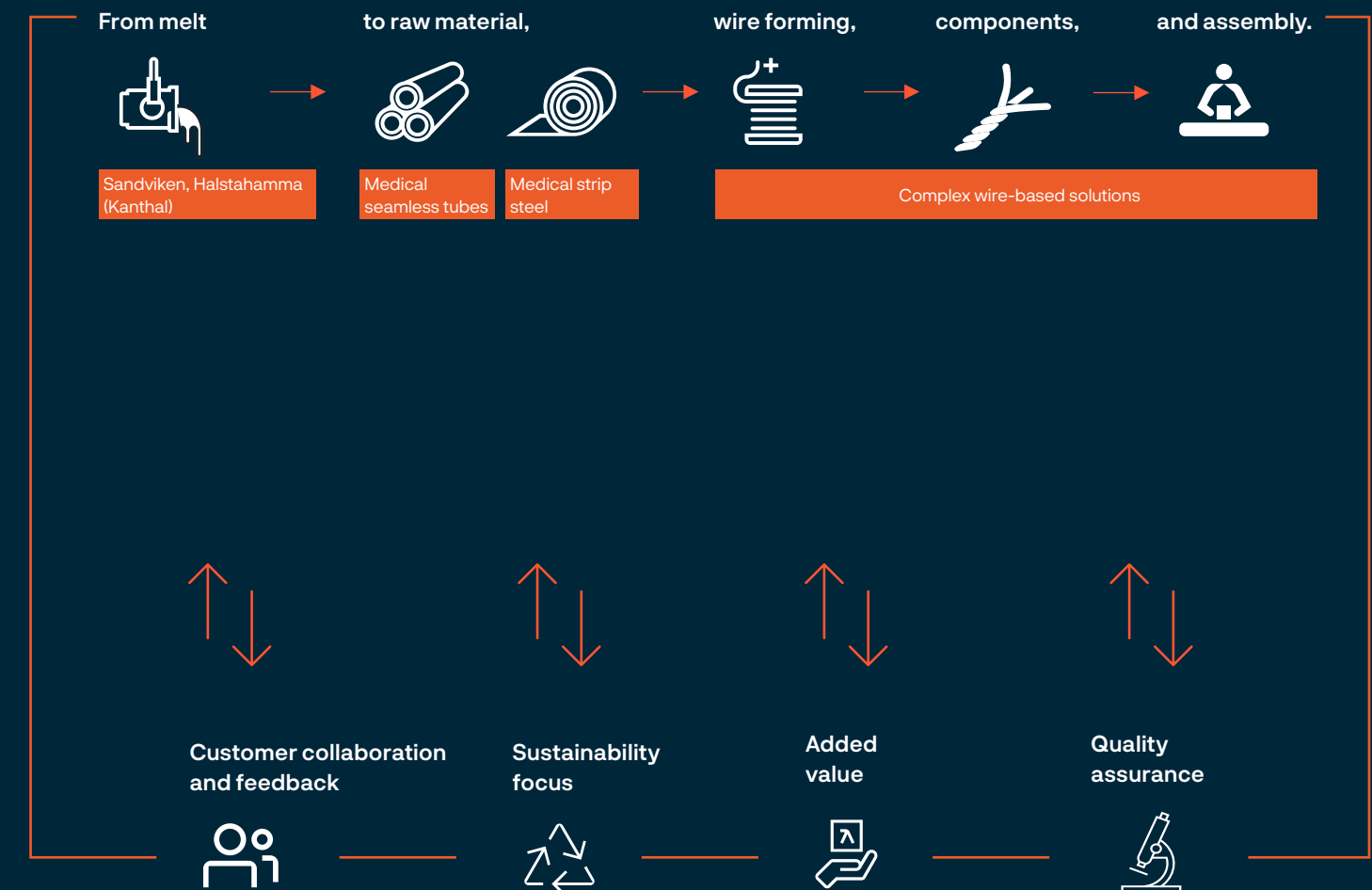
We are your "One-Stop-Partner" in creating the medical devices of the future.

Advancing together

End-to-end control

From alloy melt to final assembly, Alleima's integrated value chain puts every step under one roof, so you get material performance and product quality without compromise.

Alleima vertically integrated value chain



Advancing development and manufacturing for life-changing innovation

At Alleima, our vertical integration is built around one goal: enabling innovation in life-changing medical devices. We deliver high-precision solutions for the most demanding applications, with precision manufacturing capabilities in:

Nitinol processing



Braiding



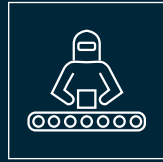
Shape setting



Grinding



Joining

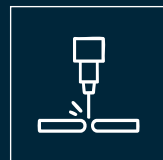


Cleanroom assembly

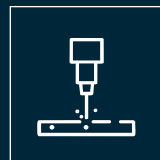
Laser processing



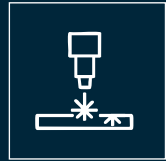
Cutting



Welding

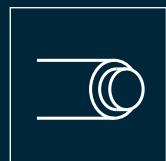


Drilling



Marking

Surface treatment



Coatings



Anodizing



Core extrusion

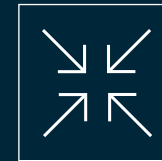


Electroplating



Electropolishing

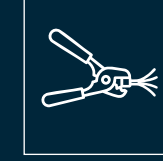
Wire processing



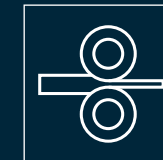
Fine-wire drawing



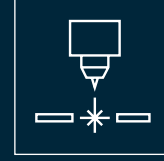
Stranding,
twisting, coiling



Stripping

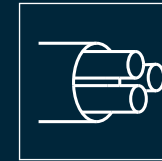


Wire and
seamless tubes

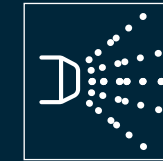


Cut-to-length

Customized capabilities



Lead finishing

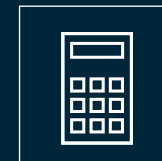


Sandblasting



Packaging

Operational services



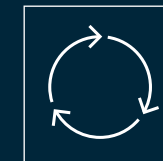
Research and
development



Inventory management



Metallurgy consulting



Lean process
optimization



Rapid prototyping



New product
development

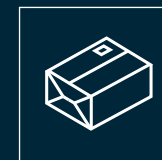


Lab testing



Technical training

Samples



Sample package



Developer kit

From idea to implementation

Research & development stages

As an integral part of your research and development journey, we can help you imagine and implement innovative solutions to solve the medical needs of tomorrow. Our lean initiatives increase quality and decrease variability throughout the design process. Through responsive, comprehensive design partnerships with you, we create unique processes and products. We transform your most demanding medical device concepts into tangible, high-performance solutions.

Explore



Early-stage visions including

- Analysis
- Consulting

Conceptualize



Ideas including

- Technical drawings
- Feasibility assessments
- Project planning

Design



- Prototypes
- Special equipment
- Processes
- Tests

Simulation & testing



- Pre-tests
- Design verification
- Viability assessment

Manufacturing



- Pre-production
- Implementation
- Transfer to serial production
- Material sourcing

Quality management



- Consulting
- Quality checks
- Validation

Benefits



Disciplined and structured R&D process



End-to-end project support



Engineer-to-engineer contact for direct and quick communication



Dedicated resources and equipment to R&D projects



In-house cleanroom facilities



In-house cleanroom facilities

Your partner for life-changing medical solutions

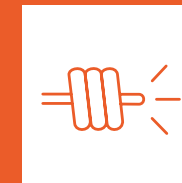
Our solutions are made to:



Sense



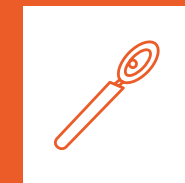
Measure



Stimulate



Transmit



Catch



Cut

With precision manufacturing capabilities:

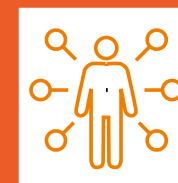
Nitinol processing
Laser processing Wire processing
Surface treatment

In applications like:



Cardiology

Wire for heart solutions, including guidewires, pacing leads, and ablation catheter applications.



Remote monitoring

Sensing solutions for data gathering, including continuous glucose monitoring and heart failure.



Flexible endoscopy and robotic surgery

Flexible nitinol instrument solutions for minimally invasive therapies.



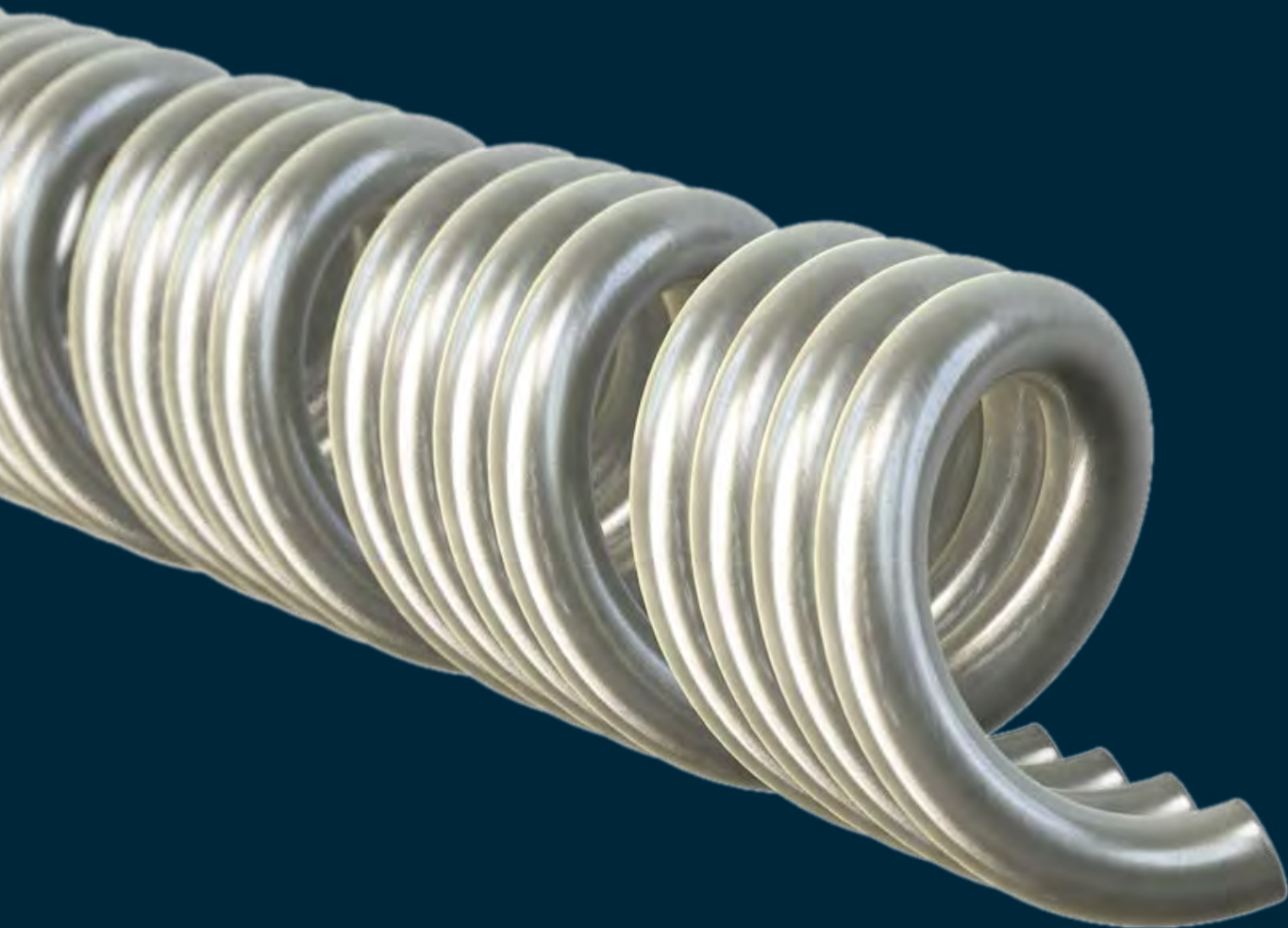
Neurology

Wire-based solutions for neuro-stimulation, hearing implants, and neurological activity testing.

As your trusted partner, we offer comprehensive support and advanced engineering services, enabling you to bring smarter, more compact medical devices to life with confidence and reliability.

Wire processing

Precision at every step



Ultra-fine medical wires for smaller and smarter medical devices

Our wire processing transforms high-performance alloys into the building blocks of life-changing solutions. From ultra-fine diameters with tight tolerances to complex geometries and advanced surface finishes, we deliver engineered wire solutions that enable innovation in the world's most demanding medical devices. Decades of metallurgical expertise and continuous innovation drive our ability to deliver ultra-fine wire with exceptional precision and consistency.

Our capabilities include:

- **Fine-wire drawing:** High-precision wire reduction with tight dimensional tolerances.
- **Stranding, twisting, and coiling:** Complex wire forming processes to elevate performance, precision and innovation.
- **Cut-to-length, grinding, and stripping:** Exact tolerances for ultra-smooth wire surfaces and tailored wire ends.
- **Custom capabilities:** Secondary services to ensure your devices meet the highest standards from surface refinement to testing and packaging.

Typical applications:

- Medical implants, catheters, stimulation leads
- Guidewires and snares
- Multi-filar micro cables
- Sensor, stimulation, transmitting wires, and many more

From material selection and wire drawing to advanced finishing and rigorous testing, Alleima maintains full control over the supply chain for many of our materials. This integrated approach reduces production steps and shortens lead times, ensuring quality and regulatory compliance throughout the process.

We equip OEMs with precisely calibrated, high-quality wire-based solutions engineered for complex, life-changing medical applications.

Round, flat, square and rectangular wire

		Sizes		Tolerance	
		inch	mm	inch	mm
Bright, coated, plated	Wire	0.004 to 0.040	0.100 to 1.0	±0.00005	±0.00127
	Fine wire	0.000236 to 0.004	0.006 to 0.100	±0.000025	±0.000635
		Thickness		Tolerance	
		inch	mm	inch	mm
Bright, coated, plated	Square and rectangular, brite or coated, supplied on spools	0.00075 to 0.20	0.019 to 0.510	±0.00005	±0.00127
		0.002 to 0.120	0.051 to 3.05	±0.0005	±0.00127



alleima.com/wire-processing



Nitinol processing

Nitinol is a high-performance shape-memory alloy known for its superelasticity, biocompatibility, and kink resistance properties, that ensures reliability in even the most complex minimally invasive procedures.

Expertise in processing the memory metal

Nitinol requires material expertise and special processing treatment to maintain its unique temperature-dependent properties for medical applications. When inadequately processed, significant cost, wear or irreversible damages on the device may occur.

We advance your design through our nitinol processing capabilities tailored for medical technology innovation:

- **Grinding:** Delivers fine, accurate dimensions and tailored flexibility through centerless and profile grinding.
- **Braiding:** Creates durable, highly flexible nitinol braids as a fast, cost-effective alternative to laser cutting.
- **Shaping:** Forms complex geometries with precision through perfect shape-setting of nitinol wire.
- **Joining:** Creates strong, reliable bonds between nitinol and other materials for resisting large forces.
- **Laser cutting:** Achieves complex geometries with burr-free edges and micron-level accuracy.
- **Cleanroom assembly:** Performs precision assembly and packaging in certified in-house Class 7 & 8 cleanrooms.

With over 20 years of experience in processing nitinol, we support you from initial design through to market approval. Our experts uphold the highest standards at every stage, guiding you through each step of development – safely, efficiently, and cost-effectively – as your partner for life-changing medical solutions.

Nitinol's versatility extends to various medical device applications including:

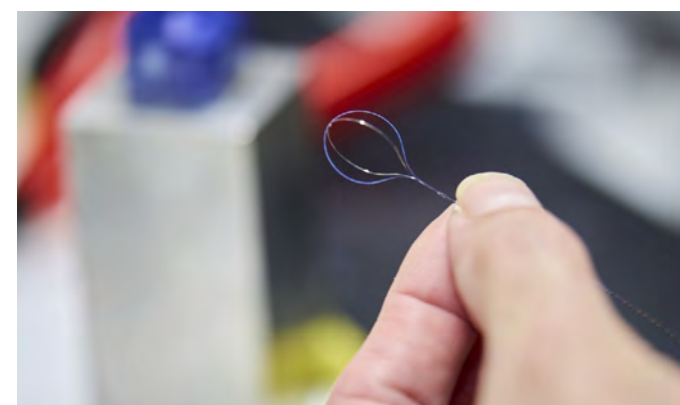
- **Flexible endoscopy / gastroenterology / urology:** Flexible catheters and guidewires, retrieval baskets and instruments.
- **Cardiovascular and structural heart:** Self-expanding stents, vena cava filters, endovascular aneurysm repair (EVAR) grafts, structural heart occluders and inter-atrial shunts.
- **Neurovascular and peripheral vascular:** Embolization coils, retrievers and graspers for clot removal.
- **Orthopedics and robotic surgery:** Bone anchors and screws, Super-elastic components for robotic instruments.

As MedTech continues to evolve, nitinol's role will expand especially in robotic surgery and smart implants with integrated sensing technologies – driving greater precision, safety, and improved patient outcomes in medical procedures.

For more information, please visit our website.



alleima.com/nitinol





Lasers on, limits off

High precision cutting, drilling, welding and marking

Leverage the power of laser technology to achieve unparalleled flexibility and precision. Our state-of-the-art equipment and expert engineers allow us to address complex and intricate geometries with remarkable accuracy and speed, ensuring top-quality results and a quick time-to-market.

Our expertise lies in:

- **2-D and 3-D Processing:** Utilizing advanced laser technology, we process parts in 5 NC-axes with extreme accuracy and high positioning speed.
- **High dynamics:** Achieved through linear and torque drive technology, ensuring rapid and precise movements in the X, Y, B, and C axes.
- **CAD/CAM Integration:** Reliable visualization of components and reduced lead times through fast programming and on-screen previews.

Our capabilities include:

Laser cutting

Delivering clean, burr-free edges and exceptional precision, our laser cutting handles complex geometries and delicate materials with unmatched consistency, from prototypes to high-volume runs. Optimized for stainless steel and nitinol, this capability supports applications such as implants, guide-wires, needles, and other complex medical components.

Laser drilling

Creating high-precision micro-holes in ultra-fine materials with techniques such as single-shot, percussion, and trepan drilling. Ideal for controlled fluid flow, filtration, or fixation features.



Laser welding

Producing strong, precise, and repeatable joints with minimal heat distortion. We specialize in spot, seam, and circular seam welding to meet the highest precision standards. Perfect for delicate or high-performance medical components where strength, cleanliness, and accuracy are critical.

Laser marking

Permanent, high-contrast markings without damaging the material. Perfect for traceability, branding, and regulatory compliance in medical, industrial, and electronic components.



alleima.com/laser-processing

Laser processing



Surface treatment

Selecting the optimal surface solution is crucial for achieving superior performance in your medical device. This process requires a delicate balance between engineering, chemistry, and functionality, presenting a challenge even for the most seasoned design teams.

Surface solutions built for performance.

At Alleima, our expertise in surface technologies includes:

- **Coatings:** Wide range of polymer and PTFE base, top, and bond coatings, applied through advanced reel-to-reel and flooded coating processes.
- **Core extrusion:** Specialized polyurethane (PU) extrusion technologies.
- **Electroplating:** Single or multiple metallic coatings to enhance electrical performance, acid resistance, and visual appearance.
- **Anodizing:** Advanced anodizing services through a reel-to-reel electrolytic passivation process for aluminum alloys.
- **Electropolishing:** Premium surface finishes through advanced electropolishing technology.
- And more.

Choosing the right surface solution early in the design phase is vital to avoid undesirable outcomes in later stages of medical device production. By making informed decisions from the start, you can ensure the highest quality and reliability for your products.

Coating materials

Coatings for use as permanent and temporary implant

Polyurethanes
Polyesterimide
PTFE
FEP
Nylon (top coat)
Polyamide-imide
Polyesters
Polyimide
LARC SI Polyimide

Thermal bondcoats

Thermoplastic coatings for bonding wires together as multi-filar or free standing coils

Thermoplastic Polyvinyl Butyral
Thermoplastic Epoxy
Thermoplastic Polyamide
Thermoplastic Polyamide-imide



alleima.com/surface-treatments

Stone retrieval devices

Our selection of nitinol and stainless-steel baskets are engineered for safe, efficient stone capture. With atraumatic tipless options, lithotripsy-ready designs, and full 360° rotation, we offer confident retrieval in every scenario.



Compare our different devices

Variant	Material	Tip	Shape	Basket Ø (mm)	Catheter (Fr)	Lengths (cm)	Comments	Litho
Open-ended	Nitinol (3-wire)	Open	—	10	1.9	120	Combine tipless and a grasper	
Tipless	Nitinol (4-wire)	Tipless	—	8, 12, 14, 16	1.3, 1.9, 2.2, 2.5, 3.0	90, 120	360° rotation Detachable Single-wire braid	
Diamond	Nitinol (4-wire)	With tip	Diamond	12–15	1.9, 3.0	90, 120	360° rotation Detachable	
pherical	Nitinol (4-wire)	With tip	Spherical	12–16	1.9, 2.5, 3.0	90, 120	360° rotation Detachable	
Double helical	Nitinol (4-wire)	With tip	Double helical	12–15	1.9, 3.0	90, 120	360° rotation Detachable	
Helical	Nitinol (4-wire)	With tip	Helical	11.5–15	1.9, 2.5, 3.0	90, 120	360° rotation Detachable	
6-wire litho	Nitinol (6-wire, lithotripsy capable)	With tip	Twisted	15–35	2.4, 3.6	100, 120	Lithotripsy capable	yes
Stainless steel	Stainless steel (4/6-wire)	With tip	Twisted	15–35	2.4, 3.6	100, 120	All soldered transitions Lithotripsy capable	yes

Nitinol guidewire

With a nitinol core, customizable coatings, flexible tips, and our low-friction PGS technology, Alleima guidewires give you the control, visibility, and confidence needed for today’s most demanding procedures.



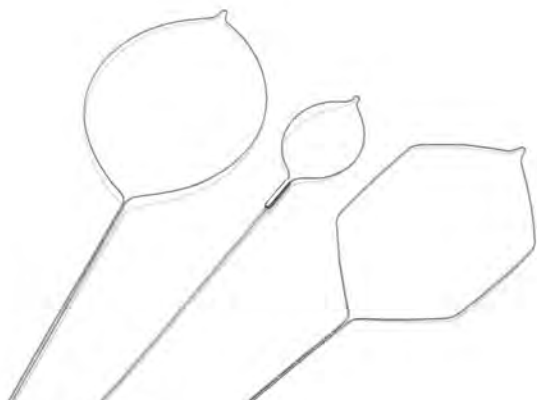
Our guidewires at a glance

Variant	Jacket / Shaft	Surface	Tip	X-ray visibility	Markers
Standard	PTFE or PU-extruded	Hydrophobic / Hydrophilic	Flexible NiTi (straight or J)	Tip (PTFE) / Full (PU)	
PU-Tip	PTFE	Hydrophobic	5 cm high-flex PU tip	Tip only	–
SKAL	PTFE	Hydrophobic	5 cm flexible (PU opt.)	Tip only	Platinum at 1 cm intervals
Extruded	PU-extruded	Hydrophilic	Flexible tip	Whole shaft	–
Glider	PTFE shaft + shrink section	Hydrophobic	PU tip + PTFE transition	Tip only	–
OSD	Bare NiTi shaft	–	PU tip	Tip only	–

Product portfolio

Snares

With customizable designs, advanced manufacturing, and proven performance across, our snares are built to meet the most exacting demands - from prototype to full-scale production.



Snare – stainless steel

- Tip bent and lasered strand made of stainless steel
- Rope consists of a stainless-steel strand or wire with pull rod made of stainless steel
- Options symmetrical, asymmetrical, and single use, multi use
- For removal of polyps in the body
- Snares can be crimped (disposable) or soldered (reusable)

Snare – partially insulated

- Electrical insulation of half of the symmetrically opening snare while the other half is HF-surgically inactive
- Providing enhanced efficiency during first cut and the cutting phase
- Minimized thermal damage and artefacts due to limited/low use of HF electricity
- Width markings on the resection snare for endoscopic visibility
- 3-finger, ergonomic handle for precise axial and rotational movements

Flat adenoma resection instrument (type C)

- Developed for Endoscopic Submucosa Resection (ESR), i.e. en bloc resection of large polyp-like lesions and flat lesions
- Low mechanical and thermal artifacts
- Effector available as a symmetrically opening and closing HF surgical resection loop

Flat adenoma resection instrument (type U)

- Access instrument for ESR or Endoscopic Submucosal Dissection (ESD)
- Optimized effector at the distal end of the catheter made of
- An electrically insulated skid (HF surgically inactive)
- A needle-shaped HF surgical cutting electrode
- Length of cutting electrode: 1.0 mm, 1.5 mm or 2.0 mm

Ultra-fine medical tubes

Alleima delivers ultra-fine tubes crafted with the same expertise that defines our wire manufacturing. Our fine and ultra-fine tubes meet the most demanding requirements in biocompatibility, electrical performance, and dimensional accuracy.



Ultra-fine tube sizes

- Diameter outer: 0.25 - 4 mm (0.00984") - 0.157")
- Diameter inner: 0.05 - 2.9 mm (0.00197") - 0.114")
- Wall thickness: 0.04 – 1.0 mm (0.00157" - 0.04")

Plastic insulation

For probes, catheters, and similar applications, we provide a range of plastic and biocompatible insulation options. Our multi-layer coating process guarantees 100% coverage, eliminating the risk of pinholes and ensuring reliable protection for fine tubes in demanding medical environments. For precise axial and rotational movements.

Electroplating

We offer advanced electroplating for tubes, applying the same high-performance metallic coatings used on our wires. Options include gold, nickel, platinum, silver, tungsten, and more—delivering enhanced acid resistance, biocompatibility, or tailored electrical properties. Our reel-to-reel electroplating process ensures continuous, homogeneous coatings free from porosity or cracks. Contact us to learn more.

Multi-lumen tubes

Certain medical applications require tubes with two or more separate chambers. Alleima has developed specialized processes to meet the stringent demands of multi-lumen tube manufacturing, enabling precise integration of dual or triple chambers within a single tube. Inner conductors can be installed either solid or loose, depending on your application requirements.

Wire products

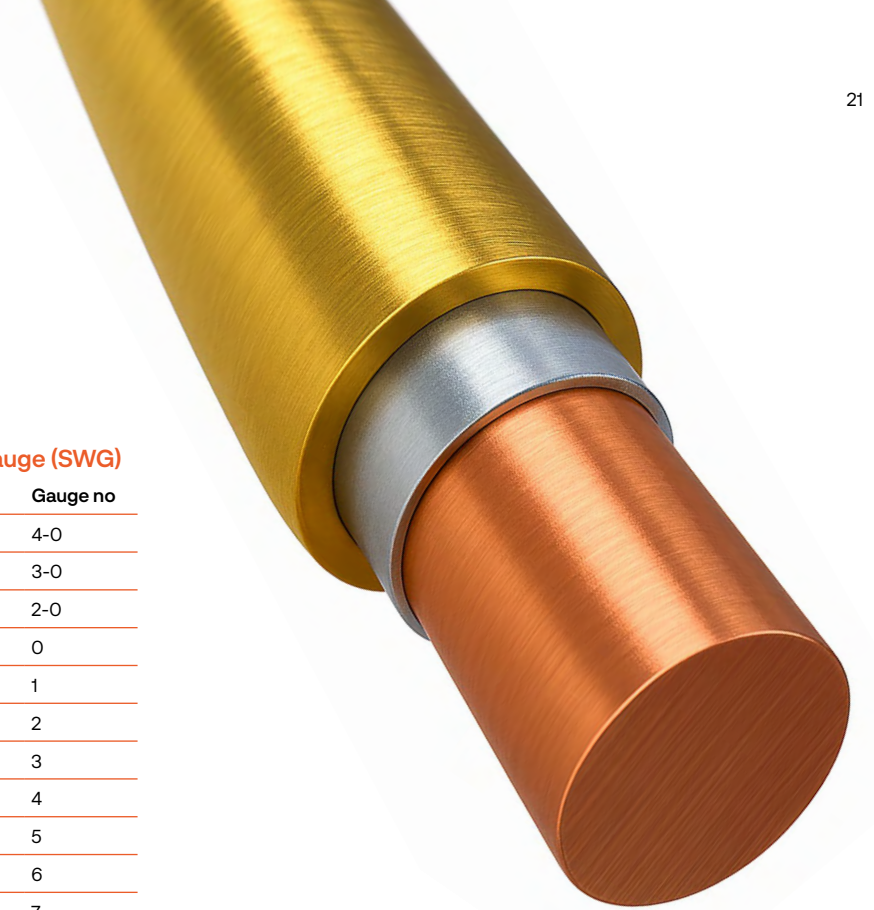
From ultra-fine single strand to complex multi-filar and cored designs, our medical wire forms are engineered to meet your exact needs. With over 200 alloys available, we can offer extensive customization options.



Wire gauges

Wire Gauges (AWG or B&S)			Standard Wire Gauge (SWG)		
Gauge no	inch	mm	inch	mm	Gauge no
4-0	0.460	11.68	0.400	10.16	4-0
3-0	0.410	10.40	0.372	9.45	3-0
2-0	0.365	9.27	0.348	8.84	2-0
0	0.325	8.25	0.324	8.23	0
1	0.289	7.35	0.300	7.62	1
2	0.258	6.54	0.276	7.01	2
3	0.229	5.83	0.252	6.40	3
4	0.204	5.19	0.232	5.89	4
5	0.182	4.62	0.212	5.38	5
6	0.162	4.11	0.192	4.88	6
7	0.144	3.67	0.176	4.47	7
8	0.129	3.26	0.160	4.06	8
9	0.114	2.91	0.144	3.66	9
10	0.102	2.59	0.128	3.25	10
11	0.0907	2.30	0.116	2.95	11
12	0.0808	2.05	0.104	2.64	12
13	0.0720	1.83	0.0920	2.34	13
14	0.0641	1.63	0.0800	2.03	14
15	0.0571	1.45	0.0720	1.83	15
16	0.0508	1.29	0.0640	1.63	16
17	0.0453	1.15	0.0560	1.42	17
18	0.0403	1.02	0.0480	1.22	18
19	0.0359	0.912	0.0400	1.02	19
20	0.0320	0.812	0.0360	0.914	20
21	0.0285	0.723	0.0320	0.813	21
22	0.0254	0.644	0.0280	0.711	22
23	0.0226	0.573	0.0240	0.610	23
24	0.0201	0.511	0.0220	0.559	24
25	0.0179	0.455	0.0200	0.508	25
26	0.0159	0.405	0.0180	0.457	26
27	0.0142	0.361	0.0164	0.417	27
28	0.0126	0.321	0.0148	0.376	28
29	0.0113	0.286	0.0136	0.345	29
30	0.0100	0.255	0.0124	0.315	30
31	0.00893	0.227	0.0116	0.295	31
32	0.00795	0.202	0.0108	0.274	32
33	0.00708	0.180	0.0100	0.254	33
34	0.00631	0.160	0.00920	0.234	34
35	0.00562	0.143	0.00840	0.213	35
36	0.00500	0.127	0.00760	0.193	36
37	0.00445	0.113	0.00680	0.173	37
38	0.00397	0.101	0.00600	0.152	38

Wire Gauges (AWG or B&S)			Standard Wire Gauge (SWG)		
Gauge no	inch	mm	inch	mm	Gauge no
39	0.00353	0.0897	0.00520	0.132	39
40	0.00315	0.0799	0.00480	0.122	40
41	0.00280	0.0711	0.00440	0.112	41
42	0.00249	0.0633	0.00400	0.102	42
43	0.00222	0.0564	0.00360	0.0914	43
44	0.00198	0.0502	0.00320	0.0813	44
45	0.00176	0.0447	0.00280	0.0711	45
46	0.00157	0.0398	0.00240	0.0610	46
47	0.00140	0.0355	0.00200	0.0508	47
48	0.00124	0.0316	0.00160	0.0406	48
49	0.00111	0.0281	0.00120	0.0305	49
50	0.000986	0.0250	0.00100	0.0254	50
51	0.000800	0.0203	0.000878	0.0223	51
52	0.000600	0.0152	0.000782	0.0199	52
53	0.000500	0.0127	0.000697	0.0177	53
54	0.000400	0.0102	0.000620	0.0157	54
55	0.000300	0.00762	0.000552	0.0140	55
56			0.000492	0.0125	56
57			0.000438	0.0111	57
58			0.000390	0.00991	58
59			0.000347	0.00881	59
60			0.000309	0.00785	60



NEMA MW 1000:

Dimensional standards

Insulated round magnet wire

AWG	Bare wire diameter (inches)			Single build insulation			Heavy build insulation			Triple build insulation		
	Minimum	Nominal	Maximum	Min. increase in diameter	Nominal thickness	Maximum thickness	Min. increase in diameter	Nominal thickness	Maximum thickness	Min. increase in diameter	Nominal thickness	Maximum thickness
21	0.0282	0.0285	0.0288	0.0011	0.0298	0.0303	0.0022	0.0309	0.0314	0.0033	0.0321	0.0326
22	0.0250	0.0253	0.0256	0.0011	0.0266	0.0270	0.0021	0.0276	0.0281	0.0032	0.0288	0.0293
23	0.0224	0.0226	0.0228	0.0010	0.0239	0.0243	0.0020	0.0249	0.0253	0.0030	0.0259	0.0264
24	0.0199	0.0201	0.0203	0.0010	0.0213	0.0217	0.0019	0.0223	0.0227	0.0029	0.0233	0.0238
25	0.0177	0.0179	0.0181	0.0009	0.0190	0.0194	0.0018	0.0199	0.0203	0.0027	0.0209	0.0214
26	0.0157	0.0159	0.0161	0.0009	0.0170	0.0173	0.0017	0.0178	0.0182	0.0026	0.0188	0.0193
27	0.0141	0.0142	0.0143	0.0008	0.0153	0.0156	0.0016	0.0161	0.0164	0.0024	0.0169	0.0173
28	0.0125	0.0126	0.0127	0.0008	0.0137	0.0140	0.0016	0.0144	0.0147	0.0023	0.0152	0.0156
29	0.0112	0.0113	0.0114	0.0007	0.0123	0.0126	0.0015	0.0130	0.0133	0.0022	0.0138	0.0142
30	0.0099	0.0100	0.0101	0.0007	0.0109	0.0112	0.0014	0.0116	0.0119	0.0021	0.0124	0.0128
31	0.0088	0.0089	0.0090	0.0006	0.0097	0.0100	0.0013	0.0105	0.0108	0.0017	0.0110	0.0114
32	0.0079	0.0080	0.0081	0.0006	0.0088	0.0091	0.0012	0.0095	0.0098	0.0016	0.0099	0.0103
33	0.0070	0.0071	0.0072	0.0005	0.0078	0.0081	0.0011	0.0085	0.0088	0.0014	0.0088	0.0092
34	0.0062	0.0063	0.0064	0.0005	0.0070	0.0072	0.0010	0.0075	0.0078	0.0013	0.0079	0.0082
35	0.0055	0.0056	0.0057	0.0004	0.0062	0.0064	0.0009	0.0067	0.0070	0.0012	0.0071	0.0074
36	0.0049	0.0050	0.0051	0.0004	0.0056	0.0058	0.0008	0.0060	0.0063	0.0011	0.0064	0.0067
37	0.0044	0.0045	0.0046	0.0003	0.0050	0.0052	0.0008	0.0055	0.0057	0.0010	0.0057	0.0060
38	0.0039	0.0040	0.0041	0.0003	0.0045	0.0047	0.0007	0.0049	0.0051	0.0009	0.0051	0.0054
39	0.0034	0.0035	0.0036	0.0002	0.0039	0.0041	0.0006	0.0043	0.0045	0.0008	0.0045	0.0048
40	0.0030	0.0031	0.0032	0.0002	0.0035	0.0037	0.0006	0.0038	0.0040	0.0008	0.0041	0.0043
41	0.0027	0.0028	0.0029	0.0002	0.0031	0.0033	0.0005	0.0034	0.0036	0.0007	0.0037	0.0039
42	0.0024	0.0025	0.0026	0.0002	0.0028	0.0030	0.0004	0.0030	0.0032	0.0007	0.0033	0.0035
43	0.0021	0.0022	0.0023	0.0002	0.0025	0.0026	0.0004	0.0027	0.0029	0.0006	0.0030	0.0032
44	0.0019	0.0020	0.0021	0.0001	0.0022	0.0024	0.0004	0.0025	0.0027	0.0006	0.0027	0.0029
45	0.00169	0.00176	0.0018	0.00010	0.0019	0.00205	0.00030	0.00215	0.00230			
46	0.00151	0.00157	0.0016	0.00010	0.0017	0.00185	0.00030	0.00196	0.00210			
47	0.00135	0.00140	0.0015	0.00010	0.0016	0.00170	0.00030	0.00178	0.00190			
48	0.00119	0.00124	0.0013	0.00010	0.0014	0.00150	0.00020	0.00155	0.00170			
49	0.00107	0.00111	0.0012	0.00010	0.0012	0.00130	0.00020	0.00139	0.00150			
50	0.00095	0.00099	0.00103	0.00010	0.0011	0.00120	0.00020	0.00128	0.00140			
51	0.00085	0.00088	0.00092	0.00010	0.0010	0.00110	0.00020	0.00117	0.00129			
52	0.00075	0.00078	0.00081	0.00010	0.0009	0.00100	0.00020	0.00105	0.00115			
53	0.00067	0.00070	0.00073	0.00005	0.0008	0.00085	0.00013	0.00092	0.00103			
54	0.00060	0.00062	0.00065	0.00005	0.0007	0.00075	0.00013	0.00084	0.00095			
55	0.00053	0.00055	0.00057	0.00005	0.0006	0.00070	0.00013	0.00077	0.00087			
56	0.00047	0.00049	0.00051	0.00005	0.0006	0.00065	0.00013	0.00071	0.00081			
57	0.00042	0.00044	0.00046	0.00004	0.0005	0.00056						
58	0.00038	0.00039	0.00041	0.00004	0.0005	0.00051						
59	0.00034	0.00035	0.00036									
60	0.00030	0.00031	0.00032									
61	0.00027	0.00028	0.00029									
62	0.00024	0.00025	0.00026									
63	0.00021	0.00022	0.00023									

Sizes finer than 44 AWG based on the theoretical resistance (10.371 Ohms-Circular Mil/foot) of a copper conductor.

The nominal coated wire thickness is based on the average of the minimum coating thickness increase on a minimum bare wire diameter and the maximum coated wire thickness.

Single build self-bonding wire

AWG	Bare wire nominal diameter		Maximum increase in diameter insulation		Minimum increase in diameter thermoplastic		Maximum overall diameter	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm
21	0.02850	0.7240	0.0011	0.0280	0.00050	0.0130	0.03140	0.7980
22	0.02530	0.6430	0.0011	0.0280	0.00050	0.0130	0.02810	0.7140
23	0.02260	0.5740	0.0010	0.0250	0.00050	0.0130	0.02530	0.6430
24	0.02010	0.5110	0.0010	0.0250	0.00050	0.0130	0.02270	0.5770
25	0.01790	0.4550	0.0009	0.0230	0.00050	0.0130	0.02030	0.5160
26	0.01590	0.4040	0.0009	0.0230	0.00050	0.0130	0.01820	0.4620
27	0.01420	0.3610	0.0008	0.0200	0.00050	0.0130	0.01640	0.4170
28	0.01260	0.3200	0.0008	0.0200	0.00050	0.0130	0.01470	0.3730
29	0.01130	0.2870	0.0007	0.0180	0.00040	0.0100	0.01330	0.3380
30	0.01000	0.2540	0.0007	0.0180	0.00040	0.0100	0.01190	0.3020
31	0.00890	0.2260	0.0006	0.0150	0.00040	0.0100	0.01080	0.2740
32	0.00800	0.2030	0.0006	0.0150	0.00040	0.0100	0.00980	0.2490
33	0.00710	0.1800	0.0005	0.0130	0.00040	0.0100	0.00880	0.2240
34	0.00630	0.1600	0.0005	0.0130	0.00030	0.0080	0.00780	0.1980
35	0.00560	0.1420	0.0004	0.0100	0.00030	0.0080	0.00700	0.1780
36	0.00500	0.1270	0.0004	0.0100	0.00030	0.0080	0.00630	0.1600
37	0.00450	0.1140	0.0003	0.0080	0.00030	0.0080	0.00570	0.1450
38	0.00400	0.1020	0.0003	0.0080	0.00020	0.0050	0.00510	0.1300
39	0.00350	0.0890	0.0002	0.0050	0.00020	0.0050	0.00450	0.1140
40	0.00310	0.0790	0.0002	0.0050	0.00020	0.0050	0.00400	0.1020
41	0.00280	0.0710	0.0002	0.0050	0.00020	0.0050	0.00360	0.0910
42	0.00250	0.0640	0.0002	0.0050	0.00020	0.0050	0.00320	0.0810
43	0.00220	0.0560	0.0002	0.0050	0.00010	0.0025	0.00290	0.0740
44	0.00200	0.0510	0.0001	0.0025	0.00010	0.0025	0.00270	0.0690
45	0.00176	0.0447	0.0001	0.0025	0.00010	0.0025	0.00230	0.0584
46	0.00157	0.0399	0.0001	0.0025	0.00010	0.0025	0.00210	0.0533
47	0.00140	0.0356	0.0001	0.0025	0.00010	0.0025	0.00190	0.0483
48	0.00124	0.0315	0.0001	0.0025	0.00010	0.0025	0.00170	0.0432
49	0.00111	0.0282	0.0001	0.0025	0.00010	0.0025	0.00150	0.0381
50	0.00099	0.0251	0.0001	0.0025	0.00010	0.0025	0.00140	0.0356
51	0.00088	0.0224	0.0001	0.0025	0.00010	0.0025	0.00130	0.0330
52	0.00078	0.0198	0.0001	0.0025	0.00005	0.0013	0.00115	0.0292
53	0.00070	0.0178	0.0001	0.0025	0.00005	0.0013	0.00107	0.0271
54	0.00060	0.0152	0.0001	0.0025	0.00005	0.0013	0.000995	0.0253
55	0.00050	0.0127	0.0001	0.0025	0.00005	0.0013	0.000985	0.0250
56	0.00040	0.0102	0.0001	0.0025	0.00005	0.0013	0.000975	0.0248

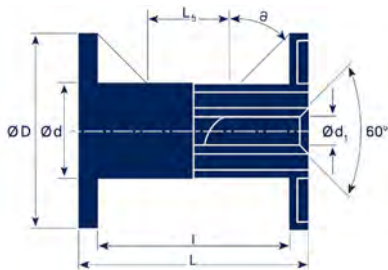
Sizes finer than 44 AWG based on the theoretical resistance (10.371 Ohms-Circular Mil/foot) of a copper conductor.

AWG sizes 53 to 56 are not standard NEMA dimensions.

Spools

American standard

Spool type	D in	d in	d1 in	L in	l in	Wire type
2.125" Flange	2.125	1.375	5/8	1.375	1	0.0005 – 0.002
2.5 " Flange	2.5	1.76	5/8	3.376	3	0.007 – 0.0031
3.15" Flange	3.15	1.97	5/8	3.15	2.52	0.002 – 0.0063
3.5" Flange	3.5	2.125	2.125	2.438	2.125	
5" Flange	5	3	5/8	4.11	3.5	0.0035 – 0.113
6" Flange	6	3.5	5/8	4.11	3.5	0.005 – 0.0253
PT 4 Tapered	5.5 & 4.875	4.375 & 3.875	1	7.875	6.688	0.003 – 0.008
PT10 Tapered	7.087 X 6.300	4.331 X 3.780	1	9	7.875	0.004 – 0.010
12" Reel	11.75	8	2	3.938	3.62	
Anodized band spool	2.24	1.98	1.93	1.1	1	Bonding wire



Metric

Spool type	D mm	d mm	d1 mm	L mm	l mm	Wire size, mm ø	Normal net weight, kg
C 1/4	64	44	16	61	51	<0.030	0.05 – 0.25
C 1/2	64	44	16	86	76	0.030 – 0.099	0.5
B 1	75	40	16	120	100	0.1 – 0.199	1.0
B 2	90	40	16	120	100	0.20 – 0.25	2.0
B 4	120	50	16	120	100	0.26 – 0.50	4.0

Standard din spools

Spool type	D mm	d mm	d1 mm	L mm	l mm	Wire size, mm ø	Normal net weight, kg
DIN 50	50	32	11	50	38	0.015 – 0.04	0.10
DIN 63	63	40	11	63	49	0.015 – 0.04	0.20
DIN 80	80	50	16	80	64	0.05 – 0.099	0.75
DIN 100	100	63	16	100	80	0.10 – 0.50	1.5
DIN 125	125	80	16	125	100	0.15 – 0.80	3.0
DIN 160	160	100	22	160	128	0.25 – 0.71	5.0
DIN 200	200	125	36	200	160	0.4 – 0.81	10.0
DIN 250	250	160	22	200	160	0.4 – 1.5	20
DIN 355	355	225	36	200	162	1.0 – 3.0	40
SK 460	460	318	305	105	91	0.25 – 1.8	45

Steegeer bobbins

Sizes D / d x l
40 / 30 x 26 mm
40 / 16 x 26 mm
43 / 25 x 26 mm

Other spool options are available on request.



Forged from the past. Engineered for the future.

One partner for all your needs

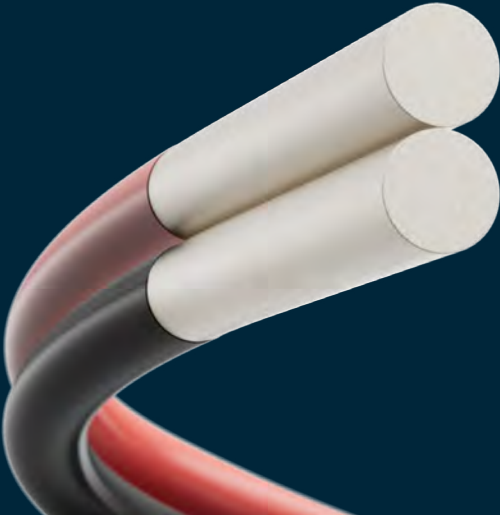
Your sounding board. Your partner. Work with us and take advantage of the finest quality products for medical wire and micro-tubes, nitinol processing, a completely controlled value chain and all the time and cost efficiencies of a single, reliable supplier.

- Partnering with world-class OEMs.
- Agile lead times.
- Expertly responsive customer service.
- Fine medical wire and micro-tubes with highest precision and quality.
- Highest quality medical coatings.
- Experts in nitinol processing.

Certifications

ISO 13485:2016	ISO 14001:2015
ISO 9001:2015	ISO 45001:2018

Our name has changed to Alleima. Yet our long, rich Sandvik history will always burn strong in our hearts. From pioneering malleable steel to perfecting the Bessemer method, ours has always been a story of progress and development. And today, as the world-leader in materials engineering and manipulation, we are committed to advancing industries through materials technology.



Eight ways you'll advance with Alleima

Advancing together

1

A truly innovative partner
Have all our research and development expertise on your side, enhancing your team with innovative thinking and action.

2

Unmatched material science expertise
Give each of your projects the benefit of unrivaled metallurgy and medical wire expertise.

3

New standards in service
Get the service and flexibility you deserve, with a responsive partner ready to adjust to your design and production schedules, however demanding they might be.

4

Financial strength
Achieve long-term sustainable growth by teaming with a financially strong, single-source partner.

5

Quality assurance to trust
Know we have controls in place throughout the entire manufacturing process up to the most precise end-product.

6

Lean processes
Benefit from our continuous journey to increase quality, improve processes, reduce waste and decrease variability.

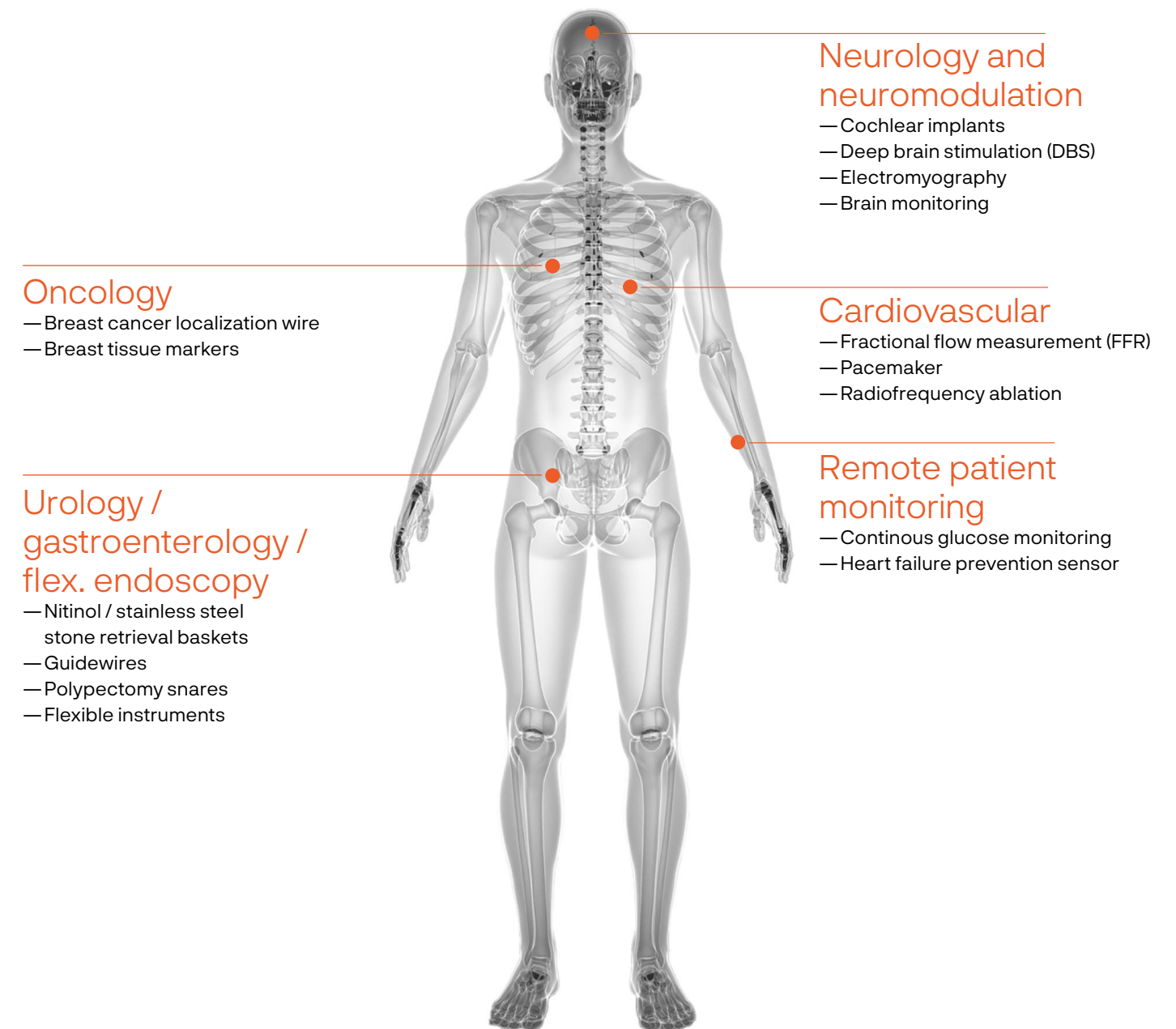
7

Focus and priority
Know we work closely with every project and order, from development stage to mass production, regardless of size or value.

8

Value-adding capabilities
Trust that we'll add value at every stage – not only through cut-to-length orders, twisted leads, micro cables, thermocouple sensors, coils and more – but with our service.

Current medical product categories



Our commitment to growth extends beyond our current offerings. We seek to support your future needs by leveraging our wide range of process capabilities.

Global presence of Alleima in the medical field

The Alleima advantage: A small, agile, custom, precision wire manufacturer, backed by the globally integrated and resource rich Alleima Group.

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Tucson, AZ 85756
USA
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Palm Coast

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Palm Coast, FL 32164
USA
ISO 9001 + 13485

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76131 Karlsruhe
Germany
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Dettingen

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72581 Dettingen/Erms
Germany
ISO 13485

Bielsko-Biala

Cieszyńska 365
43-382 Bielsko-Biała
Poland
ISO 13485

Costa Rica

Alajuela Province,
Coyolar, Barrio Corazón
de María, Costa Rica

Calimera

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