



innovative
Sensor
Technology



SENSING WHAT MATTERS

As a global leader in physical, chemical, and biological sensors, we don't just manufacture sensors – we enable innovation.



physical · chemical · biological





A COMPANY YOU CAN RELY ON

As a global leader in physical, chemical, and biological sensors, we don't just manufacture sensors – we enable innovation.

iST offers a wide range of sensors based on different technologies suitable for any application.

Standard or customized



Powering the future of sensing

One group – a full spectrum of sensing expertise

For 35 years, iST has been redefining what's possible in sensor technology. As a global leader in physical, chemical, and biological sensors, we don't just manufacture sensors – we enable innovation.

Our mission is simple: to help you create smarter, more efficient, and groundbreaking products. Whether you need standard solutions or fully customized designs, iST delivers precision and reliability you can trust.

iST brings together specialist capabilities across the sensor value chain. The result is a portfolio built for both standard applications and ambitious new product ideas.

But we go beyond products. Our world-class R&D and consulting services turn your ideas into reality fast. Partner with us and gain a competitive edge in your market. Since 1991, we've grown into a global powerhouse, and as part of the Endress+Hauser Group since 2005, we guarantee quality, innovation, and worldwide support.

Our expertise:

Fabricated by iST

- Temperature sensors
- Flow sensors & modules
- Humidity sensors & modules
- Conductivity sensors & flow cells

Fabricated by our subsidiaries

- Biosensors by iST Jobst
- Force, pressure, torque sensors by iST Senstech
- IR emitters by Infrastolid
- Nucleic acid extraction kits by iST Innuscreen



IST figures

We make it measurable

With around 500 employees worldwide, our company combines in-house design and manufacturing expertise with flexible, responsive project management to deliver outstanding results – whether for small quantities or high-volume production.

Our state-of-the-art facilities offer 13,500 m² of development and production space, including a clean room of more than 1,000 m², ensuring optimal conditions for precision and quality.

40

ACTIVE
PATENT FAMILIES

200

NEW PRODUCTS
PER YEAR

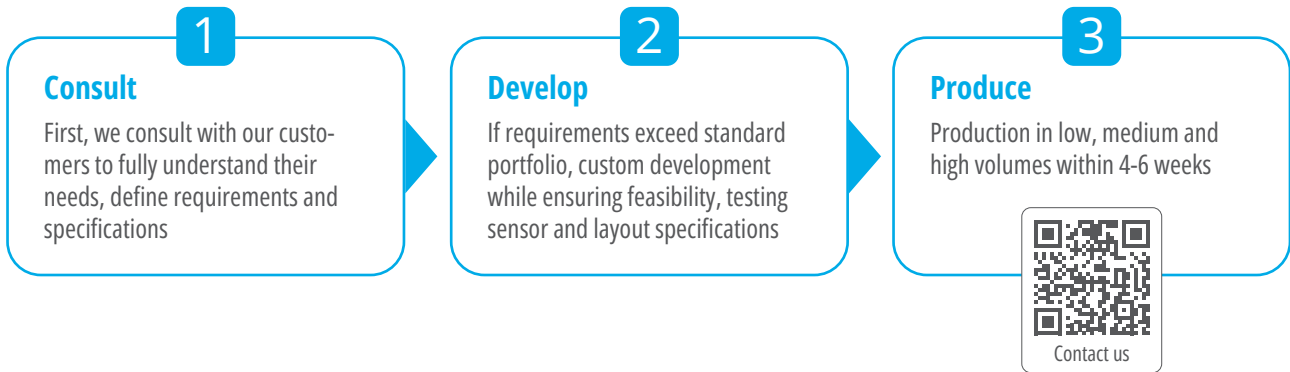
> 4.000

PRODUCTS IN
PORTFOLIO

> 80.000.000

SENSORS PRODUCED
PER YEAR

How we operate



Quality you can build on

Precision, reliability and certified excellence

Everything we do starts with our customers' requirements. Our sensor production process begins by sourcing premium materials from a trusted global supplier network. In our state of the art facilities across all iST locations – each optimized for its specific workflow – we run lean, efficient production backed by rigorous process and product controls at every stage.

Our people are at the heart of our quality. Highly trained, empowered teams and a strong quality management system ensure that standards are defined, communicated, and lived every day. Many of our engineers are certified Six Sigma Green Belts, driving continuous, data based improvement in processes and technologies.



We operate at the highest industry standards, backed by internationally recognized certifications

ISO 9001:2015

ISO 14001:2015

ISO 13485:2016



YOUR GLOBAL SENSOR SUPPLIER

Standard & Customized

From responsible sourcing to energy-efficient operations

As part of the Endress+Hauser Group, iST is committed to responsible and sustainable business practices. We reduce our environmental footprint through efficient technologies, renewable energy, careful material sourcing, and reduced fossil fuel use. At the same time, we support local and international initiatives, train employees in sustainable action, and maintain open dialogue with authorities and the public.

Beyond environmental measures, we take social responsibility in our community by supporting local initiatives and contributing to international non-profit organizations, e.g:

- Local athletes in mountain biking, skiing and snow boarding
- Local institutions and cultural establishments
- Local events
- Non-profit organizations ProKind & LiScha Himalaya in their charitable endeavors

For a complete report on our sustainability efforts in Scope 1, 2 and 3, EcoVadis Rating and UN-SDGs, view our iST Sustainability Brochure.



Co-creation for customized sensor solutions

From concept to production

When standard sensors aren't enough, we co-create the solution. iST works closely with customers to develop application-specific sensors, embedding deep component-level expertise directly into your development process.

Collaboration from day one

Co creation starts in the concept phase, with support in design, material selection, geometry, layout, and process technology. Early technical input helps define robust sensor designs and reduces costly late stage iterations.

Engineering services from concept to production

Backed by deep know-how in materials science, manufacturing, and testing, iST supports you across the entire journey – from concept and prototyping through scalable, high-volume production. The result: fast, reliable, and application-optimized sensor solutions. Our expert team complements your in-house capabilities with integrated engineering and manufacturing services, including:

Consulting & feasibility

Sensor selection, application analysis, modeling, prototyping, and initial validation testing

Custom sensor design

Material, technology and form selection for tailored products and chip on board subsystems

Signal conditioning

Hardware, firmware, and algorithms for stable, accurate, and reliable signal processing

Packaging

Custom probes, flow cells and housings designed for robust, seamless system integration

Metrology & quality assurance

Application-specific calibration, performance verification and comprehensive quality control

Product life cycle management

Digital modules, supply chain coordination, long-term support, and global fulfillment services

Focus on customer value

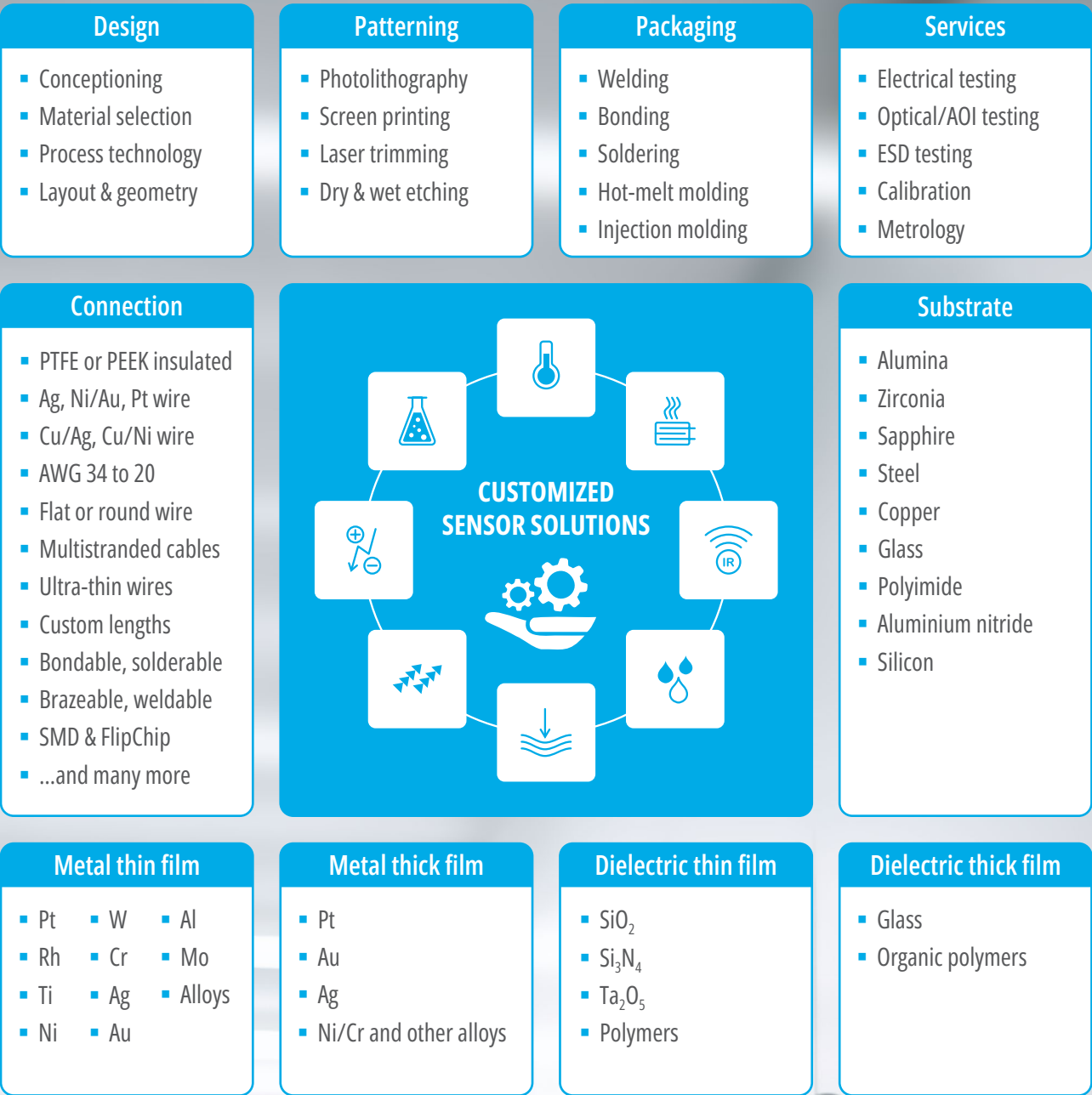
While iST manages sensor design, manufacturing technologies, and testing, customers can focus on their core value – system integration, software, and application specific innovation.

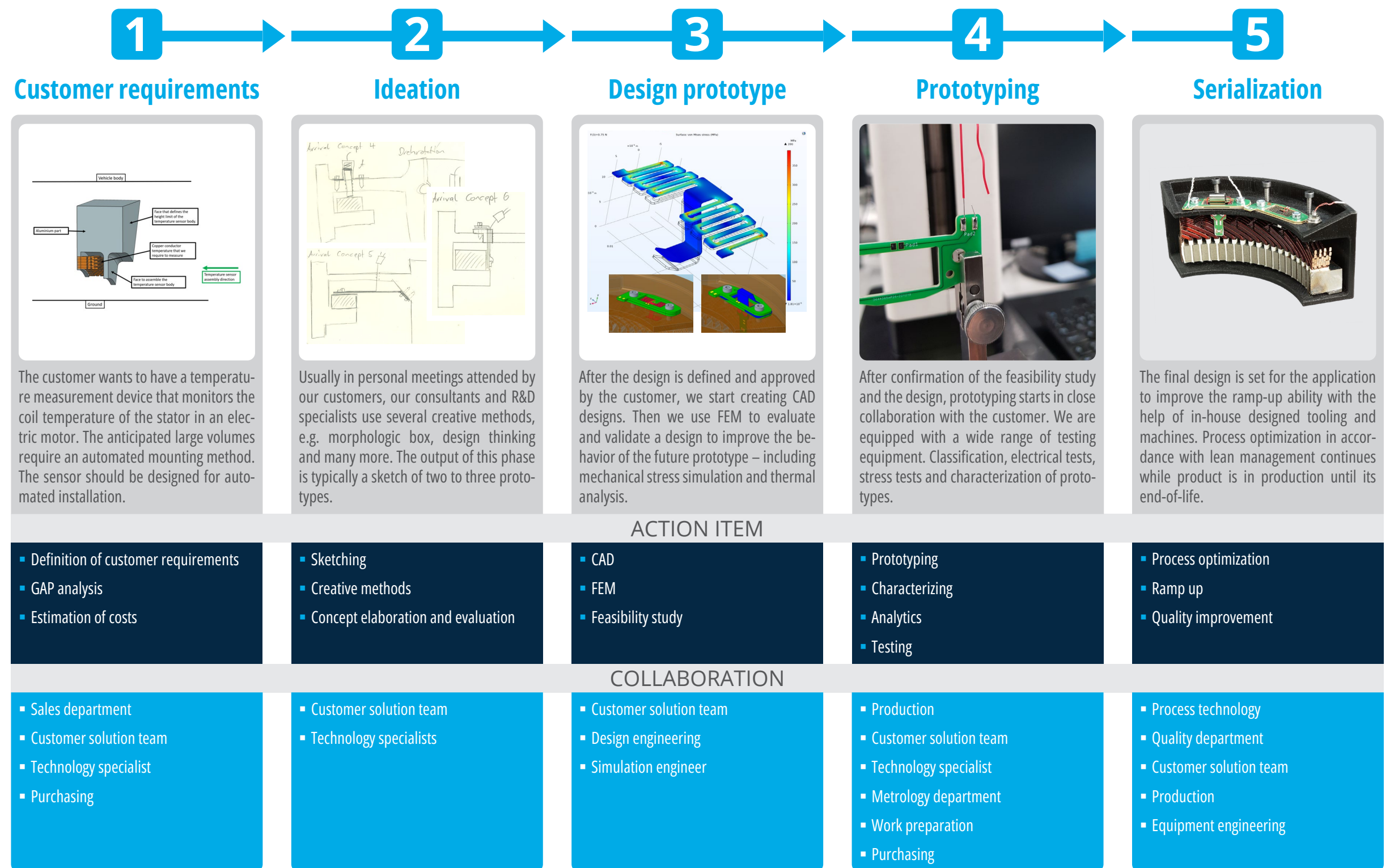
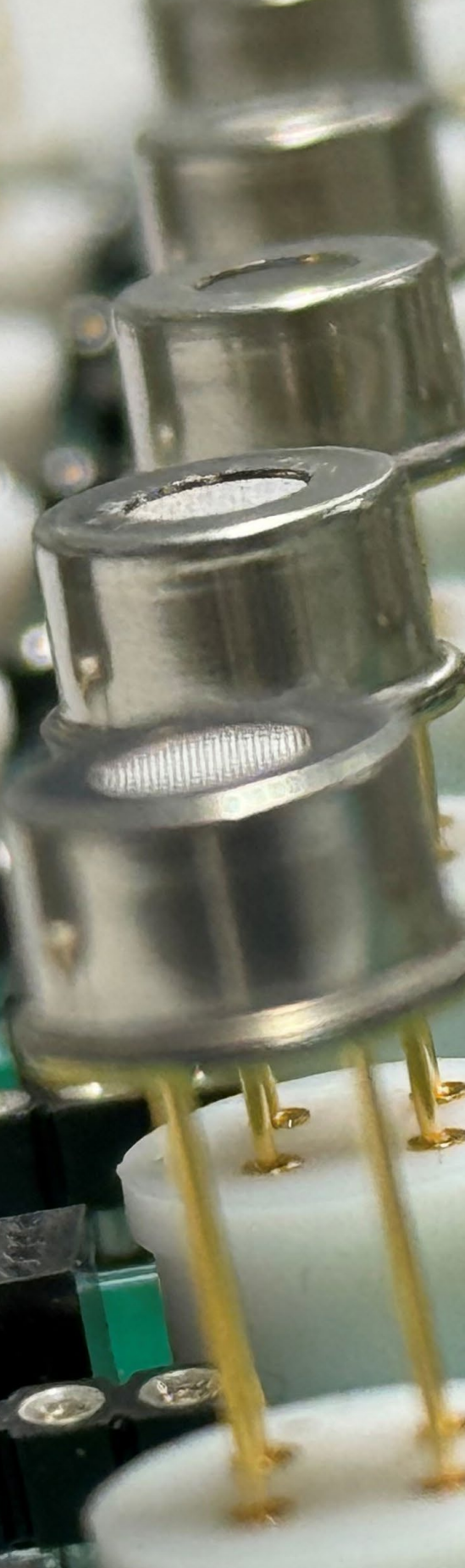
Agile, end-to-end support

From design adaptation to new measuring principles, iST enables fast prototyping, validation, industrialization, and high volume production, ensuring a smooth transition from concept to series manufacturing.

Customer benefit

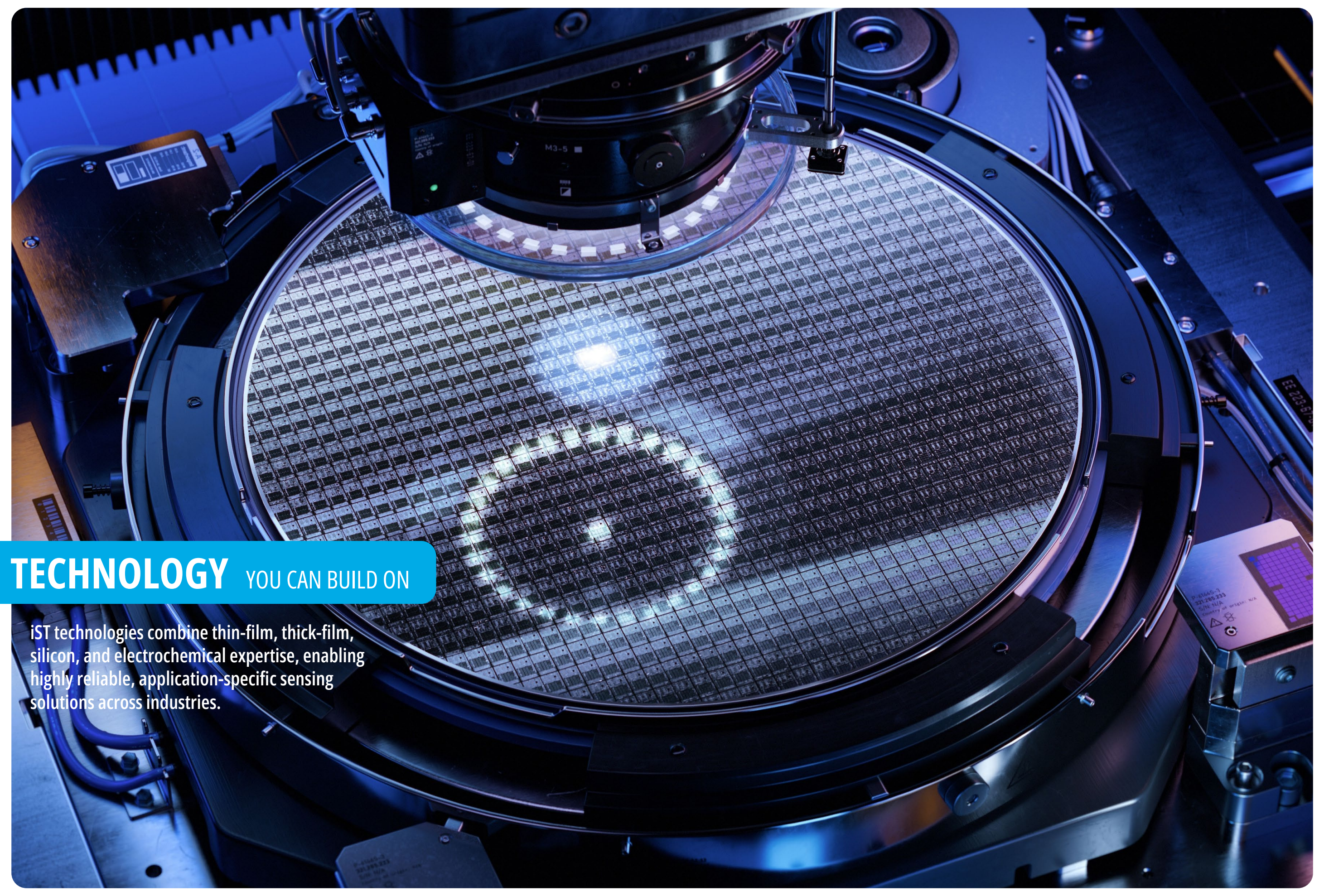
Faster, application optimized sensor solutions ready for reliable production.





Customer success story

Faster, application optimized sensor solutions ready for reliable production.



TECHNOLOGY YOU CAN BUILD ON

iST technologies combine thin-film, thick-film, silicon, and electrochemical expertise, enabling highly reliable, application-specific sensing solutions across industries.

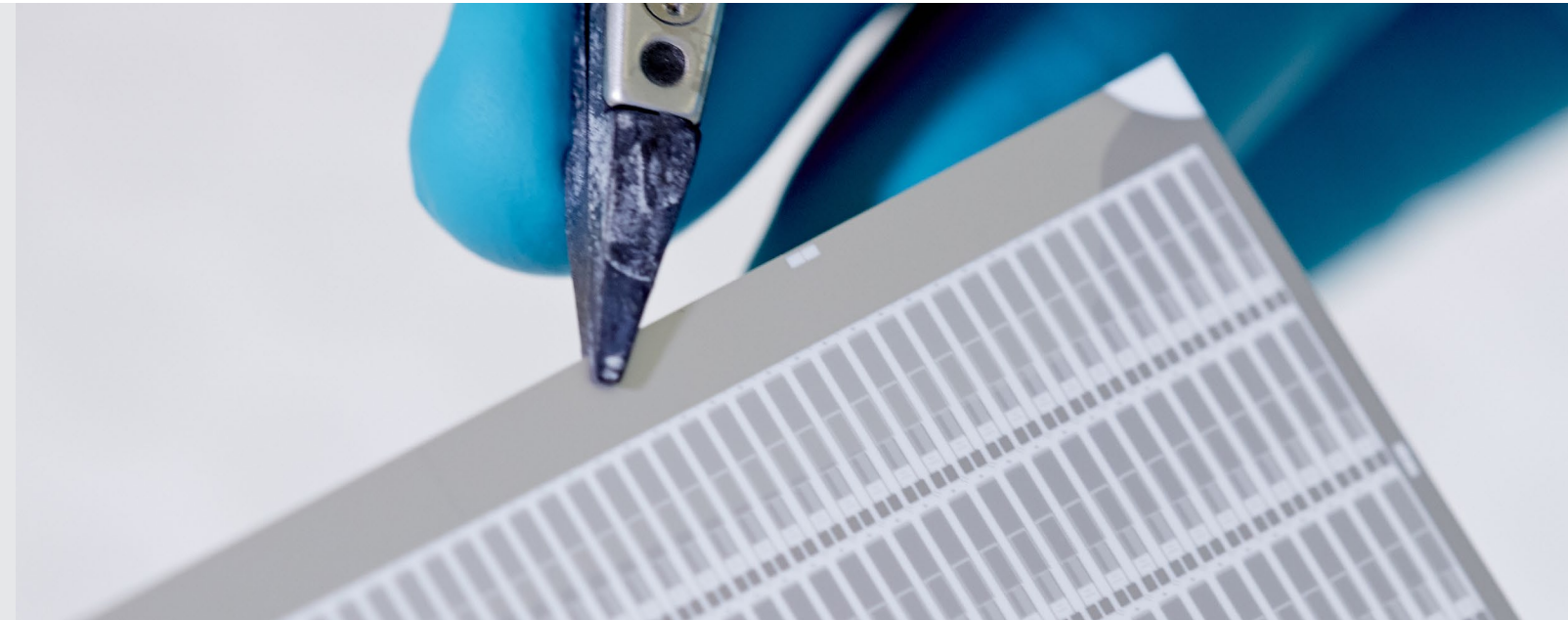
Our technology platforms

Making precision possible

Thin-film technology

Thin-film RTDs are the smart choice for high-volume applications, combining cost-efficient manufacturing with outstanding performance. Compared to wire-wound RTDs, they are more compact, mechanically robust, and deliver faster response times – making them ideal for demanding industrial environments. As the leading metal-based RTD technology in today's market, platinum thin-film RTDs stand out with a powerful combination of precision, durability, and versatility.

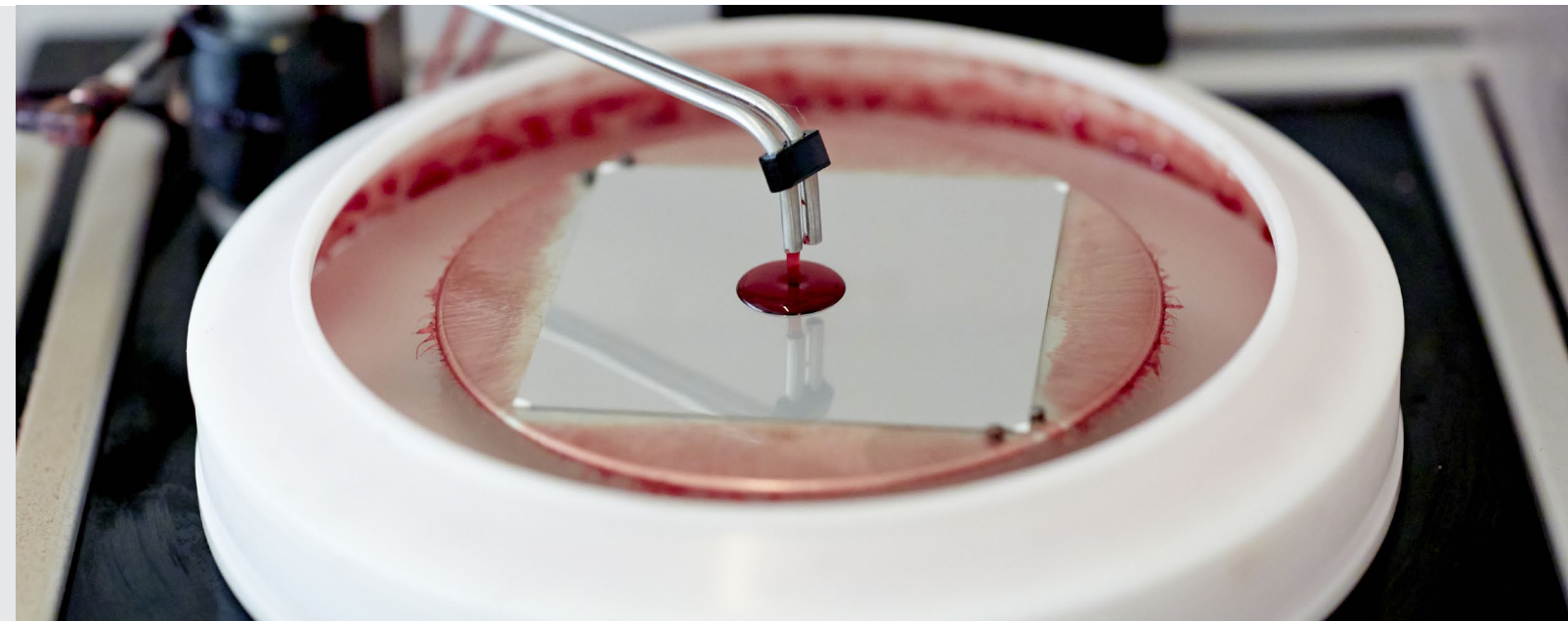
- Robust and corrosion-resistant
- Long-term stability
- High accuracy
- Low drift and low hysteresis
- Wide operating range (from -258 °C to +1000 °C)
- Suitable for precision applications



Thick-film technology

IST's thick-film technology provides customers with a reliable, scalable solution for high-volume sensor production. Thanks to our fully automated manufacturing lines and in-depth expertise in PTC materials, we can tailor coating techniques to specific application requirements. This versatile technology platform combines performance, flexibility, and cost-effective production. In our heaters, this technology enables fast, uniform, and energy-efficient heat distribution.

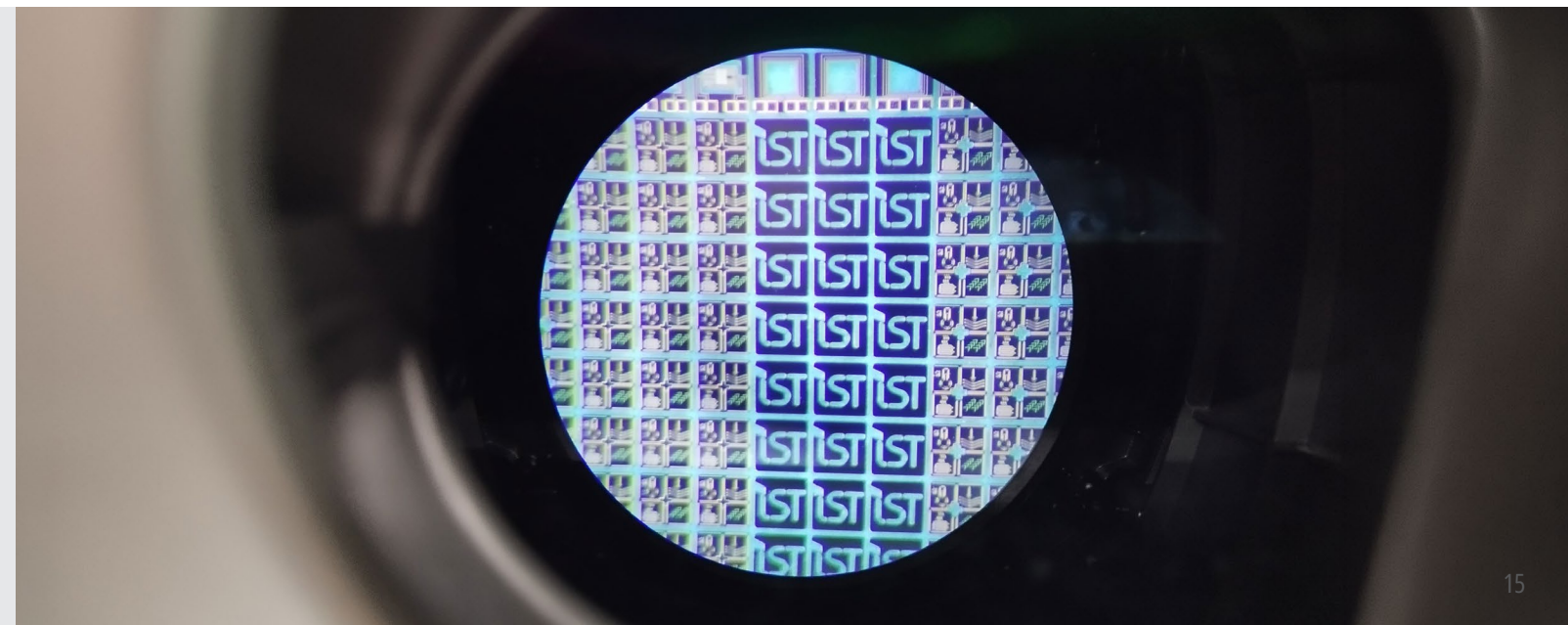
- Large-area functionalization
- High volume production
- Marketable prices
- Highest quality standards
- Various materials for substrates and active layers



Platinum-on-silicon technology

Our Pt on Si-based MEMS portfolio empowers customers to meet the growing demand for smaller, thinner, and smarter sensors – without compromising on performance. Designed for advanced miniaturization, these solutions open the door to innovative applications where compact size and high functionality are essential. Backed by deep know-how and a strong partner network, we support customers from concept to scalable production with proven MEMS processes. Whether your project requires a few thousand units or several million sensors per year, we help turn innovative silicon sensor ideas into reliable, market-ready solutions.

- Resistances up to 5 k Ω on a chip area of just 0.25 mm²
- Standard footprint 0.5 × 0.5 mm², with further miniaturization possible
- Any size, any thickness, any shape – defined by silicon etching
- Semiconductor-grade repeatability from prototype to high volume





PRODUCTS YOU CAN TRUST

iST sensors combine Swiss precision, exceptional long-term stability, extensive customization, and proven reliability, delivering accurate measurements in demanding applications.



Temperature sensors for every market and requirement

Wide temperature measurement with excellent long-term stability and high accuracy available as standard and customer-specific solutions

Platinum temperature sensors (Pt)

Built for extremes. Our platinum RTD sensors deliver unmatched precision from $-200\text{ }^{\circ}\text{C}$ to $+1000\text{ }^{\circ}\text{C}$. Designed with premium thin-film technology, they thrive in harsh environments with minimal drift and maximum durability. Compact, miniaturized yet robust, they fit seamlessly into diverse applications. Compliant with IEC 60751 and featuring a standard TCR of 3850 ppm/K, these sensors set the benchmark for accuracy. In addition to customized sensors, we also offer a range of proven standard specialties. Here are a few examples:

Space sensors

As the only manufacturer of ESCC-qualified sensors our Hi-Rel have a long history in Space applications. Available as flight models or engineering models and with wire extensions up to 10 m.

High-voltage resistant sensors

Increased high-voltage resistance, these sensors feature a high dielectric strength of 5.5 kV/60 s, are shock- and vibration resistant, making them ideal for charging plugs and other e-mobility applications.

Cryogenic RTDs

Highly reliable in a wide temperature range of $-258\text{ }^{\circ}\text{C}$ up to $+200\text{ }^{\circ}\text{C}$, ideal for fuel cells and liquid hydrogen applications.

Miniaturization

Ever smaller while maintaining Swiss quality, our portfolio features the slimmest and smallest sensors – ESD optimized and Pb-free.

Nickel temperature sensors (Ni)

Reliable. Versatile. Perfect for HVAC and beyond. iST nickel RTDs operate from $-60\text{ }^{\circ}\text{C}$ to $+300\text{ }^{\circ}\text{C}$, offering simple linearization, steep characteristic curves, and long-term stability. With multiple TCR options – 6180 ppm/K (ND), 5000 ppm/K (NL), 6370 ppm/K (NJ), 6720 ppm/K (NA), or Balco – integration is effortless.

ESCC-qualified high-reliability Pt temperature sensors

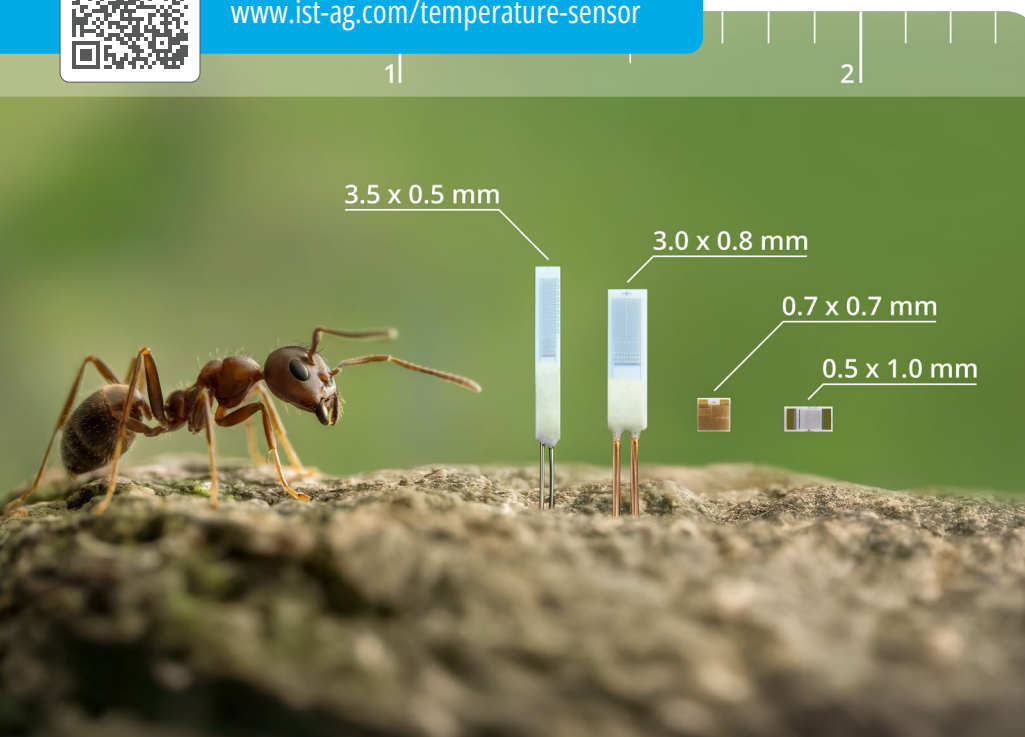
iST is the only supplier of ESCC qualified Pt temperature sensors. The RTD's are available with different resistances ranging from Pt100 to Pt2000. They can be used in a temperature range from $-200\text{ }^{\circ}\text{C}$ to $+200\text{ }^{\circ}\text{C}$ and are classified as tolerance class B (IEC 60751 F0.3). These Hi-Rel temperature sensors are available both as Engineering Model (EM) or as Flight Model (FM) and with ESCC-qualified 2-wire or 4-wire configurations. The twisted extension wires or cables are available with shield and jacket for extra protection.



www.ist-ag.com/en/space



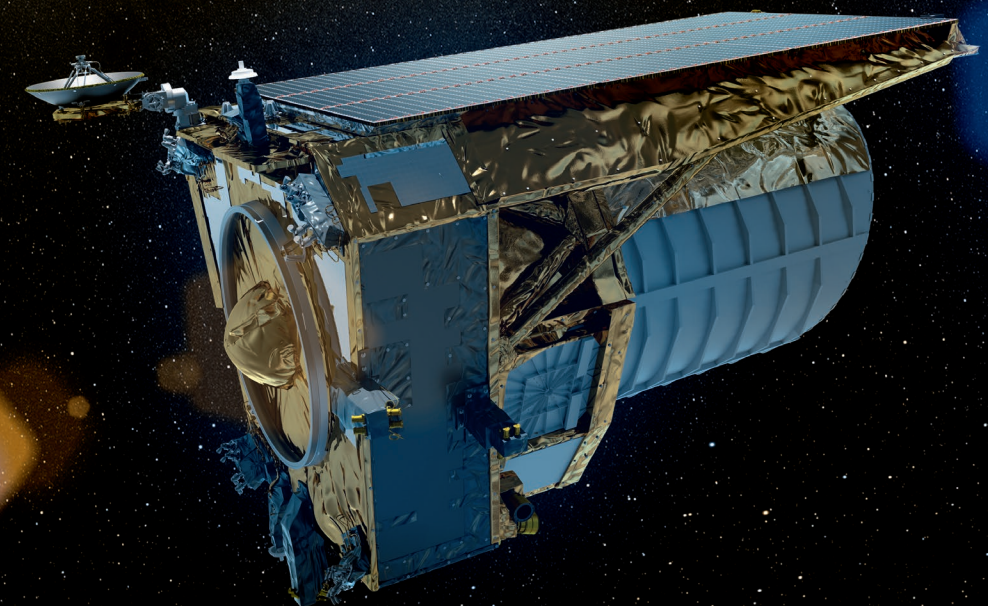
www.ist-ag.com/temperature-sensor



ESCC qualified

Space projects, missions and satellites with iST-sensors:

JUICE · SOLAR ORBITER · EUCLID · LISA · MPCV · SPACE REACTION WHEELS · ARIEL
ERSA · EAGLE · IMAP · SABIAMAR · TITAN · ROSE-L · SOLAR-C · COMET INTERCEPTOR





Customization options

Temperature sensors are the largest part of iST’s portfolio, and our fully automated production line enables short lead times and efficient high-volume manufacturing. With extensive customization options, we can tailor solutions to meet a wide range of customer requirements:

Item	Technology	Design variants – customization options				
Wire configuration: Various materials and wire lengths available!						
Long wire direct welded	Insulated wire	Stranded wire				
Long wire extended	Laser welding Spot welding Splicing	2-4 wire extension	Hot extension			
Sheets & disks: Sensors soldered to metal sheets, disks, or caps for optimal thermal coupling – no in-house soldering needed						
On surfaces	Soldering Silver sintering Adhesive bonding Direct structure	Copper plates Any stainless steel plates	Flexprint	PCB	Foil Flexible substrates	Printed on stainless steel
Shrink tubes: Preventing short circuits with solutions covering contacts, extension points, or the sensor chip						
Easy housed		Encapsulated in shrinking tube	Laminated Kapton	Encapsulated in glass	Dipped in silicone	Vortex sintering
Housings: Epoxy-filled or soldered for better thermal contact and faster response. Available in various sizes and materials for easy integration.						
Housed sensors		Potted in sleeve (single wire)	In sleeve with me- chanical strain relief (pressed) 3, 4, 5, 6 mm	In sleeve, IP 65 (rolled) 4, 5, 6 mm	Potted in ceramic	Overmoulded
Housed, fast sensors		RPT (potted) 1, 1.2, 3, 6 mm	RPT with mechanical strain relief	RPT in sleeve, IP 65 (rolled)		
Connectors: Pre-mounted connectors for fast, optimized assembly. Multiple types for different applications						
Mechanical process connection		Immersion sleeve	Screw thread	Customer housing		
System connection	Crimping Soldering Integrated	M8 connector Binder, Fisher, Fine-cables	Various connectors	Terminal Ferrules	Customized, integrated	Open End
Serialization: Traceable production batches						
Sensor parameter		Digital for each sensor	Digital report of batch	Individual label (3D code)	Complex customer label	
Approvals		UL	MID	ESCC		





Flow sensors & modules for precise gas and liquid monitoring

Thermal gas and liquid flow sensors with large dynamic range, high sensitivity and excellent long-term stability. iST designs and manufactures high-performance flow sensors and modules for diverse applications: process control, automation, HVAC, medical, handheld devices, and appliances.

For gases

- Measure flow rates from 0 to 150 m/s in temperatures from -20 °C to +400 °C.
- **FS sensors:** robust all-rounders, customizable for housings
- **SFS sensors:** silicon sensors for ultra-fast response, flow direction detection and low energy consumption.
- **MFS sensors:** ideal for wide dynamic ranges without bypass.
- **SFS Thermal mass flow modules:** for fast, continuous gas flow monitoring
- **FS Module:** this ready-to-use, calibrated gas module with digital output is suitable for harsh conditions

For liquids

- **Out of liquid (OOL) sensors:** measure flows from 0 ml/min to 3000 ml/min (up to 4 m/s).
- Stainless steel channel ensures excellent thermal contact without direct fluid contact. Perfect for use with aggressive liquids.



www.ist-ag.com/flow-sensors



Humidity sensors, modules & probes for a wide humidity range

Our capacitive humidity sensors use a ceramic substrate with a polymer layer between two electrodes. A microporous metal coating protects the sensor while allowing moisture absorption. As the polymer absorbs water, its dielectric constant changes proportionally to relative humidity – measured by monitoring capacitance. From dew point over high humidity to moisture in oil monitoring, iST humidity sensors stand for long term measurement with excellent accuracy and high chemical resistance available as sensors and modules

Our digital HYT modules feature a waterproof sensing area and precise, customizable calibration for high accuracy and long-term stability, even in extreme humidity – perfect for industrial handhelds, transmitters, and mass applications.

The Moisture in Oil and dew point probes offers Plug & Play humidity and temperature measurement with fully calibrated, temperature-compensated modules and analog or digital outputs – ideal for fast, easy integration.

We also offer eval kits and test boards with digital I²C or analog 0–10 V outputs, plus an easy-to-use probe assembly.

From dew point to high humidity

- **P14 Series:** The allrounder, available with integrated heater and with ultra-fast response times - ideal for weather balloons
- **K5 Series:** For accurate measurements in the low humidity range
- **MK33 Series:** Ideal for oil measurement applications

www.ist-ag.com/humidity-sensors





Conductivity sensors for precision where it matters

Conductivity measurement with high chemical resistance and optional integrated temperature sensor for optimal accuracy. Monitoring conductivity is essential for controlling ionic content in countless industries – from water management and purification to dialysis systems and other critical processes. Accurate readings ensure quality, safety, and efficiency.

At iST, we've engineered ceramic-based conductivity sensors using advanced thin- and thick-film technology, integrated with a Pt1000 temperature sensor (IEC 60751 F0.3) for precise temperature compensation at the point of measurement. This guarantees reliable performance even in dynamic environments.

Why choose iST conductivity sensors:

- **Versatile applications**
Water treatment, dialysis, industrial process control, and more
- **High accuracy**
Built-in temperature compensation for dependable results
- **Customizable design**
Two- or four-electrode configuration – adaptable to your specific requirements
- **Cost-efficient commodity sensors**
Versions without temperature sensor ideal for single-use applications in medical equipment
- **For conductivity flow cells**
Conductivity sensor chips for in-line conductivity measurements



www.ist-ag.com/conductivity-sensors



Micro-heaters – precision heat for every challenge

Precise. Reliable. Cost-efficient. Our micro-heaters are engineered to fit your application perfectly. From automotive and packaging to laser manufacturing, humidification units, life sciences, 3D printing, and medical devices, targeted heating of small spaces is essential. Any shape, any size: Round, polygonal, long and thin, or square – our substrates are laser-cut with precision to match your design requirements.

Zirconia- or alumina-based micro-heaters

Built for extreme environments, zirconia-based heaters offer maximum durability and oxidation resistance, reaching temperatures up to 850 °C. Ideal for applications demanding precise, localized heating in harsh conditions. Meanwhile alumina is a strong ceramic insulator and provides excellent electrical insulation which prevents interference.

- **High thermal conductivity**
Fast heat transfer and quick response
- **Temperature capability**
Up to 850 °C
- **Robust and wear-resistant**
Reliable for repeated heating cycles
- **Fast response times**
High precision
- **High temperature stability**
Long term stability
- **Overheating protection**

www.ist-ag.com/micro-heaters





The long-standing OEM force sensor specialist iST Senstech

Since 1984, iST Senstech has been shaping the future of sensing with Swiss precision. Specializing in thin-film technology, they deliver high performance force, pressure, torque, and surface strain sensors tailored to demanding applications.

Their miniature force sensors handle up to 2000 N, while larger forces are measured via displacement based systems. For complex setups, we offer sensors with up to six degrees of freedom and optional integrated programmable amplifiers. Standard models fit most applications and small production runs – plus, they can customize them with features like milled grooves or adjusted gain.

As long standing OEM partners, they design and manufacture pressure sensors used in medical devices, industry, and transportation, backed by over 20 years of series production for major clients. Their thin-film coating expertise enables robust, precise sensing – even on miniature components.

Why thin-film technology

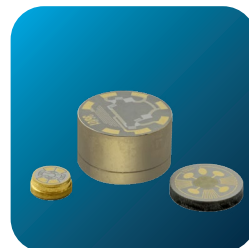
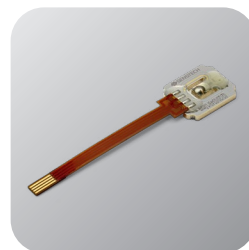
- **Wide temperature range:** –40 to 125 °C (up to 200 °C with special processes)
- **Versatile pressure ranges:** From 0–1 bar to 0–4000 bar
- **Ultra compact:** Full bridges on membranes as small as 4 mm

They also build torque sensors using shear, cage, or flange principles, and offer both standard and fully customized solutions – laser welded for maximum stability.

iST Senstech's surface strain sensors measure forces directly on machine components, while their OEM versions support predictive maintenance in modern, digitalized production environments. Share your parameters – force range, installation space, environment, tolerances – and we'll craft the ideal sensor for your system.



www.ist-senstech.com



High-performance IR emitters for gas analysis, material detection & spectroscopy by INFRASOLID

INFRASOLID is a high-tech company based in Dresden, Germany, specializing in cutting-edge infrared (IR) radiation sources for NDIR gas analysis and IR spectroscopy. Their IR emitters are pulsable thermal sources with near-black body performance – engineered for maximum efficiency, reliability, and scalability.

At the heart of each source lies a patented nanostructured emitter surface combined with a self-supporting, monolithic high melting metal design. This unique setup delivers remarkable stability and exceptional IR output across a broad spectrum (VIS, SWIR, MWIR, LWIR, THz).

Broadband and high emittance is achieved by a PVD-fabricated metal nanorods coating operating as highly efficient IR emitter. Double-side coatings, combined with a gold-plated back-side reflector, doubles the optical output power of the IR emitter and increases efficiency.

This unique and patented IR emitter technology allows flexible emitter geometries, making customization very easy. IR sources are available in open versions and hermetically sealed housings for applications in harsh industrial environments and even space and aerospace applications. These IR sources offer unmatched performance and reliability.

Advanced nanotechnology benefits

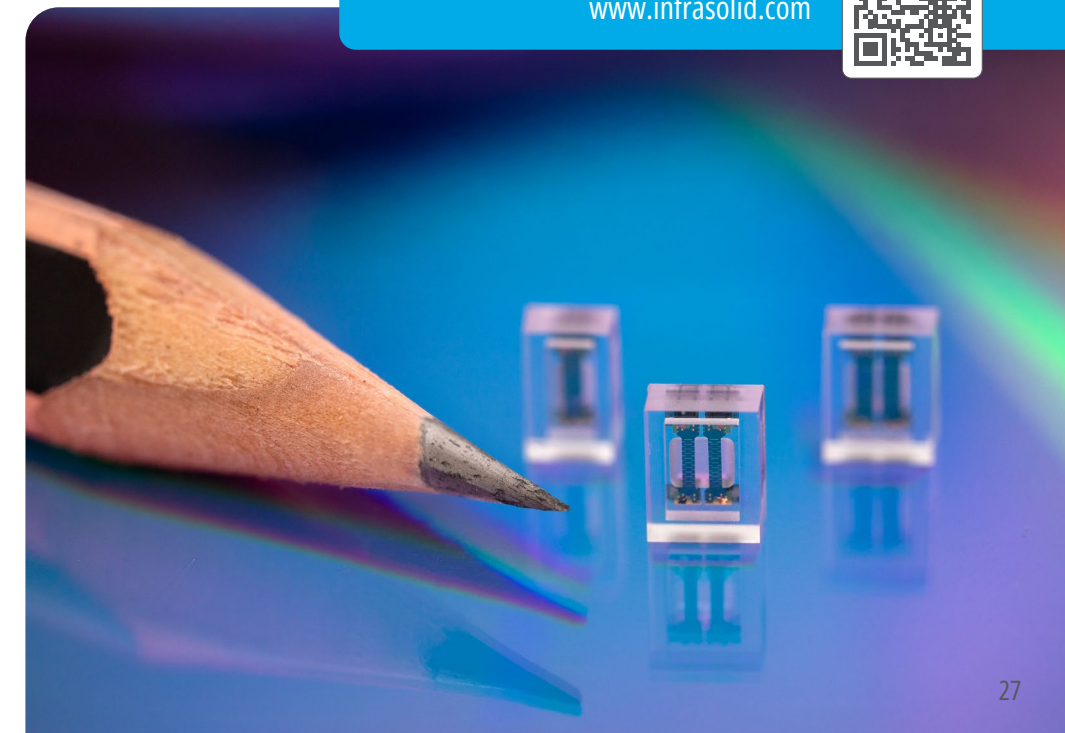
- Customization for your application
- Stable optical imaging and excellent long-term stability
- High efficiency, robustness, and long lifetime
- High absorptivity and emissivity from UV to THz range
- High-temperature stability
- Ultrathin design with very low thermal mass

Application fields

- Environmental protection
- Emission monitoring
- Safety engineering
- Oil, gas & chemical industry
- Medical technology
- Elemental analysis



www.infrasolid.com





Pioneering single and multiparametric biosensor technology

Specialized in single- and multiparametric biosensors, iST Jobst is a leading manufacturer driving innovation in medical devices and biotech monitoring. Our expertise spans across Multiparametric biosensors, Analyzers, Sensing & control microsystems. Our biosensors use the enzymatic-amperometric measurement principle delivering continuous signals responses to target analytes.

Target analytes

- Glucose
- Lactate
- Glutamine
- Glutamate
- Pyruvate

Our IV4 biosensor measures detects a single analyte and is a flexible strip with a large form factor - ideal for direct dipping in the analyte. This sensor is ideal for applications requiring highly reliable, in-line and continuous measurement.

Our enzymatic multi-analyte B.LV5 biosensor chip is designed for direct use in cell culture media and extracorporeal monitoring body fluids (including whole blood). Available in dip-in or flow-through configurations, including ultra-low internal volume ruggedized packages with barbed tube connectors up to 1 inch.

Key benefits

- Exellent long-term stability
- Long shelf life
- Gamma and beta sterilization compatible
- Fast respons time
- Reference, counter and blank electrodes on-chip
- SIX biosensor transmitter-evaluation kit for direct connection to computer available



www.ist-jobst.com



Precision in nucleic acid extraction

Founded in 2005, iST Innuscreen GmbH has become a specialist in nucleic acid isolation, purification, and molecular diagnostics. Their extensive portfolio includes kits, assays, and reagents for PCR and qPCR/real time PCR, serving labs that demand accuracy, efficiency, and dependable results. At the core of their innovation are several proprietary technology platforms designed for:

- High quality isolation and purification of nucleic acids
- Extraction of high molecular weight DNA for NGS
- Enrichment of biomolecules such as cfDNA, viruses, phages, and subcellular particles

With 38 patents and patent applications, these technologies power iST Innuscreen's position as a leader in molecular workflow solutions. Their products support both low and high throughput laboratories looking to improve performance. The portfolio includes patented extraction chemistries such as spin filter based and magnetic particle based systems for DNA and RNA isolation. Innovative solutions like SmartExtraction for ultra simple automation and Polymer Mediated Enrichment for efficient recovery of cell free DNA further extend their capabilities.

Key benefits

- Easy DNA/RNA isolation from virtually any sample
- High yields across diverse sample types
- Outstanding sensitivity and reproducibility
- Time saving, intuitive workflows
- Safe handling with minimized hazardous chemicals
- Reliable performance for all downstream applications



www.ist-innuscreen.com



Markets

Versatile sensor solutions for a broad range of industries

Our sensors can be found in just about every electronic product imaginable. Our main markets are automotive, e-mobility & fuel cells, HVAC, space, optics & laser, 5G, telecom, IOT, process control, renewable energy, medical technology and devices, bioprocessing, food processing, battery production, transformers, meteorology, (waste) water monitoring, preventive maintenance, white goods and many more.

SENSING
WHAT
MATTERS



AEROSPACE



APPLIANCE



AUTOMATION



AUTOMOTIVE



BIOTECHNOLOGY



HVAC



HANDHELD DEVICES



MEDICAL



PROCESS CONTROL



SUSTAINABLE ENERGY



Your next innovation starts here

- Ready to elevate your application with high-precision sensing?
Our team is here to support you with expertise, speed, and solutions that fit.
- Contact us and let's build something remarkable together!
- Get in touch with our team of experts & distributors



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Product brochures



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Sensor Shop



YOUR GLOBAL SENSOR SUPPLIER

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