



Federal Ministry  
of Education  
and Research



# Germany at CERN

14th Industrial Exhibition | Digital Event | 28–30 April 2021

Discover the components  
of tomorrow

## Foreword

There is no doubt that CERN, the European Organisation for Nuclear Research, is the world's leading research institution in the field of particle physics. The discovery of the Higgs boson and the development of the World Wide Web are just two chapters of a long success story. They demonstrate the groundbreaking innovative potential of basic research. But they also show that today, more than ever before, basic research depends on cross-border cooperation with highly innovative companies for the development of cutting-edge technologies.

German companies and research institutions make vital contributions in this context, as is currently the case with the High-Luminosity Large Hadron Collider. This is important because large-scale research contracts enable technology transfer at the highest level. They allow companies to anticipate technical challenges years ahead of time and open up new business areas.

Technology development, including industry partnerships, will also continue to be one of CERN's top priorities in the future. This was underlined in the recently updated European Strategy for Particle Physics. As one of the most significant contributors to CERN,



Germany provides targeted support for this objective through my Ministry's Exploration of Universe and Matter framework programme, the Coordination and Liaison Office and, last but not least, the 'Germany at CERN' exhibition.

It is my pleasure to welcome you to the 14th Industrial Exhibition 'Germany at CERN' where I am delighted that 29 German companies will showcase their highly innovative products and services. Due to the coronavirus pandemic, this will be the first time that the exhibition is held virtually.

I am confident that the German companies will impress you once again with their expertise and capabilities and I hope that everyone taking part is inspired by these new insights and enjoys many fruitful conversations.

Yours

A handwritten signature in black ink that reads "Anja Karliczek". The signature is written in a cursive, flowing style.

Anja Karliczek  
Member of the German Bundestag  
Federal Minister of Education  
and Research

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# 14th German Industrial Exhibition 'Germany at CERN'

Digital Event, 28-30 April 2021

## 28 April 2021

### Session 1 • Official Opening Ceremony

#### Languages

#### German and English

9:00 – 9:20

- Charlotte Lindberg Warakaulle, CERN Director for International Relations
- Fabiola Gianotti, CERN Director-General
- Volkmar Dietz, BMBF Deputy Director-General

### Session 2 • CERN and Purchasing

#### Language

#### German

9:20 – 9:30

#### Introduction: German Industry at CERN and the Industrial Liaison Office

- Friedrich Haug, German Industrial Liaison Officer at CERN

9:30 – 9:50

#### Introduction to CERN, R&D and Future Projects

- Joachim Josef Mnich, CERN Director Research and Computing

9:50 – 10:10

#### Presentation to Purchasing at CERN

- Daniel Schoerling, CERN Procurement
- Alexandra Hahnel-Borgeaud, CERN Procurement-Legal Advisor

10:10 – 10:30

#### Online Q&A

Followed by

#### Coffee Break

**Session 3 • Industrial Cooperation and Big Science**

<b>Languages</b>	<b>German and English</b>
<b>10:45 – 10:50</b>	<b>Big Science from Cadarache to Lund – Perspectives for R&amp;D and Technology Transfer</b> <ul style="list-style-type: none"><li>• PT-DESY</li></ul>
<b>10:50 – 11:10</b>	<b>Technology Transfer at CERN</b> <ul style="list-style-type: none"><li>• Giovanni Anelli, CERN KTT</li></ul>
<b>11:10 – 11:30</b>	<b>Doing Business in France</b> <ul style="list-style-type: none"><li>• Patrick Brandmaier, French-German Chamber of Commerce and Industry Managing Director</li></ul>
<b>11:30 – 11:50</b>	<b>ESRF in the Age of the Extremely Brilliant Source (EBS)</b> <ul style="list-style-type: none"><li>• Harald Reichert, ESRF Director Science</li></ul>
<b>11:50 – 12:10</b>	<b>FAIR: The Universe in the Laboratory</b> <ul style="list-style-type: none"><li>• Dr. Sonia Utermann, FAIR In-kind and Procurement Management</li></ul>
<b>12:10 – 12:20</b>	<b>CERN Alumni Scheme</b> <ul style="list-style-type: none"><li>• Rachel Bray, CERN Alumni Relations</li></ul>
<b>12:20 – 12:30</b>	<b>Online Q&amp;A</b>
<b>12:30</b>	<b>Closing Remarks</b>
<b>Followed by</b>	<b>Lunch Break</b>

## 28 April 2021

### Session 4 • Electronics, Sensors, Power

<b>Language</b>	<b>English</b>
<b>Moderators</b>	<ul style="list-style-type: none"> <li>• Friedrich Haug, ILO</li> <li>• Anders Unnervik, CERN Procurement</li> </ul>
<b>13:30 – 13:35</b>	<b>Introduction</b>
<b>13:35 – 13:55</b>	<b>Presentation CERN Projects</b> <ul style="list-style-type: none"> <li>• Christian Joram, CERN Physics</li> </ul>
<b>13:55 – 14:30</b>	<b>Pitches: Company Profiles</b> <ul style="list-style-type: none"> <li>• CiS</li> <li>• iseg Spezialelektronik</li> <li>• Physik Instrumente (PI)</li> <li>• Rohde &amp; Schwarz</li> <li>• TRUMPF Hüttinger</li> <li>• W-IE-NE-R</li> <li>• Würth Elektronik</li> </ul>
<b>14:30 – 14:50</b>	<b>Discussion/Online Q&amp;A</b>
<b>14:50</b>	<b>Closing Remarks</b>
<b>Followed by</b>	<b>Coffee Break</b>

### Matchmaking • B2B-Meetings

<b>15:15 – 17:15</b>	<b>Individual Videocalls</b>
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### Session 5 • Virtual Guided Tour to CERN

<b>17:15 – 17:30</b>	<b>Film</b>
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## 29 April 2021

### Session 6 • Magnets, Superconductors and Materials

<b>Language</b>	<b>English</b>
<b>Moderators</b>	<ul style="list-style-type: none"> <li>• Friedrich Haug, ILO</li> <li>• Daniel Schoerling, CERN Procurement</li> </ul>
<b>09:00 – 09:10</b>	<b>Opening of Day 2 and Introduction</b>
<b>09:10 – 09:30</b>	<b>Presentation CERN Projects</b> <ul style="list-style-type: none"> <li>• Mike Lamont, CERN Director ATS</li> </ul>
<b>09:30 – 10:00</b>	<b>Pitches: Company Profiles</b> <ul style="list-style-type: none"> <li>• BEVATECH</li> <li>• Bilfinger Noell</li> <li>• Karlsruhe Institute of Technology (KIT)</li> <li>• RI Research Instruments</li> <li>• INVENT</li> <li>• Theva Dünnschichttechnik</li> </ul>
<b>10:00 – 10:30</b>	<b>Discussion/Online Q&amp;A</b>
<b>Followed by</b>	<b>Coffee Break</b>

### Session 7 • Cryogenics, Cooling and Vacuum Technology

<b>Language</b>	<b>English</b>
<b>Moderators</b>	<ul style="list-style-type: none"> <li>• Friedrich Haug, ILO</li> <li>• Daniel Schoerling, CERN Procurement</li> </ul>
<b>10:45 – 10:50</b>	<b>Introduction</b>
<b>10:50 – 11:10</b>	<b>Presentation CERN Projects</b> <ul style="list-style-type: none"> <li>• Miguel Jimenez, CERN TE</li> <li>• Katy Foraz, CERN EN</li> </ul>

## 29 April 2021

<b>11:10 – 11:50</b>	<b>Pitches: Company Profiles</b> <ul style="list-style-type: none"> <li>• BRUGG Rohrsysteme</li> <li>• ILK Dresden</li> <li>• InfraSolution</li> <li>• Karlsruhe Institute of Technology (KIT)</li> <li>• Leybold</li> <li>• Pfeiffer Vacuum</li> <li>• PINK</li> <li>• Reuter Technologie</li> <li>• VACOM</li> </ul>
<b>11:50 – 12:15</b>	<b>Discussion/Online Q&amp;A</b>
<b>Followed by</b>	<b>Lunch Break</b>

### Session 8 • Safety, Radiation Protection, ICT

<b>Language</b>	<b>English</b>
<b>Moderators</b>	<ul style="list-style-type: none"> <li>• Friedrich Haug, ILO</li> <li>• Daniel Schoerling, CERN Procurement</li> </ul>
<b>13:30 – 13:35</b>	<b>Introduction</b>
<b>13:35 – 13:55</b>	<b>Presentation CERN Projects</b> <ul style="list-style-type: none"> <li>• Stefan Rösler, CERN HSE</li> </ul>
<b>13:55 – 14:30</b>	<b>Pitches: Company Profiles</b> <ul style="list-style-type: none"> <li>• Bilfinger Noell</li> <li>• Framatome</li> <li>• NUVIA Instruments</li> <li>• PTW Freiburg</li> <li>• Technical Academy Esslingen (TAE)</li> <li>• German Edge Cloud</li> <li>• T-Systems International</li> </ul>
<b>14:30 – 14:50</b>	<b>Discussion/Online Q&amp;A</b>



**Session 9 • Closing of the plenary**

**14:50** | **Closing Remarks and Feedback**

**Followed by** | **Coffee Break**

**Matchmaking • B2B-Meetings**

**15:30 – 17:00** | **Individual Videocalls**

**30 April 2021****Exhibition • Consultations with German ILOs**

**09:00 – 12:30** | **Individual Videocalls**

**Matchmaking • B2B-Meetings**

**09:00 – 12:30** | **Individual Videocalls**

# List of Exhibitors

- 1 **BEVATECH GmbH**
- 2 **Bilfinger Noell GmbH**
- 3 **BRUGG Rohrsysteme GmbH**
- 4 **Bruker EAS GmbH**
- 5 **CiS – Forschungsinstitut für Mikrosensorik GmbH**
- 6 **Framatome GmbH**
- 7 **German Edge Cloud GmbH & Co. KG.**
- 8 **ILK Dresden  
Institut für Luft- und Kältetechnik gGmbH**
- 9 **InfraSolution AG**
- 10 **INVENT GmbH**
- 11 **iseg Spezialelektronik GmbH**
- 12 **Karlsruhe Institute of Technology,  
Accelerator Technology Platform**
- 13 **Krämer Energietechnik GmbH & Co. KG**
- 14 **Leybold GmbH**
- 15 **NUVIA Instruments GmbH**

- 16 Pfeiffer Vacuum GmbH
- 17 Physik Instrumente (PI) GmbH & Co. KG
- 18 PINK GmbH Vakuumtechnik
- 19 PTW Freiburg GmbH –  
The Dosimetry Company
- 20 REUTER TECHNOLOGIE GmbH
- 21 RI Research Instruments GmbH
- 22 Rohde & Schwarz GmbH & Co. KG
- 23 T-Systems International GmbH
- 24 Technical Academy Esslingen e. V.
- 25 Theva Dünnschichttechnik GmbH
- 26 TRUMPF Hüttinger GmbH + Co. KG
- 27 VACOM Vakuum Komponenten und Messtechnik GmbH
- 28 W-IE-NE-R Power Electronics GmbH
- 29 Würth Elektronik GmbH & Co. KG, Circuit Board Technology

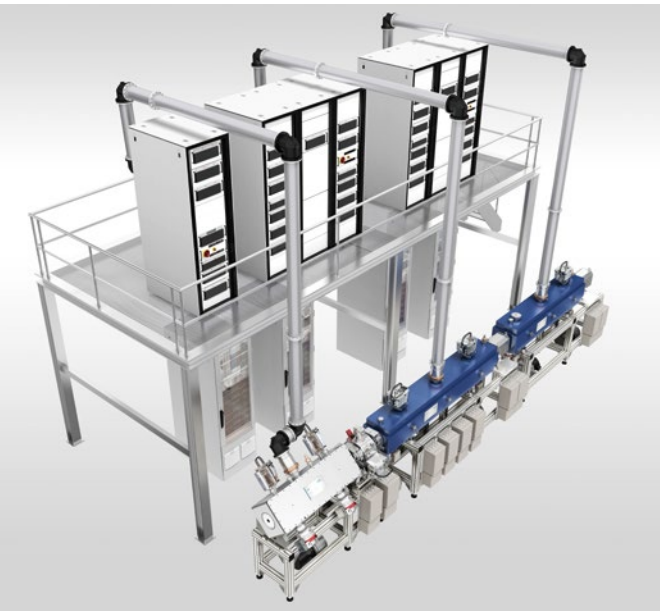


# BEVATECH GmbH

## Your contact for linear accelerators and beam diagnostics.

BEVATECH designs and sets up linear accelerators, as well as RF and vacuum technology. To deliver end-to-end solutions, our offerings are complementary to those of large providers combining off-the-shelf products and tailored components. We accompany projects from concept to first beam and handover to operation. Our team designs, simulates and supervises the development of accelerators. In close

cooperation with the mechanical engineering and the RF power amplifier industry, we deliver full linear accelerators. On-site, we set up the accelerator and tune and test it for first beam. We cooperate closely with the Institute for Applied Physics, Goethe University, Frankfurt and DESY, Techlab. In linear accelerator technology, we transfer the latest results from fundamental research into operating industry-ready solutions.





## Bilfinger Noell GmbH

### High-tech special-purpose machinery and services.

Bilfinger Noell GmbH (BNG) is a company in the Bilfinger SE group. It operates worldwide in the product areas of nuclear service, nuclear technology and magnet technology, putting experience into practice with great success. Services range from developing, planning, delivering and commissioning facilities to operating the delivered plants and equipment. With its high level of engineering competence, BNG is always in demand when it comes to planning and mapping processes and developing special machines and plants on this basis. In close cooperation with customers, BNG develops and fabricates LTS and HTS superconducting magnet systems for research and industry. For decades, it has delivered components to CERN like LHC dipoles, transport vehicles and bogies, and the ALPHA and PUMA magnet systems.



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## BRUGG Rohrsysteme GmbH

**We have been specialists in the production of flexible, stainless steel corrugated pipes for cryogenic applications for over 40 years.**

BRUGG Rohrsysteme GmbH has been designing, building and supplying stainless steel flexible pipes made in Germany for 50 years and is a market leader in the area of transportation of flammable and water-polluting fluids. For the past 40 years, the company has also designed, built and supplied unbranded stainless steel flexible pipes for cryogenic applications to be delivered to industry and research institutes by third-party companies.

Today BRUGG supplies cryogenic flexible vacuum-insulated pipes for all cryogenic gases in the range of DN15 to DN200. Standard cryogenic products available in stock are FLEXWELL® cryo pipe in dimensions from DN 15 to DN 40 and FLEXWELL® AiO VIP pipe specially designed for LNG gas stations. Other dimensions can be provided on a custom-made basis.





## Bruker EAS GmbH

**Enabling material success. Expanding the boundaries of superconductors.  
Advancing leadership in healthcare, industry and science.**

Bruker EAS is a global leader in superconductor solutions, providing an unmatched range of products that meet the needs of healthcare, academic and industrial companies and organisations worldwide. In close cooperation with our customers, we design, develop and

deliver product solutions that are at the heart of a majority of the superconductor magnets worldwide. Our company has significantly expanded its production capacity in recent years, which is testimony to the success of our customer-focused values and philosophy. We operate from the world's most modern and largest facility in Hanau (Germany), where we produce Nb-Ti and Nb<sub>3</sub>Sn (RRP®, PIT, Bronze) superconductor products that are used globally in MRI, NMR, cancer therapy, semi-conductor production and large-scale high-energy physics research.



Ehrichstraße 10 | 63450 Hanau

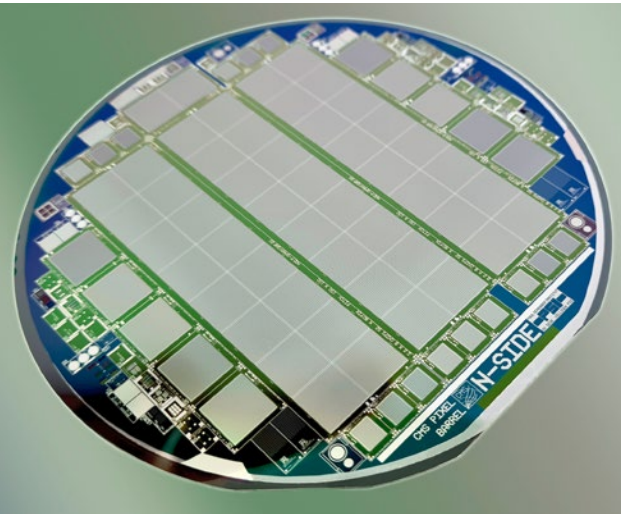
Stefan Lang | Tel.: +49 618 1438 4100 | stefan.lang@bruker.com

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## CiS – Forschungsinstitut für Mikrosensorik GmbH

### Research and development of silicon-based microsystems from design to prototyping.

The CiS Forschungsinstitut für Mikrosensorik GmbH is a business-oriented research institution. Its main focus is the development of silicon technologies for high-quality micro sensors and micro systems. Technical properties such as reliability, long-term stability and high accuracy of the micro components are the reasons for the leading international position of the institute in pressure sensors, radiation detectors and micro-optical systems.



In the fields of optical, micro-mechanical, piezo-resistive sensors and silicon detectors, the CiS Research Institute supports in particular small and medium-sized enterprises in the development of innovative products. Based on more than 25 years of ‘Competence in Silicon’, the expertise ranges from R&D services to small-series production of customised micro components.



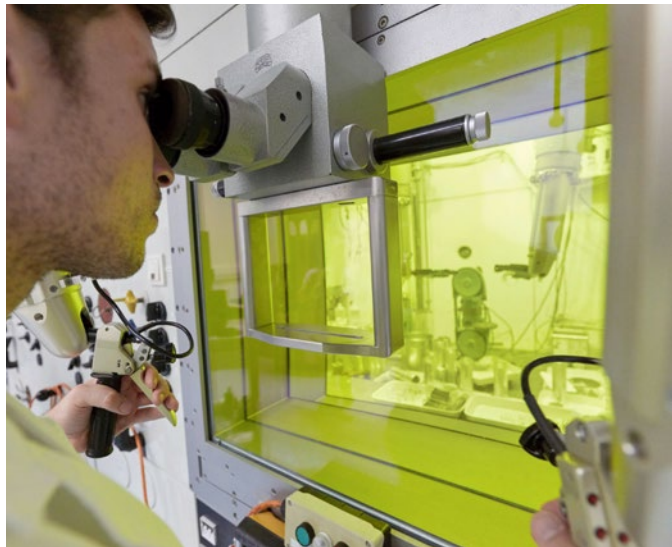


## Framatome GmbH

**Materials expertise, special laboratory services and nuclear system solutions for CERN.**

Framatome is an international leader in nuclear energy with innovative solutions and technologies. We design, service and install systems, components, fuel and I&C solutions. We also support the installation of advanced reactors, non-power-generating nuclear systems and other industrial equipment – including the facilities at research institutes. Based on our materials expertise and our laboratory infrastructure, we perform post-irradiation examinations on targets and materials for CERN's STI group, supporting related research activities.

Solutions for large research institutes include NDE and destructive testing on activated and contaminated devices on-site and in our laboratories; consulting on materials, testing and processes; I&C systems (safety and non-safety, measuring and automation); and verification and validation support.



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## German Edge Cloud GmbH & Co. KG.

**The German Edge Cloud combines the advantages of edge and cloud technologies into smart, flexible and independent solution systems.**

As a specialist in innovative edge and cloud solutions, German Edge Cloud (GEC) ensures that data in networked environments is available quickly, easily and securely. The company supports process optimisation using data analytics, for example in the manufacturing industry, and guarantees its customers full data sovereignty for connections to the public or private cloud. GEC is a developer and service integrator of turnkey solutions and offers both its own and industry-specific systems.



With the ONCITE solution, GEC developed the first cloud-based industrial edge appliance on the market. ONCITE is a cloud-native, highly scalable technology and infrastructure platform. It can be deployed on the edge as well as on the cloud and allows the flexible integration of other cloud platforms for tailored hybrid and multi-cloud scenarios.

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[gec.io](http://gec.io)

# ILK Dresden



## ILK Dresden Institut für Luft- und Kältetechnik gGmbH

**More than 57 years of ILK experience and the knowledge of 150 employees guarantee the quality of our work and the success of our partners.**

ILK Dresden develops new technologies, products and processes for the European industry sector as well as for research centres. At the same time, we support companies in their own efforts to review the efficient use of energy.



The focus of all our activities is fostering a close link between scientific and technical knowledge and craftsmanship. Customers all over the world rely on the broad experience of the ILK Dresden. The following topics are available for collaboration at the CERN research centre:

- Development of cryotechnical components, systems and accessories
- Refrigeration supply systems for the experiments
- Compatibility tests of materials and components with refrigerants or heat-transfer fluids
- Flow and thermal investigations (CFD; experiment)
- Optimisation of infrastructure (e.g. liquid ice storage)

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## InfraSolution AG

**InfraSolution AG and compact Kältetechnik GmbH – partners for technical facility solutions. Excellent HVAC, refrigeration and building automation systems – wherever needed.**

InfraSolution AG is a highly experienced design and construction company in the field of technical facilities. Our TFS company KKR GmbH focuses on HVAC, clean-room technology and industrial refrigeration. To add to the full range of technical services we offer, our group also includes COMNOVA GmbH, who are experts in control systems and building automation, and SH-Regeltechnik GmbH, which is responsible for adding our own control cubicles and CO warning systems.



At IB-Dorfner GmbH, we can rely on our own engineers for flow simulation, leak testing and filter scanning, using the award-winning RobotScanFlex system. In the field of industrial refrigeration, we also team up with the best component suppliers, available on the market to meet the clients' requirements in the best possible way. For CERN, for instance, this was the company compact Kältetechnik GmbH in Dresden.

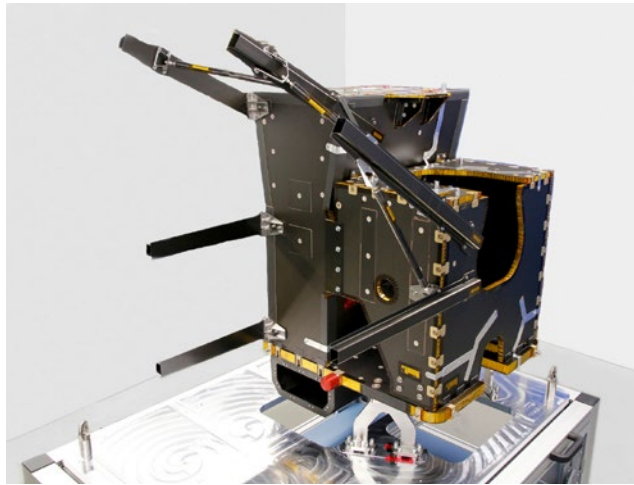


## INVENT GmbH

**Passion for composites. Innovative structures for space, aviation and industry.**

INVENT is well recognised in its field as a lightweight construction specialist for innovative fibre-composite technologies. Our products are used in the aerospace, mechanical engineering, automotive, rail and ship-building industries. We have EN 9100 and Nadcap certification and have been developing and producing high precision structural components since 1996. Our designers and engineers work closely together with

our customers to create the best products for their specific requirements. We offer our customers a complete end-to-end package from a single source, covering the design, development, production, assembly, painting and quality control.



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Dr.-Ing. Dilmurat Abliz | Tel.: +49 531 2446 6284 | [dilmurat.abliz@invent-gmbh.de](mailto:dilmurat.abliz@invent-gmbh.de)

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## iseg Spezialelektronik GmbH

High-voltage supplies for research and large experiments.



The iseg Spezial-elektronik GmbH company specialises in the development and production of high-voltage power supplies for industry and research. Our business goal is to provide the most precise and cost effective high-voltage power supplies on the market.

The most precise iseg devices guarantee a ripple and noise down to  $5 \cdot 10^{-7}$  of the adjusted output voltage. That means for an output voltage of 10,000 V, the ripple is below 5 mV.

A large number of high-voltage products are controlled using the latest software solutions, which support a range of different communication protocols such as HTTP, EPICS or OPC UA.

Bautzner Landstraße 23 | 01454 Radeberg  
Tel.: +49 351 269 960 | sales@iseg-hv.de

iseg-hv.com



# Karlsruhe Institute of Technology, Accelerator Technology Platform

## **KIT – The Research University in the Helmholtz Association.**

Being ‘The Research University in the Helmholtz Association’, KIT creates and imparts knowledge for society and the environment. Its objective is to make significant contributions to meeting the global challenges in the fields of energy, mobility and information. For this, about 9,600 employees cooperate in a broad range of disciplines in natural sciences, engineering sciences, economics, and the humanities and social sciences. KIT prepares its 23,300 students for responsible tasks in society, industry and science by offering research-based study programme. Innovation efforts at KIT build a bridge between important scientific findings and their application for the benefit of society, economic prosperity and the preservation of the natural basis of life. One focus of KIT’s research activities is on the field of accelerator research.

The realisation of future accelerators for both basic research and industry is closely linked to the broad engineering development of new technologies and methods. This extends to topics relevant to KIT such as superconducting magnet and energy technologies, cryogenic and vacuum technologies, beam diagnostics, high-power microwave and laser technologies, high-power pulse technology, terahertz sensor technologies, and related computing and information technologies. The corresponding work is brought together on the multidisciplinary Accelerator Technology Platform (ATP) as part of KIT’s mission of research, education and innovation.



## Krämer Energietechnik GmbH & Co. KG

**We are specialised in the complete manufacturing, impregnation and testing of complex electromagnetic parts and assemblies.**



Krämer Energietechnik GmbH & Co. KG was founded in 2010. The headquarters, with a production area of 900m<sup>2</sup>, are located in Zierenberg, Germany. The equipment is designed for an assembly size of 2000 x 2000 x 3000 mm and a weight of 5000 kg. The company specializes in manufacturing and testing of electrical assemblies for prototypes and small series.

Our service is the manufacturing and testing of electrical assemblies for prototypes and small series. All commercially available conductor materials can be processed. Special applications with superconductors or cooled hollow-profile conductors are also possible. Vacuum impregnation/casting is possible with all available casting compounds.

### Production areas

Coil winding:

tape, profile, hollow profile,  
high-frequency stranded wire, HTS

Vacuum impregnation:

epoxy, PU, silicone

Magnet systems:

permanent, electric

Special motors:

water-cooled, torque, linear

Generators:

1 kW to 3MW





## Leybold GmbH

**With its comprehensive product line, Leybold is one of the most successful suppliers of vacuum technology to the world market.**

For 170 years, Leybold has been positioned as a world leader in the vacuum industry, with ample knowledge and experience in all applications and manufacturing processes needing vacuum technology. Leybold is one of the most successful vacuum technology suppliers on the market, offering a broad range of advanced vacuum components and solutions. Leybold supports process industry applications, industrial manufacturing of coating and analytical processes and research and development. The core capabilities centre on the development of application and customer-specific systems for creating vacuums and extracting process gases. Our best-in-class application engineering and the ability to simplify our customers' service processes help them reach their goals at any time.

Pioneering products.  
Passionately applied.





## NUVIA Instruments GmbH

**Your partner for innovative and industry-proven measurement instrumentation in every area of radioprotection.**

NUVIA Instruments provides standard and tailored measurement solutions for all kinds of radiation and contamination measurements.

A close connection to our customers is the basis for our user-friendly devices and effective solutions. Products and solutions range from various contamination monitors with numerous accessories over an assortment of dose rate probes, wipe-test

counters and hand-foot-clothing monitors to alarm monitors for radiation surveillance, a gamma camera (see picture) and much more. In over 25 years of experience in the field of radioprotection, with products being used all over the world from research centres to hospitals and scrapyards, NUVIA Instruments has built up a large wealth of expertise. We are happy to help you with innovative instrumentation!



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[nuviatech-instruments.com](http://nuviatech-instruments.com)



## Pfeiffer Vacuum GmbH

### Innovative vacuum solutions for your scientific application.

Pfeiffer Vacuum stands for innovative solutions, high technology and first-class service. For more than 125 years, Pfeiffer Vacuum has been setting standards in vacuum technology. One milestone was the invention of the turbopump at Pfeiffer Vacuum more than 50 years ago. The extensive line of products and services now ranges from vacuum pumps and measurement and analysis equipment right through to leak testing, flanges, valves, fitting, chambers and complex vacuum systems. Products from Pfeiffer Vacuum are constantly being optimised through close collaboration with customers from a wide variety of industries and through ongoing development work.

Founded in 1890, Pfeiffer Vacuum is active throughout the world today. The company employs a workforce of some 3,300 people and has more than 20 subsidiaries.



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[pfeiffer-vacuum.de](http://pfeiffer-vacuum.de)



## Physik Instrumente (PI) GmbH & Co. KG

### **Solutions for precision motion and positioning.**

PI (Physik Instrumente), headquartered in Karlsruhe, is the market and technology leader for high-precision positioning technology and piezo applications in the semiconductor industry, life sciences, photonics and industrial automation. In close cooperation with customers from all over the world and for 50 years now, PI's specialists (approx. 1,300) have constantly pushed the boundaries of what is technically possible and developing customised solutions from scratch. More than 350 granted and pending patents underline the company's claim to innovation. PI has nine production sites and 15 sales and service offices in Europe, North America and Asia.



## PINK GmbH Vakuumtechnik

**PINK GmbH Vakuumtechnik is among the global market leaders in the production of customer-specific UHV systems.**

PINK GmbH Vakuumtechnik supplies customised innovative equipment and systems to highly reputed international technology companies.

The company's extensive product offering ranges from special-purpose vacuum technology equipment and UHV systems for linear particle accelerators, ion beam therapy units, precision coating equipment and leak test systems through to vacuum soldering ovens and standard vacuum components.

In addition, we also offer expertise in ultra-fine cleaning, RGA qualification and cleanroom assembly. We offer the highest cleanliness that can be measured.

PINK provides a complete service package from one source and covers everything from consulting, preparations and project planning to design and production, delivery, assembly, commissioning, training and reliable after-sales service.





## PTW Freiburg GmbH – The Dosimetry Company

**PTW is a global market leader for dosimetry solutions focusing on radiation therapy, diagnostic radiology, metrology and radiation monitoring.**

The use of ionising radiation for diagnostic and therapeutic purposes is an integral part of today's medicine. Since the discovery of X-rays by Wilhelm Röntgen in 1895, scientific and technological progress has led to better diagnostic testing and safer radiotherapy treatments.



As a pioneer in medical radiation measurement, PTW has always been – and will continue to be – at the forefront of advancing patient safety through innovation and cutting-edge measurement technology.

For almost a century, our innovations and technologies have contributed significantly to advancing patient safety

in modern radiation medicine. The precision of our measurement technology is legendary and has built PTW's reputation as a quality and technology leader in medical radiation measurement.

Lörracher Straße 7 | 79115 Freiburg im Breisgau  
Ruediger Lauk | Tel.: +49 761 490 550 | [info@ptwdosimetry.com](mailto:info@ptwdosimetry.com)

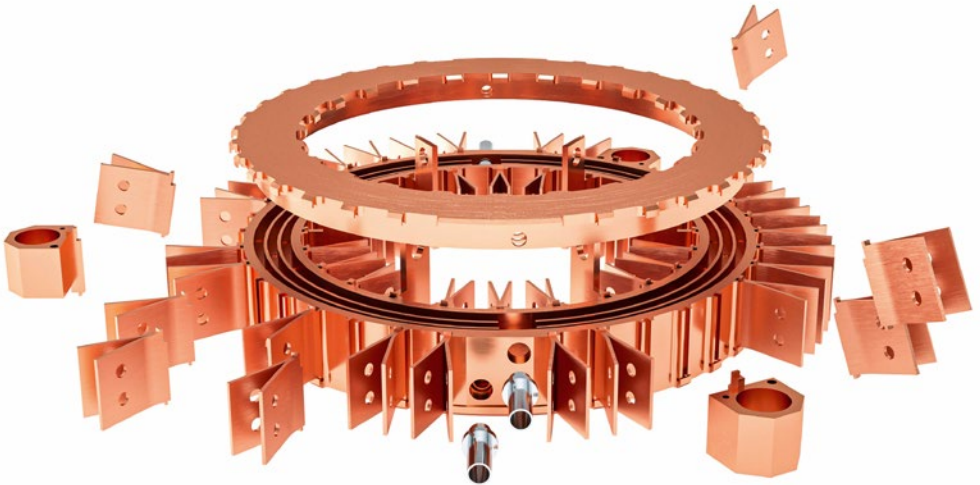
[ptwdosimetry.com](http://ptwdosimetry.com)



# REUTER TECHNOLOGIE GmbH

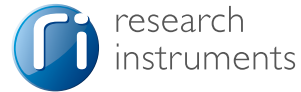
**Your partner for sophisticated cooling solutions in vacuum.**

Vacuum assemblies with liquid cooling are critical components for high-energy vacuum systems. The transfer of high heat loads is essential for optimised performance. The solutions from REUTER TECHNOLOGIE cover a vast field, from UHV assemblies to superconducting applications. We offer you a qualified portfolio of technologies for your developments. Our skills enable you to successfully implement efficient and compact cooling for high heat loads. Use our technological expertise to your advantage. We are looking forward to your inquiry!



Röntgenstraße 1 | 63755 Alzenau  
Florian Reuter | Tel.: +49 602 3504 439 | [f.reuter@reuter-technologie.de](mailto:f.reuter@reuter-technologie.de)

[precision-brazing.com](http://precision-brazing.com)



## RI Research Instruments GmbH

**Design and manufacturing of electro-mechanical components and systems for big science, energy, medical and industry.**

RI is an internationally recognised project-oriented engineering and manufacturing company for components and systems in big science, energy, medical and industry. RI's scope includes physics layout, design, production, assembly and testing. RI masters key technologies related to machining, vacuum brazing, electron beam and TIG welding, chemical surface preparation and cleanroom assembly.



RI manufactures and installs linear accelerators, superconducting and normal conducting RF cavities, RFQs, electron and ion sources and photon beam lines.

For fusion of highly complex and customised mechanical components like large cryopumps, high heat loaded divertor parts, cryogenic valve boxes and grids for beam sources are produced applying the highest quality standards needed to fulfil nuclear regulations.

For industrial customers, RI delivers tools and components for EUV lithography applications as well as cyclotron components for medical treatment.



**ROHDE & SCHWARZ**

Make ideas real



## Rohde & Schwarz GmbH & Co. KG

**Thanks to its industry-leading technological expertise, the independent group is a reliable partner for shaping the future.**

Rohde & Schwarz develops, produces and markets a wide range of electronic capital goods for industry, infrastructure operators and government customers. The independent group is among the technology and market leaders in all of its business fields, including wireless communications and RF testing and measurement.

Solving complex test and measurement challenges requires innovative solutions from a reliable partner.

Engineers around the world trust Rohde & Schwarz to deliver precise and reliable measurements. Whether you need benchtop instrumentation or a turnkey solution for a specific application, our industry-leading T&M equipment never compromises on quality and precision.



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## T-Systems International GmbH

**Let's power higher performance.**

With locations in more than 20 countries and around 38,000 employees (2019), T-Systems is one of the world's leading IT service providers and suppliers of digital services. T-Systems supports more than 1,000 clients, including all of the DAX 30 companies in Germany and 100 of the Fortune 500 companies globally. Our clients come from all regions and sectors, including the automotive industry, retail trade, logistics and transport sector, and healthcare. As a subsidiary of

Deutsche Telekom, T-Systems provides all the important building blocks for innovative information technology and digitalisation. This includes consulting, development, implementation, integration and sale of private and public IT infrastructures and applications, including strategic digitalisation and the transformation solutions that accompany this.





## Technical Academy Esslingen e. V.

**Your partner for professional training and development in the technical and engineering fields.**

The Technical Academy Esslingen (TAE), based in Ostfildern near Stuttgart, is an international partner for companies and private individuals for education and training in the field of professional qualifications. With around 1,000 events, a competence network of more than 4,000 speakers from science and corporate practice and over 10,000 participants per year, TAE is one of the largest providers of continuing education in the German-speaking world. For almost 70 years, the focus has been on the further education of specialists and executives from technical industries. Seminars, certificate courses and specialist conferences are just as much a part of the range of services as part-time courses of study and medical-technical training.



# THEVA

## Theva Dünnschichttechnik GmbH



THEVA Pro-Line is our high temperature superconductor (HTS) wire. It is characterised by its extremely high current-carrying capability offering unsurpassed current and power densities for various applications. It is produced in our industrial production line in Germany under the highest quality standards.

On the basis of our innovative strength, we are continually developing our HTS wire. This year, we achieved an increase of 70 % for the current carrying capacity and could extend our production lengths even further. The sophisticated design of THEVA Pro-Line HTS wire results in good mechanical and magnetic properties. The characteristics of the wire are its small bending radii, high tensile strength and extraordinary performance in magnetic fields.



**TRUMPF Hüttinger**  
generating confidence

## TRUMPF Hüttinger GmbH + Co. KG

**TRUMPF Hüttinger is a global leader in manufacturing power supplies for plasma applications, induction heating and CO<sub>2</sub> laser excitation.**

After many years as TRUMPF's exclusive provider of generators for CO<sub>2</sub> lasers, Hüttinger became a member of the TRUMPF family in 1990. The company benefits from sales and service subsidiaries in Europe, America and Asia. Worldwide we have around 1000 employees with approximately 400 at our headquarters in Freiburg. Around the world, many key processes in production, research and development get the energy they need from our generators.

Since 2020, we have expanded our product portfolio to solid-state-based microwave amplifiers and generators, providing industrialised cutting-edge microwave technologies for particle accelerators.





## VACOM Vakuum Komponenten und Messtechnik GmbH

**VACOM is one of the leading European manufacturers of vacuum technology.**

We therefore not only manufacture vacuum components and measurement technology, but also specialise in component cleaning. With our leading brand Precision & Purity, we stand for the highest quality in manufacturing processes and component cleanliness.

With our multifunctional vacuum gauge NOVION®, we have developed a product that rethinks traditional vacuum measurement technology and thus simplifies

measurement, regulation and control. It enables mass spectrometry, helium detection and pressure measurement over the entire measuring range from atmospheric pressure to ultra-high vacuum. The unique vacuum gauge revolutionises the classic and complex measurement market and opens up new possibilities in the entire vacuum industry.



In den Brückenäckern 3 | 07751 Großlobbichau  
Tel.: +49 364 187 340 | info@vacom.de

[vacom.de](http://vacom.de)

## W-IE-NE-R Power Electronics GmbH

**W-IE-NE-R Power Electronics GmbH, with state-of-the-art electronic instrumentation, chassis and power supplies.**

By combining mechanical chassis of superior design with high-quality, microprocessor-controlled, low-noise power supplies and a high level of integrated diagnostic and monitoring, W-IE-NE-R became a world leader for powered chassis in all common electronics standards such as VME, VME64x, VXS and PXI.

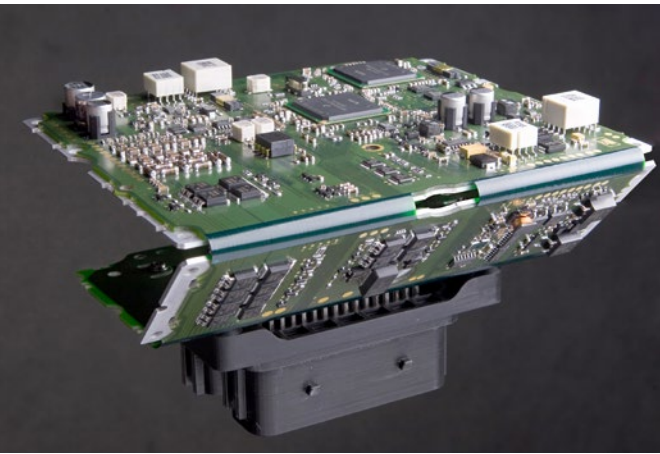


As our latest development, we present the new high-density, multichannel low and high voltage power supply system MPOD. Each system can house up to 480 independent high voltage channels, 80 low voltage channels or any mixture of both. The multichannel high voltage modules for use in MPOD offer highest stability and very low ripple/noise. These are complemented by low voltage modules for voltage and current control.



## Würth Elektronik GmbH & Co. KG

**The Würth Elektronik corporate group comprises three divisions and is one of the most successful companies in a variety of electronic markets.**



Würth Elektronik CBT is one of the leading printed circuit board manufacturers in Europe. Our customers are provided with all the common technologies and even with more complex PCB technologies like HDI, flex-rigid, thermal management, high current or signal integrity. Würth Elektronik eiSos is one of the leading manufacturers

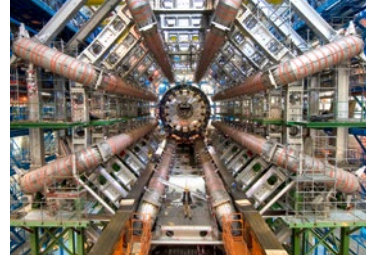
of electronic and electromechanical components in Europe. The product portfolio includes EMC components, capacitors, inductors, LTCC components, resistors, quartz, oscillators, transformers, power modules, LEDs, connectors, switches, high-power contacts, assembly technique, wireless connectivity and sensors. Würth Elektronik ICS develops and manufactures PCB-based system solutions for signal and power distribution, electronic controls, and display and control panels.



# European Research Infrastructures in the Spotlight

## CERN – European Organisation for Nuclear Research

- Geneva, Switzerland
- <http://cern.ch>, <https://procurement.web.cern.ch/>
- With its Large Hadron Collider, a 27km-long particle accelerator, CERN is the world-leading lab in particle physics. CERN places orders according to its own procurement rules.



## ESRF – European Synchrotron Radiation Facility

- Grenoble, France
- <http://esrf.eu>
- ESRF runs a world-leading synchrotron light source and focuses on material and life sciences. ESRF has its own procurement rules.



## ILL – Institut Max von Laue – Paul Langevin

- Grenoble, France
- <http://ill.eu>, <https://ill.eu/neutrons-for-society/doing-business-with-the-ill>
- ILL runs a world-leading neutron source with applications in material and life sciences and fundamental research. ILL has its own procurement rules.



## FAIR - Facility for Antiproton and Ion Research in Europe

- Darmstadt, Germany
- <https://fair-center.de/>, <https://fair-center.eu/fair-gmbh/in-kind-procurement.html>
- FAIR is an international nuclear research facility currently undergoing construction. FAIR follows European procurement procedures.



# CERN Alumni Network

**Thanks to the CERN Alumni Network, its members can stay connected with CERN's mission for peaceful, scientific collaboration for research and education. The network is a diverse, engaged and global community composed of highly supportive individuals who, during their CERN experience, develop unique skills and talents which they use as a springboard to launch their subsequent careers.**

The CERN Alumni Network, launched in June 2017, provides those who have left the laboratory with a means of keeping in touch with CERN and with each other. It fosters ambassadorship for the mission and values of CERN and its scientific collaborations and supports its members with their future career development. It also helps demonstrate the positive impact of a professional CERN experience when alumni leave the organisation with unique skills and talents developed at CERN and put them to excellent use in industries and start-ups across the globe.



Alumni and companies seeking talents within the CERN alumni talent pool are invited to publish their job opportunities on: <https://alumni.cern/recruiter/jobs/new>.

Those companies who publish regularly on the alumni.cern platform can also be invited to take part in a virtual 'Company Showroom' to present their company and the types of profile they are looking to recruit and to offer a Q&A networking session.

Please contact [alumni.relations@cern.ch](mailto:alumni.relations@cern.ch) or [rachel.bray@cern.ch](mailto:rachel.bray@cern.ch) (Head of CERN Alumni Relations) directly.

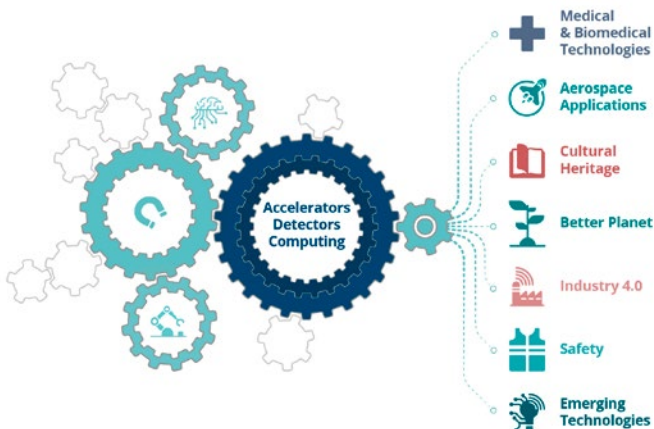
# Accelerating Innovation with CERN

**CERN is pushing the frontiers of particle physics through its technological excellence in three key domains – accelerators, detectors and computing. Behind these lies a vast range of expertise in areas ranging from magnets and sensors to microelectronics and radiation monitoring.**

Scientific and technological advancements developed at CERN can be used in various sectors in industry, providing innovative solutions to address some of the world's biggest challenges. Our work with German organisations echoes this aim. For example, our collaboration with Bundesdruckerei in Berlin is pursuing new milestones in data cryptography, ID security and privacy protection with the help of CERN's expertise in material science, its knowledge in physics using wave functions for data encryption and its data management system ROOT.

In addition, CERN has teamed up with ENERCON in Aurich to explore how CERN's technology in superconductivity and advanced data analytics can contribute to making wind turbines more efficient and more intelligent. The Medipix collaborations with many contributing German research institutes has led to novel detector chips for use in space, creating colour 3D X-ray images, and even finding a lost painting by the Renaissance master, Raphael. Furthermore, our agreement with X-Ray Imaging Europe (XIE) in Germany enables it to be one of the main suppliers of sensors for Medipix users worldwide.

To explore the full portfolio of CERN's technologies and know-how available for scientific and commercial purposes visit [kt.cern](https://kt.cern). Please contact [kt@cern.ch](mailto:kt@cern.ch) directly for any queries.



# Deutsche Verbindungsstelle zur Industrie – Coordination and Liaison Office

The Coordination and Liaison Office (CLIO) acts as an intermediary that brings together large European research institutions and German industry. Collaboration helps to keep research infrastructures up to date. Not only does this allow scientific breakthroughs but is also financially beneficial for industry.



## Our goals

CLIO offers support for German companies to successfully participate in calls for tender of the European research institutions CERN, ESO, ILL and ESRF. This involves leading-edge technologies and allows companies to profit from technology transfer. To enable straightforward relations, the Federal Ministry of Education and Research (BMBF) has established CLIO contact points at the premises of these research institutions.

## Our services

- Facilitate contacts with major European research institutions
- Information on upcoming procurements
- Advice on tender terms and conditions

## Prospects for companies

CERN, ESO, ILL and ESRF undertake extensive upgrades, develop new instruments and enhance their safety. This requires technology drivers, products and services from a wide range of industries. With annual orders in the two- to three-digit million range, the research institutions are attractive partners for many European businesses. Every year, CLIO arranges assignments with a volume of over 80 million euros for German companies.

Please don't hesitate to contact our Industrial Liaison Officers or visit: <https://pt.desy.de/clio/>. For further information about BMBF-funded research infrastructures, please visit: <https://fis-landschaft.de/>.

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