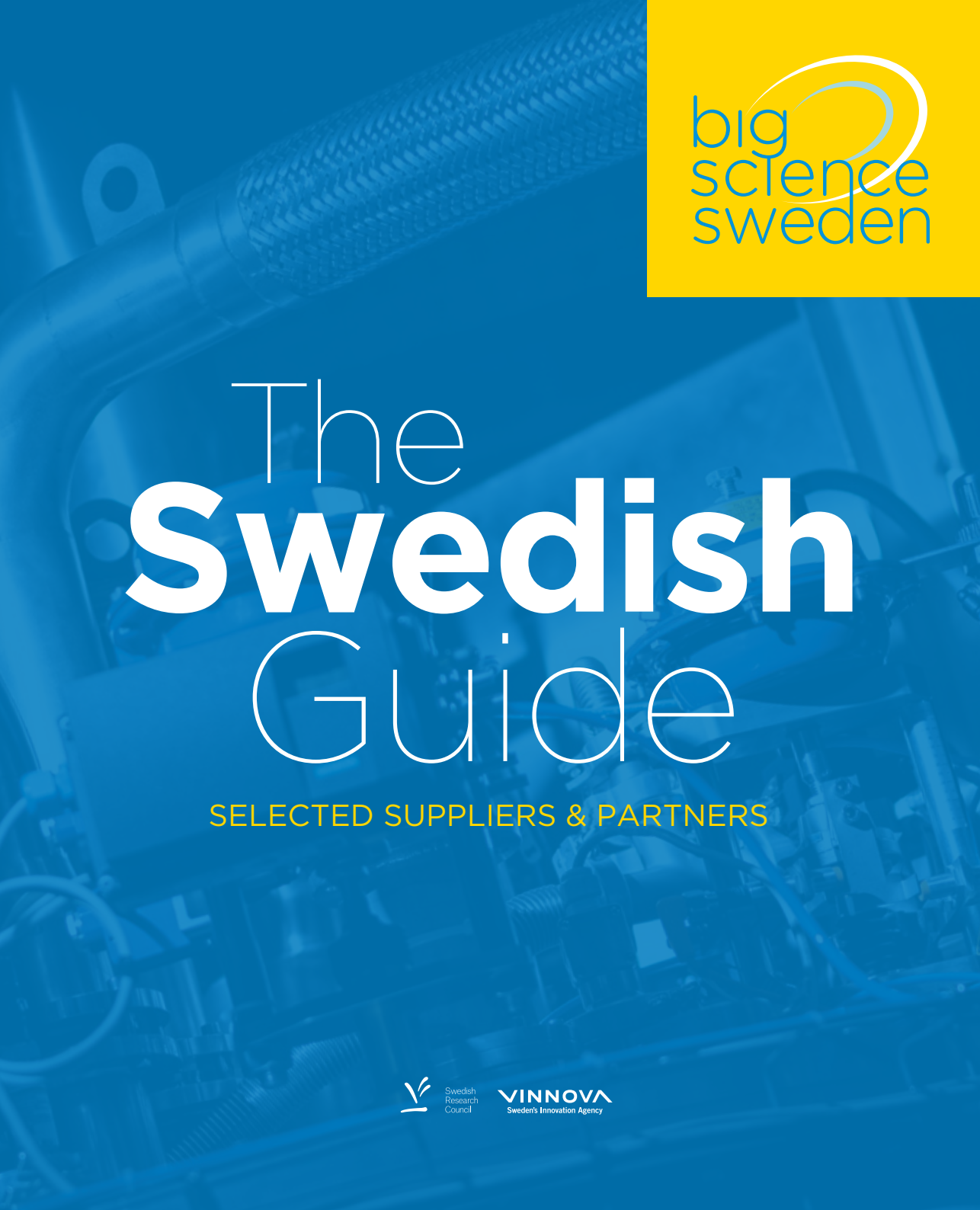
big science sweden

The Swedish Guide

SELECTED SUPPLIERS & PARTNERS



Swedish Research Council

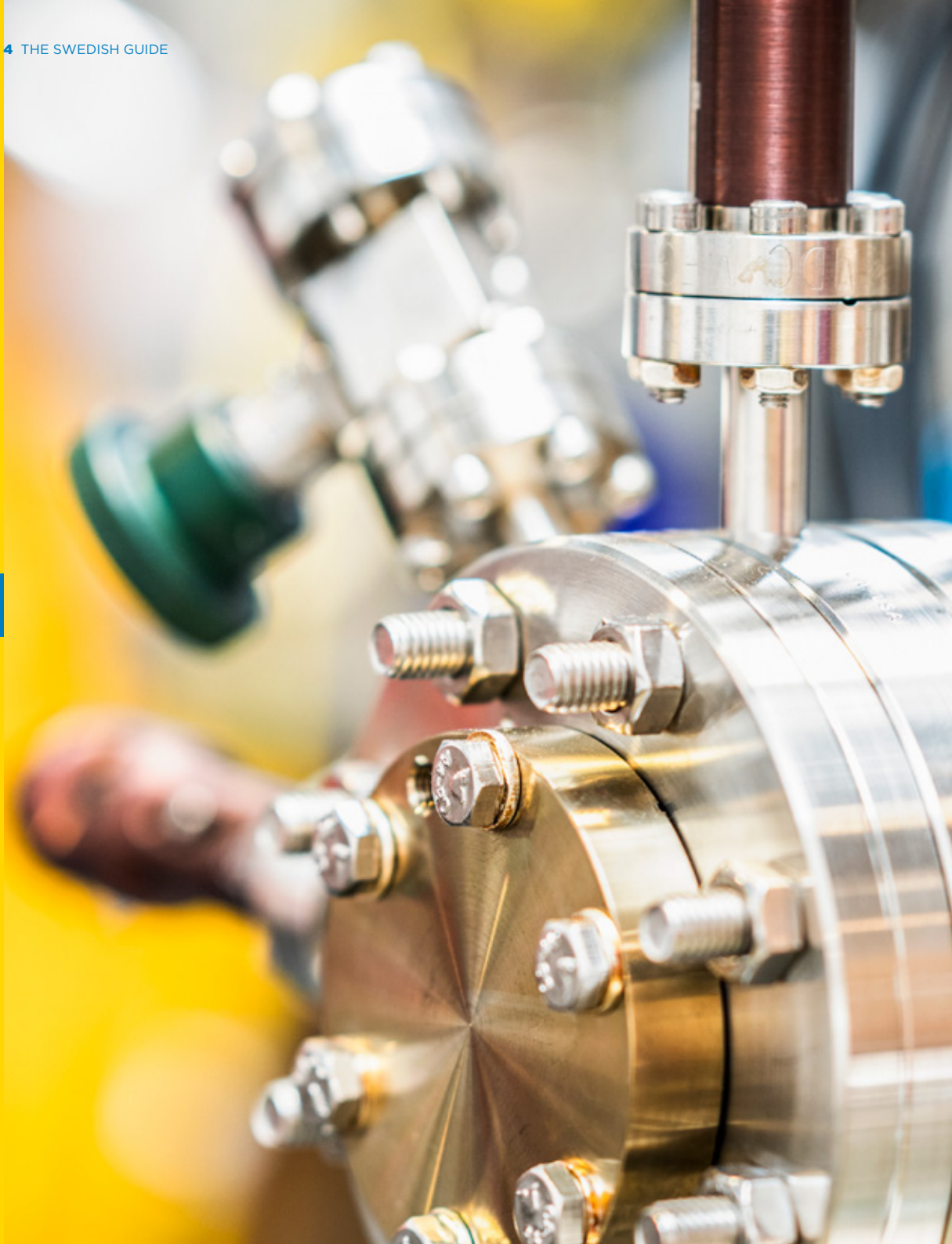
VINNOVA
Sweden's Innovation Agency

THE SWEDISH GUIDE

The Swedish Guide, 2024
Publisher: Big Science Sweden

If you want your own copy of The Swedish Guide, please contact Communication Manager Cajsa Fredlund, cajsa.fredlund@bigsciencesweden.se

WELCOME



WHY SWEDEN?

Sweden is growing rapidly as a Big Science nation and is home to three large-scale Big Science facilities – ESS and MAX IV (Lund University) in the south and EISCAT in the north.

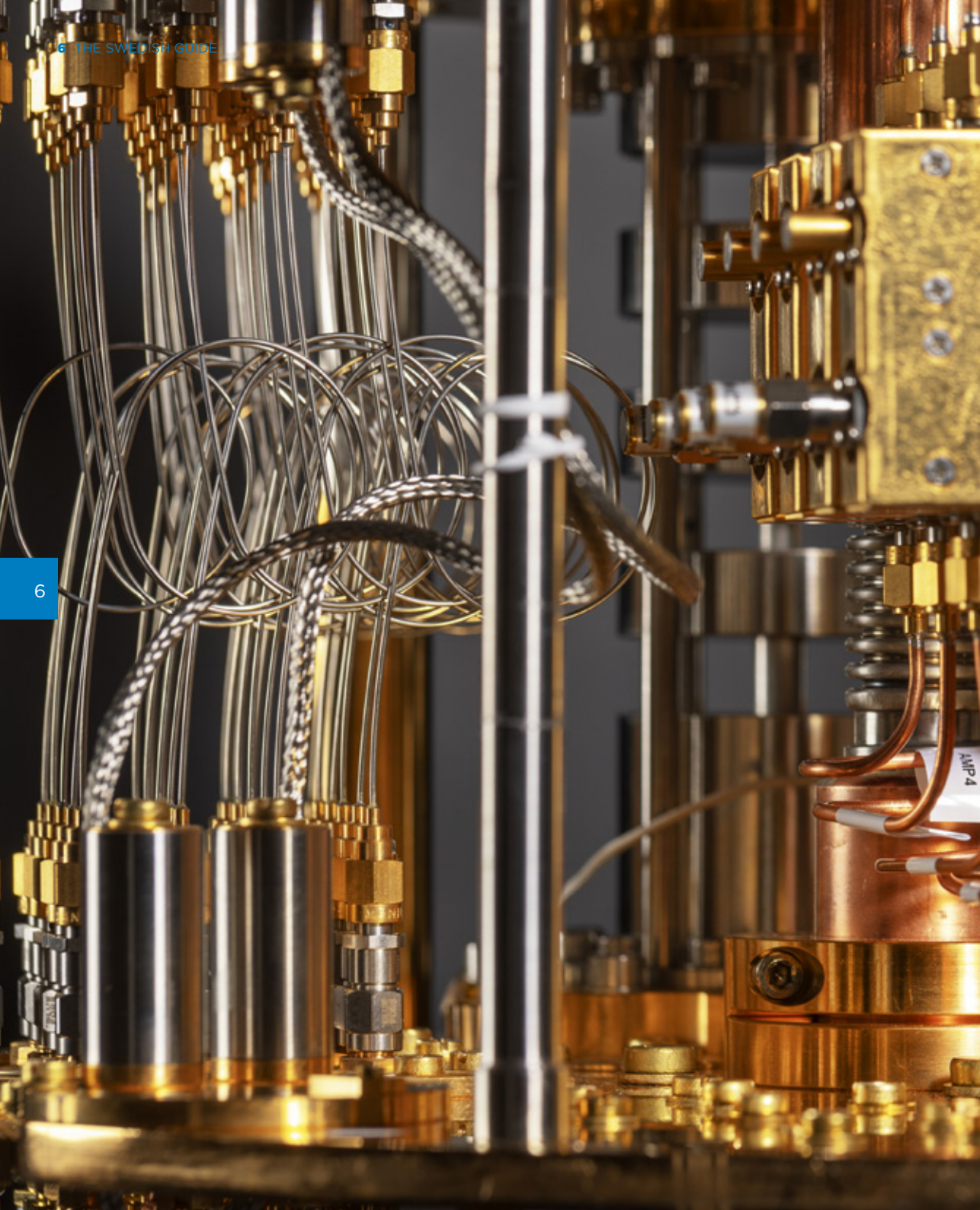
europeanspallationsource.se
maxiv.lu.se
eiscat.se

ESS

MAX IV

EISCAT

Background photo: Lund University: Johan Persson


AMP4

WHY SWEDEN?

Sweden is one of the most R&D-intensive countries in the world, allocating more than 3 percent of its GDP to R&D. The broad range of research conducted includes many highly specialised and pioneering fields.

Photo: With its ambitious goals and strong research environment Chalmers University of Technology boasts one of Europe's most advanced quantum computers, developed by its researchers.

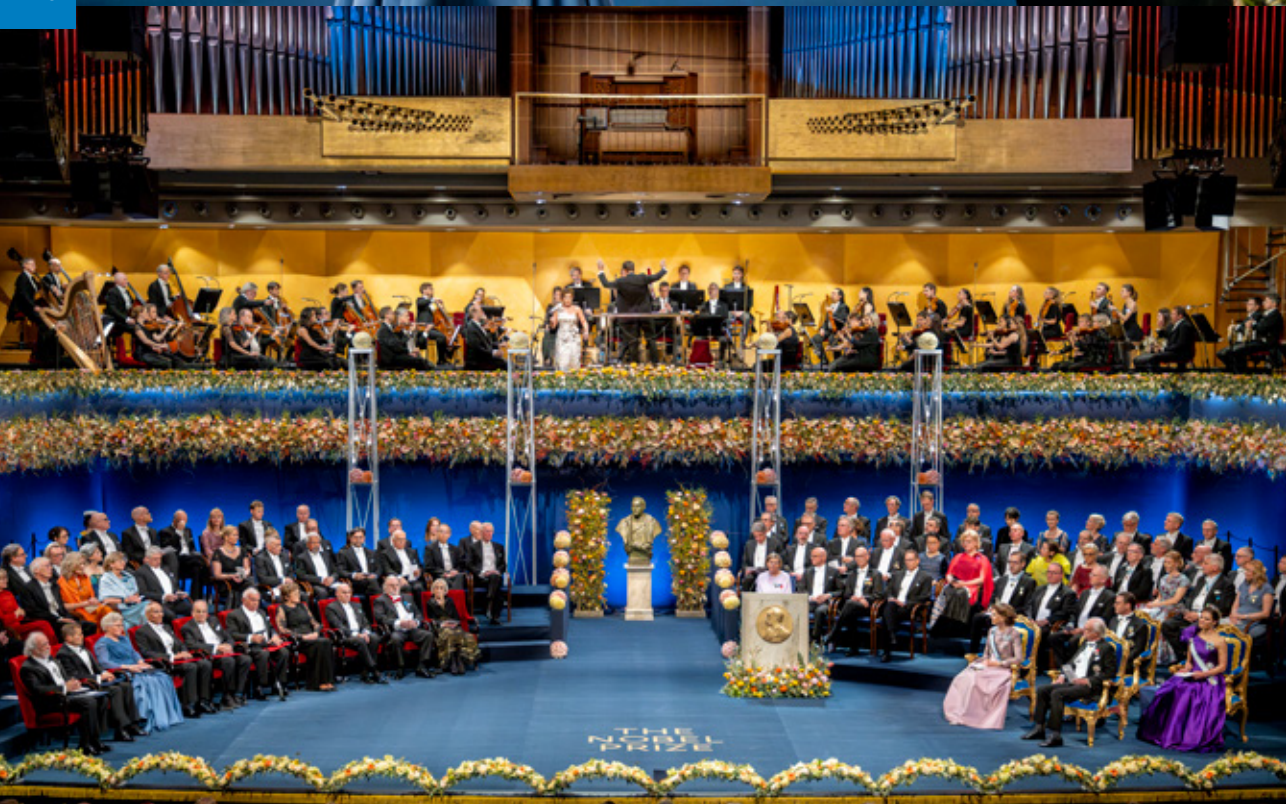
Photo: Sofia Sabel/Imagebank.sweden.se

WHY SWEDEN?

The Swedish mining and iron industries account for a large percentage of Western Europe's iron production. A Swedish initiative is revolutionising steelmaking – the goal is to create a completely fossil-free value chain, from mine to finished steel product

In 2016, Swedish companies SSAB, LKAB and Vattenfall joined forces to develop HYBRIT – Hydrogen Breakthrough Ironmaking Technology. With this pioneering technology, coking coal traditionally needed for ore-based steelmaking is replaced with fossil-free electricity and hydrogen. The result will be the world's first fossil-free ore-based steelmaking technology, with virtually no carbon footprint.

Photo: Fredrik Nyman/Scandinav/imagebank.sweden.se



WHY SWEDEN?

Sweden, the home of the Nobel Prize, has a long tradition of technological advances going back to the 19th century. The Nobel Prize is testimony to Sweden's longstanding commitment to excellence in research.

Nobel Prize in Physics 2023

Anne L'Huillier, Professor in Atomic Physics at Lund University, was one of three recipients of the 2003 Nobel Prize in Physics. She is only the fifth woman to win the prize since it was first awarded in 1901, an indication of the gender imbalance in science.

Anne L'Huillier receiving her Nobel Prize from H.M. King Carl XVI Gustaf of Sweden at Konserthuset in Stockholm.

Photo: Nobel Prize Outreach. Photo: Nanaka Adachi

Neutron sources for materials research

- ESS, Sweden
- ISIS, UK
- ILL, France

Radiation facilities

- MAX IV, Sweden
- ESRF, France
- DESY, Germany
- European XFEL, Germany

Particle physics

- CERN, Switzerland
- FAIR, Germany

Fusion research

- ITER, France
- Fusion for Energy, F4E, Spain

Ground-based space research

- ESO, Germany
- EISCAT, Sweden
- The Square Kilometre Array (SKA), South Africa and Australia

EDITORIAL

Hi there! Allow me to introduce you to the thing you are currently holding in your hands, the extraordinary selected guide to the Big Science industry in Sweden.

"Extraordinary?" you ask.

"Yes, extraordinary," I reply.

I know what goes into making this guide. It represents, in a way, the essence of our organisation. It is what we – Big Science Sweden – are. We don't gather and pass on what could be interesting information. Oh, no. That would waste your time, and we don't want to do that. We do the research, we select. We prep the candidates. We know that you have reason to be picky. See this guide as a working tool, a boiled-down summary of our organisation's collective knowledge of the Swedish market, designed to make your life easier.

We don't claim it to be a complete guide to the Big Science-related industry and research in Sweden. That would be an impossible aspiration. Sweden is high-tech, heavy on R&D and keen on international collaborations. This is our best pick.

The companies, universities, and institutes listed in this guide are all at the top of their game, already suppliers and partners in the international Big Science market. Last but not least, they all see Big Science as a strategic market for the future development of their companies and organisations. In short, they all have the capacity to deliver at the highest end of the global market, and they are all actively looking for collaborations within the Big Science industry.

"Extraordinary," you say.

"My pleasure," I say.

Enjoy!
Catarina Sahlberg
Programme Director, Big Science Sweden

BIG SCIENCE SWEDEN

Business and innovation

We are Sweden's Industrial Liaison Office (ILO), with national responsibility for facilitating contacts and building networks with the 13 of the international research facilities that Sweden is involved in funding.

We act as a bridge between the Big Science research organisations and Swedish industry, academia, and research institutes.

Our Industrial Liaison Officers provide first-hand information to Swedish companies on business and collaboration opportunities, and work actively to match Swedish companies with the research facilities' identified needs and current procurements.

Funding bodies

We are a public agency, and our main funding bodies are the Swedish Research Council and Vinnova (Sweden's innovation agency).

Partners

Our partners are Chalmers University of Technology, Lund University, Luleå University of Technology, Uppsala University, RISE, the Association of Swedish Engineering Industries, the industrial development centre IUC Syd, and Skåne Region.

Swedish participants enjoying the various events at BSBF 2022, Granada, Spain.

KNOWLEDGE TRANSFER OFFICE (KTO)

Wider application of technological advances

How can industry and society benefit from the pioneering research conducted in the large-scale research facilities, resulting in, for example, new materials, products, and processes? This is one of the issues that the Big Science Sweden Knowledge Transfer Office addresses. Knowledge transfer concerns flows of knowledge, both downstream, from the research facilities to industry, and upstream, from industry and academia to the research facilities.

Photo: Adobe Stock Images

OUTREACH

Student programmes and job opportunities in Big Science

Our Outreach work is aimed at arousing interest in the broad range of student programmes and job opportunities available at the Big Science research organisations. Target groups are both undergraduate and postgraduate students, and professionals with experience who are ready to take on new challenges.

CERN is one of the Big Science research organisations that is active in offering opportunities for undergraduates and postgraduates.

Photo: CERN

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Sven Hultins plats 1, SE-412 58 Göteborg

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Uppsala Science Park, SE-751 83 Uppsala, Sweden

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P O Box 857, SE-501 15 Borås, Sweden

Luleå
Big Science Sweden/LTU Business
Aurorum 1A, SE-977 75 Luleå

BIG SCIENCE ORGANISATIONS THAT WE SUPPORT

Neutron sources for materials research

ESS – SWEDEN
European Spallation Source, ESS, currently under construction in Lund, Sweden, will be a multi-disciplinary research facility using the world's most powerful neutron source, based on particle accelerators and spallation technology. ESS will provide neutron beams up to 100 times brighter than those currently available, which will enable groundbreaking research in a wide range of areas, including environment, health, materials, and energy.
Industrial Liaison Officer: Dr Mike Olsson

ISIS – UK
The ISIS pulsed neutron and muon source produces beams that allow scientists from academia and industry to study materials at the atomic level, using a suite of instruments often described as 'super-microscopes'. ISIS plays a vital role in the portfolio of analysis techniques used by researchers in fields such as nanotechnology, pharmaceuticals, engineering, clean energy, and quantum computing.
Industrial Liaison Officer: Dr Mike Olsson

ILL – FRANCE
ILL is a spallation facility that operates the most intense neutron source in the world, a nuclear reactor designed for high neutron flux. Research using the beams focuses primarily on fundamental science in a variety of fields, including condensed matter physics, chemistry, biology, nuclear physics, and materials science.
Industrial Liaison Officer: Dr Mike Olsson

Radiation facilities

MAX IV – SWEDEN
The MAX IV Laboratory is a synchrotron light facility, whose beamlines provide modern X-ray spectroscopy, scattering/diffraction, and imaging techniques. Its unique research instruments allow for studying material structures atom by atom, discovering new structures at the nano level. It contributes to advancing knowledge in various fields, such as medicine, bio-based materials, and new energy solutions.
Contact point: Dr Mike Olsson

ESRF – FRANCE
ESRF is the world-leading source of synchrotron and a centre of excellence for fundamental and innovation-driven research for imaging and studying the structure of matter at atomic and nanometric scales in many fields of research. Visiting scientists conduct research using the X-ray beams that are 100 billion times more powerful than the X-rays used in hospitals.
Industrial Liaison Officer (ILO): Dr Mike Olsson

DESY – GERMANY
DESY is a facility at which particle accelerators are used to investigate the structure of matter. Researchers explore the microcosm in all its variety – from the interactions of tiny elementary particles and the behaviour of new types of nanomaterials to biomolecular processes essential to life. Research fields range from nanomaterials and semi-conductors to pharmaceuticals and materials for solar panels.
Contact point: Dr Fredrik Engelmark

European XFEL – GERMANY
European XFEL is the world's most powerful X-ray laser facility, and is opening up completely new research opportunities for scientists and industrial users. The facility is powered by a 3.4-km linear accelerator, which can generate 27,000 X-ray flashes per second, each of a duration of less than 100 quadrillionths of a second.
Industrial Liaison Officer (ILO): Dr Fredrik Engelmark

Left
LUND, SWEDEN
The MAX IV Laboratory is a synchrotron light facility, whose beamlines provide modern X-ray spectroscopy, scattering/diffraction, and imaging techniques.

Photo: Per Pixel Petersson/imagebank.sweden.se

Particle physics

CERN – ON SWISS / FRENCH BORDER

CERN houses the world's largest and most complex scientific instruments – purpose-built particle accelerators and detectors. These are used by scientists to advance the boundaries of knowledge regarding the origins of our universe and the basic constituents of matter, subatomic particles. The heart of the CERN facility is the Large Hadron Collider (LHC), a 27-kilometre circular particle accelerator.

Industrial Liaison Officer: Dr Fredrik Engelmark

FAIR – GERMANY

FAIR, a facility for antiproton and ion research, is currently under construction. Matter that only exists in outer space will be produced in a lab for research, and FAIR will be able to accelerate ions of all the natural elements, as well as antiprotons. Experiments at the facility will advance technology in many areas, such as information and superconductor technology.

Industrial Liaison Officer: Dr Fredrik Engelmark

Fusion research

ITER – FRANCE

ITER is a global project to build the world's largest Tokamak for research into fusion energy. Experiments at the facility will advance fusion science and prepare the way for the fusion power plants of tomorrow. ITER will be the first facility to integrate all the various technologies needed to operate a fusion reactor.

Industrial Liaison Officer: Dr Max Collins

Fusion for Energy, F4E – SPAIN

F4E is the EU's joint undertaking for ITER and the development of fusion energy, the same energy that powers the Sun and all stars. F4E is responsible for providing Europe's in-kind and in-cash contribution to ITER. F4E works closely with industry and R&D organisations across Europe to design, manufacture, and test technical components for fusion installations.

Industrial Liaison Officer: Dr Max Collins

Ground-based space research

ESO – GERMANY, AND TELESCOPES IN CHILE

ESO focuses on the design, construction, and operation of powerful ground-based facilities for astronomy. The observatory consists of telescopes at three sites in the Atacama Desert in Chile. The Very Large Telescope can view objects at the edge of our universe and help address fundamental questions. A new Extremely Large Telescope (ELT) with a 39-m mirror is under construction.

Industrial Liaison Officer: Dr Oscar Isoz

EISCAT – SWEDEN

EISCAT conducts ionospheric and atmospheric measurements using a technique called 'incoherent scatter radar'. EISCAT operates equipment in three countries – Finland, Norway, and Sweden – and all the facilities are located north of the Arctic Circle. The next-generation research radar facility, EISCAT_3D, is under construction, and will come into operation in 2025.

Contact point: Dr Adam Wikström

The Square Kilometre Array (SKA) – SOUTH AFRICA AND AUSTRALIA

The SKA Observatory is a next-generation radio astronomy-driven Big Data facility that will revolutionise our understanding of the Universe and the laws of fundamental physics. It will be the world's largest radio telescope, with a collecting area of one square kilometre. When in operation, these telescopes will position the SKAO as the leading research infrastructure for radio astronomy globally.

Industrial Liaison Officer: Paul Häyhänen

Right
LUND, SWEDEN
Aerial view of the ESS facility, March 2024.

Photo: Michael Gartner/Gartner Film


BIG S
FORU

BUILDING NETWORKS AND RELATIONSHIPS


iter
VISITOR
iter
VISITOR


High-Tech North – ILO organizations
Denmark, Estonia and Sweden
INDUSTRIAL LIAISON ORGANISATIONS (ILO)
HIGH-TECH NORT
SWEDEN
BigScience
B&S International
France
POLYTEKNIK

CONTACTS CREATE OPPORTUNITIES FOR BUSINESS AND COLLABORATIONS

Big Science Sweden matches the needs of Big Science research facilities with Swedish industrial and academic expertise. We act as a bridge, initiating communication by putting companies and researchers in touch with key personnel and facilitating contacts and meetings.

Our activities include arranging and participating in conferences, hosting technical seminars and other events, and taking Swedish companies on visits to the research facilities.

Big Science Technical Seminars

In Big Science Technical Seminars the focus is on a specific field, such as vacuum technology, remote handling, or advanced manufacturing. The aim is to deliver the latest updates, and strengthen the expertise and skills of member companies and their abilities to deliver cutting-edge technology.

Conferences and trade fairs

Large, international trade fairs and conferences are important meeting places for Big Science research organisations and Swedish companies. Big Science Sweden regularly hosts Swedish stands at these events, and member companies are invited to participate.

Big Science@

When academia delivers technology to Big Science, this generates multiple scientific, technological, and societal benefits. Big Science@ is a series of seminars focusing on academic institutions' past, present, and future involvement in collaborations with Big Science facilities. We arrange the seminars together with leading universities and research institutes in Sweden.

Swedish Big Science Forum

The Swedish Big Science Sweden Forum is the ideal forum for networking and sharing knowledge – a biennial conference for research facilities, companies, academia, and institutes. Participants listen to presentations and discuss the latest issues in Big Science, as well as hear about upcoming opportunities in different fields of technology and make contacts in 1-to-1 meetings.

AIMday Big Science Technology

AIMday Big Science Technology is a workshop where research organisations get the chance to discuss their upcoming challenges with Swedish researchers and representatives from high-tech companies that supply products and services to Big Science.

Workshop teams with the relevant expertise for each category are then put together. The discussions can lead to pre-studies and other collaborations.

Big Science Business Trips

Big Science Sweden arranges Business Trips, taking Swedish companies on visits to research facilities in Europe. The companies gain valuable information about the facilities' upcoming projects and procurements, make contacts with key personnel, and get the opportunity to present what they can offer in terms of unique expertise, skills, and resources.

Top

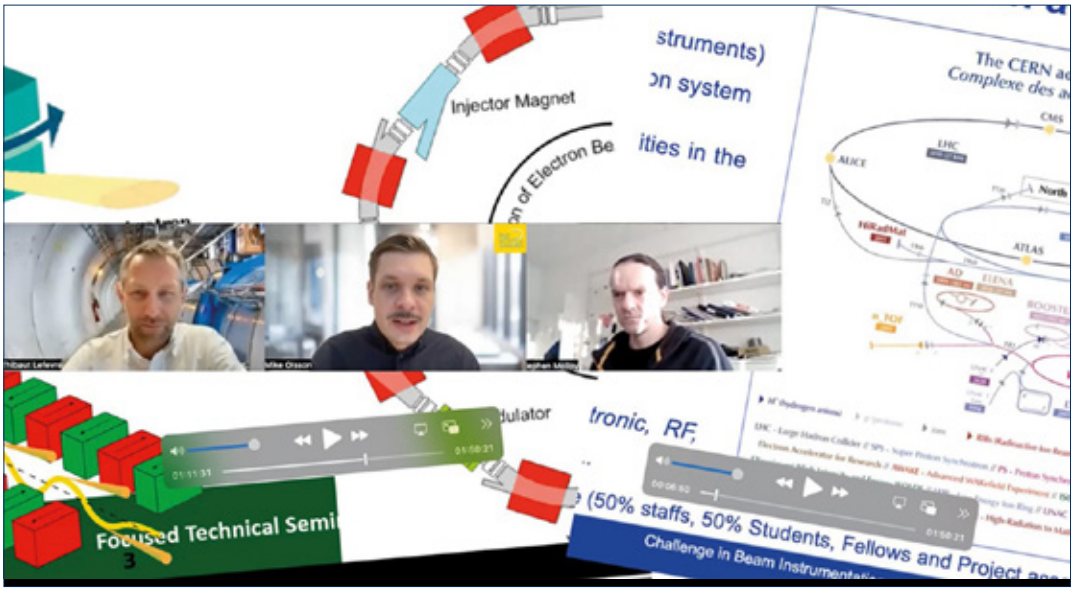
High-level visit to ITER

Top centre: Max Collins, Big Science Sweden, and Magnus Göhran, System/Analysis Officer at ITER.
Top right: Pär Strand, Chalmers, and Alain Bécoulet, Chief Scientist at ITER.
Bottom right: Catarina Sahlberg, Big Science Sweden and Anna Svensson, Senior Vice President, Hitachi Energy Sweden.
In the background: Pietro Barabaschi, Director General of ITER, and Håkan Åkesson, Ambassador to France, Swedish Embassy.

Bottom

Collaboration at IPAC

The International Particle Accelerator Conference, IPAC'23 in Venice, attracted over 1600 delegates and 80 industry exhibitors. Sweden, Denmark and Estonia hosted a joint exhibition stand, under the name High-Tech North.



Technical Seminar Participants at this recent Focused Technical Seminar were brought up to date about beam instrumentation and diagnostics at CERN and MAX IV. Both facilities are constantly looking for business and academic contacts for possible future collaborations.

Business Trip Member companies joined Big Science Sweden on a study visit to the Hamburg science innovation ecosystem and the research facilities DESY and XFEL. Samuel Axklo from 2B Best Business in discussions with engineers at XFEL.

Visit to CERN Representatives from Qamcom visited CERN for meetings with key personnel. From left: Johan Lassing (Qamcom), Richard Jacobsson (CERN), Patrik Dehlfors (Qamcom), Fredrik Engelmark (Big Science Sweden), Alexandre Charpy (Qamcom), Thorbjörn Widhe (Qamcom).

Careers initiative Big Science Sweden spreads information about the development and career opportunities that research facilities can offer both Swedish students and professionals looking for a next career step. Here, Carin Eklöf-Österberg at a student careers fair.

Fredrik Engelmark (Big Science Sweden), Benny Björkander (RFR), Jörgen Stenarsson (LNF), Håkan Nilsson (RISE), Patrik Dehlfors (Qamcom), Carl Johan Fagerström (Fagerströms), and Catarina Sahlberg (Big Science Sweden).

Fredrik Engelmark and Catarina Sahlberg (Big Science Sweden), Kevin Jones (ESS), Antonio Bonucci (European XFEL), Anna Hultin Stigenberg (MAX IV), Jörg Blaurock (FAIR and GSI), Adrian Russell (ESO), Magnus Göhran (ITER), Alice Pellegrini (SKA), Joshua Davison (CERN), and Darja Isaksson (Vinnova).

Swedish Big Science Forum in Lund
Swedish Big Science Forum is our biennial event where high-tech industry and academia meet with European Big Science organisations to hear about the latest developments and explore new opportunities.

Darja Isaksson (Vinnova)

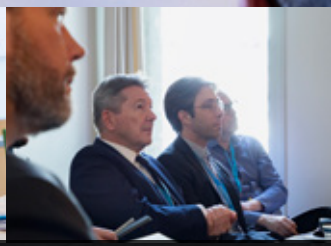
Kevin Jones (ESS)

Samuli Heikkinen (F4E)

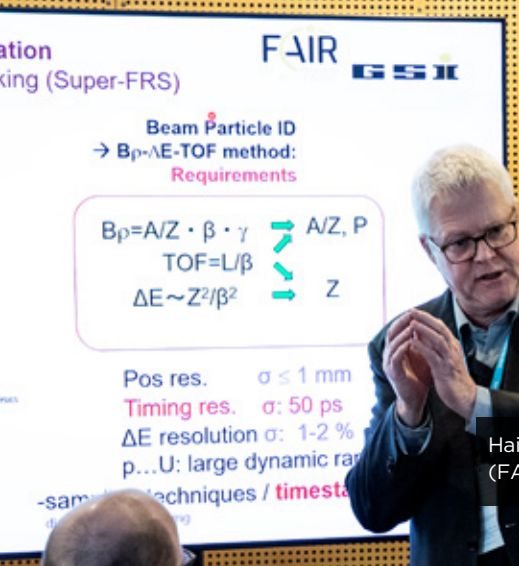
Jan Frostevarg (Luleå University of Technology)

Barbro Åsman (Stockholm University/CERN) and Isabelle Kemlin (RISE).

Maja Olvegård (FREIA Laboratory) and Viktoria Jonasson (RISE).



Lennart Åström and Jarich Koning (Fagerström).



Haik Simon (FAIR/GSI)

AIMday Big Science Technology

An AIMday is an exchange of knowledge and ideas focused on finding novel approaches to real-world challenges. The idea is that a broad mix of academics and representatives from high-tech companies can offer different perspectives and propose surprising new avenues to solving problems. This promotes continued cooperation between Big Science organisations and Swedish industry and academia.

Site visits to MAX IV and ESS.

Kevin Jones and Marcelo Juni Ferreira (ESS).

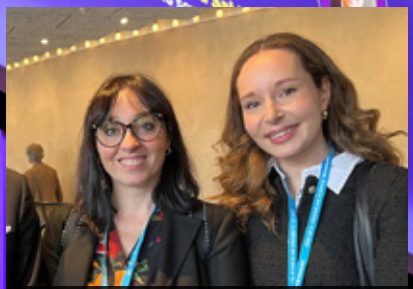
Anne-Charlotte Joubert (ESS), Frida Tibblin Citron (Big Science Sweden), Barbro Åsman (Stockholm University/CERN), and Tomas Brage (Lund University).

Fredrik Arrhén (RISE) and Catarina Sahlberg (Big Science Sweden).

Sven-Christian Ebenhag (Big Science Sweden) and Monika Fuller (RISE).

Lennart Åström and Carl Johan Fagerström (Fagerström Industrikonsult).

Henric Johnson (Ertzi).



Alice Pellegrini (SKAO) with Linn Fagerström (AAC Clyde Space).

CONTENTS

SUCCESS STORIES

How some Swedish suppliers have made an impression on the Big Science market

Knowledge Transfer makes scientific and technological advances accessible to a wider range of users

AAC OMNISYS (OMNISYS INSTRUMENTS AB)

Equipment for new radio astronomy observatory

AAC Omnisys is part of AAC Clyde Space since 2021. AAC Clyde Space specialises in small satellite technologies and services that enable businesses, governments and educational organisations to access high-quality, timely data from space. The Group's main operations are located in Sweden, the United Kingdom, the Netherlands, South Africa and the US.

Biggest Swedish order to date

In 2023, AAC Clyde Space's subsidiary, AAC Omnisys, was awarded a contract for the SKA (Square Kilometre Array) Observatory. SKA is currently building huge radio telescopes in South Africa and Australia. AAC Omnisys' contract, worth approximately SEK 137 million, is the largest awarded to Sweden by the Observatory.

A game changer for radio astronomy

In South Africa, AAC Omnisys will provide the SKA-Mid dishes with the Band 1 front end. Covering the 0.35-1.05 GHz frequency range, each receiver is over a metre in diameter and weighs 180 kg. AAC Clyde Space will deliver 80 complete functioning and integrated receiver systems to the project. Delivery is expected to continue until the first quarter of 2027.

The SKA telescopes will be a game changer for radio astronomy. Two world-leading, complementary radio telescopes on two continents will revolutionise our understanding of the Universe

Luis Gomes, CEO of AAC Clyde Space said "We're proud to have such a central part in turning the SKA into reality, highlighting our innovative approach to quality systems and solutions. We're making space for our future!"

Collaboration between industry and researchers

When the telescopes are up and running, scientists will be able to explore the Universe tens of times faster, with several times the resolution and sensitivity of today's most advanced radio telescopes.

Building the telescopes requires both technical know-how and long-term partnerships. The contract is based on industrial collaborations with Chalmers University of Technology, Onsala Space Observatory, and the Gothenburg company Low Noise Factory.

Big Science Sweden has been working actively together with the SKAO and Swedish actors, to ensure that Swedish competencies and industrial capabilities are made available to SKAO.

"We're pleased that we could contribute, through our work to support the Swedish parties involved," says Patrik Carlsson, Co-Director Big Science Sweden.

"We're proud to have such a central part in turning the SKA into reality."

Picture: Copyright: SKAO

ELECTROHEAT

Moves into the Big Science market with contract from CERN

ElectroHeat Sweden AB, with its head office in Göteborg, makes industrial ovens and heat treatment equipment for industrial companies all over the world. The ovens are used for heating processes that benefit the working life of a component, for example by increasing strength, temperature resistance, ductility, and surface hardness.

Significant order from CERN

By winning its first Big Science contract, an order from CERN, ElectroHeat is stepping into a new market that will involve a greater focus on research and development.

"This is an exciting market for us, with great potential for more business," says Sales Manager Felix Warnmark.

In the new order ElectroHeat will be designing, constructing, producing, and delivering an 850°C oven for heating steel.

Tight tolerances

The specifications from CERN were strict, including requirements for temperature precision and evenness, and tight tolerances.

"It's always difficult to know what you're up against, but we stressed we could satisfy the specifications for tight tolerances. I think that was important, and a key factor in this case.

"Research facilities are an exciting market for us. Success in this first order to CERN can mean a breakthrough. Now we know what to do when this type of procurement crops up, there's great potential for supplying similar machines to other facilities."

Installation at CERN in November

ElectroHeat will soon start designing and drawing the oven. It will then be produced and delivered in November 2024.

Felix Warnmark is looking forward to installing the oven on-site at CERN.

"We travel around and install our ovens at many companies in Sweden. It will be interesting to come to something completely different. It's always been my dream to work with CERN. The particle nerd in me feels it will be really cool!"

"This is an exciting market for us, with great potential for more business."

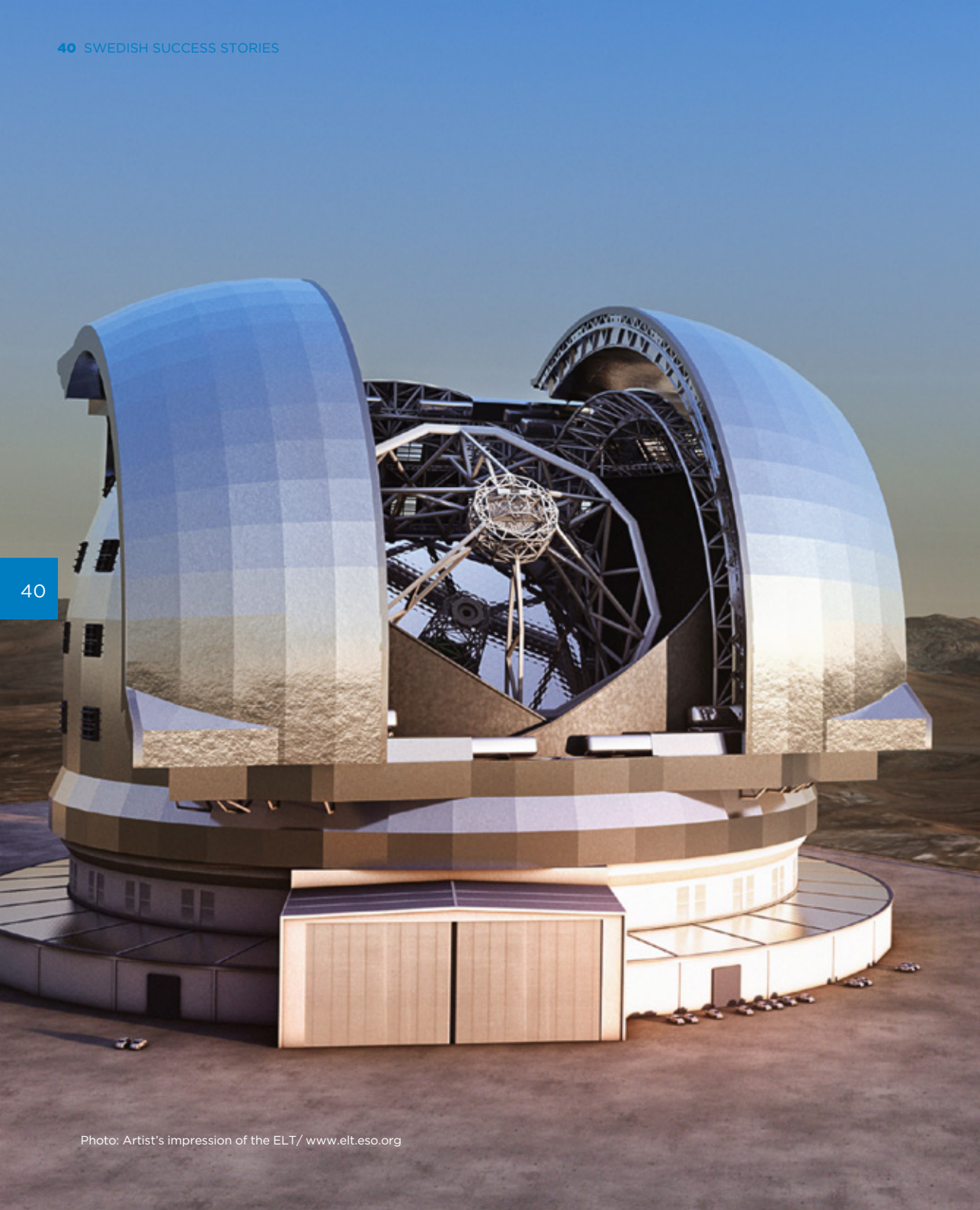


Photo: Artist's impression of the ELT/ www.elt.eso.org

FAGERSTRÖM, EXAMEC AND RFR SOLUTIONS
Collaborating on extensive order from ESO

Our member companies Fagerström Industrikonsult, RFR Solutions and Examec are working together on a high-tech project for ESO, aware that collaboration will increase their chances of winning more orders from international research facilities in the future.

Large ESO contract

After submitting an impressive tender, Fagerström Industrikonsult won, in 2020, an extensive order from ESO, European Southern Observatory. ESO is building the world's largest reflector telescope, the ELT (Extremely Large Telescope) in Chile.

Fagerström are washing and stripping the old coating on the extremely expensive mirror segments, which is necessary before a new reflecting layer can be placed on the mirrors to retain the telescope's performance.

Find your own solutions

Fagerström Industrikonsult won the contract in tough competition with international giants. Carl Johan Fagerström, Managing Director, emphasises the importance of being creative, looking at different solutions, and not being afraid to push the boat out when submitting a tender.

"We're a small player that gets noticed. We start from scratch, asking ourselves the question 'What's the problem?', and then find our way to our very own solution."

For the work on the telescope in Chile, Fagerström are developing a machine that scrapes away the reflective silver coating on 788 mirrors that together form one gigantic mirror, 40 metres in diameter. The work is performed in an extreme environment, at a height of 3000 metres.

Collaboration broadens capabilities

Fagerström Industrikonsult initiated a rewarding collaboration with two other member companies, RFR Solutions and Examec, whose complementary expertise can contribute to various parts in the extensive ESO order. Fagerström are responsible for design and project management, while RFR Solutions and Examec take care of production.

Carl Johan Fagerström sees strength in such a collaboration.

"We start from scratch, asking ourselves 'What's the problem?', and then find our way to our very own solution."

Fagerström Industrikonsult offer technical improvements in most types of processes and develop unique specialised machines. The company took its first steps into the Big Science market in 2015 with long-term mechanical design assignments for ESS, and is now also a supplier to ESO.

RFR Solutions are stainless steel specialists focusing on markets with stringent and challenging requirements. The company has a number of recurring orders, for example to ESS and CERN. Services include laser cutting, bending, licensed welding, surface treatment and validation.

Examec offers building of complete instruments/machines, machine tooling of larger components, assembly, and testing. The company views Big Science as a strategic market, and its clients include ESS, MAX IV, and CERN.

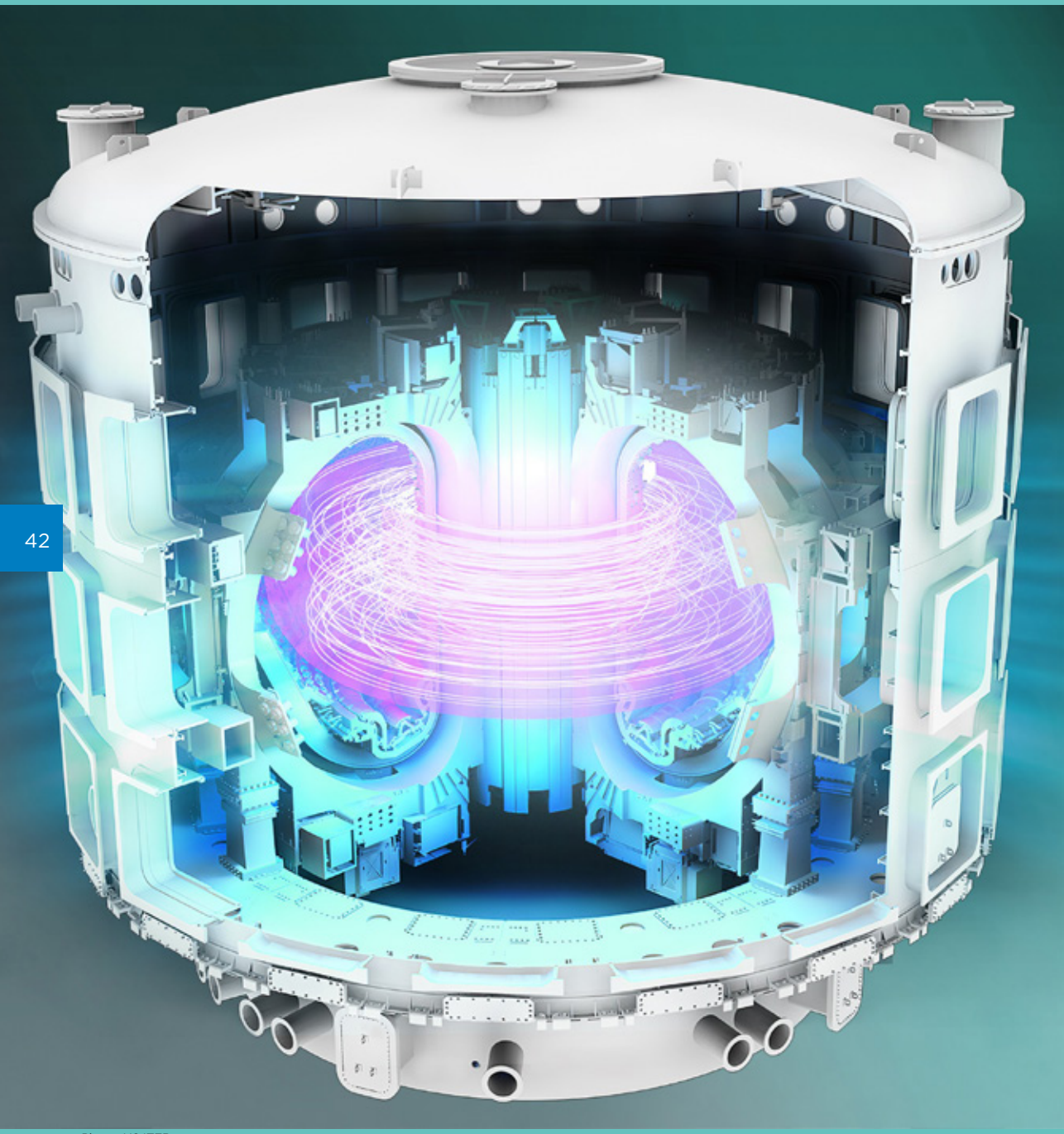


Photo: US ITER

RISE, AQ ELAUTOMATIK, AND LUND UNIVERSITY

Pilot study led to prestigious contract with ITER

A consortium of Big Science Sweden members – RISE Research Institutes of Sweden, AQ Elautomatik, and the Faculty of Engineering at Lund University – won a prestigious contract from ITER in September 2023. The three partners had previously completed a pilot study for ITER on the design of a power converter to operate in the immediate vicinity of the reactor.

Test rigs for subsystems in the power converter

When a power converter is to operate in the extreme environment close to the reactor, challenges include the strong magnetic fields, limited available physical space, and weight restrictions. The new contract involves building test rigs for various subsystems in the power converter designed in the pilot study.

Significance of long-term collaborations

Håkan Nilsson, project manager at RISE and business developer at Big Science Sweden, sees the significance of long-term collaborations with the Big Science research organisations.

"Winning this contract shows that we submitted a competitive tender with strong technical expertise, and that our previous long-term work for ITER generated confidence."

The contract with ITER can open new doors to the Big Science market.

"The work we're doing for ITER is in the realm of advanced science and will generate opportunities for new future contracts," he continues.

Great potential for Swedish industry

The contract is worth around SEK 4.5 million, but the potential for Swedish industry can be considerably greater. In time, ITER will be inviting tenders for production of power converters in accordance with the requirements and specifications the consortium has helped to develop. Swedish industry will then be able to bid for sizeable contracts.

"The work we're doing for ITER is in the realm of advanced science."

KOMPRESSORTEKNIK

New order extends collaboration with CERN

Kompressorteknik, based in Norrköping, are specialists in refrigeration compressors, and are commissioned by a number of major manufacturers for advanced service. Kompressorteknik also designs and sells refrigeration units.

Kompressorteknik has been a regular supplier of products and services to CERN since 2013. Two new orders from CERN in 2024 extended the collaboration by a further four years. CERN extended the compressor overhaul programme for ATLAS and CMS, and Kompressorteknik won orders concerning CO2 accumulators for the Phase II upgrades.

Overall responsibility

Kompressorteknik will be responsible for design, construction, and delivery of the accumulators until 2026, after which they will provide maintenance and development services at CERN until 2028.

Peter Wassberg, one of the co-owners, is delighted about the contract.

"This is a good order, and shows CERN's confidence in us as a supplier. It's a contract in which we have overall responsibility, and we'll be working together with a local company on producing stainless steel components."

Success factors

Peter Wassberg emphasises the importance of long-term relationships and good awareness of the facility, but also identifies other success factors.

"This is about development and research. CERN wants a partner that understands and speaks their language, one that is engaged and committed. At the start, they were still defining exactly what they were after, so it become a development process we worked on together. And naturally, as a supplier you must deliver products and service of the highest quality, which is exactly what we've done over the years."

Peter Wassberg points out another important factor – early involvement in projects.

"You need to be aware of research facilities' upcoming needs. You can then plan and decide on tenders and participate in the customer's needs assessment, the earlier the better."

"Kompressorteknik has been a regular supplier of products and services to CERN since 2013."

QAMCOM

First Swedish contract in SKAO project

Qamcom, based in Gothenburg, is a knowledge-based research and technology company with specialist expertise in hardware, software, and systems development.

In 2023, Qamcom was awarded the first Swedish industrial contract by SKAO – the Square Kilometre Array Observatory. This was a prestige order, not only for Qamcom but also for Sweden as a whole, since the contract acknowledges Swedish technology as an integral part of this massive international project.

Subsystem to transform signals from space

SKAO is building the two largest radio telescopes in the world, located in Australia and South Africa. Qamcom's contract concerns the SKA-Mid telescope in South Africa. The mission is to design and produce a complete subsystem that will transform analogue signals from space into amplified and clean digital signals.

The project draws upon the full capabilities of the company, from systems engineering and electronics development to project and production management, as well as verification, installation, and integration.

Strategic step

The order marks an important step for Qamcom into the international Big Science market.

"We collaborate with Big Science Sweden, and they have helped us with building networks" says Bengt Münter, Project Manager at Qamcom. "Big Science is still a new field for us, but we want to become more firmly established in this market."

Christopher Ahlström, Head of Brand and Marketing, emphasises the strategic importance of the order.

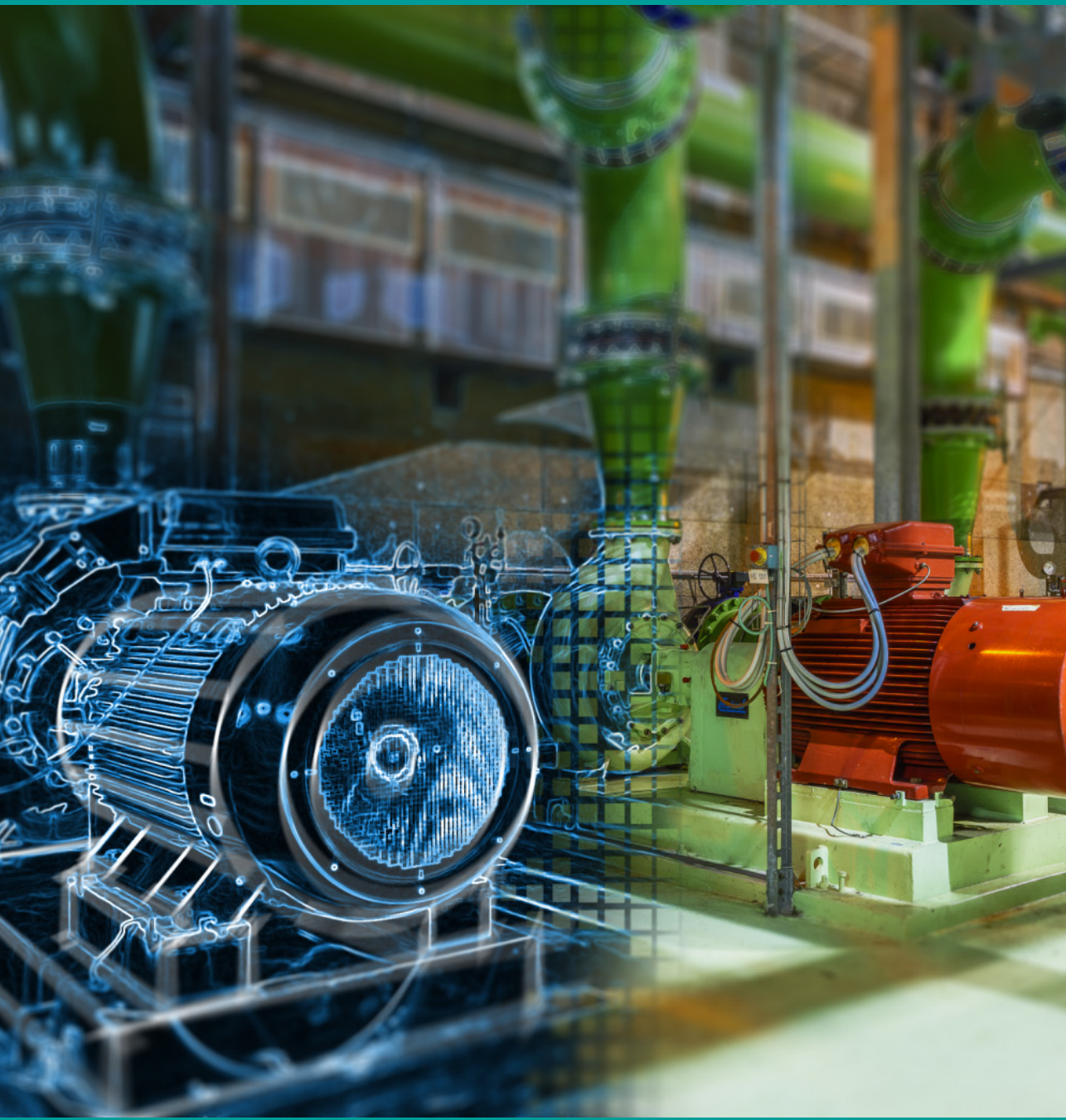
"The contract requires great expertise, and we're proud to have won the order against tough global competition," he comments. "It also gives us the chance to collaborate with people from different countries, find synergies, and showcase Swedish specialist technology."

Collaboration with Onsala and Chalmers

Qamcom is involved in the SKAO project in collaboration with Onsala Space Observatory and Chalmers University of Technology, which lead Swedish interests in the construction of the SKAO telescopes.

"It is prestige order, not only for Qamcom but also for Sweden as a whole."

Photo: Copyright: SKAO



(Image: CERN)

ABB AND CERN

Innovation partnership for reducing energy consumption

ABB, a technology leader in electrification and automation, and CERN have developed a roadmap for reducing energy consumption in the cooling and ventilation systems used in CERN's accelerator complex, experimental areas, and data centres.

Potential for improvement in energy efficiency

CERN and ABB experts assessed a wide variety of data from motors in various cooling and ventilation applications. They combined data from multiple sources and analysed the efficiency of the whole system to pinpoint the motors that present the best business case for energy efficiency upgrades.

The project goal was to improve energy efficiency by 10-15%, but this figure was exceeded, and the potential savings are now estimated at 17.4% across a total of 800 motors, equivalent to energy consumption in more than 18,000 European households. According to IEA (International Energy Agency), there are 300 million industrial motors in operation, which indicates enormous potential for reducing energy consumption on a large scale.

Input from both sides

This joint research project illustrates the benefits of knowledge transfer.

"It's an excellent example of collaboration where each side brings its own contribution to the table," says Giovanni Anelli, Head of CERN's Knowledge Transfer group. "CERN brings its large-scale infrastructure and ABB contributes with its technology and service expertise."

Erich Labuda, President of the Motion Services division at ABB, is also pleased with the collaboration.

"As an institution with a large base of motors installed, working with CERN is a great example of how we can support in making a big impact in improving energy efficiency as part of the transition to a low-carbon society."

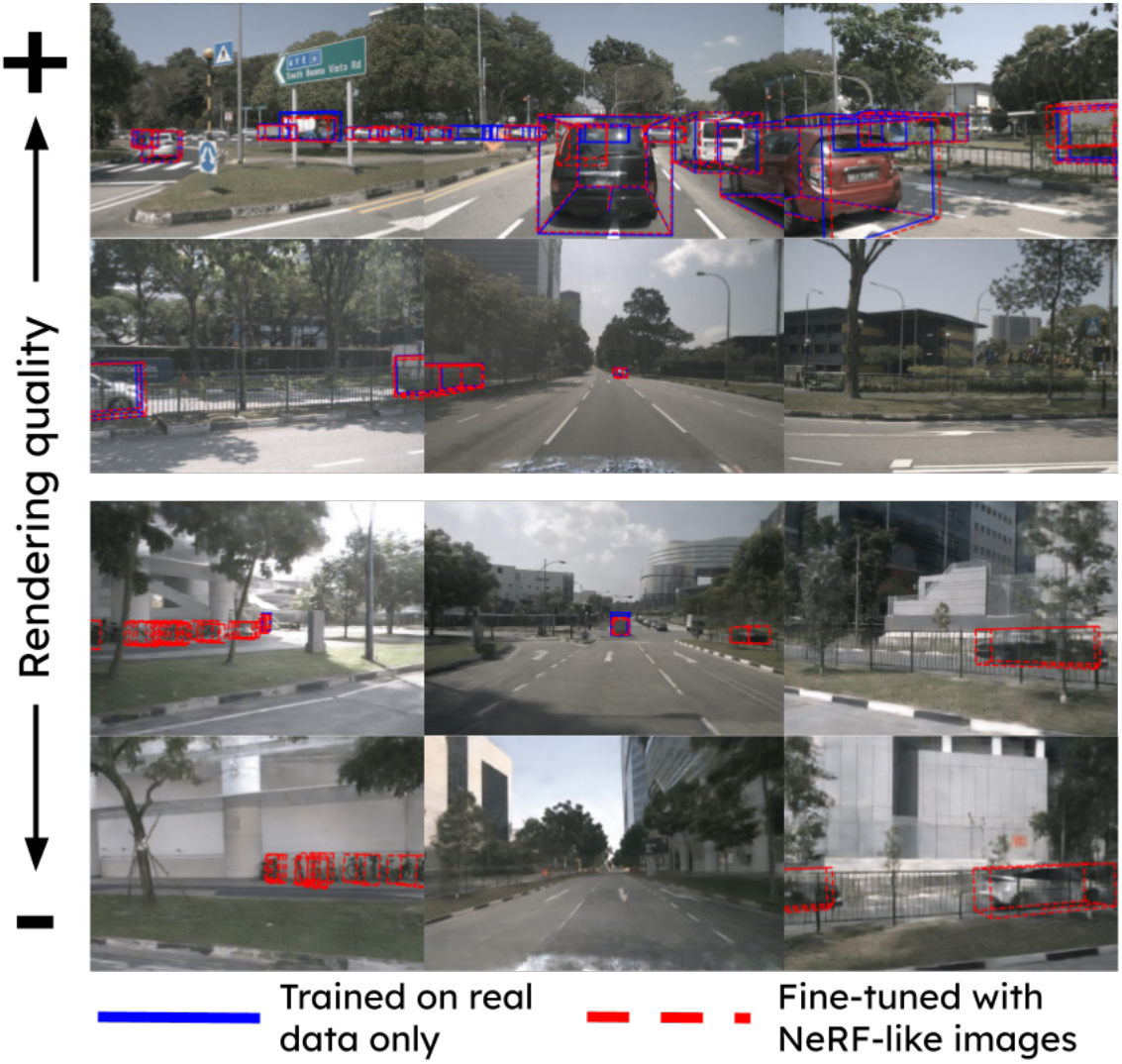
Systems often overdesigned

Why was the cooling and ventilation system chosen for this research project?

"These systems are often overdesigned, being specified to operate at a maximum load way above the average," explains Erich Labuda.

"In fact, we found one pump motor at CERN with an energy-saving potential of 64 percent. It is also important to not just evaluate motor efficiency but the system as a whole – including the fans, condensers, and cooling towers. This holistic approach supports the improvement of CERN's overall energy efficiency and reliability."

"It's an excellent example of collaboration where each side brings its own contribution to the table."


+
Rendering quality
−
Trained on real data only
Fine-tuned with NeRF-like images

ZENSEACT AND CERN

Knowledge transfer project contributes to research on autonomous driving

CERN and the Swedish AI company Zenseact, which develops car safety software, both need advanced technology to enable rapid analysis of large quantities of data. CERN's unique capabilities in data analysis are what brought CERN and Zenseact together to investigate how CERN's machine-learning techniques could be applied to autonomous driving.

Deep-learning techniques for accident prevention

In a three-year joint research project, Zenseact and CERN have focused on 'computer vision', which helps the car analyse and respond to its external environment at ever-increasing levels of accuracy and detail. Deep Neural Networks are used for finding patterns and extracting relevant information from camera images, such as the precise location of surrounding vehicles and pedestrians.

The aim of this collaboration has been to make deep-learning techniques faster and more accurate, allowing autonomous-driving cars to make faster decisions, thereby helping to prevent accidents.

"Deep learning has strongly reshaped computer vision in the last decade, and the accuracy of image-recognition applications is now at unprecedented levels. But the results of our research with CERN show that there's still room for improvement when it comes to autonomous vehicles," says Christoffer Petersson, Research Lead at Zenseact.

Potential for wider application

The technology developed in the project can also be used to improve algorithmic efficiency while maintaining accuracy in a wide range of domains, from energy efficiency gains in data centres to cell screening for medical applications.

"With machine-learning platforms setting the stage for next-generation solutions, future development of this research area could be a major contribution to multiple other domains, beyond high-energy physics," says Maurizio Pierini, physicist at CERN.

"More accurate deep-learning techniques allow autonomous-driving cars to make faster decisions, thus helping avoid accidents."

SUPPLIERS & PARTNERS

INDEX

The Swedish Guide is a compendium of selected high-tech Swedish suppliers. All have the potential and capacity to supply to Big Science, and are actively looking for new business openings and collaborations.

For a complete list of Big Science Sweden member companies, please see our database for suppliers on the Big Science Sweden website: www.bigsciencesweden.se/the-swedishguide/search-for-swedish-suppliers/

Company size definitions
Small: 1-49 employees
Medium: 50-249 employees
Large: 250+ employees

AAC OMNISYS

Company profile

AAC Omnisys, part of Swedish company AAC Clyde Space AB, engineer and manufacture cutting-edge bespoke scientific instruments for advanced science applications. We have over three decades of experience in developing advanced payloads and pioneering high-performance electronics, from our world-class sensors, power systems, electrochemical instruments to optical instruments.

AAC Omnisys are building radio astronomy receivers for the SKA Observatory. SKAO is a publicly funded intergovernmental organisation that is building two of the world's largest radio telescopes, SKA-Mid in South Africa and SKA-Low in Australia.

AAC Omnisys developed an innovative scientific weather payload for the European Space Agency's Arctic Weather Satellite (AWS). The passive microwave radiometer will provide temperature and humidity measurements of the atmospheric layers, this data will be used for Numerical Weather Prediction and Nowcasting. .

We are long-term partners with a number of leading institutes in the space industry including the ALMA radio astronomy facility in Chile. This 16-year partnership is the result of a contract awarded to us as the main supplier of Water Vapour Radiometers (58 in total), one for each of the antennas at the European Southern Observatory ALMA telescope in Chile.

Our team developed the Sub-millimeter Wave Instrument (SWI) onboard the European Space Agency's Jupiter mission JUICE, which launched April 2023. ESA JUICE is the first large-class mission in ESA's Cosmic Vision 2015-2025 programme.

Core competencies

We are a world leader in advanced payload development for New Space with a particular focus on weather payloads, set to grow strongly as new technology supports dramatically improved forecasts.

Our extensive heritage working alongside the scientific community developing and manufacturing complete instrument systems means we have a unique understanding of scientific instruments on a systems level.

Omnisys has world leading experience in high frequency micro- and millimetre wave instruments, electronics design, instrument control, power electronics, optical measurement systems, measurement software and mechanical structures.

Industry sectors

- Space
- Big Science

References

- SKA Mid Band 1 Single Pixel Feed
- Payload prime Arctic Weather Satellite
- Complete optical payload for the MATS satellite
- Front-end components and spectrometer for the Sub Millimetre Wave Instrument (SWI) on JUICE
- Front-end receivers for METOP SG, weather satellites
- Cryogenic front end feeds for VLBI/VGOS radio telescopes
- Water vapour radiometers for the ALMA telescope in Chile
- Phase lock system to the Japanese SMILES mission
- PCDUs for the SMART-1 moon probe
- Microwave instruments to the Odin satellite
- PCDUs for the SMART-1 moon probe

Company size

Small

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ABB

Company profile
The company's solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered and operated. Building on over 140 years of excellence, ABB's more than 105,000 employees are committed to driving innovations that accelerate industrial transformation. www.global.abb

Core competencies
ABB contributes to the transformation of society and industry with its electrification, automation, robotics and motion solutions. Our solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered, and operated.

Industry sectors
- Chemicals, Oil & gas
- Metals
- Cement
- Food and beverage
- (Waste) Water
- Marine
- Power generation
- Pulp & paper
- Mining

References
CERN – ABB and CERN identify 17.4 percent energy-saving opportunity in cooling and ventilation motors

Company size
Large

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ADD NORTH 3D

Company profile

Add North is a world leading developer of materials and producer of 3D printing filaments, with a select portfolio of machines, hardware and accessories for FDM 3D printing. We offer a complete range of filaments, from basic polymers to advanced engineering composites, with some unique materials in the portfolio. We have extensive experience in development of custom materials, where we translate certain requested properties into a functional recipe that is both producible and works in a 3D printing application. We also offer expertise in materials, 3D printing services, and consultancy services.

Core competencies

- Custom 3D materials development
- D Filaments
- 3D Printers
- 3D printing accessories

Industry sectors

- Additive manufacturing
- Polymer industry (3D Printing)

References

- Ongoing contract with European Spallation Source ERIC, where we supply 3D printers, materials and accessories
- We have developed materials for different shielding applications for high-tech industrial customers, such as neutron radiation shielding, EMI shielding, and RFI shielding
- ESD and flame-retardant materials

Company size

Small

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CEO
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ADDITIVE COMPOSITE UPPSALA

Company profile
Additive Composite Uppsala AB exploits the latest technologies in 3D-printing with composite materials and plastics. We work with customers to optimise design and to exploit new materials in high technology sectors. There is specific expertise in radiation absorbers (X-rays, neutrons, gamma) for shielding, masks, etc. We are the World's only supplier of components printed in composites with a high load of boron carbide. Our new materials can replace toxic or environmentally damaging alternatives.

Core competencies
- Additive manufacturing with plastics and composites
- Design for additive manufacturing

Industry sectors
- Research equipment
- Nuclear
- Plastics and composites

References
Supplied custom neutron absorbing electrical insulators to European Spallation Source

Company size
Small

Additive Composite

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Adam Engberg
CEO
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ADDIVA ELEKTRONIK

Company profile

Addiva develops electronics and embedded software. Our specialities are communication in industrial environments and embedded power design. We also have laboratory resources for conducting high-speed measurements, etc. The Addiva-EEPAB Group includes an electronics factory in Sweden. We have expertise in the field of ethernet communication. We build switches and routers for harsh environments, and software for network operating systems and time sync.

Industry sectors

- Industrial automation
- Railway
- Military
- Telecom (fiberoptic side)
- Medical
- Energy

Company size

Small

Core competencies

- HW development
- SW development (all layers)
- Time sync
- Networking
- Network protocols
- High-speed electronics
- Power electronics
- High-speed simulations

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Hantverkargatan 5 , SE-722 12 Västerås, Sweden
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Lennart Liljeström
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ADVANCED INTEGRATION TECHNOLOGY UMEÅ

Company profile

Advanced Integration Technology Umeå
AIT develops automated and custom-made mobile solutions for handling equipment in the aerospace sector and other industries with requirements for high precision and high load capacity. Our products are designed to transport and position precision tools, equipment used for assembly, assembly staff, and large aircraft structures during manufacturing.

We can also offer customised automation solutions such as robot cells, fixtures and welded constructions. With all the necessary skills under the same roof, we design, project manage, manufacture, and assemble the product, which we install and commission on the customer's site.

Core competencies

- Mechanical engineering
- Electrical engineering
- Software development
- Project management
- Machining
- Welding
- Assembly

Industry sectors

- Aerospace
- Automotive

References

- Aerospace industry – AGVs (Automated Guided Vehicles), MGVs (Manually Guided Vehicles), equipment to move aircraft during manufacturing. We have delivered more than 200 machines.
- Automotive industry – Complete custom-made automation solutions, >50 supplied.

Company size

Small

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AIR LIQUIDE GAS

Company profile
One of the leading companies world wide in more than 80 countries.

Core competencies
Gas-related products and services.

Industry sectors
- Pharma
- Food
- Welding
- Laboratories

References
- Oil & gas laboratories
- Manufacturing sites

Company size
Large

Air Liquide Gas AB
Pulpetgatan 20, SE-215 37 Malmö Malmö, Sweden
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AISLE SYSTEMS SWEDEN

Company profile

Aisle Systems Sweden specialises in security-related and quality assuring systems. The company supplies and supports systems in a number of stages - investigation, development, delivery/operation, training, and support.

The company's main product lines are:
- Identity governance and administration
- Identity access management
- Attribute-based central access management system
- Anti-tamper authoring system
- Attest issuer administration

Core competencies

- Systems development
- Problem solving
- Breaking down complex problems to simple user interfaces
- Integration with feeding and receiving systems

Industry sectors

- Healthcare
- Pharmaceutical
- Nuclear and process industry
- Sites with a large property stock

References

- Karolinska University Hospital
- Region Stockholm (one of Europe's largest healthcare providers)
- Malmö City
- RISE, Research Institutes of Sweden

Company size

Small

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AIXIA

Company profile

Aixia specialises in design, delivery and support of AI infrastructure solutions. Customers choose Aixia because they want a partner who can deliver excellence while valuing flexibility.

Core competencies

- Deep learning
- Machine learning
- High-capacity storage
- HPC
- Data science
- GPU
- Networking
- Security
- Data centre

Industry sectors

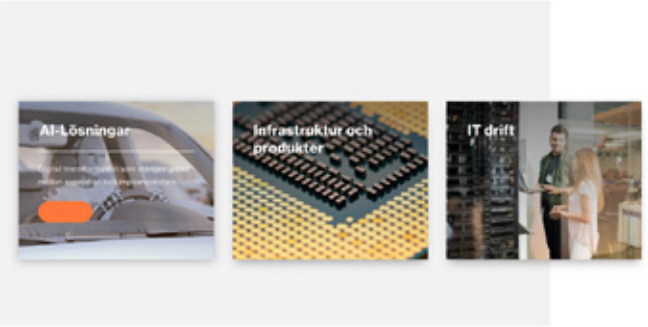
All Industry sectors

References

- AI Innovation of Sweden
- Zenuity (Deep learning platform for self-driving cars).
- Lund University
- Several other companies that we are not able to disclose at this time

Company size

Small



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Mattias Bergkvist
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ALFA LAVAL TECHNOLOGIES

Company profile

Alfa Laval is a leading global supplier of products and solutions for heat transfer, separation and fluid handling through our key products – heat exchangers, separators, pumps and valves. We currently play a vital role in areas that are crucial for society, such as energy optimisation, environmental protection and food production. Alfa Laval works to optimise the use of natural resources in both our own and our customers' operations.

Core Competencies

Alfa Laval has a large number of different products in their offering, including heat exchangers that are more efficient than alternative technologies. In most processes, heat transfer solutions are required for heating, cooling, ventilation, evaporation or condensation, which can all be achieved efficiently using Alfa Laval heat exchangers. Most industrial processes use water and generate waste that needs to be treated to meet tough legislation requirements and to maintain operational licences. Alfa Laval offers a complete spectrum of technologies for water and waste treatment.

Industry Sectors

Alfa Laval products are used in:

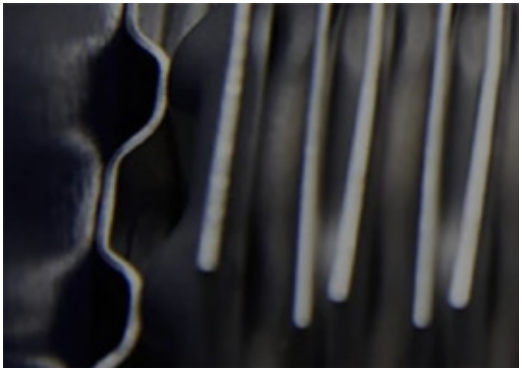
- Process Industry
- Energy
- Marine
- Engineering
- Mining
- Refineries
- Wastewater treatment
- Indoor climate solutions

References

- Pressure breakers for tallest buildings in the world
- Cooling solutions to data centre hyperscalers
- Oil cooling and temperature control equipment to global OEMs
- Hydrocarbon condensers to global chemical producers
- Condensors and evaporators for chillers and heat pumps to global OEMs.
- Gas treatment and crude oil dehydration processes to LNG plants
- Steam turbine condensers to global end-users

Company size

Large



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ALGORYX SIMULATION

Company profile

Algoryx, a global leader in real-time physics simulations, develops advanced physics-based simulation software for complex machinery, vehicles, and robots, resulting in digital twins grounded in scientific principles. These digital twins serve as tools for training and validating AI-based control systems, a critical component in advancing machine autonomy. Our simulation technology has been instrumental in optimising operations and improving safety in sectors such as construction, mining, maritime, robotics, agriculture, forestry, and space.

Algoryx's solutions are perfectly suited to addressing the unique challenges faced in Big Science experiments and research. Algoryx offers a comprehensive suite of physics simulation solutions that can make a significant contribution to the efficiency and success of Big Science projects.

Our global experience in real-time simulations, coupled with our proven track record across various sectors, makes us a valuable partner for advancing scientific research and innovation in the Big Science market.

Core competencies

- Real-time physics simulation
- Digital twins AI integration
- Control system validation
- Safety enhancement industry
- Experience customisation
- Global reach performance optimisation
- Innovation
- Training
- Support

Industry sectors

- Agriculture
- Construction
- Factories (Material handling)
- Forestry
- Maritime
- Mining
- Robotics
- Space

References

Fukushima - decommissioning and robotics test field VR system for robotic operation of the Joint European Torus (JET) (with Tree-C)

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ALIARO

Company profile

Aliaro supplies its customers with high-end test systems. Our highly skilled engineers ensure that customers get the best value from their investment. Over the years, we have built up strong expertise in the areas of test management, test automation and test system design.

Aliaro can offer test and measurement solutions such as functional testers, battery cell simulator, HIL, and Inverter Test System. Together with our customers, we design customised hardware solutions such as PCB boards or complete solutions for sensor simulation. Development and support activities in LabVIEW, VeriStand and TestStand.

Core competencies

- Functional testers
- Battery cell simulator (BCS)
- Inverter test system
- HIL
- LabVIEW
- VeriStand
- TestStand
- Test automation
- Test management
- Test System design
- Hardware development
- System integration
- ASAM XIL
- National instruments (NI)
- Multivendor environment

Industry sectors

- Test automation
- Test management
- Test system design
- Hardware development
- HIL
- SIL
- MIL
- System integration
- Electrification

References

Aliaro has been supporting the automotive industry worldwide for several years, supplying testsystems and HIL systems from domain level to Vehicle Systems Integration Hardware-in-the-Loop Test.

Company size

Small

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ALLEIMA

Company profile

In addition to a comprehensive portfolio of premium products in advanced materials, developed for the most demanding industries, Alleima can now provide services and solutions in the following areas:

- Materials - consulting and testing
- New product and process development
- Supply chain, fabrication and customised products
- Sentusys™ intelligent tube system for monitoring materials

With more than 150 years of experience from developing and manufacturing products in steel, stainless steel, nickel, zirconium, and titanium-based materials, you can rely on us for support regarding all materials-related questions and problems. Contact us when your material fails or when you want a second opinion on what material to use in your applications.

Core competencies

- Metallurgy and metallography
- Material characterisation
- Process simulation
- Corrosion (wet and high temperature)
- Electrical resistance heating
- Powder technologies
- Surface coating technologies (CVD and PVD)
- Welding and production technology

Industry sectors

- Big Science
- Oil and gas
- Automotive
- Nuclear
- Process industry

References

- Big Science: CERN – Non-magnetic material for accelerators to run at 4K
- Big Science: ESS – Material consultancy during the construction of the facility
- Process industry: Stora Enso – Material consultancy and selection of material for corrosive environments
- Process industry: Analysis and recommendation of material for a ventilation system exposed to corrosion
- Nuclear: GE: Design and development of a production method for thin-walled APTM tubes in cladding dimensions

Company size

Large

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AMO KABEL

Company profile

We provide the world with cable innovations. Our company has high technical knowledge and strong determination to design cable solutions for challenging applications. Service with short lead time, flexibility and high accessibility reflects our entire organization. Environmental awareness for sustainable development and minimizing our imprint on the climate is our way of doing responsible business.

Core competencies

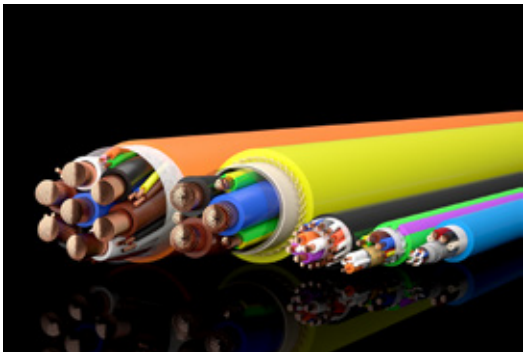
- Sustainable development
- High level of quality
- Flexibility in production and delivery
- Innovation
- High customer focus
- Corporate social responsibility

Industry sectors

- Airport
- Marine
- Offshore
- Mining
- Automotive
- Submarine
- ROV umbilicals
- Fishfarms renewable
- Shipping
- Machine
- High-tech

Company size

Medium



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APR TECHNOLOGIES

Company profile

APR Technologies is a high-tech hardware engineering company developing and selling new thermal management products for demanding applications. This includes liquid cooling using our pumps (developed in-house) with no moving parts, for dielectric liquids including liquid nitrogen. Typical customers are from sectors such as space, medtech, and electronics. APR Technologies has its own cleanroom facilities and designs/builds vacuum equipment, including chambers, thermal vacuum test chambers, and process chambers.

Core competencies

Vibration-free and silent liquid thermal management for equipment, sensors, computing, batteries, electronics and power electronics. This thermal management can involve heat removal, exact temperature control, or actively controlled thermal conductance/resistance between two areas. Regulation and switching of heat, cooling, temperature regulation. Dielectric immersion cooling of electronics, etc. Other applications are high voltage/low current power supplies, RF, LNA, and low noise applications. Other typical advantages of our systems are vibration-free, silent, long lifetime, radiation tolerance. APR has also developed "Fireworm" sensor cables for temperature monitoring over long distances, with wired as well as wireless sensor nodes.

Industry sectors

- Space
- Medtech
- Automotive
- Electronics
- Bioenergy
- Researchers and research organisations

References

- Currently validating our thermal regulation solution for large telecom satellites ARTES, with Airbus and ESA.
- Thermal management solution for an instrument to be used on the International Space Station (order from NASA).
- Consultancy services and custom-made products to other industries.

Company size

Small

APR Technologies AB
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www.aprtec.com

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CEO
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AQ ELAUTOMATIK

Company profile

AQ Elautomatik specialises in the design and production of electrical equipment, electric cabinets, control equipment, control desks, and control systems for demanding industrial applications. We have more than 30 years experience of collaborating with customers with the highest requirements in terms of quality and delivery reliability. Our products are delivered worldwide, which has given us comprehensive expertise on both local and global industry requirements regarding product design.

AQ Elautomatik aims to be the complete partner that develops our customers' electrical systems. With our commitment to total quality our customers become long-term partners. We have broad and extensive experience of the design and assembly of electrical cabinets and in helping customers develop a cost-effective product.

The AQ Group consists of about 20 operational subsidiaries divided into seven business areas. The business areas can deliver entire projects, from the initial idea to engineering, purchasing of materials and components, production, assembly and testing. Each subsidiary has an engineering department working on production in close co-operation with the customers. The AQ Group also has a number of sites dedicated to engineering services. Electric cabinets, wiring systems, injection molding, sheet metal processing, system products, inductive components, special tech. & engineering.

Core competencies

- Series-produced products/electrical cabinets
- Project-produced products/electrical cabinets
- Product development
- Design using E-plan P8 and Elprocad
- Prototype development, with a focus on cost & lead-time
- Assembly & design according to UL standard
- Product review, where we supply the customer with proposals for how we can lower the cost for material and processing.
- Global production: Sweden, Bulgaria, India and China
- Our own manufactured special enclosures, painted and stainless

Industry sectors

- Transportation
- Electric
- Telecom
- Automotive
- Power
- General industry & engineering
- Commercial vehicles
- Automation
- Defence
- Railway
- Food
- Pharmaceuticals

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www.aqgroup.com

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ATLAS COPCO

Company profile
Atlas Copco is a global, industrial company based in Stockholm, Sweden, with approximately 39,000 employees and customers in more than 180 countries. We are pioneers and technology drivers, and industries all over the world rely on our expertise. Our market-leading compressors, and vacuum solutions systems can be found everywhere.

Core competencies
- Rough vacuum pumps
- Energy-efficient solutions for vacuum

Industry sectors
All Industry sectors using rough vacuum.

Company size
Large

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AZPECT PHOTONICS

Company profile

Azpect Photonics AB operates in the photonics market, i.e. in the field of lasers, optics and electro-optics, including motion control. We represent more than 20 specialist suppliers covering the full spectrum of photonic products. Our main suppliers include OptoSigma, LUNA, OzOptics, Excelitas PCO, LabSphere, Excelitas, Conoptics, G&H, Avantes, and Lightcomm.

We supply equipment to academic research facilities and science-based industries, from components to complete turnkey systems, all according to the customer's needs. Our customers are found in a variety of high-tech markets, including renewable energy and medical applications.

Azpect Photonics AB was founded in 1994 and is now the largest and leading supplier of photonics equipment to the Nordic market. Since January 2012, Azpect has been fully owned by the pan-European distributor AMS Technologies, with head office in Munich, Germany.

Core competencies

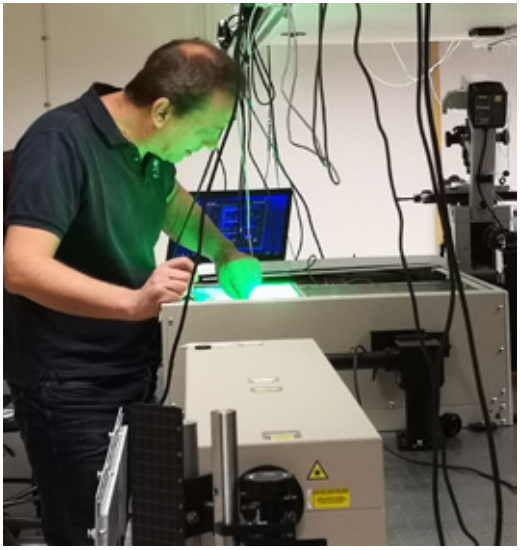
Azpect is a supplier of phototonics equipment. Our policy is to meet customer needs quickly and efficiently. Our sales engineers are highly experienced in their respective areas of responsibility. The service department has extensive experience in photonics for both scientific and industrial applications, and our service engineers are trained and certified by our suppliers.

References

Our customers include major Nordic universities and research facilities, such as MAX IV and ESS, as well as high-tech companies. For more detailed references, please contact us.

Company size

Small



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www.amstechnologies-webshop.com/ams-technologies-nordics

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BERGMANLABORA

Company profile

BergmanLabora AB is one of the leading suppliers to the Nordic laboratory market. We provide instruments from market-leading manufacturers of microscopes, analysis and measuring instruments. Relevant instrumentation to the Big Science market includes advanced microscopes and optical components (from, e.g., Nikon), spectroscopy equipment (from Teledyne Princeton Instruments), and a broad selection of cameras and advanced detectors for, e.g., X-ray applications (from, e.g., Teledyne Photometrics and Princeton Instruments).

Core competencies

Everything we do is built on knowledge and expertise regarding the products we sell and the solutions we provide. We provide consulting services on complex projects within our areas of expertise - microscopy and optics, spectroscopy, cameras and detectors, as well as material analysis (hardness, tensile, surface, etc.).

Industry sectors

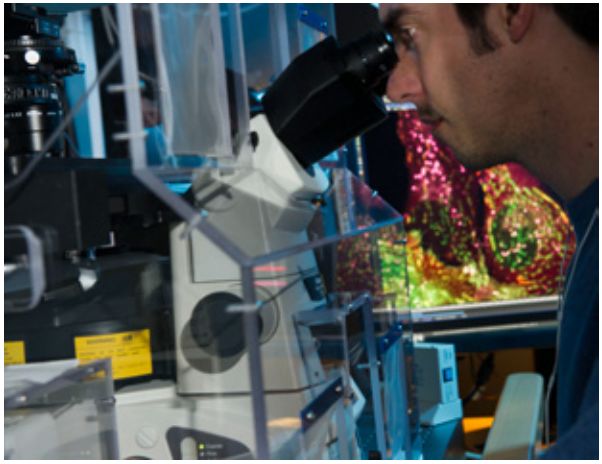
BergmanLabora works in all sectors where laboratory equipment is required for R&D and QC purposes. Our largest customer base comprises academic research at universities and research institutes (incl. Big Science). We have a major presence at manufacturers from steel to automotive where additive manufacturing is an area of focus. We also work with healthcare professionals in specific areas (IVF, microbiology, etc.).

References

We have delivered multiple microscopes and detectors to both MAX IV at Lund University and ESS and will continue. We look forward to contributing to other Big Science projects with our Nordic customers.

Company size

Small



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BEVION GROUP

Company profile

Bevion Group AB is an umbrella company, representing nine specialist consulting companies with largely complementary expertise. The main focus is the nuclear industry, both in Sweden and internationally. Bevion specialises in framework agreements, representing its members/owners in meetings with mutual clients, and working on tenders and agreements. The work also includes updating framework agreements and implementing revisions. Bevion participates in conferences, looking for new opportunities and new geographical areas. Bevion Group AB covers all technical consulting positions for consultants in the Swedish nuclear sector.

Core competencies

The nine companies in the Bevion Group with their core areas of expertise:

- Berdiz Consulting AB and Onsala Ingenjörsfirma AB have similar profiles, working with advanced calculations and analyses.
- Virtuell Design works with digital twins, virtual reality, and mechanical design, and shares many clients with Berdiz Consulting and Onsala Ingengörsfirma AB.
- Synective Labs focuses on electronic HW development like FPGA.
- Fagerström Industrikonsult specialises in design, manufacture, and delivery of small-scale process systems.
- Solvina focuses on operational performance and control of advanced energy and process systems.
- Vysus Group, former Lloyd´s Sweden, focuses on risk management and risk analyses relating to advanced energy and process systems.
- Bylero specialises in the management and design of civil engineering structures and water systems.
- Scanscot Technology specialises in structural verification of steel and concrete structures to withstand loads caused by, for example, tsunamis and earthquakes.

Almost 300 engineers are currently linked to the Bevion Group AB.

Industry sectors

- Nuclear
- Energy
- Process
- Paper- and pulpmill
- Refineries
- Aerospace
- Automotive

References

- ESS (Vysus Group Sweden AB, Scancot (Technia), Solvina, Fagerström Industrikonsult, Berdiz Consulting)
- ESO (Fagerström Industrikonsult)
- Nuclear facilities in Sweden and Finland, as well as several in the US, France, Turkey and China.

Company size

Large

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Erik Bernesson
CEO Bevion Group AB
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BITSIM NOW

Company profile

BitSim is an electronics design house with a focus on imaging, edge computing with data acquisition, and high-speed data collection solutions for product-oriented customers. We have developed a number of solutions we offer our customers for use in other projects, to shorten the time to market.

Since 2000, we have designed FPGAs, boards and embedded SW for detectors, sensors, imaging systems and communication equipment, ending up in products such as industrial cameras, X-ray equipment, automotive and medical displays, alarm systems, seismic data acquisition, and telecom systems.

Core competencies

- Embedded HW/SW
- Mechanical engineering
- Industrial design
- Data conversion ADC
- DAC, Advanced electronics
- Camera development and imaging
- Printed circuit board design & layout
- FPGA development
- IP blocks
- Ethernet

Industry sectors

- Industrial
- Medical
- Scientific
- Automobile
- Defence

References

- Uppsala University Geophysical Institution: Ongoing seismic exploration project for deep borehole exploration
- Uppsala University Physics/IRF: Analog to Digital Conversion with FPGA
- Company: We have developed a high resolution digital seismic acquisition system with sensors collecting and storing geodata. The detector, which we have produced in high volumes, is used at great depths in oceans and seas.
- Startup - Photon Detector - 1 ns pulse single photon detector

Company size

Large

Prevas | BitSimNOW

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BLUEWAVE

Company profile

BLUEWAVE Microsystems AB is an engineering design company. We have over 20 years of experience in controlling and commanding electrons and photons (and occasionally other particles) to do useful work or to reveal their secrets. We are experts in NIR, NMR and RF (dielectric) spectroscopic machines as well as pulse analyzers and high voltage electronics (switches). We have also good knowledge and a keen interest in QMR, XRF and SPR machines.

Core competencies

Our specific skills include RF, microwave, graphical (PC) software, embedded software, DSP, FPGA, MMIC and optoelectronics.

Industry sectors

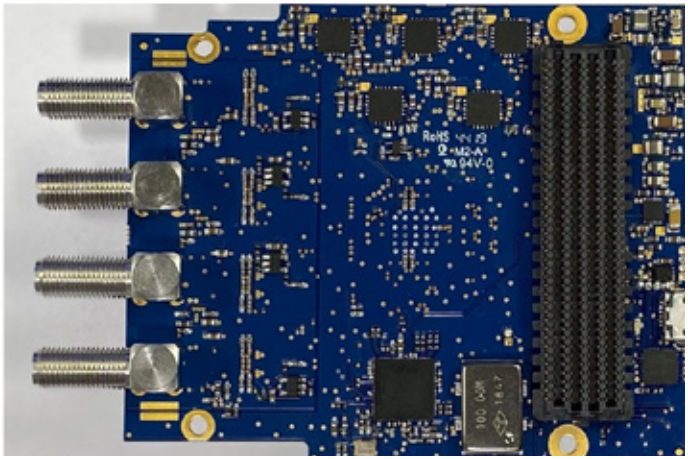
- Academic research facilities
- Telecom

References

- FMC 4xADC 14b/500MHz delivered to CERN as part of the new beam monitoring system
- Pulse height analyzer delivered to DESIREE facility at Stockholm University

Company size

Small



FPGA Mezzanine Cards 4xADC 14b/500MHz

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BODYCOTE HIP

Company profile

Bodycote Hot Isostatic Pressing is the leading provider of heat treatment and thermal processing services, forming a vital link in manufacturing supply chains. Services include heat treatments, metal joining, hot isostatic pressing, and surface technology that improve the properties of metals and alloys and extend the life of components.

With its global network, Bodycote utilises a wealth of knowledge, experience and specialist expertise to offer high quality, reliable and cost-effective services to manufacturers in many sectors, offering unique solutions for a variety of applications. Advantages include freedom in design, excellent material properties, a wide range of material grades, and short production times.

Core competencies

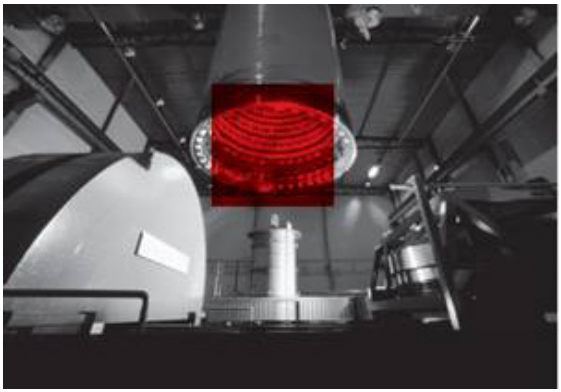
- Hot Isostatic Pressing
- Powder metallurgy
- Material knowledge
- Design capabilities

Industry sectors

- Oil & Gas
- Nuclear
- Aerospace

Company size

Medium



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BUMAX

Company profile
BUMAX is a world-leading specialist manufacturer of high-quality stainless-steel fasteners through hot and cold forming and machining. Our fasteners are manufactured at our plant in Åshammar, in the heart of Sweden's steel district.

Core competencies
We provide customers with the optimal fastener and material for their specific application, including unique fasteners not found anywhere else on the market. This may involve drawing on our extensive fastener expertise and materials science knowledge to develop innovative fastener solutions in collaboration with our customers.

Industry sectors
- Stainless steel
- Fastener manufacturing

References
- CERN
- MAX IV
- ESS
- Max Planck Institute

Company size
Medium

BUMAX
A BLIFAB COMPANY

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C3C ENGINEERING

Company profile

Precast concrete solutions as design-build contracts or material deliveries for technical buildings, containment structures, safety, defence and/or radiation shielding.

In-situ concrete solutions as design-build contracts or material deliveries for technical buildings, containment structures, safety, defence and/or radiation shielding.

The above solutions are offered in various engineered combinations and can also be combined with steel structures where suitable.

Core competencies

- Design
- Manufacture
- Precast concrete
- In-situ concrete
- Circular economy
- Radiation shielding
- Building contracts
- Installation
- Containment structures

Industry sectors

- Recycling
- Water treatment
- Energy
- Mining
- Steel
- Forest
- Pulp & Paper
- Harbours
- Nuclear
- Agriculture

References

European Spallation Source ESS ERIC: Design-Build Contract, NMX Cave 2019

Company size

Small

C3C Engineering AB
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CALORMET

Company profile

CalorMet is a leading supplier of specialised equipment and machines for industrial heat treatment, serving companies throughout the Nordic and Baltic region.

CalorMet has extensive experience of furnace installation, offering innovative and customised solutions to meet specific needs and requirements. The company also carries out service, maintenance, renovation, and upgrades of furnaces, and can supply spare parts for heat treatment equipment.

Core competencies

- Heat treatment of metal
- Laboratory furnaces
- Industrial furnaces
- Electrical heating elements
- Gas burner systems
- Heat resistant steel details
- Spare parts for furnaces
- Furnace service
- Furnace modernisation

Industry sectors

- Science
- Automotive
- Steel secondary
- Manufacturing (steel)
- Manufacturing (aluminium)
- Engineering
- Heat

References

- Volvo
- Scania
- SKF
- Epiroc
- Ljunghall
- AGES

Company size

Small

CalorMet

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CAMFIL

Company profile

Camfil is a world-leading supplier of clean air solutions. We manufacture and sell high performance air filters for removal of both particles and gases. We are already a leading supplier of filter solutions to Industry sectors including nuclear, microelectronics, pharma, medical, optics, and BSL-sites. With the right contacts we believe we can find new undiscovered opportunities to be a solution provider to the Big Science market.
We believe we can make a specific difference in:

- Electronics & optics
- Nuclear applications
- Energy & power generation
- Any need for clean rooms or extremely clean air
- Molecular contamination of air
- Any need for air contamination control for reasons of health environment, or pure process stability.

Industry sectors

- Electronics & optics
- Energy & power systems
- Material processing
- Life science
- Food & beverage
- Commercial buildings
- Air contamination control
- Logistics
- Health care

Company size

Large

Core competencies

- HEPA filtration
- Clean room
- Air purification
- Gas filtration
- Molecular filtration
- Particle removal
- Sterilisation
- Containment
- Air pollution control
- HVAC
- High temperature applications

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CARLSSON & MÖLLER

Company profile
AB Carlsson & Möller is a leading knowledge-based company in Sweden within engineering plastic solutions. We offer expertise in manufacturing, assembly, and technical solutions to prioritised business areas.

Core competencies
Based in Helsingborg, Sweden we specialise in engineering plastics, thermosets and composites. Our team is committed to providing expert advice, manufacturing excellence, and unparalleled know-how to deliver the best solutions for our clients.

Industry sectors
- Research and science
- Defence
- Space and aviation
- Medtech
- Foodtech
- Our expertise extends to providing solutions for large and small science projects in areas such as nuclear, electrical and thermal insulation for accelerators.

References
- CERN
- ESS
- MAX IV
- Fagerström Industrikonsult AB

Company size
Medium

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CARPENTER POWDER PRODUCTS

Company profile

Carpenter Powder Products is a leading supplier of gas-atomised metal powder and associated products. Applications include additive manufacturing, welding & spraying, HIP-near net shape, metal injection moulding, tool steels, and brazing.

Carpenter Powder Products is fully owned by Carpenter Technologies Corporation, an American company operating in the field of specialty metals for niche applications.

Core competencies

- Specialty metals
- Gas-atomised metal powder
- Hot isostatic pressing
- Near net shape
- Metal injection moulding
- MIM, NNS, HIP
- Tool steel
- Additive manufacturing
- 3D-printing

Industry sectors

- Energy
- Nuclear
- Automotive
- Transportation
- Consumer
- Industrial
- Aerospace
- Medical

References

- CERN
- ITER
- Sub-sea applications
- Oil & gas applications

Company size

Small

Courtesy of Metso

CARPENTER
Powder Products

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CAVERION SVERIGE

Company profile
Huurre Sweden is now part of Caverion. Company with in-house design department for refrigeration, factory for production of ref. units, design of control systems, own solutions for cloud service, etc. Ability to design, execute and commission large and complex installations. Market leader in solutions with natural refrigerants, preferably CO2 (R744). 24/7/365 service centre with skilled personnel for maintenance and support.

Core competencies
- New value-added technology
- Natural refrigerants
- Integrated system solutions
- Machine learning
- Cloud-based connectivity
- Project and design organisation for refrigeration, electrical, control, plumbing, ventilation, BMS, etc.

Industry sectors
- Industrial
- Commercial
- Heat pump
- Ice hockey arenas
- Geothermal systems
- Professional kitchens
- Hospitals
- Medical
- Warehouse
- Logistic centres
- Data centres
- Climate room for universities

References
- See Caverion webpage.

Company size
Medium

Caverion
Building Performance

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CESIUM

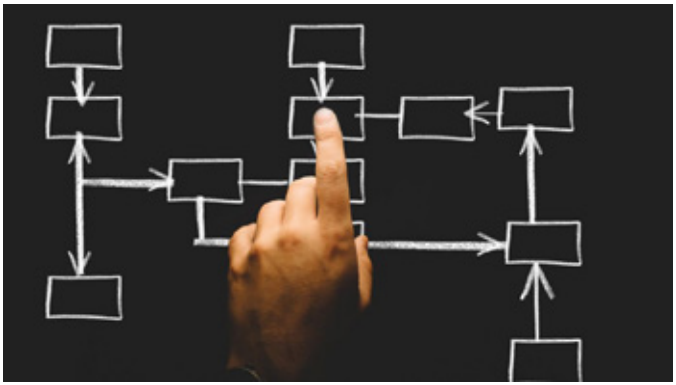
Company profile
Cesium is an innovation company specializing in developing, manufacturing and marketing high-technological security systems and storage of explosive goods, weapons and theft-attractive goods, as well as secure buildings for data centres.

Core competencies
- Secure buildings
- Physical security
- Mobile security
- Vaults
- Security doors and gates
- Risk analysis

Industry sectors
- Governmental
- IT
- Defence

References
- Swedish Armed Forces
- Swedish National Police
- Saab AB
- Vattenfall
- LKAB

Company size
Small



CESIUM
CESIUM AB SWEDEN

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COMPOSITE SERVICE EUROPE

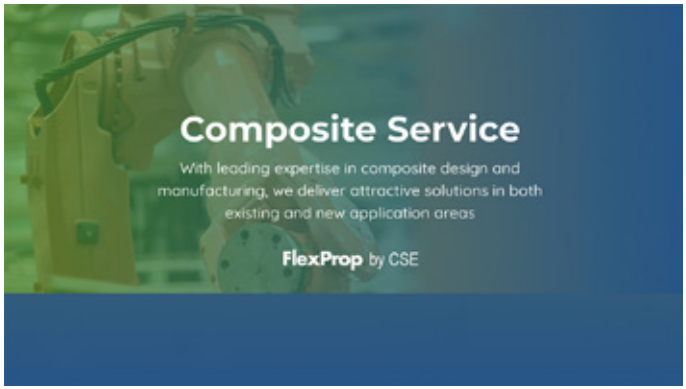
Company profile
Engineering and manufacturing company. Long experience of design and calculation in carbon fiber and other composite materials. Major business areas are the automotive, aerospace and power sectors. Close cooperation with Luleå University of Technology and RISE, and a member of SWECIC, the Swedish Composite Innovation Cluster.

Core competencies
- Own patent with unique design technology
- Strength and stiffness calculations
- Strong composite process knowledge
- Expertise in fish migration solutions

Industry sectors
- Automotive
- Aerospace
- Power

References
- AUDI, SEAT, VOLVO
- SAAB, GKN, MTC
- ABB

Company size
Small



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COORSTEK SWEDEN

Company profile

High-tech ceramic materials. Specialised in silicon nitride and boron carbide. Prototype and mass production capabilities. Densification techniques:

- Hot isostatic pressing
- Sinter/Hot isostatic pressing
- Gas pressure sintering

Core competencies

- Ceramic materials
- Silicon nitride
- Boron carbide
- Hot isostatic pressing
- Sinter/Hot isostatic pressing
- Gas pressure sintering

Industry sectors

- Energy
- Automotive
- Aerospace
- Machine building
- Chemical industry

References

- HIPed billets extruded for super conductor wire for CERN.
- Silicon nitride rolling elements for flight-critical aerospace applications.

Company size

Medium

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CRYSTOPT-X

Company profile

Main activity is the production of diffraction elements and reflective optics used in X-ray and neutron beams. The first diffraction element developed was the double-side-machined Johansson crystal in single crystal silicon (main orientations) up to 300 mm in length, and bendable down to a radius of 500 mm. Other diffraction elements, such as single blocks or channel cut, and many different geometries are also included in this group. With the same functionality, multilayers are another product.

A second range of products are very high precision surface shapes, starting with simple flat, for deflection, ending with ellipsoidal or toroidal for both vertical and horizontal simultaneous focusing. The materials used are mainly silicon, fused silica and zerodur® with a maximum length of 1.2 m, all of which can be coated with materials like gold, rhodium, palladium, and other high-density materials, on request. Surface quality is now down to 3 Å micro-roughness and improving, and the level of surface shape can be down to 0.1 micro-radian of slope error. Expected in May 2019 (work is in progress on a prototype), long effective life time of optical elements for neutron guides will become another product.

Being an R&D oriented facility, CrystOpt-X AB is looking forward to improving and innovating, undertaking challenges in the field of surface shape metrology and the fabrication technologies of new desired optical shapes or functionalities.

Core competencies

Manufacturing very precise surface shapes, super-polishing of shaped surfaces, ion beam figuring, coating and multilayer depositions.

Surface shape characterisation by means of interferometry and deflectometry is the main expertise needed to manufacture our products.

Industry sectors

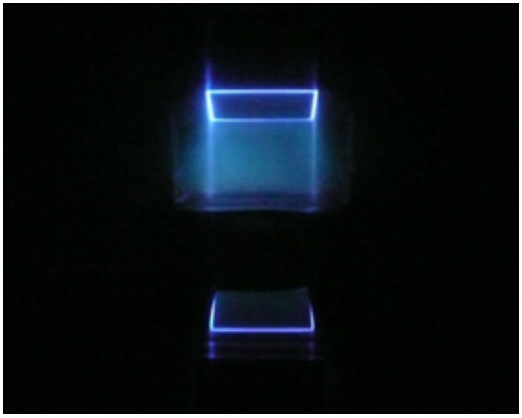
Facilities involved in research and characterisation by means of X-ray and neutron beams, including large observatories.

References

Facilities involved in research and characterisation by means of X-ray and neutron beams, including large observatories.

Company size

Small



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CUMATIX

Company profile

Cumatix brings together the strengths of EK Power Solutions and Cumatix to become a leading force in the development, production, and delivery of advanced solutions in power electronics and controlled motion.

Our combined expertise lies in creating custom-designed systems tailored to meet the specific needs of our clients. Whether it's developing sophisticated power supplies or customised servo motors, designing high-efficiency motor drives, or providing cutting-edge battery charging solutions, Cumatix stands at the forefront of technological innovation. Our expertise in PCB layout ensures that all designs meet stringent electrical safety and EMC requirements.

Cumatix boasts a 200-sq m, state-of-the-art electronics lab equipped with advanced tools for EMC and environmental measurements. This facility allows us to rigorously test and refine our designs, ensuring they meet the highest standards of reliability and performance.

From initial concept through to final product delivery, Cumatix provides a complete development journey. We work closely with our clients at every stage, ensuring that the final product not only meets but exceeds expectations. Beyond development, we also offer series production, delivering finished units ready for integration.

Core competencies

- Power electronics
- Servo motors
- Brakes and clutches
- Power supply design
- Motor drive development
- Battery charging solutions
- EMC investigations
- PCB layout design

Industry sectors

Cumatix serves a wide range of industries where precision and reliability are paramount. Our clients include some of the most technologically advanced companies in sectors such as automation, power generation, telecommunications, railway, automotive, marine, and defence.

References

- Atlas Copco
- ABB
- Scania
- Husqvarna

Company size

Small

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DIGITAL MECHANICS

Company profile
Digital Mechanics is a leading innovator in smart additive 3D production. As experienced problem solvers we offer customers access to our digital factory for fast 3D printing of complex plastic and metal details, both as prototyping and as parts ready for production. We always strive to build long-term customer relationships to ensure the best possible quality and delivery precision. We have global delivery capacity.

Core competencies
- 3D printing in plastic
- 3D printing in metal
- Silicon tools
- Prototype tools
- Rotary casting
- Lost wax casting
- Sand casting
- Precision casting
- Machining

Industry sectors
- Automotive
- Aerospace
- Medical
- Manufacturing
- Construction
- Engineering
- Energy
- Mining

Company size
Small

DIGITAL® MECHANICS
RAPID PRODUCTION SERVICES

Digital Mechanics Sweden AB
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DVEL

Company profile

We specialise in providing expertise and building systems within test, measurement, and control. Our highly skilled experts take you from prototypes, through requirements definition, development of measurement techniques and definition of processes to implementation, delivery and education. From our office in Lund, we deliver systems for the most challenging measurement tasks, and provide on-site consulting services to various industries. One of our focus areas is Big Science, as this lies very close to our hearts.

Core competencies

Our engineers combine theoretical knowledge and the ability to quickly grasp technical challenges with the know-how of creating scalable and stable systems. We combine science, computer science, and extensive experience from test development to bridge the gaps commonly found in most organisations.

About half of our consultants hold PhDs in laser-based measurement techniques, electrical measurement techniques, materials science, nuclear physics and similar areas, whereas the rest have MSc qualifications in fields ranging from physics through electrical engineering to mechanics.

Contact us if you need help with National Instruments software or hardware. We are an Alliance Partner of National Instruments and have gathered the largest set of LabVIEW and NI hardware expertise in the Öresund region.

Industry sectors

- Big Science
- Medical technology
- Industrial
- Production
- Power
- IoT

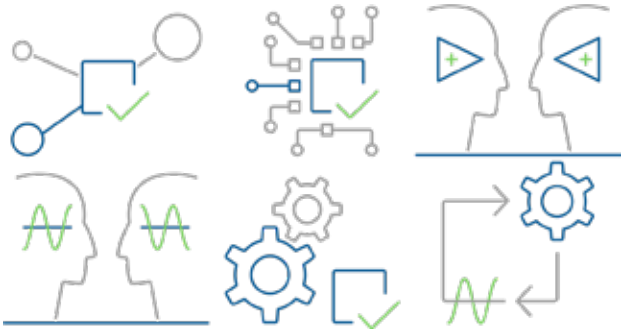
References

Since DVel started in 2012 we have supplied numerous systems, including:

- Control system for an ion accelerator
- Control system for a DC/DC converter
- Measurement system for nuclear fuel rods
- Verification of radio ASICs
- Test rig for hydronic actuators
- Hardware and software development for the biogas industry
- Development of test departments and test activities.
- Measurement system for nuclear fuel rods.

Company size

Small



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ECLIPSE OPTICS

Company profile
Eclipse is a Scandinavian Optics Design House. We offer our customers expertise in optics and photonics. Typical applications are optics design, construction of optical instruments, and prototyping of products and systems where optics and photonics are a key component. We have also extensive expertise of components like lasers, LEDs, lenses, optical filters, sensors, etc.

Core competencies
Optics design and tolerancing
Optics construction
Concept development
Camera technology
Image quality
Tests and verification of optical systems
Technical due diligence

Industry sectors
- Medical
- Technology
- Automotive
- Consumer electronics
- Safety and surveillance
- Green technology
- Space

References
- Leica Geosystems (Airborne Hydrography)
- Azelio
- Polaroid
- Veoneer
- FLIR
- Trimble

Company size
Small

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EITECH ELECTRO

Company profile

We are a team of specialists working with electrical installation and engineering, creating innovative solutions to our customers' challenges. Our team consists of nearly 1200 employees, from Gällivare in the north to Malmö in the south. We supply everything from complete projects and comprehensive solutions to ongoing services in the construction sector and the public sector, as well as within the industrial, infrastructure, and energy sectors.

Since January 2018, Eitech has been a part of VINCI Energies, a technology group offering a wide range of services in industry, service and ICT with around 70,000 employees worldwide.

Core competencies

- Project management
- Turnkey projects
- Engineering
- Installation
- Service

Industry sectors

- Mining
- Steel
- Pulp & paper
- Oil & gas
- Safety
- Infrastructure
- Building
- Energy
- Data centers
- Service

References

- LKAB
- Boliden
- SSAB
- SCA
- Billerud
- Facebook
- Trafikverket
- Vattenfall
- EON
- Svenska kraftnät
- Regionen

Company size

Large

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EKANALYS (EKA)

Company profile

Natural refrigeration, cooling, heating and energy handling solutions for facilities, as well as experimental equipment. We have relevant experience from Big Science projects in North America, and participated in large commercial projects in Asia. As neutral consultants we have a broad international network of suppliers, manufacturers and service providers.

Core competencies

- Refrigeration solutions
- Natural working fluids
- Energy recovery
- Combined Cooling and Heating, CCH
- Advanced cooling system design
- F-gas and PFAS-free cooling systems

Industry sectors

- Refrigeration/cooling
- Heating
- Air handling
- Dehumidification
- Energy conservation
- Advanced heat recovery solutions
- Precision cooling for component development/ testing

References

- GMTO (Giant Magellan Telescope) - development of mirror thermal systems
- NSSO (National Speed Skating Oval) - design of large refrigeration system for speed skating at the 2022 Winter Olympics in Beijing.
- KTH (Royal Institute of Technology) - design for procurement of laboratory refrigeration systems for thermal testing
- Backer - product development of heat pump for drying purposes
- Mycronic - combined cooling and heating system for industrial process of electronics production
- NERIS - production of guidelines for moisture handling in ice rinks, based on field measurements

Company size

Small

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Jörgen Rogstam
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ELAJO

Company profile

EK Power Solutions is the Nordic region's leading design house for power electronics and PCB layouts. Our specialty is custom design development and delivery of power supply, motor drives, battery charging, and PCB layout. We have been supplying design services since 1978.

Our premises include a 300-sq m modern and well-equipped electronics lab, including EMC and environmental measurement capabilities.

We have also expert skills in the design of printed circuit boards and on how PCB layouts must be designed to comply with both electrical safety and EMC requirements. We work through every stage of development – from idea to finished product. EK Power Solutions also delivers series-production units.

Core competencies

- Power electronics
- Power supplies
- Motor drives
- Battery charging
- EMC investigations
- PCB layout

Industry sectors

EK Power Solutions have customers in many Industry sectors where requirements are demanding. Our clients include some of the world's most technology-intensive companies in automation, power generation, telecommunications, railway, automotive, marine, and defence.

References

- Atlas Copco
- ABB
- Scania
- Husqvarna

Company size

Small

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ELECTRO HEAT SWEDEN

Company profile

Electro Heat Sweden AB is an innovative company based in Gothenburg with over 40 years experience of supplying heat treatment solutions to companies all over the world. As well as standard heating products, we are also equipped to provide industry and research facilities with innovative technical solutions.

Heat treatment of metals and alloys is a controlled process that extends the working life of components, for example by increasing strength, temperature resistance, ductility, and surface hardness.

We specialise in manufacturing and installing both standard and customised heating solutions and industrial ovens / furnaces.

Core competencies

- Standard industrial furnaces and ovens
- Heat treatment equipment
- Customised industrial ovens
- Customised industrial furnaces
- Annealing, tempering, hardening, drying
- De-gassing

Industry sectors

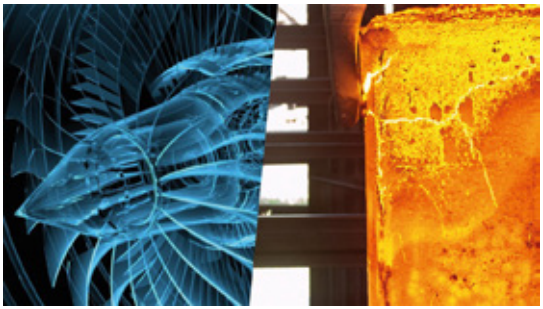
- Aerospace
- Aircraft
- Automotive
- Marine
- Energy
- Military
- Pharmaceutical

References

- CERN
- Industrial customers all over the world

Company size

Small



ElectroHeat
INDUSTRIAL OVENS

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ELITKOMPOSIT

Company profile

Elitkomposit AB is a producer of goods in advanced composite materials. We develop material combinations to suit particular applications and particular requirements. Product sizes range from millimetres to several metres, and series lengths from prototypes to tens of thousands.

Typically, advanced composites are used wherever traditional materials have reached their limit and no longer function well. Composites can be tailored to provide multifunctional behaviour in various combinations, i.e stiffness combined with radio transparency, structures with integrated sensors, or conductive components with low radiation absorption.

Industry sectors

- Space
- Medical
- Telecom
- Defence
- Aerospace

References

- Ruag Space
- Elekta
- Panthera

Company size

Small

Core competencies

- Advanced composites
- Carbon fibre
- Radio transparency
- Integrated sensors radome

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ENTECH

Company profile

Entech designs and delivers furnaces of different temperatures to customers in numerous countries. Our extensive experience helps us make thorough and impartial analyses of customer requirements. We can present a solution that guarantees our customers a furnace designed to perform the specified tasks - anything from a standard furnace to a custom-designed furnace.

Proven technology and innovative thinking are combined and backed up by strong cooperation with leading suppliers of components. Entech furnaces are known to be built with carefully chosen materials and with a high degree of precision in manufacturing.

Core competencies

- Tube furnaces
- Chamber furnaces
- Elevator furnaces
- Thermal cycling furnaces
- Fire testing furnaces
- Horizontal split tube furnaces
- Vertical split tube furnaces
- Continuous sintering furnaces with rotary hearth
- Special furnaces

Industry sectors

- Universities of technology in Europe
- Research institutes in Europe

References

- VTT, Technical Research Centre of Finland
- Delft University of Technology, Netherlands
- DTU/Risö, Technical University of Denmark
- KTH Royal Institute of Technology, Sweden

Company size

- Small

Entech Energiteknik AB
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Janne Jyrinki
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EON

Company profile

E.ON in Sweden provides smart energy infrastructure and innovative solutions. Our business areas are Energy Networks, Energy Infrastructure Solutions, and Energy Retail. We are a part of the international E.ON SE group that operates in 17 countries, with head office in Essen, Germany. In Sweden we are 2 100 employees and our Nordic head office is situated in Malmö.

Core competencies

We believe that the buildings of the future will be powered by integrated, efficient, and local energy solutions, featuring energy sharing in smart grids and minimal emissions. With our solutions, we help to tailor an integrated energy solution for our customers based on their needs and the unique characteristics of the buildings. An example of that is our innovation ectogrid™.

E.ON ectogrid™ is a heating and cooling solution for city districts and industries that reduces the supplied energy by up to 75%. Inspired by the nature of ectothermic animals, the energy solution adapts to the conditions of the local environment and makes the most of the energy available in its surroundings. New energy is only added into the system when all available energy has been fully shared between buildings or harnessed from available energy sources in the vicinity.

Industry sectors

- Automotive
- Chemicals
- Datacenter & telecom
- Healthcare
- Food and beverage
- Manufacturing
- Pulp & paper
- Retail
- Warehouse & logistics
- Critical facilities

References

- ESS (European Spallation Source), Lund
- Medicon Village, Lund
- Mind, Milano

Company size

Large

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EXAMEC

Company profile

Examec specialises in design and production of high-precision components and advanced machine engineering in smaller series. The company builds machines and modules that meet the most stringent requirements in terms of reliability.

Company processes are fully integrated, from raw materials and design, through automation and final testing, to production and delivery of operational instruments and machines. Most of the work is done in-house.

Examec has a highly skilled team with a high level of ambition and service, and experienced project managers and designers control the process from start to delivery. Machinery and equipment are all state-of-the-art, and programs such as Solid Works, Creo Elements, Auto Cad, and Vector Works are used for design.

Core competencies

- Turnkey responsibility, with project management
- Lean Manufacturing principles
- Expertise in cutting, welding, machine tooling, surface treatment, metrology, electrics, automation, assembly, and final testing
- Design and building of complete instruments/ machines
- Machine tooling of larger components, assembly, and testing

Industry sectors

- Big Science
- Research
- Medical technology
- Packaging
- Manufacturing

References

- Elekta
- CERN
- ESS
- MAX IV
- Cox Analytical Systems
- Scanditronix Magnet
- TetraPak

Company size

Small

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EXIR BROADCASTING

Company profile

Exir Broadcasting serves the coaxial and RF industry in the broadcasting and science sectors, including Big Science. The company develops and manufactures innovative, dependable and long-lasting passive RF components with a comprehensive 10-year guarantee.

At Exir Broadcasting we specialise in customised solutions to meet the customer's specific needs and product requirements. We develop products that simplify installation, improve performance, and enhance overall system reliability. We have a proven track record in designing complex system solutions, which we have installed around the world, often integrated with existing equipment.

Core competencies

- Design and production of passive RF components
- On-site support
- Transmission lines and wave guides
- Customised solutions
- Research and development

Industry sectors

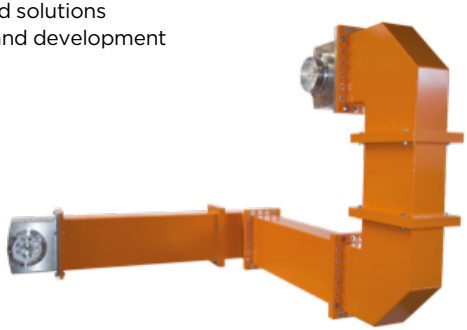
- Broadcasting
- Science

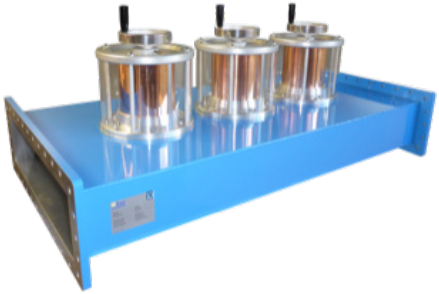
References

- Transmission lines to MaxLab, Solaris, ESS, and the FREIA Laboratory, including installation support and supervision (Big Science).
- Custom-designed passive components, such as adapters and directional couplers, for CERN, MaxLab, Solaris, ESS, and the FREIA Laboratory (Big Science).
- Delivery of other components to various Big Science facilities around the world.

Company size

- Small





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FAGERSTRÖM INDUSTRIKONSULT

Company profile

"Designs and solutions that no one else thought of." We are not industry-specific, so we can offer technical improvements in most types of processes and within all sectors. We are frequently commissioned to develop unique specialised machines. For other clients, we work on long-term development projects. An example is our cooperation with the Swedish nuclear industry and ESS, where we interact with their organisations and conduct joint projects.

For many years, Fagerströms has worked closely with various subcontractors whose quality standards are the same high level as our own. We are quality and environment certified according to ISO 9001:2015 and ISO 14001:2015.

Core competencies

- Technical solutions: Technical consulting activities such as machine design, pipe and steel structures with associated calculations, and project management.
- Remote handling systems: Deco Systems development, manufacturing and decontamination system, to clean components from radioactive particles.
- Production systems: Project management, development, design, delivery and commissioning of complete production lines and plants.
- Pharma systems: Feasibility studies

Industry sectors

- Nuclear research facilities
- Spallation source

References

ESS, European Spallation Source:

- Active cell, design, documentation and inspection plans
- Hot cell facility for handling of radioactive waste
- Proton Beam Window, component separating ultra-high vacuum in accelerator beam pipe from rough vacuum in monolith vessel
- Chopper group, design of different choppers for the instruments
- Design of remote handling tools for the installation of the choppers
- Casks and associated handling devices, design and documentation
- Equipment for transport of used radioactive and contaminated material, and 200 more projects

Company size

- Small

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FINELINE NORDIC

Company profile

Fineline has been supplying printed circuit boards (PCB) since 2006. We also offer support and access to technical expertise from world class suppliers. We help our customers with decisions on materials, PCB design, stack up and DFM. We can supply both rapid prototypes and high-volume orders. Our warehouse is in Stockholm, and our global freight agreements facilitate logistics. For all your PCB needs, we are your partner.

Core competencies

- Printed circuit boards, from prototypes to high volume
- Multilayer boards
- Heavy copper
- Impedance control
- HDI incl blind and microvias
- Aluminium base
- Large antennas
- RF-material
- Flex and Flexrigid

Industry sectors

- All industry
- Automotive
- Medical
- Telecom
- Military
- Commercial

References

- ABB
- Mydata
- Saab
- Volvo
- Leab
- Inission

Company size

Small

FINELINE
EXCELLENCE IN PCB

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Göran Karlström
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FINEPART SWEDEN

Company profile
Finepart Sweden AB provides its customers with waterjet cutting technology solutions, and cuts advanced geometries with high precision. We have experience of non-thermal cutting of virtually all materials, including superalloys, engineering ceramics (green or sintered state), composite materials, and sandwich materials.

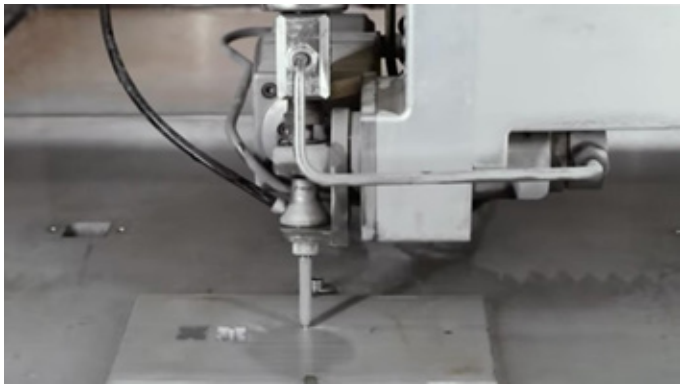
We can supply both cutting systems and advanced cutting services. Our product portfolio includes machine systems with 3-, 4- and 5-axis configurations, which are also capable of cutting high-inclination angles.

Core competencies
Precision cutting of advanced materials - ceramics, CFRP, high strength alloys.
Design of machine tool and automation solution.
Thirty years experience in waterjet technology based on research and development.

Industry sectors
- Aerospace
- Fine mechanics
- Toolmaking
- Food
- Medical devices
- Watch industry/luxury

References
- SKF Aerospace
- Google
- Hublot
- Dohner AG

Company size
Small



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FINVERKO

Company profile

Finverko designs and manufactures mechanical products according to client request or under its own initiative. Single-part manufacturing or small series of products in various materials, e.g. tooling steel, stainless steel, aluminium, copper, and plastic. Finverko performs experiments and manufactures models and prototypes, with complete confidentiality guaranteed. We also manufacture advanced spare parts to all commonly used machines. Finverko is certified for quality (ISO 9001) and environment (ISO 14001).

Core competencies

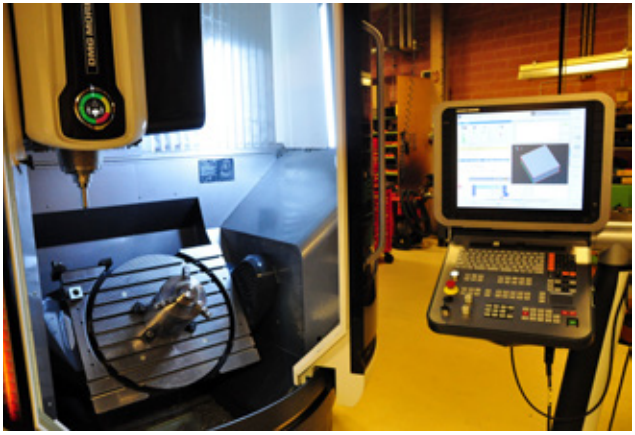
- Mechanical design
- 5-axis milling
- 3-axis milling
- Turning
- Sparking
- Tools
- Moulds
- Fixtures
- Prototype
- Wire machining
- EDM
- Advanced spare parts
- Workshop
- Quality certification ISO 9001
- Environment certification ISO 14001

References

- ESS: Products for vacuum equipment
- Höganäs: Powder steel prototypes and test equipment
- Trelleborg: Moulds for rubber parts
- Airec: Tools for heat changes
- Solvoltaics: Products for reactors for manufacturing of nano particles.
- Ripasso: Parts for Sterling motor
- Lindab: Form and punch tools

Company size

Small



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FREEMELT

Company profile
Freemelt is a manufacturer of metal 3D printers. Freemelt ONE is our 3D printer dedicated for materials development. eMELT-iD and eMELT iM are our industrial systems where we focus on tungsten, titanium and copper.

Core competencies
- Metal 3D printing
- Additive manufacturing
- Materials development
- Process development
- Tungsten, titanium, copper

Industry sectors
- 3D printing
- Additive manufacturing
- Materials development

References
Freemelt has developed material processes for tungsten with UKAEA, United Kingdom Atomic Energy Authority.

Company size
Small

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FUREHO

Company profile

Fureho AB, a deep-tech advanced materials start-up incubated at the European Space Agency's Business Incubation Centre in Sweden, specialises in the development and commercialisation of Noobed 3D pre-form reinforcements. These reinforcements are produced using Fureho's advanced Noobing Technology Platform, a proprietary technology that enables the creation of engineered near net shape non-crimp 3D pre-form reinforcements from various continuous fibres. This includes not only PAN carbon fibres but also uniquely brittle fibres such as pitch carbon (e.g., DIALEAD), silicon carbide (e.g., Hi-Nicalon Type S), and alumina (e.g., Nextel), which cannot be processed into 3D reinforcements using traditional methods.

The near net shape Noobed 3D Pre-Form reinforcements feature continuous fibres oriented in X-Y-Z directions. Noobed 3D Pre-Form reinforced composite materials are highly resistant to delamination, and exhibit high in-plane and out-of-plane performance compared to state-of-the-art 2D laminated composite materials. Mechanically, Noobed 3D Pre-Form reinforced composites demonstrate high specific stiffness and strength in-plane and out-of-plane, making them highly applicable for complex load scenarios. They also exhibit a much more ductile failure response, with a high fracture toughness, compared to traditional laminated composites, making them more resistant to impact.

In terms of thermal conductivity, the material enables tailored solutions for efficient heat dissipation, including in thickness direction. Strategically incorporating pitch carbon in one, two, or all X-Y-Z directions makes engineered thermal management possible. These attributes render Noobed 3D Pre-Forms highly valuable for a wide range of applications, including polymer matrix composites (PMCs), ceramic matrix composites (CMCs), and ultra-high temperature CMCs (UHTCMCs).

Core competencies

- Composite materials
- 3D reinforcements
- Near-net shape 3D pre-forms
- Delamination-resistant polymer matrix composites, ceramic matrix composites, ultra-high temperature ceramic matrix composites
- Thermal conductivity
- Thermal protection
- PAN carbon fibres, pitch carbon fibres, silicon carbide, aluminum oxide fibres

Industry sectors

- Aerospace
- Aeronautics
- Engineering
- Academia
- Medical

Company size

Small

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GKN AEROSPACE SWEDEN

Company profile

At its Trollhattan facility, GKN Aerospace develops and manufactures components for aircraft engines and space rockets. We also offer engine maintenance services.

We have specialised in around ten highly advanced engine components for civil and military aircraft. This specialisation has been successful, and our components are found today in over 90% of all new large passenger aircraft all over the world.

We have been involved in the European space collaboration since the 1970s, and have developed advanced welding technologies used in the nozzles of the Ariane 5 rocket.

We have a testing and laboratory facility, and an extensive network of suppliers and specialised GKN companies.

Core competencies

- Lightweight design and manufacturing to reduce engine weight
- Long experience of working with titanium alloys, superalloys, and composites
- Advanced computational capacity
- Mechanical computation and fluid dynamics, such as aerodynamics and noise
- Advanced manufacturing, for example welding of high-temperature materials
- Maintenance, assessment, and monitoring services

Industry sectors

- Aerospace
- Aero engines and aero structures
- Commercial
- Military
- Space

References

- Demonstrator aero engine
- Hardware within the European Programme
- Clean Sky, e.g. Open Rotor

Company size

Large

GKN AEROSPACE

GKN Aerospace Sweden AB
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GO VIRTUAL NORDIC

Company profile

GoVirtual designs and integrates supercomputers streamlined to accelerate your virtual development.

Go Virtual Nordic AB was founded in 2002 with the vision to support customers with simulation technology to reduce development costs or create a platform for the research community. Go Virtual Nordic AB offer customised supercomputer solutions based on technology from HPE, Huawei or Gigabyte. Our HPC solutions are chilled with air cooling or liquid cooling. The interconnect between compute nodes is based on Mellanox technology.

We offer different kinds of cluster management utilities, from open source products to licensed technology. We also offer NICE Desktop Cloud Visualization (DCV), which is a high-performance remote 3D technology giving technical computing users seamless remote access to 2D/3D interactive VDI desktops on-site and in the cloud. Application areas include CAE/CAD, oil & gas, life sciences, and research.

Core competencies

- HPC
- Supercomputers
- CPU
- GPU
- Network
- Infiniband
- Linux
- Cluster management
- Job scheduler
- Job portal
- File storage
- Object storage
- AI compute

Industry sectors

- Automotive
- Research institutes
- Universities
- Life science

References

- Volvo AB
- Volvo Cars
- NSC
- DTU Denmark
- CERN

Company size

Small

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www.govirtual.se

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GOALART

Company profile

GoalArt provides software systems that help operators and service technicians understand fault situations and handle these quickly and correctly. This increases both productivity and safety, and speeds up fault diagnosis and repair. We drastically reduce the number of alarms in a control system, through alarm cleanup, state-based alarm priority, and root cause analysis.

Core competencies

- Alarm management
- Artificial intelligence
- Availability
- Control systems
- Fault diagnosis
- Reliability
- Safety

Industry sectors

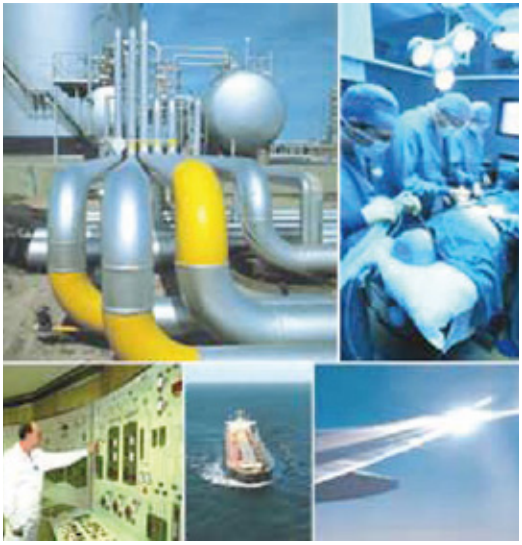
- Airport ground systems
- Aviation and aircraft
- Blood components
- Dialysis, ventilators, and heart-lung machines
- Cars, buses, trucks, and vehicles
- Power grids
- Internet communication
- Nuclear power plants
- Power plants
- Chemical and petrochemical
- Pulp and paper
- Food processing
- Metallurgy
- Mining
- Steel

References

- Swedish National Grid (Svenska kraftnät)
- Croatian National Grid (HOPS)
- ESS

Company size

Small



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www.goalart.com

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CEO
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GRAPHENSIC

Company profile

Graphensic, founded in 2011, was the first European supplier of epitaxial graphene on silicon carbide. The founding partner, Rositsa Yakimova, and her colleagues in the research group at Linköping University has continued to develop the manufacturing process and, together, have a total of more 50 years of experience specifically related to epitaxial graphene.

The unique properties of graphene are down to its crystal structure. Graphene on silicon carbide has potential as a viable candidate for electronic applications and sensors. Examples of products that Graphensic has been involved in developing include:

- State-of-the-art graphene-based hall effect sensors (magnetic field sensors) for use in extreme environments, such as very low (mK) or very high (>200 degrees C) temperatures https://research.chalmers.se/publication/517744/file/517744_Fulltext.pdf
- Highly efficient graphene-based UV detectors: https://research.chalmers.se/publication/530548/file/530548_Fulltext.pdf

Core competencies

- 2D material growth on SiC substrates
- Micro/nano-fabrication of electronic devices

Industry sectors

Semiconducting materials and devices

References

NPL and RISE are partners of Graphensic, using state-of-the-art graphene-based devices for metrology standards.

Company size

Small

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www.graphensic.com

Amer Ali
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GREPIT

Company profile

Grepit specialises in high-tech design of embedded systems. Founded in 2014 as a spin-off from LTU, and is rapidly expanding, currently 20 employees. We specialise in R & D projects, and develop systems for automotive applications, industrial measurement systems, IoT, and advanced high speed sensors. Experienced in FPGA development for signal processing applications (certified Xilinx member).

In-house lab with capabilities for prototype manufacturing of electronics, EMI/RF measurement/certification, high-speed analog measurements.

Core competencies

- Embedded systems
- FPGA
- High-speed sensors
- High-speed analog measurements
- IoT devices
- Rust
- Vacuum & cryogenic systems

Industry sectors

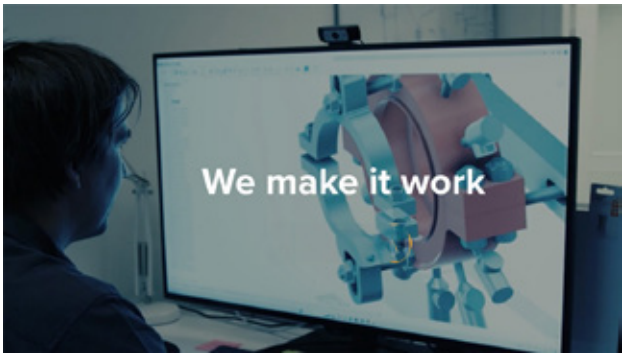
- Industrial measurement systems
- Mineral surveying
- Embedded systems
- Automotive

References

- Mikael Bergqvist, PhD, Orexplore AB
- Jonny Johansson, PhD, Luleå University of Technology
- Daniel Ask, Prof, FracSinus AB

Company size

Small



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Aurorum 1C, SE-977 75 Luleå, Sweden
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Johan Eriksson
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HABIA CABLE

Company profile

Habia specialises in customised connectivity solutions for the most challenging applications. With deep roots in Germany and Scandinavia and a global presence, the company delivers cable and interconnection solutions to a broad range of industry segments. Today, the company employs close to 1000 people in factories in Sweden, Germany, Poland, and China, has customers in 60 countries, and has an annual turnover of EUR 200 million.

Core competencies

- Custom design cables and harnesses
- Cables for harsh environments
- High-temperature cables
- 35 years' experience of safety-classified cables

Industry sectors

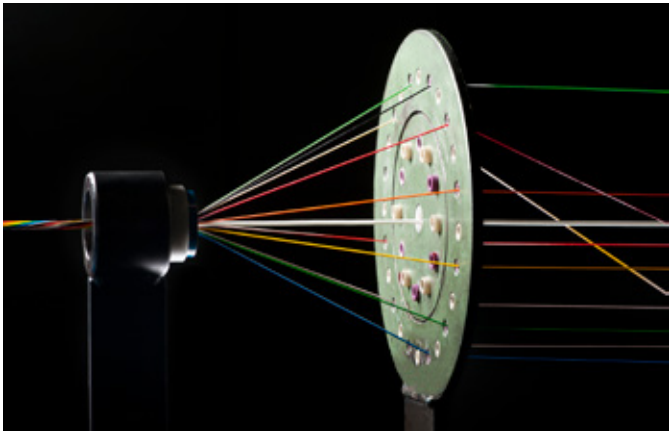
- Defence & aerospace
- Nuclear power
- Industrial
- Marine
- Telecom
- Automotive
- Medical
- Wind energy
- Robotics

References

- CERN
- RISE

Company size

Large



Habia Cable AB
Kanalvägen 16, SE-194 05 Upplands Väsby, Sweden
+46 86 30 74 40
www.habia.com

Christian Kiermaier
VP Sales & Marketing
Christian Kiermaier@habia.com

HAGEMA

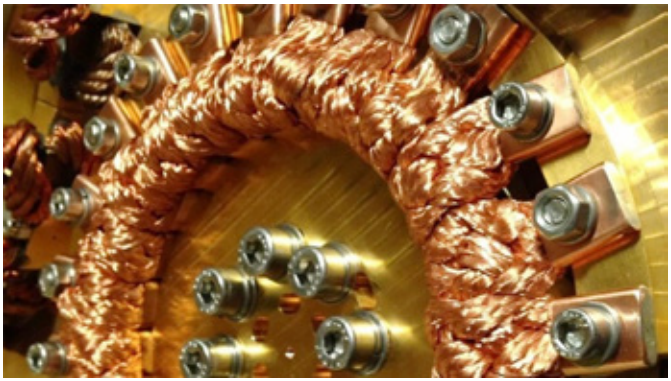
Company profile
Hagema is a contract manufacturing company with a focus on CNC machining for high-tech customers. We can manufacture prototypes and small series.

Core competencies
High-precision machining in 3- and 5-axis milling machines in various materials, such as aluminium, copper, brass, titanium, stainless steel, and plastics. For extreme precision we also have a 5-axis ultraprecision milling machine in a temperature-stable environment with tolerances down to +/- 0.5 Qm. Customers for this type of product are often found in the space industry and universities of technology.

Industry sectors
- High-tech
- Space
- Telecom
- Medical
- Research and development labs
- Universities of technology

References
- Parts for ALMA Telescope, Chile
- Parts for various space projects, in both Sweden and Europe.
- Parts for microwave instruments, radiometer systems and GHz products

Company size
Small



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HALMSTADS GUMMIFABRIK

Company profile

HGF is a manufacturer of advanced moulded products in rubber and TPE, often combining different components or sub-assemblies. We specialise in running more complex product development projects together with our customers to find the optimum solution. Examples of such products are three-component membranes for hydrogen electrolysers used for fuelling hydrogen fuel cell trucks, fireproof rubber sealings used in nuclear plants and marine vessels, and silicon cooling plates for intensive care situations in hospitals.

Core competencies

- Rubber
- Polymer development project
- Sealing
- Gasket
- Membrane
- Polymer material
- High-performance rubber

Industry sectors

- Rubber
- Polymer development project
- Sealing gaskets
- Membrane
- Polymer material
- High-performance rubber

References

- NEL
- Hydrogen
- Sandvik
- Volvo Cars
- Braincool
- Eleiko
- Roxtec

Company size

Medium

AB Halmstads Gummifabrik
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www.hgf.se

Christian Kiks
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HAMEK

Company profile
HAMEK AB is a well-established mechanical workshop specialising in the series production of aluminium and steel components with tight tolerances and high precision. The company is located in Stockholm and currently comprises 20 employees. We work in accordance with ISO/ TS 16949, with control plans and screening processes for many of our components. This ensures optimal production and enables us to maintain high quality in our production.

Core competencies
We distinguish ourselves by delivering consistently high-quality, precision pieces. We have developed an inspection process to control production and that helps us maintain stable quality. We often use computer-based measurement systems, both for measuring and for later analysis. This gives us a strong basis for further quality development of individual articles and their control plans. We apply Statistical Process Control as an active tool. We usually measure our PPK and CPK values against a 12 sigma requirement.

References
Hamek has been a supplier to CERN since 2007

Company size
Small

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HEMI HEATING

Company profile

Hemi Heating
The company possesses all the necessary knowledge and experience required to achieve the most efficient heating, from simple solutions to meeting our customers' most complex needs. Today, we are a leading actor in the market for UHV bakeout and flexible surface heating systems.

Core competencies

- Bakeout equipment
- Heater tents
- Heater jackets
- Heater tapes
- Temperature controllers
- Cleanroom
- Heating fans
- Semiconductor/FPD/Solar cell
- ALD process industry

Industry sectors

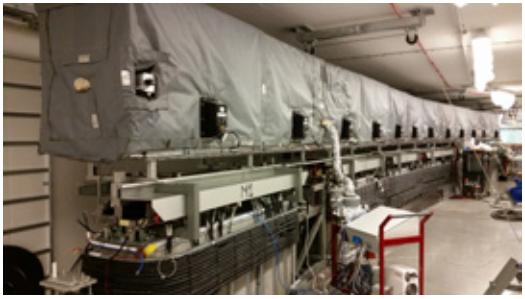
- Automotive
- Particle research (UHV) and laboratory equipment
- High voltage (straightening and relaxation of HV cables, heating of oil barrels)
- ATEX, EX-classed areas
- Gas distribution
- Process industry

References

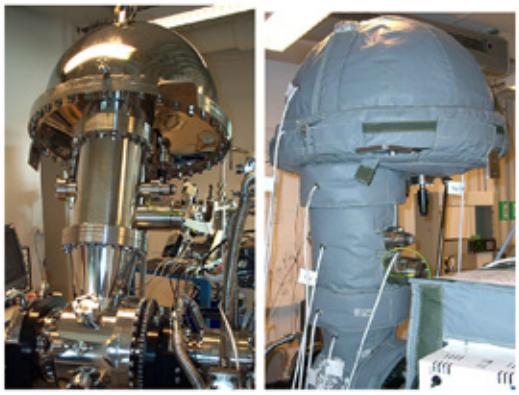
- CERN
- MAX IV
- ITER
- ESRF
- DESY
- ESS
- NXP
- ST Microelectronics
- AMD
- IMEC
- 3SUN
- Picosun
- HSR
- ABB
- NIST
- Oxford Instruments
- DCA Instruments
- Silex
- Excillum
- Microsoft Quantum Materials
- Astra Zeneca
- Oerlikon
- VOLVO.

Company size

Small



Bakeout tent, 23m long at MAX IV



Heater jackets, photoelectron analyser

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www.hemiheating.se

Bengt Ericsson
Sales representative
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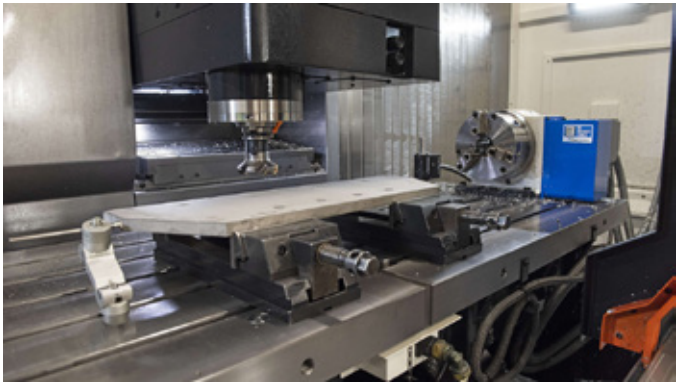
HERMAN ANDERSSONS PLÅT

Company profile
Contract manufacturer specialising in short-series production. Our manufacturing processes include laser cutting, waterjet cutting, turning/milling, welding, laser welding, edge pressing, rolling, blasting, powder coating, and laser engraving. We have extensive experience of working with stainless steel, aluminium, and titanium. We can help you find and develop the best manufacturing method for the product you want.

Industry sectors
- Telecom
- Broadcasting
- Process

Company size
Small

Core competencies
- Laser cutting
- Waterjet cutting
- Turning/milling, welding
- Laser welding
- Edge pressing
- Rolling
- Blasting
- Powder coating
- Laser engraving



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Conny Andersson Barnekow
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HERRSTRÖMS MEKANISKA

Company profile
Family-owned company in Trelleborg, started 1972. Premises comprises 4500 sq m, fully equipped. Company has 40 employees, and extensive experience of work at the MAX Laboratory since 1980.

Core competencies
Mechanical workshop with turning, milling, and grinding machines, service, assembly, cutting, and construction.

References
- ESS Lund
- SKB (Nuclear fuel handling)
- SAAB Kockums
- Trelleborg Industries
- Tetra Pak

Company size
Small

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HPG

Company profile
Casting and machining of aluminium parts with requirements for close tolerances and high-quality finish.

Core competencies
- Casting
- Machining
- Welding
- Mounting

Industry sectors
- Aerospace
- Energy
- Maritime
- Vehicles
- Communications
- Defence
- Medtech

References
- SKA
- Chalmers
- Onsala: The ”Space Funnel”

Company size
Small

HPG AB (Hackås Precisionsgjuteri)
Industrivägen 6, 830 23 Hackås, Sweden
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INCOIL INDUKTION

Company profile
Incoil Induktion AB, founded in 1988, is based in Västerås, Sweden. We manufacture and repair induction equipment, and have a large machine park with both manual and CNC-controlled machines. We can help clients with special projects. Since 2000, we have been developing our own induction machines, which currently have a range of up to 86kVA and <50KHz. In 2008-2009, we came into contact with our first dealer outside Sweden, in Austria, and we are now represented in several places around the world.

Core competencies
- Induction heater
- Welding
- CNC machining
- Precise heating
- Shrink fitting
- Hardening
- Bolt heating
- Industry sectors
- Power plants

Industry sectors
- Automotive
- Moulding & Die Casting
- Brazing

References
- CERN
- ABB
- Volvo
- Sandvik
- Svedbro smide
- Ockelbo

Company size
Small

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ISEC MONITORING SYSTEMS

Company profile

ISEC was founded in 2003 in Helsingborg, southern Sweden. Since then, ISEC has gained experience and a unique understanding of the nuclear industry. Our radiation-hardened monitoring systems were developed in collaboration with nuclear power plants in Sweden and France. We have supplied visual information for plant operators, nuclear research facilities, and nuclear back-end facilities.

Our concept involves collecting essential data, analysing it, and presenting it in a way that shows how operations could be improved. Examples are increased production time and safety at the facilities, support for the facilities's ALARA focus, and monitoring radiation levels during operation. Our sole focus is on developing and delivering ISEC's nuclear monitoring systems fully adapted to each facility's specific needs.

Core competencies

- Radiation-tolerant cameras able to operate in areas exposed to radiation
- Radiation-tolerant monitoring CCTV systems, including cameras, network equipment and operator work stations
- Video and audio data for surveillance of equipment and processes
- Industry sectors
- Monitoring systems for surveillance of components and processes in any radiation-exposed facility or area, including:

Industry sectors

- Nuclear power plants
- Nuclear research reactors
- Nuclear backend facilities handling waste, fuel storage, etc
- Space equipment

References

- ESS, Lund, Sweden
- Long-term nuclear waste storage facility for Posiva, Finland
- Equipment for space satellite
- Numerous nuclear power plants in Europe and North America, including Forsmark, Ringhals, Oskarshamn in Sweden and recent new builds in Europe at Hinkley Point C (UK) and Flamanville (France).
- Sellafield, UK's back-end nuclear decommissioning and waste management facility
- Further details on the above and additional references can be provided on request.

Company size

Small

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Adrien Rouchon
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JOBSAB

Company profile

Since 1981, JOBSAB has been delivering and installing pipes in gas, hydraulics and industrial applications. We have a workshop where we can perform prefabrications. Our main installations are for customers with special gas requirements, hydraulics, and traditional industry. We take responsibility for the entire installation cycle, from the purchased products to documentation. JOBSAB is certificated ISO 3834-2

Core competencies

- High-quality installations
- Clean installations
- Installations delivered on time
- Open, clear and direct communication
- Personnel with certificates
- Accurate documentation

Industry sectors

- Big Science
- Oil and gas
- Nuclear
- Automotive
- Process industry

References

- Big Science: ESS – Installation of cryogenics and process water
- Gas industry: Air Liquide – Industry – gas installation for new production and plant upgrade
- Process/Gas industry: SSAB – installation of pipes, pumps and valves
- Automotive: Volvo – Industry – hydraulic installation for new production and plant upgrade
- Nuclear: Ringhals – Industry – gas installation for new production and plant upgrade
- Oil industry: Rolls Royce – hydraulic installation, plant upgrade

Company size

Small

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KISAB

Company profile
KISAB constructs, builds and produces single units or small series of equipment and parts in steel and aluminium, such as heat exchangers, pressure vessels and vacuum chambers, to order. We also offer installation on site and turnkey solutions.

Core competencies
- Welding
- Turning
- Milling
- Assembly
- Project management
- ISO3834 and EN1090 certified

Industry sectors
- Pulp and paper
- Food industry
- Water and sewage
- Infrastructure
- Energy

References
- NKT – underwater joints in stainless steel for high-voltage cables
- Öresund Bridge Consortium – evacuation doors (emergency exits) in the tunnel
- MAX IV Laboratory – various equipment support
- Stora Enso – heat exchangers
- Purac – stainless steel pipes for waterworks and pumping stations

Company size
Small

KISAB

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KOMPRESSORTEKNIK

Company profile
Cryo-circuit cooler compressors and systems. Helium compressor repair & maintenance. CO2 unit repair and new build. Compressor overhaul. Engineering and prototype manufacturing.

Core competencies
- Helium compressors
- Machining
- Welding
- Design
- Refrigeration technology

Industry sectors
- Industry
- Marine
- Big Science

References
- CERN: overhaul programme of cryo-circuit cooler compressors and parts
- CERN: CO2 refrigeration unit components and accumulators

Company size
Small

Kompressorteknik Sweden AB
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Peter Wassberg
CEO/Owner
peter@kompressorteknik.se

LABRUM

Company profile

LabRum AB consists of three companies - LabRum, KEBO Inredningar and ADDvise.

We design, assemble, market, sell, and deliver laboratory furniture and safety-ventilated products, as well as certain equipment for the laboratory sector. We own the product rights to some of our range, and manufacture through selected sub-suppliers. Our products include fume cupboards, down-flow benches, ventilated storage cabinets, laboratory tables, sinks, and cabinets, and we provide complete furnishings for labs.

The equipment we supply comprises mainly different types of cold storage facilities, incubators, heating cabinets, climate chambers, test chambers, and ovens, as well as some products for IVF clinics. We also supply complete clean rooms (in collaboration with our sister company MRC) and different types of climate rooms.

Core competencies

We have extensive experience and a high level of expertise when it comes to designing interior layouts for laboratories in close collaboration with our customers. We are experienced in how safety-ventilated workplaces function and how we can adapt these to suit our customers' working conditions. We understand the characteristics of different materials, and can recommend what is suitable for each customer.

Industry sectors

Our customers are in the laboratory sector, where we equip labs of varying complexity for schools, colleges / universities, municipalities, hospitals, private companies, industry, and pharmaceutical research facilities - anywhere there is some type of laboratory activity.

References

- Astra Zeneca
- Volvo
- Tetra Pak
- Eurofins
- NSC Sweden
- Forsmark Nuclear Plant
- Cambrex Karlskoga
- CellcoLabs
- Olink Proteomics
- Fuchs Lubricants

Company size

Small

LabRum AB
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Joakim Svensson
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LARSSON & KJELLBERG

Company profile

The production flow is particularly suitable for larger and heavier designs. Larsson & Kjellberg is a complete partner and can supply complete solutions, from drawing to installation. Our customers are always in focus and can expect us to meet certified quality and environmental requirements. We can produce welded and machined parts and structures from 1 kg to 100 tonnes. We also have our own painting facility.

Core competencies

- Licensed welders (EN 1090-2, ISO 3834-2, ISO 9001)
- Wide production possibilities
- Production of heavy machinery
- Painting and blasting work

Industry sectors

- Ports
- Shipping
- Swedish Maritime Administration
- Mining
- Steelworks
- Foundry
- Defence materials

References

- The Port of Oxelösund
- Swedish Maritime Administration
- SSAB
- Metso
- Union Electric Åkers
- Scama
- AP & T
- Scania
- ABB

Company size

Small

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LASER NOVA

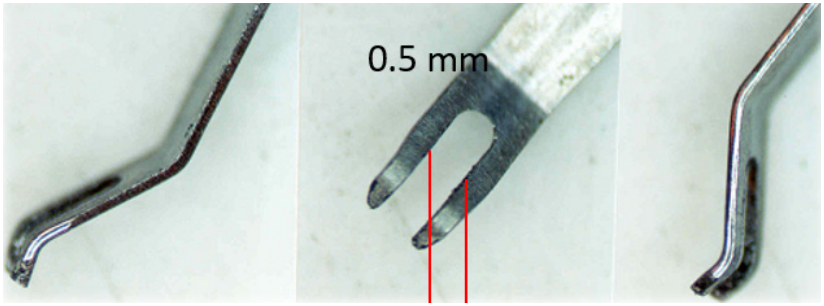
Company profile
Expertise in micromachining, using low to medium power lasers. Precise cutting in thicknesses from 15 um to 3 mm. Precise welding 20 um foils, up to 3 mm in thickness. Stainless, titanium, copper, covar, inconel. Basic material analysis, internal Zeiss SEM.

Core competencies
- Laser processes
- Microwelding
- Microcutting
- Surface structuring
- Pre-studies using NdYAG and fibre lasers
- Several systems available for production

Industry sectors
Laser processes, microwelding, microcutting, surface structuring, pre-studies using NdYAG and fibre lasers. Several systems available for production.

References
- CERN
- Alcatel Subsea Networks
- DOVER
- Integrum
- MAX IV

Company size
Small



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SE-831 48 Östersund, Sweden
www.lasernova.se

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LK PRECISION PARTS

Company profile

LK Precision Parts is a supplier of complex geometry parts with high requirements on tolerance and form. LK Precision has developed a company/industry unique quality assurance process that helps us achieve the extra ordinary, supporting our customers in the manufacturing industry in general and especially within world-leading pharmaceutical companies, aerospace industry and high-tech niche enterprises. We mill and turn all different materials and closely monitor the development of new materials and methods in our ambition to be a technology leader in our segment. The goal at LK Precision Parts is to be involved from concept stage to full production and achieve long term, mutually satisfying cooperation with our customers.

Core competencies

- Unique Quality System built to deliver to the highest requirements on tolerance and form
- Ability to support your engineers with manufacturing knowledge through every step of your development process
- High knowledge of machining different types of advanced materials
- Cutting edge 5-axis machining with pinpoint precision
- High service grade and on time deliveries are important to us

Industry sectors

- Medtech
- Aerospace
- General industry
- Optics

References

- Cytiva
- Saab
- Trimble
- Maquet
- Implantica
- Parker Hannifin
- Bradford Ecaps

Company size

Medium

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bogdan.renholm@lkprecision.com

LOAD SYSTEM

Company profile
We offer scalable and high performing IT infrastructure for Big Science. Server, storage & backup solutions for AI, machine learning, and big data.

Core competencies
- Artificial Intelligence (AI)
- Infrastructure
- Machine learning
- Deep learning
- Big data
- Enterprise file system, IBM, Dell, EMC

Industry sectors
- Life sciences & pharma
- Public media & entertainment
- Retail

References
- MAX IV Laboratory
- European Spallation Source
- Lund University Diabetes Centre, LUDC

Company size
Small

LOAD System AB
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LOW NOISE FACTORY

Company profile
Low Noise Factory (LNF) offers the lowest noise, highest performance low-noise amplifiers (LNAs) in the world. Our cryogenic models have become the de-facto standard in physics-related research throughout the world thanks to their unprecedented sensitivity. Our lowest noise model offers a noise figure of less than 0.03 dB. LNF provides its customers with state-of-the-art LNAs for radio astronomy, physics research, and telecom applications.

Core competencies
When Low Noise Factory was founded it was the first commercial company offering true state-of-the-art LNAs. Today, more than a decade later, LNF is still the only company in the world offering these products commercially. Our engineers have more than 35 years of experience in designing LNAs from California Institute of Technology, Jet Propulsion Laboratory and Chalmers University of Technology.

Industry sectors
LNF manufactures, tests and delivers about 1000 cryogenic Low Noise Amplifiers annually. The big markets are quantum computer-related research and radio astronomy.

References
Physics research
Quantum computers
Radio astronomy
Telecom

Company size
Small

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LOW2HIGH VACUUM

Company profile

As the name suggests, Low2High Vacuum operates with everything from low vacuum to ultra-high vacuum. Low2High vacuum specialises in vacuum technology, and our core business concerns the sale of products and the provision of services related to vacuum technology and its peripheral areas. Our employees have extensive experience and have supplied vacuum technology to the Swedish market for over 50 years.

In addition to supplying products such as vacuum pumps, gauges, and instrumentation, and aftermarket solutions, we can also test (leak detection) products with helium on our customer's behalf. We can do this either in our own premises or at the customer's location. We have long experience and knowledge of this type of testing, and we are flexible and can meet customer needs. We also offer courses to companies and students in vacuum technology/theory at both basic and advanced levels.

Core competencies

- Helium leak detection
- Provision of vacuum chambers
- Provision of vacuum equipment

Industry sectors

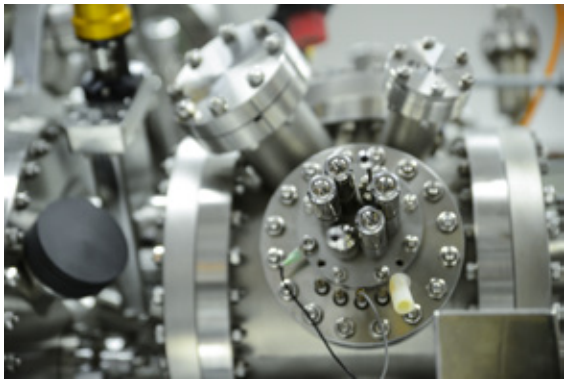
- Automotive
- Pharmacy
- R&D
- Food and packaging
- Science

References

Our list of references is long and contains, in addition to all major industrial manufacturing companies in Sweden, all universities and colleges of technology in Scandinavia. Some examples: Lund University (and MAX IV), European Spallation Source and DESY.

Company size

Small



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Mickael Sörensson
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LUE ENGINEERING

We build advanced special machines for the research and manufacturing industries. We have supplied, for example, a thermal vacuum chamber that tests systems before they are launched into space, battery fixtures for the truck and car industry, a robot-handled end of line test system for the antenna industry, and laser-weld systems for the manufacturing industry.

All our CAD data is handled in a PDM system to ensure design quality and future spare parts.

Core competencies

- Engineering
- Assembly
- Volume manufacturing
- Automation
- Robot handling

Industry sectors

- Light and heavy vehicle industry (battery fixtures)
- Industries that use automation
- Simulator industry (design and assembly)

References

- NorthVolt
- Scania
- Subsupplier to the car industry

Company size

Small

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LUMA METALL

Company profile

Luma Metall AB, based in Kalmar, Sweden, has 23 employees and a net turnover of SEK 41 million. Luma manufactures fine and ultra-fine wire (0.004-0.3 mm) of tungsten, tungsten-rhenium and molybdenum for various applications in industry all over the world. All our products are exported.

Plating technology has become important in recent years. Luma wires are often plated with gold, silver, or nickel or combinations of these materials. Luma is one of the leading companies worldwide in plating technology, and also offers plating services.

The main application areas are reflector wire for satellite antennas in space, detectors and scanners, musical strings, digital printing, medical applications such as guide wires, lighting, automotive, and research (e.g. particle accelerators).

Core competencies

- Fine-wire drawing
- Ultra-fine wire
- Plating
- Tungsten
- Molybdenum
- Tungsten-rhenium
- Gold plating

Industry sectors

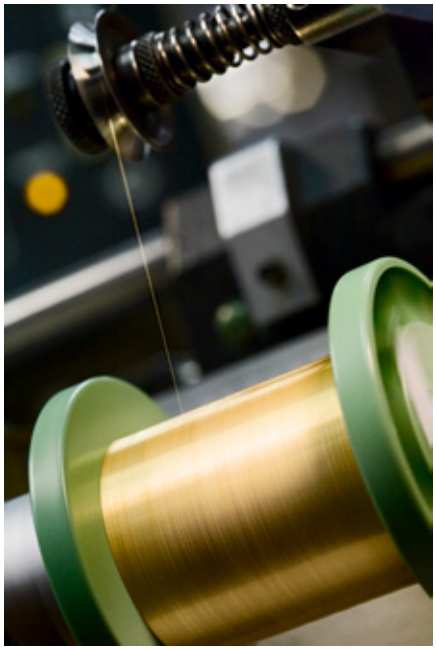
The main application areas are: reflector wire for satellite antennas in space, detectors and scanners, musical strings, digital printing, medical applications such as guide wires, lighting, automotive, and research (e.g. particle accelerators).

References

- CERN, Switzerland
- ESA (European Space Agency)
- Various US producers of wire mesh and satellite antennas, working mainly for the US government.
- Hewlett-Packard, Printing Division, Israel
- Thomastik, Austria

Company size

Small



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www.luma-metall.com

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LÄTTMETALLVERKET

Company profile

Lättmetallverket i Roslagen has extensive experience in aluminum casting and post-processing in a modern CNC machine park. We can offer customers help with both small and large casting series, as well as simple machining in "all" materials. We help our customers all the way from the drawing board to the final detail, so that everyone involved is satisfied with the result. Examples of our assignments are casting, finishing, heat treatment, anodizing, and painting. Our standard Alu alloys are EN-AB 42000, EN-AB 43100 and EN-AB 46200, but we can produce other alloys on customer request.

Core competencies

- Aluminum casting
- Post-processing
- Turning
- Prototypes
- Milling
- Multiple operation processing

Industry sectors

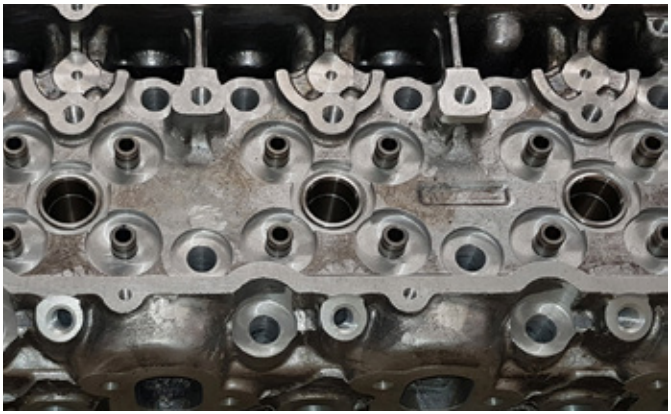
- Medical technology
- Transmission
- Marine

References

- ScandiNova Systems AB
- Hitachi Energy Sweden AB
- Valmet AB -Roslagsgjuteriet
- Berg Propulsion
- Dustcontrol AB
- CERN

Company size

Small



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MCT BRATTBERG

Company profile

MCT Brattberg is a world leader in the design, development and manufacture of cable and pipe transits. The company focus is on safety, protecting people and property through the design, development and manufacture of high-performance cable and pipe transits. These are used in high-risk maritime, offshore and land-based environments to minimise danger, by preventing the spread of fire, water, gas, chemicals, and other hazardous substances.

The original MCT Brattberg modular cable transit was patented in the early 1950s, and has since become the industry standard because of its high performance levels and safety features. The sealing method and quality system was developed to meet the stringent requirements of the offshore industry, and every product is manufactured according to a tried and tested quality control system that is fully documented.

Core competencies

- Production of fire- and pressure-proof cable and pipe transits.

Industry sectors

- Maritime
- Big Science
- Pharmaceutical
- Energy
- Construction

References

The company's cable and pipe transits are supplied worldwide, e.g:

- ESS
- ITER
- Nuclear power plants
- Oil & gas facilities
- Wind farms
- Power plants
- Hospitals

Company size

Medium

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MEDICAST

Company profile

Medicast aims to optimise customer satisfaction by offering broad and extensive expertise in all product areas involving casting and forging.

We provide Scandinavian and European engineering companies with technical services relating to design, production, metallurgy and materials, and process technology, and also offer customised logistics and technical advisory services.

We supply cast products in various materials, forged products, and cut and welded metal panels.

Core competencies

- Highly qualified engineers in a number of related fields, with practical experience in casting and forging, and working with cast iron, steel, copper and aluminium alloys
- Experienced and creative logistics personnel
- Cutting and welding
- Reprocessing
- Supplier auditing
- Redesign of components
- 3D model printing

Industry sectors

Machinery sectors in general, with a focus on pumps, mining, off-shore, aero and space, etc.

References

- Sandvik
- Atlas Copco
- IMO
- Sesab
- Quintus
- Atlet

Company size

Medium

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MICROBAS PRECISION

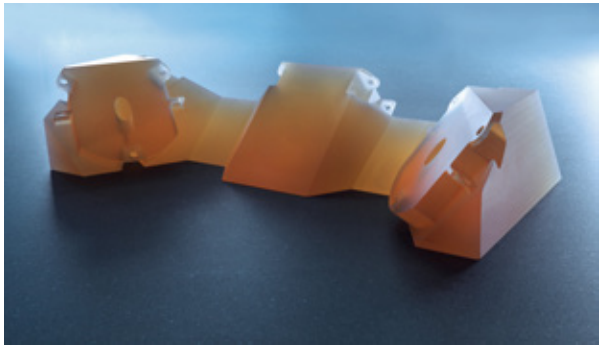
Company profile
Microbas provides precision components and customised solutions in granite, glass ceramics, glass, aluminum, steel or other bespoke materials for global high-tech industry and research institutions.

Core competencies
- Precision granite
- Optical glass grinding and machining
- Invar machining
- Precision lapping
- Zerodur machining
- Clearceram machining
- Fused silica machining
- Precision metals machining

Industry sectors
- Electronics manufacturing equipment
- Advanced machines
- Thin film technology
- Astronomy
- Space optics
- Research institutions and projects
- Metrology and calibration

References
- ESO: precision machining of glass ceramics
- MAX IV: precision granite
- ESS: mirror assembly
- Mycronic: machine bases, stages, beams and other ultra-precision components
- Carl Zeiss Jena: light weighting and precision grinding of mirrors
- Safran REOSC: light weighting and precision grinding of mirrors. Lens grinding
- University of Leiden (Astron/Nova): precision grinding of mirrors and lenses
- Eldim SA: lens grinding
- Coherent: precision granite

Company size
Small



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MICROPOL FIBEROPTIC

Company profile

At Micropol we combine unique design and production technology to offer more complex and compact solutions for passive fiber optics than any other supplier on the market. Our work is of extreme high precision and we are known for our short lead times, high quality and customised applications.

Our customers are found in a large variety of markets where advanced fiber optic solutions are crucial. Our products are used in a whole range of technologies, from complex fiber optic networks for telecom and data communication, to advanced sensor systems for industrial, medical, and military applications.

Core competencies

- Outstanding optical performance
- Large number of customer references with challenging demands
- Product development and manufacturing in Sweden
- 30 years experience of passive fiber optics

Industry sectors

- Telecom and broadcast
- Defence and security
- Medical technology
- Industry and offshore

References

- Swedish Armed Forces - Long range field tactical fiber optic communication systems and cables
- Netherland Armed Forces - Fiber optic connectors for mobile communication units
- Saab AB - Customised high specification fiber optic solutions to defence and security application
- BAE Systems - Optical converter components for use in combat vehicles
- Biotage - Micro polished glass rods for liquid detection in laboratory equipment
- ABB - Plastic fiber optics for use in industry robots
- SSAB - Fiber optic cable systems for emergency use in harsh environments

Company size

Small

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MIKROPONENT

Company profile

Mikroponent was founded in 1973, a well-known supplier, principally to the Scandinavian telecom, electronic and fine mechanical industries.

Together we have a high level of expertise within product adaptation and manufacture of outline-cut thin metal products made from materials ranging from hardened steel to soft copper alloys with or without flexible supporting materials.

Core competencies

We manufacture high precision customer designed parts of thin metal foils or laminated flex films. The technique is well developed after more than 45 years of experience.

We are partners to and deliver to electronics and fine mechanical industries.

Our products are found in mobile phones and systems, cameras, flexible circuits, Blue Tooth, antenna elements for wireless communication, EMC-shieldings on PCB, instrumentation, sensors and camera video technology, medical equipment and aviation – space and defence industry.

Industry sectors

- Electronics
- Design
- Telecom
- Precision-engineering
- Optics
- Food
- Medicine
- Space
- Aviation
- Defence
- Dental
- Home care
- Automotive
- Maritime
- Nuclear

References

- SAAB AB, high precision metal parts
- Kongsberg AS, high precision metal parts
- CERN, high precision metal parts
- GE Healthcare, high precision metal parts
- RUAG Space, high precision metal parts
- Hasselblad, high precision metal parts
- 3M, high precision metal parts
- Ericsson, high precision metal parts

Company size

Small

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MIKROVERKTYG

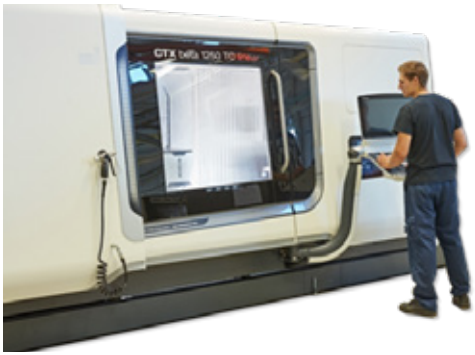
Company profile
Mikroverktyg is a leading supplier of tools, high-quality transmission components, and advanced mechanical components incorporating "micro-quality".

Core competencies
- Gears & transmissions
- High-precision mechanics tools
- Power skiving

Industry sectors
Technology company with manufacturing/ development services for industrial products and automation equipment.

References
We work on assignments from customers in the aerospace, defence, energy, industry, automotive and medical engineering sectors, all of which impose stringent demands and have high expectations.

Company size
Medium



MIKROVERKTYG

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MTC POWDER SOLUTIONS

Company profile
MTC is a world-leading supplier of near-net shape (NNS) products manufactured through hot isostatic pressing (HIP). The ability to manufacture HIP products with irregular shapes and complex geometry offers several advantages over casting, forging and fabricated materials in terms of design flexibility and material properties/integrity.

Core competencies
- Powder metallurgy (PM)
- Near-net shape hot isostatic pressed (NNS HIP) materials
- Materials knowledge in steels (austenitic stainless steels, duplex stainless steels, martensitic steels, metal matrix composites (MMC), nickel alloys)
- Additive manufacturing based on NNS HIP
- Research and development of new alloys and materials

Industry sectors
- Nuclear
- Oil & gas (O&G)
- Chemical
- Big Science

References
Provided on case by case basis.

Company size
Small

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Global Product Manager
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MULTIKOMPONENT NORDEN

Company profile

Multicomponent Norden AB is your supplier of electronic components. We represent leading manufacturers in five different product areas: Opto/Display, Power Supply, High Voltage, Electromechanics and Sensors. We are located in Mölndal, part of the city of Gothenburg. With our many years of experience, we help and guide you to the optimal choice of components for your application. Together with our suppliers we can customise solutions to meet your requirements, and can also offer logistics solutions.

Core competencies

- Displays & Opto
- TFT
- Oled
- Camera modules
- Touch panels
- Embedded
- Power supply
- Electromechanics
- Sensors
- Programmable DC power up to 10 000 VDC and +200 kW
- Bidirectional power supplies
- DC & AC loads
- DC/DC converters
- High-voltage components
- High-voltage AC/DC and DC/DC
- High-voltage diode-embedded sensors
- High-voltage capacitors
- High-voltage multipliers
- High-voltage reed relay
- Hall sensors
- Magnets
- Reed relay

Industry sectors

- Industry
- Automotive
- Military
- Space
- Medical
- Science

References

- IRF
- Heart
- Aerospace
- RISE

Company size

Small

multicomponent
EXCELLENCE IN COMPONENTS

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MVUS

Company profile

We are a complete manufacturer that can offer machining, welding and assembly services for large and heavy components used in a broad range of industries. We have a long heritage, more than 150 years, in the Swedish engineering industry and a highly skilled workforce, which enable us to offer high-quality complex products developed in collaboration with our customers.

Core competencies

- Extensive expertise
- High-quality products
- Large, heavy and specialised machines
- Worldwide deliveries
- Sector-leading customers

Industry sectors

- Energy
- Mining
- Civil
- Forestry
- Nuclear

References

- Machining and welding parts for gas turbines (serial production)
- Manufacture and assembly of lock gates for hydropower plants
- Welding of larger assemblies for power transformers
- Manufacture of heat exchangers and pressure vessels

Company size

Medium

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NORDIC AIRCRAFT

Company profile

Your partner in advanced composites. With an innovative mindset, extensive experience, and a long history of working with challenging projects, Nordic Aircraft can rightly be called experts in the field of advanced composites.

We take full responsibility, all the way from concept, design and analysis to a finished product, including tooling, assembly and testing.

We can handle everything from prototyping to series production. Nordic Aircraft is known to be a high-end partner, characterised by high-quality products and timely delivery with all necessary documentation.

Core competencies

- Composite
- High-end
- Advanced autoclave
- Prepreg
- Aerospace
- Industry sectors
- Aerospace
- Aircraft
- Space

Industry sectors

- Aerospace
- Aircraft
- Space
- Industry

References

- Saab
- Beyond Gravity
- OHB
- GKN
- Aerospace Swedish Space Corporation
- Swedish Defence Research Agency

Company size

Small

146

NORDIC AIRCRAFT

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Petter Bladh
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NOTE

Company profile

NOTE is a global leader within the EMS industry. We manufacture electronics for various customers with high demands. NOTE has factories in Sweden, Estonia, Finland, UK, and China. Our customers come mainly from high-end industrial and medical segments, research, and high-end consumer segments. NOTE is a publicly traded company listed on the First North list at Nasdaq Stockholm exchange.

Core competencies

NOTE's core expertise is development of viable manufacturing methods for PCBAs or full products with various partners. We have factories with different skills and specialisations that can solve almost any problem related to product manufacturing/development.

Industry sectors

- Medical
- High-level industry
- High-level consumer
- Defence

References

- SPECT: Swedish research programme for development of a portable GammaRay dosimeter. NOTE manufactures prototypes for the project with various counterparts. The project is supported by Vinnova Sweden.
- Big Science. COGNA: Swedish research programme for development of intelligent PCBs with built-in sensors. NOTE manufactures prototypes for the project with various counterparts. The project is supported by Vinnova Sweden and Swerea Sweden.
- Cross-discipline project. CERN: NOTE has manufactured PCBAs for CERN through Uppsala University.

Company size

Large

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YOUR MANUFACTURING PARTNER

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NSS WATER

Company profile

NSS Water offers the world's first nanopure water, a water free of nano contamination above 10nm. Our product WNO (Wet nano one) can be used in R&D, life science and semiconductor industry. Nanopure water is to be used in every application when extreme-purity water is needed.

Core competencies

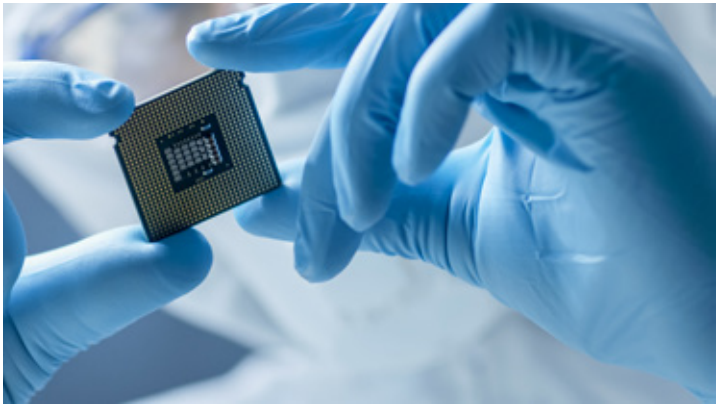
NSS Water has semiconductor background and experience from yield enhancement. We strive to improve water quality in the most demanding applications.

Industry sectors

- Semiconductor industry
- Life science bio-chemistry

References

- Kent Rundgren, Chalmers Industriteknik, kent.rundgren@chalmersindustriteknik.se



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NUVIA NORDIC

Company profile

Nuvia offers highly specialised services and products for demanding environments, with a focus on nuclear and science applications. Our services cover all parts of a facility's lifecycle, from new-build to maintenance and decommissioning.

We deliver highly specialised capabilities in engineering, technical maintenance and installation, as well as radiation protection services. We also develop our own radiation protection products, which are sold worldwide to nuclear facilities.

Core competencies

- Radiation protection
- Engineering
- Major projects
- New-builds
- Decommissioning
- Waste management
- Radiation monitoring equipment
- Fire protection

References

ESS

Company size

Medium

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NVENT NORDIC

Company profile

At nVent, formerly Pentair, we believe that safer systems ensure a more secure world. We connect and protect our customers with inventive electrical and electronic solutions. nVent is a $2.1 billion global company that provides enclosures, electric heat tracing solutions, complete heat management systems, and electrical and fastening solutions. nVent employs 9,000 people worldwide.

Core competencies

The nVent SCHROFF brand contains a broad product portfolio from printed circuit board (PCB) accessories, such as card retainers and extractors, front panels and handles to subracks, cases, backplanes, power supplies, cabinets and pre-assembled chassis for embedded computing systems. As a pioneer and trendsetter, the SCHROFF name is synonymous with expertise in the areas of mechanics, electronics, climate control and system management, and has been for over 50 years.

Industry sectors

SCHROFF provides a comprehensive range of standard, modified, and custom-engineered solutions for the energy, industrial, infrastructure, commercial, communications, medical, security, and defence markets. For the test and measurement market, SCHROFF systems are ideal in a 19" control cabinet or as a scalable and flexible system that can be adapted to specific aesthetic concepts.

References

nVent provides support to several research facilities, such as the European XFEL X-ray laser from the DESY research center (Deutsches Elektronen-Synchrotron) and ESS (European Spallation Source). The area of application for the SCHROFF MTCA system is the "beam control". In addition, there are systems located in the experiment chamber where researchers carry out their measurements.

Company size

Large

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NYFORS

Company profile

Nyfors is your innovative supplier of advanced glass processing and preparation equipment for specialty optical fiber splicing operations. We supply reliable and precise solutions tailored to the individual challenges of our customers. Our highly automated systems lead to consistent, high yield production for both high and low volume.

Our portfolio currently includes: CO2 laser splicing and glass shaping equipment, automatic systems for fiber preparation, fiber-end and window stripping, high precision cleavers, and optical fiber recoaters, as well as proof testers and cleave check interferometers.

NYFORS also offers customised workcell automation solutions, including sub-micron alignment and optical component manufacturing systems.

Core competencies

- Speciality fiber processing
- CO2 glass processing
- CO2 laser fiber splicing and glass shaping
- Laser processing
- Interferometry
- Fiber or ferrule end face inspection
- Optical fiber
- Optical fiber splicing
- Fiber cleaving
- Fiber stripping
- Fiber recoating
- Prooftesting
- Fiber optics
- Inspection
- Tapering
- Fiber bundles
- Customised workcell automation solutions
- Sub-micron alignment systems
- Optical component manufacturing
- Consulting, service, and products relating to the above.

Industry sectors

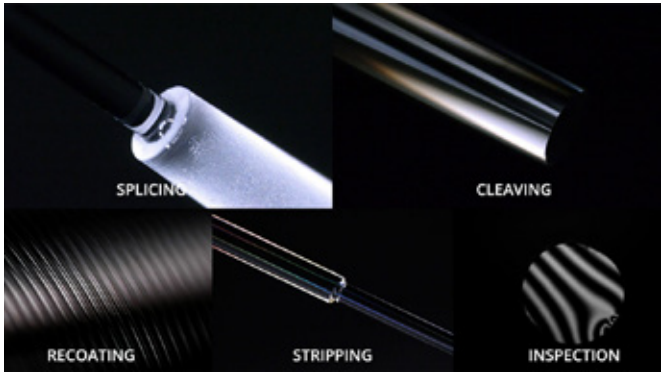
- Photonics
- High power lasers and fibers
- Telecom and fiber networks
- Medical and microscopy
- Energy and harsh environments
- Aerospace and defence
- Academia and innovation

References

- ELT telescope. Please contact Erik Böttcher if further info is needed.

Company size

Small



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OPTRONIC

Company profile

Optronics' offering includes development and manufacturing services with a focus on optical measurement technology. Our comprehensive services extend from early design phases, through industrialisation, all the way to series production.

We improve our customers products throughout their life cycle through cost savings, process optimisations, quality and design improvements. We believe that by creating added value for our customers throughout the product life cycle, we will earn the trust to be involved in the next product generation.

We are proud to have established many long-term partnerships, and we are known for our constant technical curiosity, stable supplier network, and high process quality. We have been helping our customers improve their competitiveness and achieve success in their markets for more than 40 years.

Industry sectors

- Industrial
- Life science & Medtech
- Food and agriculture
- Security
- Logistics
- Defence

References

Optical solutions and sensor-based systems such as:

- Contamination and particle measuring
- Raman spectroscopy
- Digital holographic microscopy
- NIR spectrometers
- TOF cameras

Company size

Medium

Core competencies

- Optical expertise (triangulation, stereo cameras, projected patterns, interferometry, digital holography, photometry and radiometry, photometric stereo, spectroscopy, plenoptic cameras, etc.)
- Industrialisation and development of products for advanced metrology
- Prototype manufacturing
- Serial production

OPTRONIC
a better product life

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Mikael Westergren
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POWER HEAT PIPING SOUTH

Company profile

Power Heat delivers advanced industrial piping and mechanical installations as major installation contracts and as service and maintenance on a daily basis. We work with all kind of process systems in all kind of materials, everything from stainless small-bore piping and large stainless water systems to high-grade steel piping for high pressure steam.

Power Heat is specialised in highly regulated industrial sectors with high documentation standards. We are certified according to ISO 9001:2015 for quality, ISO 1090-1:2009 regarding steel construction, and ISO 3834-2:2005 regarding welding. We also comply with ISO 14001:2015 for environment and ISO 45001:2018 for work environment.

Power Heat also has a well-equipped workshop for manufacturing of almost all kind of specialised process equipment, including pressure vessels.

Core competencies

- Industrial piping installations
- Mechanical installations
- Manufacturing
- Welding
- PED

Industry sectors

- Process
- Pharmaceutical
- Food & dairy
- Chemical
- Research
- Heat & power
- Distributed heating & cooling

POWER HEAT
WELDING • CONSTRUCTION • MAINTENANCE

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www.powerheat.se

Magnus Hammarstedt
General Manager
magnus.hammarstedt@powerheat.se

References

- ESS (European Spallation Source): framework agreement for mechanical and piping installations, including a number of installation projects and advanced manufacturing
- MAX IV Laboratory: framework agreement for mechanical manufacturing
- ON: framework agreement for mechanical and piping installations and maintenance including a large number of installation projects
- Nordic Sugar: framework agreement for mechanical and piping installations and maintenance including a large number of installation projects
- Norcarb Engineered Carbons AB: framework agreement for mechanical and piping installations and maintenance including a number of installation projects
- Tetra Pak: various piping installation projects
- Skånemejerier: mechanical and piping installations and maintenance work on Malmö dairy site
- Oatly: mechanical and piping installations and maintenance work on Landskrona dairy site
- Kraftringen Lund: a large number of different piping installation projects
- Magle Chemoswed: mechanical and piping installations and maintenance work on the local Malmö site
- Gambro / Baxter + MarCor: serial delivery of prefabricated piping systems for dialysis water purification units
- Stora Enso AB: mechanical and piping installations and maintenance work on Swedish paper mill sites

Company size

Small

PRODUKTIONSTEKNIK I LUND

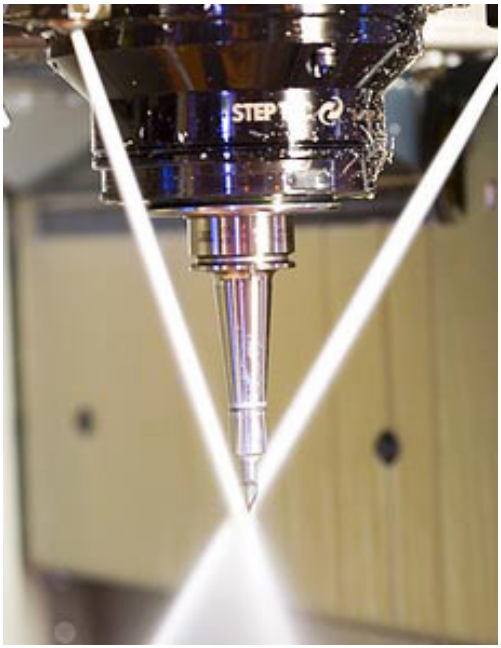
Company profile
Produktionsteknik i Lund has two different facilities with a total of ten 5-axis high-precision Swiss milling machines. We have two well-equipped measuring labs. Manufacturing is our main business, but we also perform the whole chain from designing, manufacturing, assembling, and testing.

Core competencies
High-precision manufacturing in different materials, e.g. stainless steel, copper, aluminium, ceramics.

Industry sectors
- Particle accelerators
- Vehicle
- Medical
- Packaging and processing

References
CERN

Company size
Small



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QAMCOM RESEARCH AND TECHNOLOGY

Company profile

We are a knowledge-based technology company within hardware, software and system development. We offer value-driven technology solutions, products and services in the fields of advanced signal processing, artificial intelligence, wireless communications systems, industrial IoT, and system safety. Qamcom's mission is quite simply to turn technology into value for society, industry and people. Based on insights and the needs of end users, Qamcom bridges the gap between technology and application to enable high ambitions together with our partners.

Core competencies

- Advanced signal processing and algorithms
- Embedded systems
- ASIC and FPGA design
- Electronic design and PCB layout
- Microwave and radar systems
- Wireless communication systems
- Frequency and time synchronisation
- Object detection, classification and tracking
- Functional and systems safety
- AI and machine learning
- Computer vision and image processing
- Optics and optical filtering

Industry sectors

- Telecom/ICT
- Automotive
- Space
- Defence
- Medical devices

References

- Telecom systems to world leading companies
- Developed radar systems for obstacle detection
- Developed sensor systems and full camera for leading high-end camera company
- Conducted research in advanced 5G and 6G algorithm development and standardisation
- Developed signal processing algorithms for world-leading car manufacturer

Company size

Medium

qamcom

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QMT SCIENCE

Company profile

Qmt Science is a Swedish and Danish supplier of DK-Lok, (www.dklok.com) instrumentation fittings and valves. With a large stock-in-trade of DK-Lok components in our new warehouse and workshop in Kalmar, we can provide quick deliveries within Sweden and Denmark.

DK-Lok provides high-purity fittings designed to minimise particle generation and entrapment and high-strength fittings designed to hold high pressure. DK-Lok products deliver dependable, leak-tight performance.

DK-Lok offers instrumentation and process ball valves, check, diaphragm-sealed, metering, shutoff and regulating needle, process instrumentation, quarter-turn plugs and relief valves, and manifolds.

Whether you need fittings for corrosive environments or extreme temperatures, fittings to maintain vacuum or withstand high pressure, DK-Lok's wide product portfolio will offer a solution.

Available with:

- A wide variety of end connections.
- Intermix/compatibility test.
- Broad working pressure and temperature ranges.
- Standard and special cleaning options for high-purity and ultra-high purity (UHP) applications.

Core competencies

Qmt Science has more than 30 years' experience of collaborating with customers. Our in-house R&D organisation, with a design & assembly service, enables us to create gas panels for monitoring & safety control, such as gas panels for controlling & monitoring helium cooling. Our field of expertise includes TIG and orbital welding in stainless steel with exceptional requirements for cleanliness, surface plane and density levels.

Industry sectors

- Manufacturing
- Process and semiconductor
- Oil & gas
- High-tech universities / labs
- Renewable energy

References

- Linde
- Gambro/Baxter
- Getinge
- Metso
- Alstom
- Valutec
- ABB
- Gas Products
- Astra Zeneca
- Hydroscand
- Purac Puregas
- Eon Biofor
- Breatheus Regional
- MAX Lab
- ESS Lab
- Sweep International
- Höganäs
- Arcam
- Alfa Laval
- Powercell.

Company size

Small

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QTECH GROUP

Company profile

Qtech Group, the spider in the web, simplifies our customers' purchases of mechanical components through our outstanding project model with dedicated technical personnel. Around 67% of our suppliers are local, within a 100-km radius, and 100% of production is sourced in Sweden.

We supply components in both small quantities, such as pre-series orders (prototypes), and higher volumes, although small and medium-sized series are our core business. We offer the customer services within the following areas for mechanical products: design, construction, project management, prototyping, production, warehousing, assembled products, high quality check and documentation, pick and pack.

We are ISO certified according to 9001 as well as 14001, and quality has always been our focus. Since 2023 we have been a partner of EcoVadis, where we gained a gold medal and also implemented ISO26000 for sustainability.

Core competencies

- Complex projects with complex mechanical components
- Competitive solutions
- Broad network with Swedish sub-suppliers for all kinds of operations
- Prototyping workshop in-house for quick production and fixtures
- Quality, measurement, and documentation expertise

Industry sectors

- Robotic
- Defence
- Food
- Train
- Medical
- Spare parts
- General industry

References

- ABB
- Saab
- Tetra Pak
- Göteborgs Spårvägar

Company size

Small

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RADIOCONTROL SMD

Company profile

We develop and manufacture wireless control devices for both small and large series. Our unique product, RADIOLOGIC, features event-driven and integrated logic functionality, remotely controlling mobile or fixed machines in construction, general industry, research, material handling, and infrastructure. Our systems are user-friendly and cost-effective. We assist customers in selecting the best remote controls during the feasibility study, leveraging our experience. Our durable and backward-compatible systems reduce the need for replacements and downtime. We offer an innovative cable replacement solution using radio, lowering installation and maintenance costs.

Customer support is central to us, focusing on repairs and maintenance to keep operations running smoothly. We manage the technology so our customers can improve productivity.

Core competencies

- ML
- Wireless
- Cableless systems
- Radio remote control
- PCB
- Developing boards
- Wireless automation

Industry sectors

- General industry
- Automation
- OEM
- Logistics
- Materials handling
- Offshore
- Mining
- Forestry
- Agriculture

References

- LKAB - an international group that sells sustainable iron ore, minerals and special products. LKAB is leading the green transformation of the iron and steel industry by developing carbon-free processes and products like sponge iron.
- Swarco Norway - offers solutions that improve the environment, traffic flow and traffic safety; designs, installs, handles, and maintains equipment and solutions for traffic and parking.
- AB P.J. JONSSON & Söner (today part of Metso Outotec Group), manufacturers of mobile crushers used to reduce the size of rocks, stones and ore.
- ONEARC - special equipment for ship and cargo handling in ports and onboard vessels.
- PAAB - Process automation and process instrumentation within industrial and environmental applications.
- MacGregor - RoRo

Company size

Small

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RECAB

Company profile
Recab is a Scandinavian specialist company and part of Addtech, a 7.5 billion SEK technology group, listed on the Swedish stock exchange. Recab's expertise and experience provides embedded computer and sensor hardware solutions for demanding applications.

Core competencies
Recab focuses on "Embedded Computers Systems", "Industrial Communication" and "Vision & Sensors" for demanding applications, and supplies hardware products and customised solutions. Recab provides customers with tailor-made solutions through in-house development combined with standard embedded products from major companies.

Industry sectors
Recab has customers in many different Industry sectors where requirements are demanding. Some customers require rugged, robust or redundant solutions, others require an extended product life cycle or ultra-high performance compatible with existing technology. Recab enables high-quality solutions for demanding applications.

References
To our customers in the science sector, Recab provides high-end standard embedded computers and communication products and custom off-the-shelf solutions. We enhance existing platforms and building blocks to perfectly match the customers' applications and requirements. This reduces risk and time-to-market, and saves our customers development and consultancy costs.

Company size
Medium

Recab
For demanding applications

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RELITOR ENGINEERING

Company profile

Relitor Engineering is your partner for plant engineering, with specialist areas that include piping design, tank and pressure vessels, machine design, and technical calculations.

We are located in Luleå, a major industrial centre in northern Sweden, one of the world's most interesting regions for green energy development.

With 30 years' experience of serving influential clients in various industrial sectors, we are a natural partner when you are looking for engineering excellence.

References

- SSAB
- LKAB
- Swerim

Company size

Small

Core competencies

- Tank and pressure vessel
- Piping

Industry sectors

- Steel and metal
- Engineering
- Energy and recycling
- Mining

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Per Nilsson
CEO
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RESINIT

Company profile

Resinit AB offers precision-machined components and assembled products made of polymeric materials and thermosettings. The company specialises in high-tech plastic materials that are difficult to process, and meets stringent requirements regarding quality and delivery reliability. Together with post-processing options, including washing, glueing, testing and assembly, Resinit offers complete solutions to meet customer needs.

The products are used in different environments, including cleanroom facilities (ISO 8 level).

Resinit closely monitors the latest developments in plastic materials and manufacturing methods, and continuously invests in upgrading production processes and employee skills.

Resinit's goal is long-term collaboration with customers, by developing and delivering solutions that are sustainable, competitive, and create added value.

Core competencies

- Long experience of machining plastics
- Extensive expertise regarding plastic materials
- Meet stringent requirements regarding sustainability, quality, and delivery on time
- Experience of cleanroom production (ISO 8 level)
- Certified according to ISO 9001, ISO 14001 and ISO 13485
- Production management according to RESINIT LEAN and GMP principles ensures punctual and high-quality deliveries

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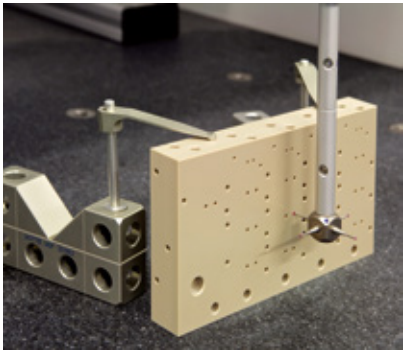
Industry sectors

- Medtech
- Foodtech
- Security & protection
- Infrastructure
- Aerospace
- Industry & OEM

Company size

Medium



RFR SOLUTIONS

Company profile

We help you develop and manufacture solutions in stainless steel. We offer full support throughout the process, from design and development of prototypes to production, assembly, quality controls, and installation. Our engineers are often a part of our customers' project teams from an early stage, and assist with materials expertise, design and product optimisation. RFR Solutions is one of few suppliers who offer a complete production facility free from carbon steel.

Core competencies

We have a strong focus on technical expertise, quality and continuous improvement. Our Big Science projects are a key part of advancing our competencies. Here we work at the absolute forefront of technology and contribute to the development of new designs, materials (e.g. 316 LN) and production methods. We cooperate with scientists from several universities and help them develop equipment for some of the world's leading research facilities, such as CERN, MAX IV and ESS. The knowledge we gain from our Big Science projects benefits all our customers, regardless of industry, and enables us to ensure high quality and technical standards.

Industry sectors

Our expertise is well known and proven in many different applications in the fields of med tech, energy, food, Big Science, and green tech.

References

- Due to confidentiality agreements with all our customers and with our key suppliers we are not allowed to publish any information concerning our customers and reference objects.
- When it comes to Big Science we are currently working actively with CERN, ESS and MAX IV.
- For several years, we have also enjoyed close cooperation with universities in Luleå, Lund and Uppsala in various areas of expertise.

Company size

Small

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RISE, RESEARCH INSTITUTES OF SWEDEN

Company profile

RISE Research Institutes of Sweden, with more than 2700 employees, develops and transfers technology for improving competitiveness and quality in society and industry. RISE works actively for the advancement of safety, conservation of resources, and production of a sustainable environment, using Sweden's broadest and most sophisticated range of laboratory resources.

RISE performs applied research and innovation in close liaison with industry, universities, and international partners. RISE also hosts the Swedish National Metrology Institute (NMI) with responsibility for national primary measurement references.

We perform research within metrological areas, developing new measurement standards and measurement techniques combining emerging scientific or industrial needs with RISE's highest metrology expertise. Activities include development of measuring methods and instruments on behalf of customers.

Core competencies

RISE has interest and skills in several technology fields and extensive experience and laboratory resources at room temperature as well as at high and cryogenic temperatures under various conditions.

- Vast experience and laboratory resources for electrical metrology. Both low and high voltage at DC, AC and pulses. At high voltage unique capabilities for onsite measurements.
- Optical metrology including refraction and spectroscopy with application in e.g. measurements of low pressure and vacuum.
- Developing equipment and methods for dissemination and synchronisation of time and frequency.
- Sensor development and methods for Positioning, Navigation and Time (PNT) including GNSS.
- Extensive experience and laboratory resources within high-frequency and microwaves. This includes both wired and radiated microwaves, including world-leading resources for antenna measurements and testing.
- Mechanical testing laboratories with sophisticated equipment for digital image correlation and acoustic emission and dimensional metrology ranging from nano- to global scales.
- Fire safety, including large laboratories with activities for prevention, limiting and extinguishing as well as investigations.
- Excellent experience in signal processing with applications in remote sensing and sensor fusion including modelling and simulation with applications.

References

High voltage reference divider to CERN
Various measurement systems to more than fifteen metrology institutes around the world
National system for robust and correct time for the Swedish Internet infrastructure.

Company size

Large

RISE, Research Institutes of Sweden, Division Safety and Transport
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RYDVERKEN

Company profile
Rydverken is a family owned company that has manufactured machine parts since the start in 1970. Focus have been on highly complex single or low volume parts towards vehicle-/ and aerospace industry. We are certified according to: AS9100 and ISO9001.

Core competencies
- A complete supplier in machining (turning, milling and EDM)
- Marking
- CMM

Industry sectors
- Vehicle
- Aerospace
- Coil and yoke manufacturing

References
- GKN Aerospace
- SAAB
- Scanditronix Magnets

Company size
Small

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SALA BLY

Company profile

Sala Bly specialises in crafting lead products, including wire and ingots, tailored to customer specifications, complemented by on-site services and construction support. Our customers are found in a range of industrial sectors.

With a rich legacy in lead product manufacturing in Sala Sweden, Sala Bly stands out as a leader in quality. Our extensive product range, shaped by 130 years of industrial expertise, includes a wide selection of standard lead products, but we can also tailor solutions to meet our customers' unique preferences and specifications.

Core competencies

- Manufacture of lead products, including wire, bricks, counterweights, ballast, sheets, tubes and ingots
- Extensive experience of lead-related assignments
- Eco-friendly manufacturing processes with recycled lead
- Workforce with long experience of handling lead

Industry sectors

- Nuclear
- Research
- Building
- Medical
- Wholesalers and workshops

References

- Westinghouse nuclear fuel factory
- Gems pet cyclotron facility
- Gammadata
- Forsmark, Ringhals, Oskarshamn nuclear power plants
- Nutronic

Company size

Small

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SCANDINOVA SYSTEMS

Company profile

ScandiNova's groundbreaking technology makes the company a world leader in development and production of pulsed power systems with high power levels. The product range covers pulse modulators, generators, turnkey radio frequency (RF) systems, and e-gun modulators, all using solid-state technology. Our modular design enables us to offer systems that handle a wide range of loads and needs all the way up to RF peak power of 100 MW.

As one of the few players in the market ScandiNova has the capability to take care of everything, including integrating the magnetron/klystron, cooling system and low-level RF. Reliable and high-precision pulses lead to improved control, performance, significantly decreased power consumption, and lower maintenance costs.

ScandiNova has clients in 40 countries, mainly in Europe, Asia and North America. The company was founded in 2001, has its head office in Uppsala, Sweden with 65 employees, and has sales representatives all over the world.

Core competencies

- Pulsed power systems
- Pulse modulators
- Pulse generators
- E-gun modulators
- RF-units

Industry sectors

- Science: Free electron lasers, synchrotron light sources, compact light sources, collidors proton booster research, isotop production research, gamma sources
- Medtech: Radiotherapy, proton therapy
- Industry: Cargo scanning, radar, industrial X-ray, sterilisation, electroporation

References

- CERN: Pulse modulators for CLIC test stand
- PSI/SwissFEL: Pulse modulators for the accelerator and for the injector
- MAX IV: Turnkey RF Systems, including pulse modulators, klystrons and other RF parts
- DESY/European XFEL: Pulse modulators for use in diagnostics
- ELI-NP: Pulse modulators for the gamma source
- ENEA: Pulse modulators
- Eindhoven University of Technology: RF system for a compact and portable X-ray source

Company size

Medium

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SCANDITRONIX MAGNET

Company profile
Scanditronix is focused on production of magnets for accelerators. Our extensive experience enables us to find the best possible ways of realising customer needs. Scanditronix Magnet uses its long experience and professional engineering know-how to design and manufacture magnets for accelerators and other applications. We work closely with our customers in order to tailor magnets to suit each specific application.

Core competencies
- Magnetic field simulations
- Magnet design
- Coil and yoke manufacturing
- Magnetic field measurements
- Project management

Industry sectors
Manufacturing of electromagnets

References
We have delivered normal conducting magnets and coils for particle accelerators to:
- Major accelerator laboratories: CERN, Rutherford, FERMI, SLAC, MAX IV, DESY, PSI, GANIL, and more,
- Major medical companies in the field of cancer treatment
- Other industry

Company size
Medium

SCANDITRONIX

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SCANFIL MALMÖ

Company profile

For over 45 years, Scanfil has been the trusted manufacturing partner and system supplier for clients with challenging needs in the international electronics sector. Driven by design and fueled by passion for our customer's success, Scanfil is leading the industrial transformation by focusing on sustainability and human-centric management

Core competencies

- EM
- Turn-key solutions
- SMT
- FCT
- MES
- ISO13485
- Supply chain
- Logistics
- ICT
- Value analysis
- Contract manufacturing
- Connectivity
- IoT

Industry sectors

- Industry
- MedTech
- Automation
- Energy
- Connectivity
- Cleantech

References

- KONE
- Thermo Fischer
- GE
- ABB
- Alfa Laval
- Toyota

Company size

Large

SCANFIL

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Luciano Pasquariello
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SCANSCOT TECHNOLOGY

Company profile

Scanscot Technology offers expert consultancy within the fields of structural engineering, numerical simulation and technical support. Our expertise covers mainly industrial sectors, including energy, infrastructure & buildings, industry and Big Science. Scanscot provides structural design and simulation in advanced projects, such as Big Science facilities and nuclear power plants, for national and international stakeholders such as plant operators, suppliers, and safety authorities.

Scanscot assists in establishing design requirements and design provisions at all levels, ranging from general codes and standards to detailed design specifications at plant/building level. Working closely with contractors, utilities, suppliers and regulatory bodies, we provide assistance as expert reviewers in projects to enable accurate decisions, and to minimise project risks.

Core competencies

Structural engineering, structural design, numerical simulation, finite element, design requirements, design criteria, third party review, radiation safety, physical protection, power plant, nuclear facilities, reactor containment, safety-related buildings, extreme loading, earthquake, airplane crash, dropped objects, explosions, missile, high pressure, high temperature, dynamic analysis, non-linear analysis, impact, regulations, codes, standards, eurocodes, asme, aci, etc-c, rcc-cw, rcc-m.

Industry sectors

- Energy
- Infrastructure & buildings
- Industry
- Big Science

References

- For references, please visit: https://scanscot.com/corporate/reference-projects/

Company size

Small

SCANSCOT
BY TECHNIA

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Patrick Anderson
Tech Lead, Engineering Services
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SCIENTA OMICRON

Company profile

Scienta Omicron is the leading innovator in surface science. The company provides top capabilities for the research community through its technology leadership in electron spectroscopy, scanning probe microscopy and thin film deposition. These capabilities are available in customised solutions from one source, with worldwide sales and service groups.

Core competencies

Scienta Omicron provides high service levels. Our aim is to be a partner for customer success in research and analysis. We have extensive knowledge and experience. We offer support for more than 30 different experimental techniques, and for each one you will find a number of specialists who can support project planning, assessment of technique suitability, system design, equipment training, applications support and system upgrades.

Our main operation is based in Uppsala, Sweden and Taunusstein, Germany, with sales and service representation in all major markets around the globe.

Industry sectors

- Materials Innovation
- Electron Spectroscopy
- Scanning Probe Microscopy
- Thin Film Deposition

References

- MAX IV laboratory

Company size

Medium

scientaomicron

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SIGMA LUNDINOVA

Company profile

Sigma Lundinova is a product development company, specialising in electronics, software, and project management. Our engineers have a total of 500 years experience of product development in the forefront of technology. We take responsibility for the entire product cycle from design to production. We have been involved in the development of many successful products in medical technology, environmental technology, electrical vehicles, industry, and mobile telephony.

Core competencies

- Electronics
- Schematics
- PCB layout (CAD)
- Firmware
- Software
- RTOS

Industry sectors

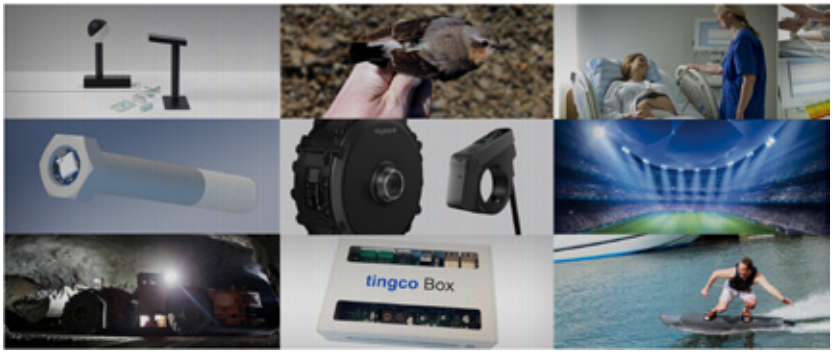
- Medical technology
- Environmental technology
- Electrical vehicles
- Industry
- Mobile telephony

References

- Sensors at target – ESS
- Power electronics to ozone generator – Primozone
- Power and control electronics – Orbital Systems
- Electronics and software – Neurescue

Company size

Small



LUNDINOVA
by Sigma Connectivity

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Marcus Weibull
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Procurement code(s)
Electrical engineering and magnets
Electronics and radio frequency

SKULTUNA INDUFLEX

Company profile

Skultuna Induflex innovates and delivers technical flexible laminate applications for products that make everyday life easier. We do this by applying our expertise and tech competence from our three locations in Sweden, Belgium and China. Our flexible laminates are found in a wide variety of products, from cables, antennas and rear-view mirrors to greenhouse curtains and luxury packaging. We are continuously developing new applications to meet, and raise, the standards in our fields.

Core competencies

By combining and laminating materials such as plastic films, metal foils, paper and cardboard, we create an almost infinite number of flexible laminates. These feature properties that make it possible to solve problems in new ways, regardless of whether the laminates are used for shielding, barrier, conduction, reflection, appearance, or other purposes. Our company dates back to 1607.

With our innovative, reliable, flexible and quality-driven approach we look forward to the coming centuries. Skultuna Induflex – innovating flexible laminate perfection.

Industry sectors

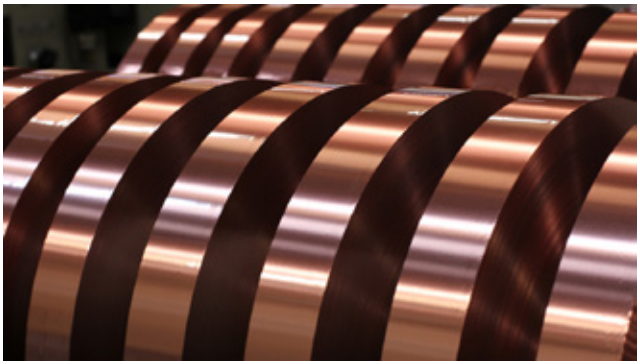
- Energy & climate control
- Insulation
- Barriers & shielding for electrical and electronics
- Flexible circuits
- Antennas
- RFID & heating elements
- Packaging and engineered laminates for advance applications
- Food-approved paper-based laminates

References

- ABB Hitachi Energy

Company size

Medium



SKULTUNA Induflex THE WISE CHOICE

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www.skultunainduflex.com

Mohsin Saleemi
R&D Manager
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SOUTH POLE

Company profile
South Pole is a system integrator with over 20 years experience in Linux and high-performance computing (HPC). We do everything from building our own servers in our ISO certified production in Stockholm, to implementing the HPC or Storage solutions onsite at our customers.

Core competencies
- HPC
- Linux
- Storage
- GPU/AI
- Virtualisation

Industry sectors
- Universities
- Research institutes
- Military/defence
- Media and entertainment
- xSP

References
- Chalmers University of Technology
- Uppsala University
- Scania
- Net Insight

Company size
Small

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Ågatan 12 , SE-172 62 Sundbyberg, Sweden
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www.southpole.se

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Solution Manager
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STAVANGER STEEL

Company profile

Steel foundry producing complex high alloyed steel in combination with advanced geometries. We also take care of subsequent machining and finishing operations. We can contribute with a flexible product, using the correct material for the application. We take a natural seat early in development projects to reap the benefits of using castings. Forged stainless/high alloyed material can be supplied through our sister company.

Core competencies

- Expertise in materials
- Steel
- Stainless steel
- High-alloyed steel
- Metallurgy
- Heat treatment

Industry sectors

- Marine
- Process
- Defence
- Oil & Gas
- Hydropower

References

- Rolls Royce
- Somas
- National Oilwell Varco
- Andritz

Company size

Small

Stavanger Steel AB
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www.stavangersteel.se

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Head of Sales
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STREAM ANALYZE SWEDEN

Company profile

Stream Analyze provides a platform for scalable and interactive analytics of data streams on edge devices. This software, sa.engine, is capable of running transparently on various devices, ranging from supercomputers, through servers, and all the way down to electronic control units and embedded devices. Stream Analyze has extensive experience in integrating sa.engine in various environments and edge devices, catering to a wide variety of analytics and machine learning use cases.

Core competencies

- Interactive edge analytics engine
- Query processing and optimisation engine
- Scalable data stream processing
- Database technology
- Scalable and parallel data processing, and machine learning
- Data integration and mediation
- Scientific data management

Industry sectors

- Automotive
- Manufacturing
- Utilities
- Science

References

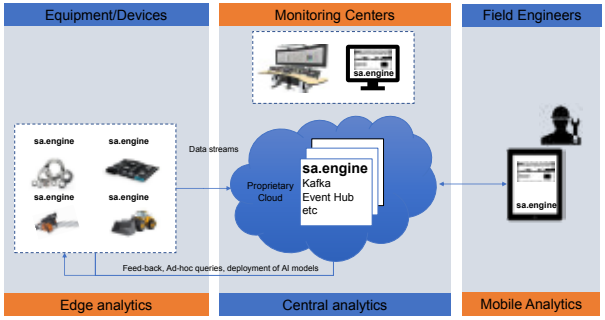
Stream Analyze is based on the scientific work performed at Uppsala Database Lab (UDBL). Over the years, UDBL has applied its software in Big Science, including:

- ASTRON 2004-2006: Data stream analytics for the LOFAR antenna array
- CERN 2002-2007: Query optimisers for software searching Higgs Smart Vortex
- Data stream analytics for industrial applications
- Consortium member and co-founder of eSSENce, a research network for scalable data stream processing for e-science

Company size

Small

sa.engine:
Platform for data stream analytics in real-time on edge devices



STREAM ANALYZE

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STUDSVIK

Company profile

Studsvik offers a range of innovative technical solutions to its customers, creating superior value by improving reactor performance, and reducing risks and costs across the nuclear and radioactive material lifecycle. Studsvik offers advanced engineering and consultancy, fuel and materials testing, fuel and reactor management software, as well as lifecycle management of nuclear and radioactive hazards, decommissioning of nuclear facilities, and designing radioactive waste management processes.

Studsvik Fuel and Materials Technology leads innovation by thinking differently in the nuclear life cycle, and provides solutions to customers by combining expertise, unique facilities, and external networks.

Studsvik Scandpower is the nuclear industry's experts in nuclear fuel and reactor physics, trusted and relied upon by more than half of the world's nuclear power plants to guide management of the nuclear fuel cycle.

Studsvik Waste Management Technology offers licence transfer of innovative patented waste treatment technologies.

Studsvik Decommissioning and Radiation Protection Services is a leading service provider for the nuclear industry, in the areas of radiation protection, engineering, decommissioning, dismantling and decontamination.

Studsvik Isotopes supplies high quality sealed source isotopes for medical and industrial applications from its dynamic nuclear licensed manufacturing facility in Sweden.

Core competencies

Fuel testing, fuel qualification, accident-tolerant fuel, materials testing, plant life management, hot cell technology, final storage research, transport of radioactive materials, nuclear transportation, sample irradiation, testing equipment, laboratory equipment, bespoke test rigs, development, research, reactor components, high dose environments, radioactive waste management technology, radioisotopes, medical isotopes, industrial isotopes, reactor analysis software, spent fuel analysis, storage optimisation, radiation protection, engineering, decommissioning, dismantling, decontamination.

Industry sectors

- Nuclear
- Energy
- Research
- Engineering
- Medicine
- Space

References

For references visit www.studvik.com

Company size

Medium

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SE-611 82 Nyköping, Sweden
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SVEDALA MEKANISKA

Company profile
Svedala Mekaniska offers machining services, such as turning and milling, in both large and small diameters in different materials. Through partners, we can also help clients with welding, laser and waterjet cutting, and various surface treatments.

Core competencies
We can offer high-quality turned and milled parts in different materials. As a business partner, we are flexible and deliver on time. We have our own measuring equipment.

Industry sectors
- Research and development
- Marine companies
- Packaging
- Mining

References
Scanditronix Magnet

Company size
Small

Svedala Mekaniska
Företagsgatan 13 SE, 233 51 Svedala, Sweden
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www.svemek.com

Jimmy Nordström
CEO
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SWEDISH MICROWAVE

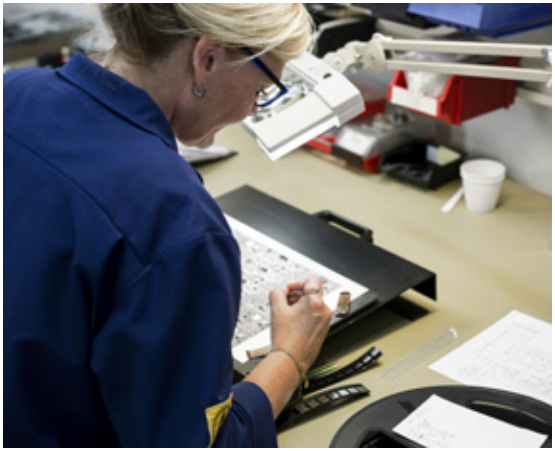
Company profile
Since 1986, Swedish Microwave (SMW) has been a leading manufacturer of professional low-noise block downconverters (LNB) for the ground segments in the satellite market. All work is in-house, which enables us to provide custom-design products, short delivery times, high flexibility, and quick service and support. Swedish Microwave designs and manufactures its products in Motala, Sweden, and has shipped products to more than 134 countries. Today we are Europe's oldest manufacturer of LNBs, serving a global market.

References
World leading telecommunication customers in 134 countries.

Company size
Small

Core competencies
- RF design for in-/outdoor use.
- RF production
- Satellite communications
- Telecommunications
- Lab & tests up to 43 GHz
- Production of custom protypes
- RF over fiber

Industry sectors
- Satellite communications
- Electronics and radio frequency
- Telecommunications
- Research facilities



Swedish Microwave AB
Dynamovägen 5, SE-591 61 Motala, Sweden
www.smw.se

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SVEN JINERT

Company profile

Jinert began operations in 1988. The head office is in Hässleholm, and the company has facilities in 20 locations around Sweden. We offer modern equipment for all lifting assignments, special transports, and handling of heavy goods.

We are constantly upgrading our large fleet of vehicles and other equipment to ensure we hold our position as a leader in our sector. No assignment is too large or small, and we offer complete solutions in which our skilled employees perform all kinds of lifting and transport services.

References

Lifting, transporting and launching assignments all over Scandinavia.

Company size

Large

Core competencies

- Lifting
- Transport
- Launch systems

Industry sectors

- Construction
- Transport
- Manufacturing
- Energy
- Industrial

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Skenvägen 8, SE-281 43 Hässleholm, Sweden
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www.jinert.se

Björn Jinert
CEO
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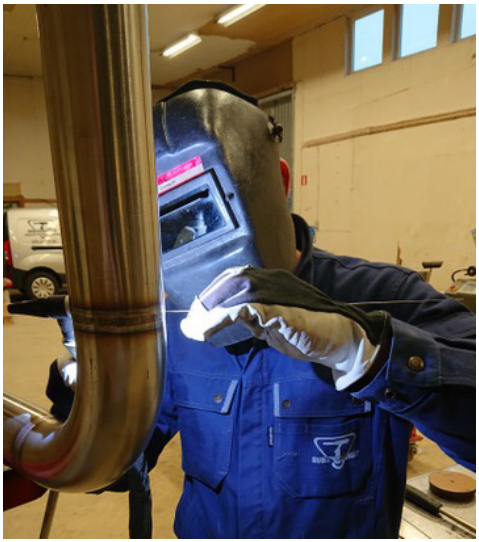
SVETSTJÄNST

Company profile

Installation in stainless steel pipes. Installation takes place, for example, in nuclear power plants and food companies and biogas, which means that the work is carried out with high levels of accuracy and quality. We work according to the various ISO criteria, e.g. 5817 and 3834.

We own our WPQR, which includes IWS training. Welding staff in our team have licences EN 287-1 141 T BW FM5 S s1-2 D10, wall thickness 1.0-4.0 mm H-L045 ss gb. We also hire out staff with different skills to industry.



Core competencies

- Quality
- Expertise
- Cost relevant

Industry sectors

- Process
- Food & pharmaceutical
- Biochemistry
- Nuclear power

References

- Tetra Pak
- Alfa Laval

Company size

Small

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Marketing and HR Director
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TDV CONSULTING

Company profile
We offer highest-quality technical design visualisation of products, systems or facilities, using the latest VR/AR and WebGL technologies. Based on customer needs we can create interactive games, presentations, or even create fast 3D digital prototypes of any ideas. The end solutions/product can be viewed and examined in VR together with other users across the world. We also provide senior consultants for PLM, EAM and ERP systems, supporting our customers with requirement management, business case development, business system analyses, project management, technical implementation, and roll out.

Core competencies
- VR
- AR
- WebGL
- PLM
- ERP
- EAM
- Business System Analyst
- Project Management
- Graphical 3D Design
- Interactive Design

Industry sectors
- Science
- Mining
- Telecom
- Engineering
- Packaging

References
ESS

Company size
Small

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Tennour Dahil
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TELEDYNE SP DEVICES

Company profile

Teledyne SP Devices designs and manufactures world-leading modular data acquisition and signal generation instruments. Our products use patented calibration logic, the latest data converters, and state-of-the-art FPGA technology, resulting in an unrivalled combination of high sampling rate and resolution.

Products are available with a range of application-specific features and embedded, real-time signal processing. This helps our customers overcome production bottlenecks, shortens time-to-market, and provides system-level advantages within a wide range of application areas. SP Devices' products are employed across a wide variety of industries, including analytical instruments, remote sensing, scientific instrumentation, and medical imaging.

Core competencies

- Test and measurement
- Data acquisition and signal generation
- Hardware, firmware, and software design and implementation
- System-level design and implementation

Industry sectors

- Particle physics
- Radio astronomy
- Free-electron lasers
- Medical fusion

References

Teledyne SP Devices is a trusted supplier to a wide range of industries and applications. Our data acquisition and signal generation products are deployed in industrial and research facilities across the world, with examples including the neutron time-of-flight (nTOF) facility at CERN, multiple synchrotron, free-electron laser, and fusion facilities world-wide as well as airborne radar systems for Saab and the German Aerospace Center (DLR). Our products are also integrated in system-level solutions by major original equipment manufacturers (OEMs) from multiple Industry sectors.

Company size

Large

TELEDYNE SP DEVICES
Everywhereyoulook™

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TESSELLA

Company profile

AI + Data Science. Our AI work enables research teams to extract meaning from raw experimental data, free up experts and shrink the backlog of experimental results that need to be analyzed.
Cloud + HPC. We work with research organizations to maximize the potential of cloud-based platforms to provide distributed access and the shared high-power computing resources scientists need.
Robust Systems + Software. In addition to handling large volumes of data and complex calculations, systems must be robust and efficient, able to harness new instruments that support more complex experiments and respond to the multiple needs of a sophisticated scientific user base. Over the last 40 years, we have worked with our clients to meet these challenges.

Core competencies

- AI + Data Science.
- Cloud + HPC
- Robust Systems + Software

Industry sectors

- Big Science
- Life Science
- Aerospace
- Energy
- Automotive
- Oil&Gas
- Retail
- Finance
- Consumer

References

- www.tessella.com/case-studies/isis-and-tessella-boost-output-at-world-leading-neutron-source
- www.tessella.com/ai-cloud-computing-future-for-scientific-research
- www.tessella.com/news/data-analytics-consultancy-tessella-secures-software-agreements-support-global-scientific-breakthroughs
- www.tessella.com/case-studies/ceda-tessella-collaboration

Company size

Large

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TEXOR

Company profile

Texor is a subcontractor of mainly machines and sub-assemblies for the life science and food sectors. Our customers and end users are mainly global biotech and biopharma companies. We offer the best experience of machining, welding and surface treatment of stainless steel materials, such as 316L, 904L and Hastelloy. We are often involved in our customers' R&D projects with our +50 years of experience of production and assembly of stainless steel components. Texor has a worldwide supplier base in terms of elastomers, plastic and stainless steel components, and they all meet the highest quality demanded by the biopharma industry.

Core competencies

- Traceability
- Documentation
- Narrow tolerances
- Stainless steel
- CNC
- Welding (TIG, MIG, MAG, orbital)
- Grinding/polishing
- Electro-polishing
- Certification (PED, ASME, FDA, USP)
- 3rd party inspections (Inspecta, ASME, Force, etc)
- Projects and customisation with very short lead times

Industry sectors

- Pharmaceutical
- Food

References

- GE Healthcare
- Merck Millipore
- Tetra Pak
- Alfa Laval

Company size

Medium

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www.texor.se

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TSE – THERMAL SPRAYING & ENGINEERING

Company profile

We supply coating solutions, including machining, to all sectors. We extend lifetime and increase durability/sustainability and add performance/ properties to all types of applications. We focus on new applications for OEMS and repairs of applications to extend their lifetime.

Core competencies

- Thermal spraying
- HVOF
- HVAF
- Plasma
- Flame spraying
- Grinding, milling, turning, polishing, all on-site

Industry sectors

- Steel
- Pulp & paper
- Energy
- Process
- Chemical
- On/off-shore
- Oil & gas
- Defence
- Plastic

References

- University West
- ABB: force measurement
- Catator
- Metalock/Midrock

Company size

Small

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www.tse.se

Olav Norheim
Managing Director
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VISITEK

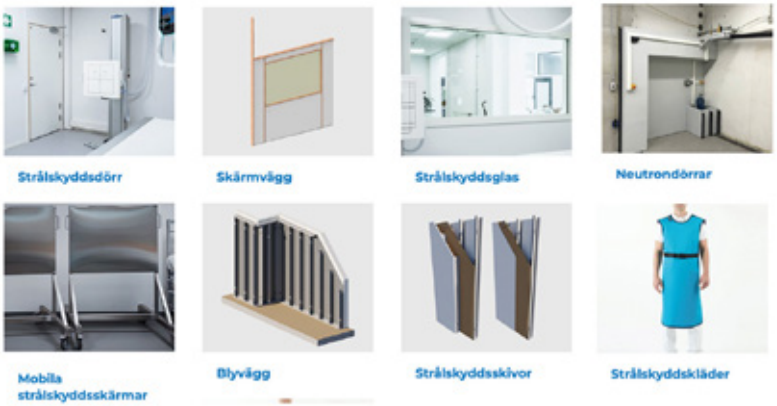
Company profile
VISITEK offers products for radiation protection. We have a large portfolio of different products for radiation shielding, such as doors, windows, tool protection, and clothing.

Core competencies
- Radiation protection
- Radiation

Industry sectors
- Hospital
- Pet hospitals
- Dentists
- Industrial production

References
All major hospitals in Sweden.

Company size
Small



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STRÅLSKYDDSSPECIALISTER

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Mårten Olsson
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VTT

Company profile

VTT are experts at manufacturing high-quality components, tools, and prototypes, and machining of all kinds of materials. Our clients turn to us to develop ideas and produce a single or a small number of units. VTT has extensive human resources and leading-edge expertise in contract manufacturing, machine building, and positioners.

Core competencies

- Construction
- Toolmakers
- Processing
- High-quality components
- Series manufacturing

Industry sectors

- Mining
- Automotive
- Space

References

- Atlas Copco
- Epiroc
- Boliden
- Esrange

Company size

Small

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VYSUS SWEDEN

Company profile

Vysus Sweden AB is part of the global Vysus Group. The Vysus Group is a leading, independent provider of digitally enabled, engineering and technical consultancy expertise, supporting owners and developers of energy, power and complex industrial assets and infrastructure.
The Swedish entity is predominately focused on supporting the nuclear and railway industries with different services related to safety and licensing. We also provide expertise in areas such as Business Continuity Management (BCM), Crisis Management, and Risk and Vulnerability Analysis to clients outside the nuclear and railway domains.

Core competencies

- Safety
- Risk management
- Risk analysis, probabilistic
- Safety case
- Business continuity
- Crisis management
- Emergency preparedness
- Decommissioning
- Radiological waste management
- Sustainability
- Vulnerability analysis
- Nuclear safety
- Railway safety
- Technical engineering
- Training

Industry sectors

- Railway
- Nuclear

References

- European Spallation Source (ESS)
  We are supporting ESS in their licensing process in relation to the Swedish Radiation Safety Authority (SSM). Our support to ESS includes services related to hazards and risk analysis, deterministic and probabilistic safety assessment, fire safety, radiation safety, and radiological waste management.
- OKG AB
  We have been supporting OKG for over 25 years with services relating to probabilistic safety assessment, technical specification, and keeping their safety analysis report documentation up-to-date according to relevant national and international guides and requirements.
- SJ AB
  We provide support to SJ in handling safety management, risk management and authority approval for new trains by use of Common Safety Method for Risk Evaluation and Assessment (CSM-RA, regulation (EU) 402/2013 and EN50126, during the tender and project phase.
- Swedish Transport Administration (Trafikverket)
  We support the Swedish Transport Administration in applying the Common Safety Method for Risk Evaluation and Assessment.

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Anders Olsson
Managing Director
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WESTINGHOUSE ELECTRIC SWEDEN

Company profile
Customised NDE inspections with extensive experience in both the nuclear and non-nuclear market. Manufacture of ultrasonic and eddy current probes/transducers. Engineering solutions. Manufacture of nuclear fuel/control rods.

We carry out inspections and supply equipment to nuclear power plants around the world.

Core competencies
- NDE inspections
- High-radioactive tolerance equipment/ instruments
- Fuel manufacturing

Industry sectors
- Nuclear
- Energy

References
N/A

Company size
Large

Westinghouse Electric Sweden AB
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Wesdyne Sweden AB
Rickard Samuelsson Jerndahl
Technical Lead/NTO Manager
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WS MEKANISKA

Company profile
WS Mekaniska is a subcontractor with the expertise to take care of the entire chain, from design, welding, machining, surface treatment, and assembly to final testing of machine equipment and advanced components. Our production is characterised by short lead times, flexibility and skilled staff.

Core competencies
Advanced 5-axis milling and CNC turning with rotating tools in various materials, e.g. copper, stainless steel, alloy steel, aluminum, and carbides. Project management of the entire value chain.

Industry sectors
- Packaging
- Automotive
- Mining
- Accelerators
- Research
- Manufacturing

References
- Norden Machinery
- MAX IV
- Tetra Pak
- Metso
- Sandvik
- Koenigsegg
- GPI systems

Company size
Small

WS Mekaniska AB
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X-OFFICIO

Company profile
X-officio is a legal practice with focus on research infrastructures and their business partners. X-officio supports research infrastructures and suppliers on a variety of legal matters such as commercial contracts, supply agreements, governance, procurement procedures, intellectual property, legal disputes and related matters.

Core Competencies
- Legal / Law
- Procurement
- Governance

References
ESS
XFEL
PRE-EST
DANUBIUS-RI
LifeWatch ERIC
CESSDA ERIC
OPERAS PP

Company size
Small

X-officio
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YSDS

Company profile
YSDS offers special worldwide logistics solutions for transport of one of a kind, high-value, temperature-sensitive, or dangerous goods with complex destinations. A "one stop shop" combining pickup, packaging, documentation, and last-mile delivery with a high level of service, risk mitigation, and flexibility.

Core competencies
Quality global shipping solutions, extensive experience of handling complex goods, proactive and direct action regarding potential deviations to mitigate risk.

Industry sectors
- Life sciences
- Mechanical engineering
- Art and IT

References
- Priority door-to-door transport of GMS-T satellite in 2020 from Kista, Stockholm to Rocket Lab, Mahia, New Zealand. Help with documentation and ATA-Carnet. All goods had to be on site in Mahia, New Zealand 1 month before launch. Specialist transport of sensitive and valuable equipment with minimal impact and turbulence.
- Transport of MATS satellite in 2022 from Kista, Stockholm to Rocket Lab, Mahia, New Zealand. Identical door-to-door transport as previous assignment in 2020. Assistance with documentation, control and review of documents, priority flight, customs clearance, warehousing, and dedicated delivery on specialist truck.
- Logistics solutions involving shipment of Swedish satellite-related modules to and from Japan in 2021 and 2022 for IRF Uppsala, Airbus, and ESA. Other transports between Sweden and France.

Company size
Medium

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Ludvig Haby
Sales Representive
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ÖSTERBY GJUTERI

Company profile

Österby Gjuteri produces steel casting in short and medium batch sizes. The materials cast are everything from non-alloyed steel up to stainless steel and super alloys such as cobalt- and nickel-based alloys. Österby Gjuteri specialises in manufacturing finished products, so the operation consists of a foundry with a modern machining workshop, with the possibility to assemble components to deliver a complete product. Normal casting weights are from 50 kg up to 7000 kg.

Core competencies

- Steel castings
- Stainless steel castings
- Machining
- Heat treatment
- 3D-scanning

Industry sectors

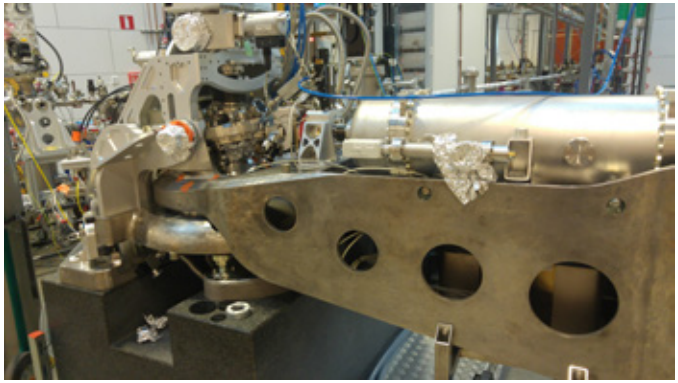
- Energy
- Maritime
- Pulp & paper
- Offshore
- Mining
- Heavy industry
- Chemical

References

- Wendelstein 7-X Max IV
- Valmet
- Marine Jet Power
- Vattenfall
- Alfa Laval
- Kemira

Company size

Medium



ÖSTERBY GJUTERI

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2B BEST BUSINESS

Company profile

2B was founded in 2005, since when it has grown organically and now has a turnover of SEK 180 million. 2B offers a wide range of production methods, such as high-tech machining for the medical industry and casting parts in all materials, along with methods with stringent demands on tightness, complete assembled units, etc.

We have experience of handling many types of material, such as tungsten, molybdenum, titanium, magnesium, Mu-metal, and lanthanum hexaboride (Lab6).

We can usually meet your requirements – the more challenging the better! Sizes range from a diameter of 0.1 mm up to parts weighing several tonnes.

Core competencies

- Mechanical components for vacuum environments
- High-demand casting
- Production methods
- Finding the best method for each part

Industry sectors

- Medical
- High power
- Low power
- Automotive
- General industry

References

- ABB
- NKT
- Parker

Company size

Small

2B Best Business AB
Hyvelgatan 2, SE-334 32 Anderstorp, Sweden
www.2bab.se

Samuel Axklo
Technical Manager
+46 371 58 70 87
samuel.axklo@2bab.se

4PL CENTRAL STATION NORDIC

Company profile
We customise supply solutions to reduce costs and improve efficiency. We are founding members of RI Logistica, a Danish non-profit organisation, aiming to help other RIs outside ESS, for which we have been an outsourced logistics department since 2015. Our common experiences with ESS have become the model for RI Logistica.

Core competencies
- Supply chain
- Procurement
- Tenders
- Transport management systems

Industry sectors
All

References
- ESS European Spallation Source ERIC
- RISE Research Institutes of Sweden
- RI Logistica

Company size
Medium

4PL Central Station Nordic AB
Skeppsgatan 19 , 211 11 Malmö, Sweden
www.4plcs.com

Jan Lundin
Chief Business Development Officer
+46 768 18 17 17
jan.lundin@4plcs.com

Photo: Simon Paulin/imagebank.sweden.se

UNIVERSITIES & INSTITUTES

Photo: Lund University/ MAXIV: Kennet Ruona

UNIVERSITIES & INSTITUTES

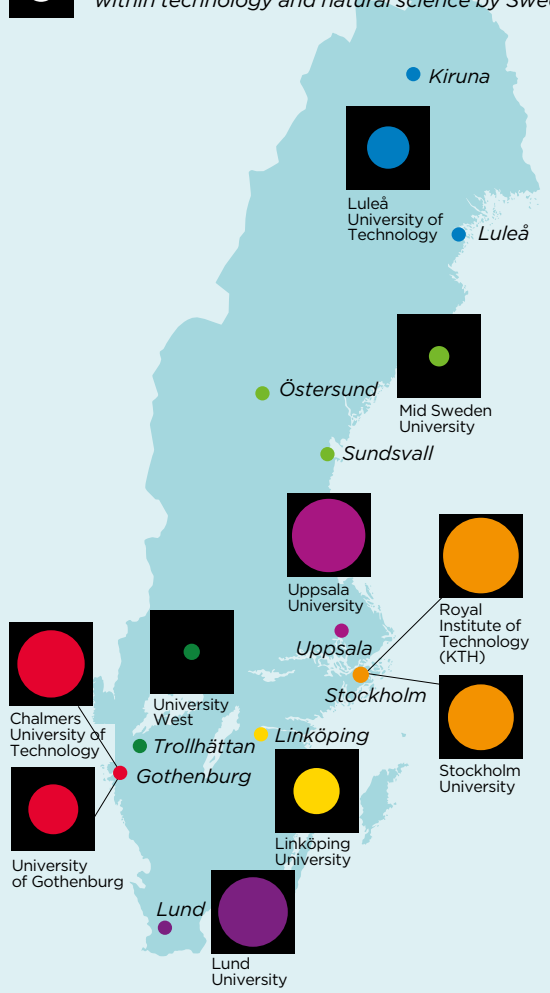
Sweden has a multitude of universities, from the very north to the very south of the country, representing a range of internationally highly competitive competencies within areas related to Big Science.

Research is not just a part, but a cornerstone of higher education in Sweden. Compared to the rest of the OECD countries, a significant portion of the universities' funding is allocated to research and development. The number of employees active in research is growing and has done so for a number of years, shaping the Swedish educational system.

On the following pages, we present a selection of the universities, highlighting some of their capabilities*.

The size of circle symbolises the number of academic papers published within technology and natural science by Swedish Universities in 2021.

*The numerical data is from 2021. Source: UKÄ.



LULEÅ UNIVERSITY OF TECHNOLOGY (LTU)

LULEÅ AND SPACE CAMPUS IN KIRUNA

Luleå University of Technology, LTU, has extensive expertise in developing novel materials for use in extreme environments, and delivers solutions in materials science, artificial intelligence, and remote handling to Big Science facilities.

LTU is, e.g. the host of LUMIA (Luleå Material Imaging and Analysis Laboratory), which offers advanced material analysis in 2D/3D/4D to industry as well as academia.

The university's AI and remote handling expertise involves developing advanced robotics and automation for use in inaccessible or hazardous environments. LTU is deeply involved in space research and works closely with the Institute for Space Physics (IRF) and EISCAT at the LTU Space Campus site in Kiruna.

BiSS is particularly impressed by the delivery of:

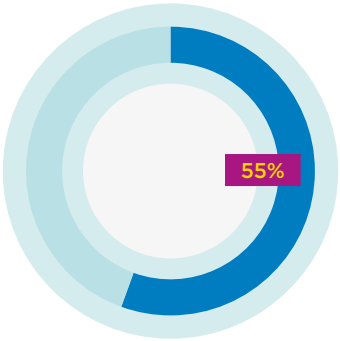
- EISCAT: 3D Design of Antenna Elements
- MAX IV: Test environment for synchrotron facility
- CERN: Pre-study on development of advanced composite robotic arms
- FAIR/GSI: Use of AR/VR in highly radioactive hot-cell environments

At a glance

Located in northern Sweden, this young-spirited university is focused on technology and engineering and emphasises collaborations with industry to drive innovation and applied research. LTU is renowned for its cutting-edge research in materials science, robotics, artificial intelligence, and environmental engineering. Founded in 1971, LTU has approximately 17,900 students and 1,000 researchers.

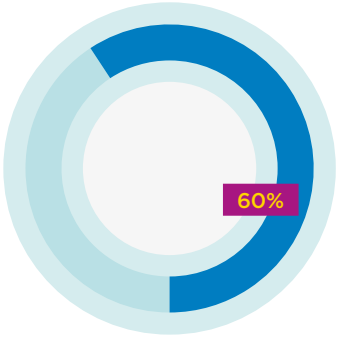
www.ltu.se/en

"Represents an extensive experience in industry collaborations."



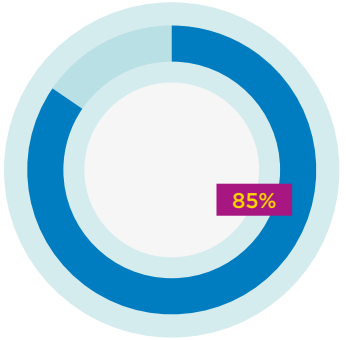
Research funding as proportion of total revenue

Out of its total revenue of almost EUR 175 million, Luleå University of Technology allocates more than 55 percent, EUR 100 million, to research.



Employees with a research assignment

Of the more than 1,700 employees at Luleå University of Technology, around 1,000, 60 percent, have research assignments.



Academic papers within technology and natural science

Around 1,000, 85 percent, of the almost 1,200 publications from Luleå University of Technology in scientific journals were within the fields of technology and natural science.

MID SWEDEN UNIVERSITY

SUNDSVALL AND ÖSTERSUND

Mid Sweden University's specialisation in areas such as autonomous sensor systems, advanced materials, photonics, and communication systems is interesting from a Big Science perspective. The university's research groups have experience developing sensor-based systems for radiation detection and imaging, among other things.

BiSS is particularly impressed by the delivery of:

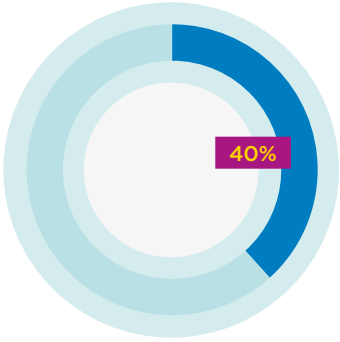
- CERN: Contribution to The MIDIPIX Collaboration, readout electronics for single photon processing pixel detectors
- CERN: Contribution to additive manufacturing for fabrication of 316L-grade components (in collaboration with Chalmers)
- ESS: Participation in the Brightness, i.a. pixel detectors for high-resolution neutron imaging

At a glance

Mid Sweden University, also known as Mittuniversitetet, has a long history in higher education and was given university status in 2005. It is known for its strong focus on research and close connections with industry and other academic institutions to ensure that its research has practical applications and contributes to societal development. It hosts 13,000 students and 550 researchers.

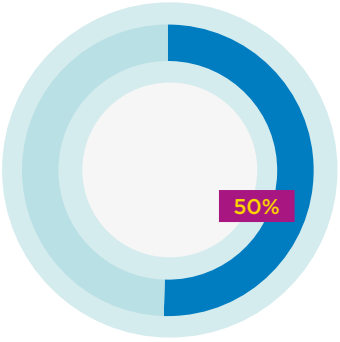
www.miun.se/en

"Young-spirited university, with expertise in, e.g. autonomous sensor systems, photonics, and communication systems."



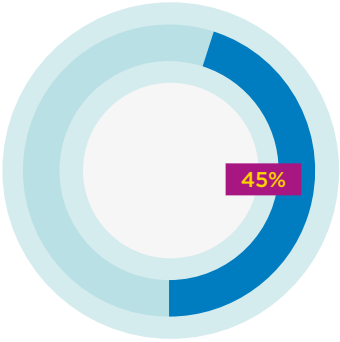
Research funding as proportion of total revenue

Out of its total revenue of almost EUR 100 million, Mid Sweden University allocates almost 40 percent, EUR 40 million, to research.



Employees with a research assignment

Of the more than 1,100 employees at Mid Sweden University, around 550, 50 percent, have research assignments.



Academic papers within technology and natural science

More than 240, around 45 percent, of the almost 500 publications from Mid Sweden University in scientific journals were within the fields of technology and natural science.

UPPSALA UNIVERSITY

UPPSALA

Uppsala University has a long history of development of scientific instruments and components for research facilities. It has state-of-the-art expertise in development and testing of accelerator components, development of components for particle detectors, development of diagnostics tools for neutrons, development of instrumentation for material research, as well as instrumentation for optical telescopes.

Uppsala University is host to the FREIA Laboratory and the Ångström Mechanical Workshop. It also hosts one of the nodes in the national nanofabrication network Myfab.

BiSS is particularly impressed by the delivery of:

- CERN: Silicon Detector Modules for the ATLAS Experiment
- ESO: Development of ANDES and MOSAIC Instrumentation for the ELT
- FAIR: Electromagnetic Calorimeter for the PANDA Experiment
- ILL: The Super ADAM Instrument
- MAX IV: The Veritas beamline
- XFEL: NIR Spectrometer
- ITER: Neutron diagnostics for fusion power plants
- IceCube: Development for the IceCube neutrino experiment in Antarctica

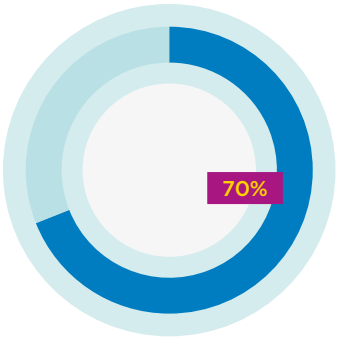
UPPSALA UNIVERSITET

At a glance

Founded in 1477 the oldest and largest university in the Nordic countries, renowned for strong research in social sciences, medicine, technology, and natural sciences. Uppsala University hosts 50,000 students and 5,000 researchers.

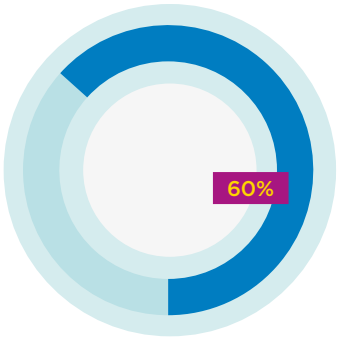
www.uu.se/en

"One of few universities in Sweden with research in all areas of Big Science."



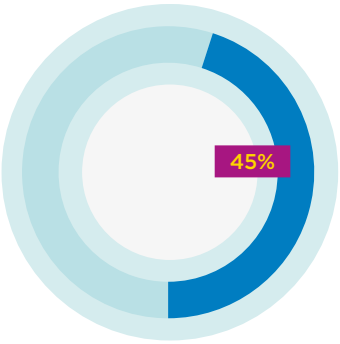
Research funding as proportion of total revenue

Out of its total revenue of more than EUR 700 million, Uppsala University allocates almost than 70 percent, EUR 500 million, to research.



Employees with a research assignment

Of the 8,300 employees at Uppsala University, more than 5,000, 60 percent, have research assignments.



Academic papers within technology and natural science

More than 3,000, around 45 percent, of the more than 6,600 publications from Uppsala University in scientific journals were within the fields of technology and natural science.

UPPSALA UNIVERSITET

FREIA Laboratory hosted by Uppsala University

The FREIA Laboratory at Uppsala University, also known as the Facility for Research Instrumentation and Accelerator Development, is a state-of-the-art scientific laboratory for accelerator research, development and testing, as well as instrumentation development. The lab hosts several cryostatic systems for testing superconductive equipment, as well as a radiofrequency source for microwaves for testing accelerator cavities.

Developing accelerator components

The staff at FREIA has world-class expertise in areas such as accelerator cavities and magnets, energy-efficient microwave power amplifiers, diagnostics, sensors and measurement techniques for accelerators.

The FREIA Laboratory has contributed to developing accelerator components and instruments for basic research for several national and international research infrastructures.

Established in 2011, it is located at the Ångström Laboratory.

BiSS is particularly impressed by the delivery of:

- ESS: Solid State Power Amplifier – development of the next 400 kW power station
- CERN: Development of superconducting Canted Cosine Theta magnet prototype
- CERN: Quench Study and RF Characterization of Crab Cavities
- CERN: Testing of Superconducting Orbit Corrector Dipole Magnets
- ESS: Acceptance Tests of Cryo Modules
- ESS: Test of High Voltage Pulse Modulator
- ESS: Testing tetrode 352 MHz radiofrequency power source

www.uu.se/en/department/physics-and-astronomy/infrastructure/freia-laboratory

"A unique environment for accelerator testing and development."

Ångström Workshop hosted by Uppsala University

The Ångström Workshop at Uppsala University is a large and modern mechanical workshop, unique in its kind in the academic sector in Sweden.

The workshop contributes to instrument development and fabricates prototypes for research groups at Uppsala University and other Swedish universities and national and international research infrastructures. The workshop staff has long experience in producing and modifying equipment, providing support for technical issues, and aiding with outsourcing and materials purchases.

The Ångström Workshop can handle fine mechanical works with small tolerances and welding of most materials, especially stainless steel (UHV-compatible). It operates nine directed CNC millers, two directed CNC lathes, and works with many different materials, e.g. stainless steel, aluminum, brass, copper, ceramics, and various plastics.

BiSS is particularly impressed by the delivery of:

- CERN: Superconducting Cables Connection Cryostats (Cold Boxes).

www.uu.se/institution/fysik-och-astronomi/infrastruktur/angstrom-verkstad

"Sweden's largest academic mechanical workshop."

ROYAL INSTITUTE OF TECHNOLOGY (KTH)

STOCKHOLM

KTH conducts both basic and applied research relevant to Big Science, and its research structures enable interdisciplinary and external collaboration.

KTH is, e.g. involved in developing methods and instrumentation for neutron and synchrotron facilities. KTH fusion energy group is gathering expertise and collaborating with companies in fusion energy, exploring new technology to stabilise fusion plasma.

The experimental particle physics group at KTH is active at the frontline of Hadron Collider physics and has been contributing to the ATLAS experiment at CERN LHC since 1990. The experimental nuclear physics group carries out cutting-edge research in accelerator-based subatomic physics.

BiSS is particularly impressed by the delivery of:

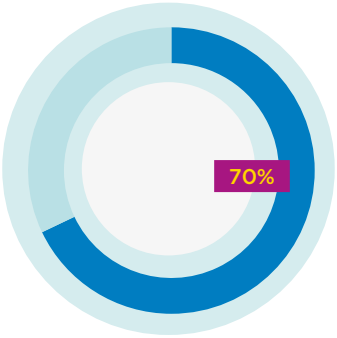
- ITER: Fusion reactor development, plasma-wall interactions in fusion devices
- XFEL: Heat load investigations on diffractive optics: fabrication of "zone plate" nanostructures on diamond substrate, simulations of heat transport, design of cooling systems, and heat load tests with beam
- ITER: Modelling of plasma-surface interactions
- CERN: Development of new High-Gravity Timing Detector for HL-LHC
- FAIR: Development of instrumentation for AGATA and NUSTAR

At a glance

Founded in 1827, KTH is Sweden's largest and one of Europe's leading technical universities offering a wide range of research in engineering and technology, including digitalisation, industrial transformation and material science. KTH has several specialised research centres and laboratories that support experimental research in quantum physics, photonics, and nanophysics. Hosts 17,000 students and 3,000 researchers.

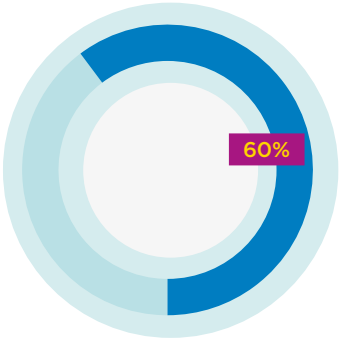
www.kth.se/en

"A driving force for interdisciplinary research and external collaborations."



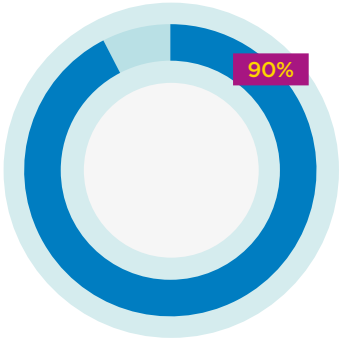
Research funding as proportion of total revenue

Out of its total revenue of almost EUR 500 million, KTH allocates almost 70 percent, EUR 330 million, to research.



Employees with a research assignment

Of the almost 5,000 employees at KTH, 3,000, 60 percent, have research assignments.



Academic papers within technology and natural science

More than 3,200, 92 percent, of the almost 3,500 publications from KTH in scientific journals were within the fields of technology and natural science.

Center for X-rays in Swedish Materials Science, hosted by KTH

Center for X-rays in Swedish Materials Science (CeXS) is a research centre hosted by KTH Royal Institute of Technology.

CeXS focuses on the use of high-energy X-rays in materials research and development.

CeXS serves as the academic host for the Swedish Materials Science beamline at PETRA III at Deutsches Elektronen-Synchrotron (DESY), for Swedish universities, research organisations, and companies, allowing them to conduct advanced materials science research. This includes operational developments and upgrade planning.

CeXS also undertakes infrastructure development projects (hardware and methods) to enable novel research and streamline standard experiments.

BiSS is particularly impressed by the delivery of:

- DESY: Development of the EH2, roll-in experimental hutch at P21.2 to enable heavy-load sample environments (heavy-duty hexapod) and ultra-rapid measurements (fast Eiger detectors and detector portal)
- DESY: Development of the zoom-in/zoom-out bulk x-ray nanoscale microscope at the coming PETRA IV synchrotron source
- DESY: Development of laser and electron beam experimental platform at P21.2

www.cexs.kth.se

“Safeguards Swedish interests at the PETRA III.”

STOCKHOLM UNIVERSITY

STOCKHOLM

Stockholm University (SU) is a large university with excellent research groups within a range of areas, including astrophysics, ion physics and material science.

The university has experience and expertise in developing scientific instruments for optical and solar telescopes, as well as for detectors and components for accelerator systems for particle, atomic, ion, and molecular physics.

The university hosts the DESIREE ion-beam storage ring to study ion-ion interactions, the Institute for Solar Physics, and a nanofabrication facility connected to the national Myfab network.

BiSS is particularly impressed by the delivery of:

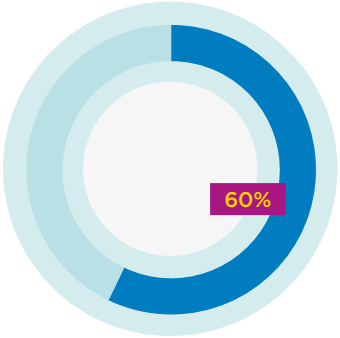
- XFEL: Temperature measurement system for undulators
- XFEL: Characterization and fiducilization of undulator quadrupoles
- XFEL: Dosimetry, damage and mitigation strategies for the undulator systems
- ESO: Development work for ANDES and MOSAIC instruments
- IceCube: Calibration system for the neutrino experiment in Antarctica (in collaboration with UU)
- CERN: Readout electronics for the hadronic calorimeter and calorimeter trigger of the ATLAS experiment
- CERN: Additive manufacturing for fabrication of 316L-grade components (in collaboration with Chalmers)
- Swedish Solar Telescope: Design and characterisation

At a glance

Stockholm University, founded in 1878 and located in the largest city in Northern Europe, has research groups in a range of areas, including astrophysics, ion physics and material science. It is also known for its high-quality climate and environmental science, social sciences, and humanities research. Stockholm University hosts 30,000 students and 3,900 researchers.

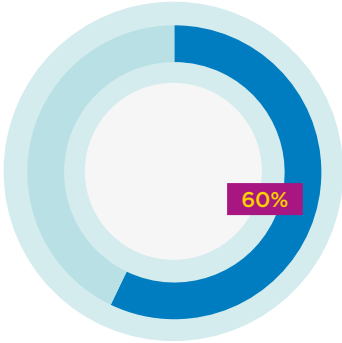
www.su.se/english

"Excellent research in astronomy and subatomic physics."



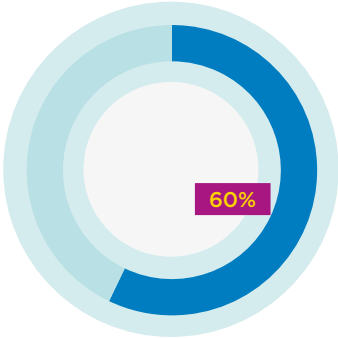
Research funding as proportion of total revenue

Out of its total revenue of almost EUR 530 million, Stockholm University allocates almost 60 percent, EUR 320 million, to research.



Employees with a research assignment

Of the more than 6,200 employees at Stockholm University, almost 3,900, 60 percent, have research assignments.



Academic papers within technology and natural science

Almost 2,400, around 60 percent, of the more than 3,800 publications from Stockholm University in scientific journals were within the fields of technology and natural science.

LINKÖPING UNIVERSITY (LiU)

LINKÖPING

Linköping University, LiU, leads transformative research in materials science, nanotechnology, biomedical engineering, and sustainability. The university is a pioneer in neutron detector technologies, enhancing its capabilities in delivering advanced techniques and equipment to Big Science facilities.

LiU is a part of the academic host of the Swedish Materials Science beamline, P21 at PETRA III at DESY (in collaboration with Royal Institute of Technology in Stockholm).

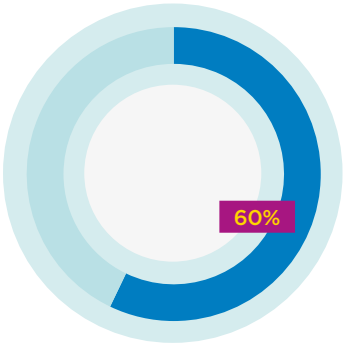
BiSS is particularly impressed by the delivery of:

- ESS: Sample environment for in-situ ultra-high temperature mechanical testing (in collaboration with Chalmers University of Technology)
- ESS: 10-B isotope enriched B4C neutron detectors
- MAX IV: The ARPES end station at beamline BLOCH

At a glance

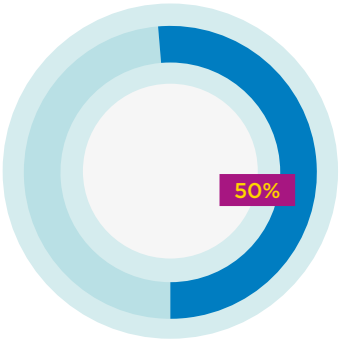
Founded in 1975, LiU is today one of the larger universities in Northern Europe, known for its cutting-edge interdisciplinary research in areas such as artificial intelligence, cybersecurity, materials science, and nanotechnology and for its strong collaboration with industry and society. It hosts 40,000 students and 2,300 researchers.
liu.se/en

"The academic equivalent of a superpower within material detection technology and computer science."



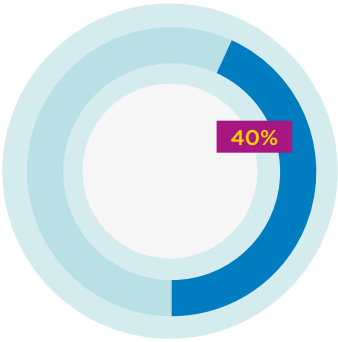
Research funding as proportion of total revenue

Out of its total revenue of almost EUR 400 million, Linköping University allocates almost 60 percent, EUR 230 million, to research.



Employees with a research assignment

Of the more than 4,600 employees at Linköping University, more than 2,300, 50 percent, have research assignments.



Academic papers within technology and natural science

More than 1,200, around 40 percent, of the more than 2,800 publications from Linköping University in scientific journals were within the fields of technology and natural science.

CHALMERS UNIVERSITY OF TECHNOLOGY

GOTHENBURG

Chalmers' engagement in Big Science stems from interdisciplinary research, advanced facilities and infrastructures, and a collaborative environment. Its close ties with industry and government agencies enhance the ability to tackle complex challenges and deliver impactful solutions.

Chalmers played key roles in developing CERN's Large Hadron Collider (LHC), establishing the European Spallation Source, and FAIR.

Chalmers is also the node for Swedish engagement in developing the SKA Observatory.

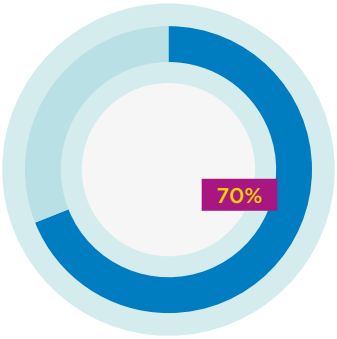
BiSS is particularly impressed by the delivery of:

- ITER: Additive Manufacturing for Fabrication of 316L-Grade Components for the fusion reactor
- CERN: Assessment of the integrity of IGBT-based power stacks critical for magnet power supplies in particle accelerators
- FAIR: Development of the front-end system for the CALIFA photon- and particle calorimeter
- ITER: Leads the design and implementation of an integrated modelling infrastructure for ITERIS
- MAX IV: Methodology development for simultaneous X-ray diffraction and absorption spectroscopy experiments
- ESS: Modelling and analysis tools and software for in-situ time-resolved neutron diffraction
- MAX IV: Development of nanoindentation sample environment for NanoMAX

At a glance

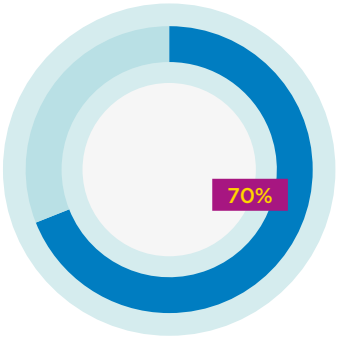
Renowned private research university in, Sweden's second-largest city. Founded in 1829, it is one of Sweden's leading technical universities. It has a structure for interdisciplinary work through Areas of Advance, such as Material Science, and Information and Communication Technology. Chalmers hosts 10,000 students and 2,300 researchers.
www.chalmers.se/en

"An ability to deliver impactful solutions to global scientific endeavours."



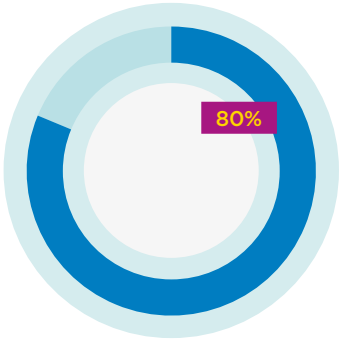
Research funding as proportion of total revenue

Out of its total revenue of EUR 380 million, Chalmers allocates more than 70 percent, EUR 270 million, to research



Employees with a research assignments

Of the more than 3,450 employees at Chalmers, almost 2,300, 70 percent, have research assignments



Academic papers within technology and natural science

More than 3,000, 80 percent, of more than 3,700 publications from Chalmers in scientific journals were within the fields of technology and natural science.

Myfab hosted by Chalmers

Myfab, the national research infrastructure to supports micro and nanofabrication, is a network of facilities located at Chalmers University of Technology in Gothenburg, KTH Royal Institute of Technology and Stockholm University in Stockholm, Lund University, and Uppsala University.

Myfab equipment and cleanrooms are critical for advancements in various scientific fields, they provide advanced fabrication tools and expertise, enabling the development of technologies such as sophisticated sensors and microchips.

In the realm of Big Science, Myfab can significantly enhance experimental setups and data acquisition methods across multiple disciplines. For instance, Myfab's technological innovations can contribute to advancing particle physics experiments, where precise instrumentation is critical, or in environmental monitoring, where nano-enabled sensors can detect pollutants at incredibly low concentrations.

www.myfab.se

"Myfab equipment and cleanrooms enable development of sophisticated sensors and microchips."

Onsala Space Observatory (OSO) hosted by Chalmers

Onsala Space Observatory, OSO, is renowned for developing cutting-edge receiver technology and sophisticated data processing methods pivotal to radio observatories like the Atacama Large Millimetre/Submillimetre Array (ALMA) in Chile.

OSO delivers design and technical development of receivers and digital technology as well as the development of AI/ML techniques to study, e.g. known classes of cosmic objects and to discover new phenomena.

Within OSO, the Group for Advanced Receiver Development (GARD) and the Technical Support Group (TSG) lead technical innovation, designing and refining cutting-edge receiver systems and integrating these into complex radio astronomy telescopes.

OSO's expertise includes developing specialised components and signal processing techniques tailored for research needs, directly enhancing both international radio astronomy projects and the radio observations made at the Onsala site, which, among other things, image black holes and monitor Earth orientation and help define the terrestrial and celestial reference frames.

BiSS is particularly impressed by the delivery of:

- SKA: Contributing to the design and technical development of the SKA's receivers and digital technology, as well as developing the Swedish node of the SKA regional network to handle the data that will be produced – approaching 1 PB/year
- SKA: Designs and prototypes Band 1 receivers and digitiser, together with industrial partners
- ESS: Contributes Band 5 and Band 2 receivers, enhancing millimetre/submillimeter astronomy capabilities, for the ALMA telescope.

www.chalmers.se/en/infrastructure/oso

"Experts in radioastronomy and associated technical development."

UNIVERSITY OF GOTHENBURG

GOTHENBURG

UNIVERSITY OF GOTHENBURG

The University of Gothenburg excels in a range of areas. It has pioneering research in physics, e.g. condensed matter physics, quantum technologies, and particle physics. It has made significant contributions to the Isolde experiment at CERN, Max IV and XFEL, among other facilities.

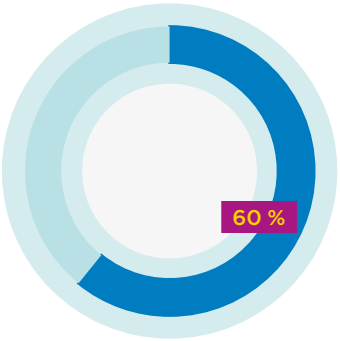
BiSS is particularly impressed by the delivery of:
- XFEL: Instrument Serial Femtosecond Crystallography (SFX) to increase the capacity for life science studies
- MAX IV: Established a serial crystallography

"Excellent fundamental research in a range of areas."

At a glance

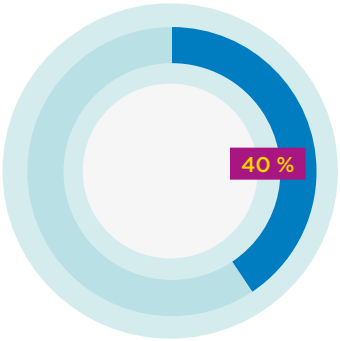
Founded in 1891 this is one of Sweden's largest universities working across a wide range of disciplines. Main focus is on humanities, social sciences, marine science, medicine, and fine arts, but the university is also highly specialised in other fields of natural science. The University of Gothenburg hosts approximately 37,000 students and around 4,200 researchers.

www.gu.se/en



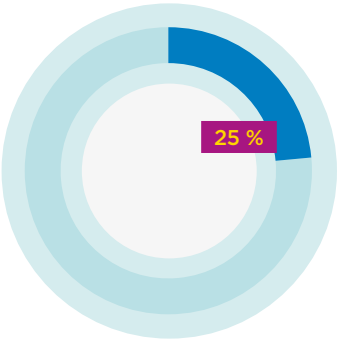
Research funding as proportion of total revenue

Out of its total revenue of EUR 660 million, the University of Gothenburg allocates more than 60 per cent, EUR 400 million, to research.



Employees with a research assignment

Of the more than 7,000 employees at the University of Gothenburg, 4,200, 40 percent, have research assignments.



Academic papers within technology and natural science

More than 1,400, almost 25 percent, of more than 6,000 publications from Gothenburg University in scientific journals were within the fields of technology and natural science.

RISE, RESEARCH INSTITUTES OF SWEDEN

HQ GOTHENBURG, FACILITIES AROUND SWEDEN

RISE has activities and laboratories at a large number of different locations all over Sweden.

BiSS is particularly impressed by the delivery of:

- CERN: Design and manufacture of a reference high-voltage pulse divider
- CERN: Review of the north area sprinkler system design parameters
- GSI/FAIR: Performance test for data centre optimisation
- ITER: Pre-study of electrical power converters for ELM coils
- ITER: Design and build test systems for static magnetic fields
- SKA: Tests of receivers, EMC
- SKA: Evaluation of systems for time and frequency synchronisation

High Voltage Laboratory

The RISE High Voltage Laboratory combines expertise with advanced measurement technology in high voltage and current including power electronics. The lab offers accurate measurement of high voltage and high current, as well as electromagnetic immunity determination for sensor performance in the presence of high magnetic fields. They also develop precise measurement solutions for the impact of magnetic fields on power electronics functionality.

Safety Technology

RISE has one of the largest fire protection engineering departments in the world. RISE offers testing and certification of fire safety for materials and structures and performs research into fire risks and the environmental impact of fires.
RISE also has long-standing experience on seismic testing and modeling.

EMC, Electromagnetic Combability

RISE is the largest EMC test laboratory in northern Europe, including more than ten various test chambers for EMC and wireless communication testing, for a range of different sample sizes and frequencies. They also perform high-end research on new measurement techniques and systems. RISE is one of very few laboratories in the world approved by SKAO for RFI/EMC compliance measurements.

ICE Datacenter, Infrastructure and Cloud Research & Test Environment

The RISE ICE data center offers a stable environment optimised for testing IT and cloud-related applications and processing large amounts of data. It also has one of Sweden's largest computer clusters which is based on supermicro system, for training of large language models, machine learning, AI, and VR. Furthermore, the ICE data center offers performance test of IT-infrastructure from a sustainable and circular perspective.

Vacuum

RISE has extensive expertise in the area of vacuum and pressure technology. It hosts the Swedish national laboratory for pressure and vacuum.

At a glance
RISE is a merger of several prominent research institutions in Sweden, including SP, the Technical Research Institute of Sweden. It is known for its extensive work in applied research, testing, and certification across various industries. RISE has approximately 2,800 employees and reports an annual turnover of around EUR 300 million.
www.ri.se/en

"Swedens national One-Stop-Shop when it comes to commissioned research."

UNIVERSITY WEST

TROLLHÄTTAN

University West conducts research on production processes in manufacturing, with particular focus on welding and welding-based additive manufacturing (AM), powder bed fusion additive manufacturing, thermal spraying (surface treatment), flexible automation, advanced non-destructive testing and evaluation (NDT), and operations and supply chain management.

The Thermal Spray Group technology is typically used to deposit coatings to extend the life of components or impart special functions on their surfaces. The range of materials that can be deposited includes metals, alloys, ceramics, plastics, and composites.

BiSS is particularly impressed by the delivery of:

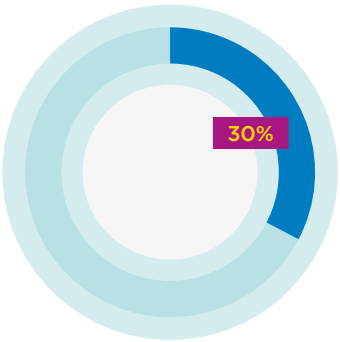
- ESS: The development of luminescent coatings for critical parts of the ESS installation

At a glance

University West, also known as Högskolan Väst, was established as late as 1990 and has since made a reputation for its focus on applied research within, e.g. production processes in manufacturing. The university collaborates closely with industry and the public sector to ensure that its research has practical applications. The university hosts 11,000 students and 350 researchers.

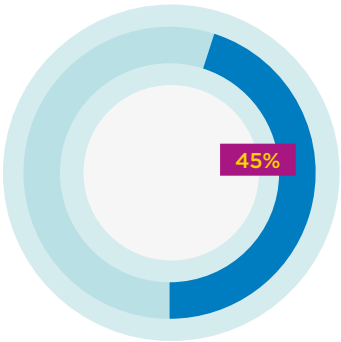
www.hv.se/en

"Challenge-driven research, firmly founded in industry collaborations."



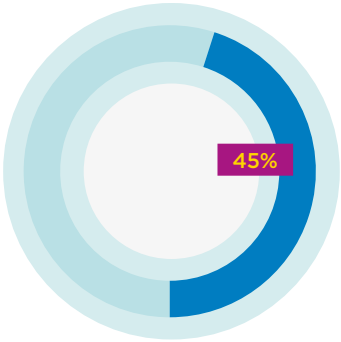
Research funding as proportion of total revenue

Out of its total revenue of around EUR 60 million, University West allocates almost 30 percent, EUR 18 million, to research.



Employees with a research assignment

Of the around 750 employees at University West, 350, 45 percent, have research assignments.



Academic papers within technology and natural science

A total of 110, 45 percent, of the 240 publications from University West in scientific journals were within the fields of technology and natural science.

LUND UNIVERSITY

LUND

Lund University's research within Big Science technology spans everything from developing novel power converter concepts for particle accelerators and fusion reactors, to tackling complex societal challenges related to climate change through novel lasers and photon sources, and enhancing device performance through advanced nanotechnology.

LU is host to the Swedish synchrotron facility, MAX IV. Researchers at the university have also played an instrumental role in developing the European Spallation Source (ESS). LU also has a node in the Swedish nanofabrication network MyFab.

BiSS is particularly impressed by the delivery of:

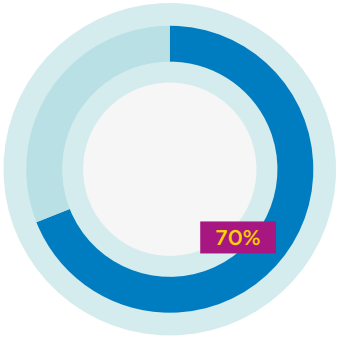
- CERN: Advanced Resource Connector Software for ATLAS and LHC computing
- CERN: Construction of the Time Projection Chamber in Alice at LHC
- CERN: Contribution to the Isolde-experiment
- ESS: Cost-effective and versatile testbed for novel neutron detectors
- MAX IV: High Field/High Gradient Magnets
- ESS: High Power Modulators Design for the ESS Linac
- ESS: Low-Level RF System
- ESS: Remote Handling within the Active Cells Facility at the ESS using Digital Reality Techniques
- CERN: Upgrade of the ALICE TPC detectors
- ITER: Electrical power converters for the ITER ELM coils

At a glance

Lund University, founded in 1666, is one of Northern Europe's oldest and largest universities. The university is known for its significant research contributions within democracy, digitalisation, sustainability, and health. It hosts the MAX IV Laboratory. Lund University has 45,000 students and 5,800 researchers.

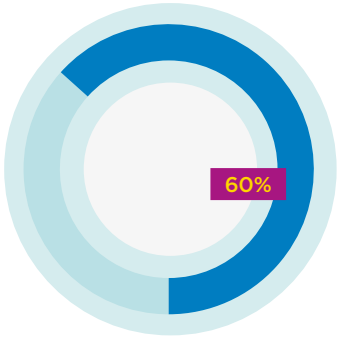
www.lunduniversity.lu.se

"Host to the world's brightest light source, the MAX IV Laboratory."



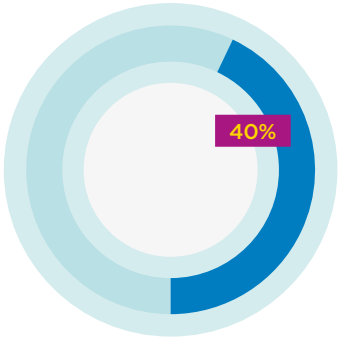
Research funding as proportion of total revenue

Out of its total revenue of more than EUR 860 million, Lund University allocates almost 70 percent, EUR 590 million, to research.



Employees with a research assignment

Of the more than 9,,100 employees at Lund University, 5,800, over 60 percent, have research assignments.



Academic papers within technology and natural science

Around 2,700, 40 percent, of the more than 6,200 publications from Lund University in scientific journals were within the fields of technology and natural science.

HOW TO REGISTER AND SUBMIT BIDS – BISS LATHUND

BiSS Lathund is a guide equally useful for suppliers who regularly submit tenders and for those looking to take their first step into the Big Science market.

The document, which is in Swedish, explains how the research facilities process submitted tenders, and includes links to more detailed information specific to each facility.

www.bigsciencesweden.se/business-opportunities/how-to-register-and-submit-bids-biss-lathund/


big science sweden
CHALMERS
UNIVERSITY OF TECHNOLOGY
LUND UNIVERSITY
LULEÅ
UNIVERSITY
OF TECHNOLOGY
UPPSALA
UNIVERSITET
RI.
SE
Teknikföretagen
REGION
SKÅNE
IUC
Syd
Industriellt utvecklingscentrum