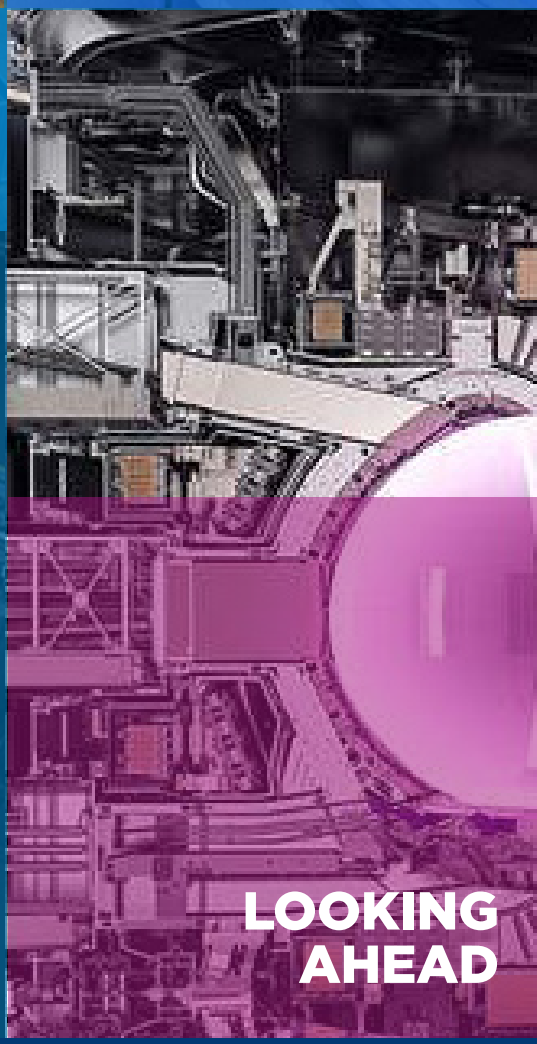
big science sweden

BIG SCIENCE SWEDEN 2021 IN BRIEF

SUCCESS FACTORS

FACTS & FIGURES



LOOKING AHEAD

In this years edition: Success factors • Facts and figures • Our activities • Academia & industry • Knowledge transfer Member companies • New orders • Success stories • Looking ahead

Members of the BiSS team travelled from all over Sweden to gather at RISE in Borås for two intensive strategy days, 24-25 November 2021.

2021 EDITORIAL

Dear Reader,

In this report we sum up 2021, a year in which we hoped life would return to normal, but sadly that was not the case. However, Big Science Sweden was well prepared, and we have been able to continue working with our partners in a broad international context, connecting people in a virtual world. We arranged constructive arenas for industry, academia, institutes, research infrastructures, and international partners. Of course we have missed meeting in real life, but our digital world has been effective, and our network continues to grow and develop. Thanks to all for contributing!

BiSS in Brief gives an overview of our events, our collaborations, and our success factors in 2021. We arranged many digital events, attended by almost 1000 participants in total. Swedish companies have interacted with the research facilities in different forums, and have been kept up to date about their long-term and more immediate plans, current procurements, and their needs in various areas of technology.

One of the year's most popular events was AIMday Big Science Technology 2021. Representatives from CERN, ESS, FAIR and GSI Helmholtz presented the challenges they had identified, and discussed these with participants from industry and academia. AIMday is a unique concept developed by Uppsala University, and is often the starting point for development projects and long-term collaborations that generate business for Swedish companies You can read more about this in BiSS in Brief.

We have continued with our Business Corners every Wednesday. During these 30-minute meetings, we present the latest procurements and help to build networks through informal discussions. Sometimes a key person from a research facility takes part, presenting information before answering questions and exchanging contact information. In our Business Corner we are constantly seeing new contacts being made and new collaborations taking shape.

Our activities and the engagement of the research facilities and our other national and international partners in the Big Science ecosystem have enabled us to continue strengthening Swedish industry and improving Sweden's chances of winning contracts.

I would like to express my sincere gratitude to everyone who contributed to a rewarding 2021, and look forward to new collaborations and exciting, hopefully physical, meetings in 2022.

Anna Hall
Programme Director, Big Science Sweden
anna.hall@bigsciencesweden.se

SWEDEN – A BIG SCIENCE NATION

Big Science Sweden is Sweden's official Industrial Liaison Office (ILO) and the link between Swedish high-tech industry, academia, institutes, and the large-scale research facilities in which Sweden is a member. In practical terms, we help Sweden supply equipment, materials, and services to Big Science research facilities around the world.

Two of the world's most powerful and renowned research facilities are located in Sweden.

2021 CONTENTS

2021 BIG SCIENCE SWEDEN

Industrial Liaison Office (ILO)

Big Science Sweden is Sweden's official Big Science Industrial Liaison Office (ILO). Our mission is to support Swedish universities, research institutes and industry, and thereby increase the Swedish contribution to Big Science, by facilitating contacts with large-scale research facilities.

Industrial return for Sweden

A basic principle is that contracts awarded by the research facilities are, as far as possible, to be allocated fairly among the member countries. However, the price quoted in the tender is always a factor to be considered.

Industrial return refers to the total value of orders that Swedish companies receive from the facilities in relation to Sweden's total funding. As Sweden's industrial return on investment is currently low, this is a strategically advantageous time for Swedish companies to respond to procurements and submit tenders.

BASIC RESEARCH
CERN, Switzerland/ France border
FAIR, Germany

X-RAY FACILITIES
MAX IV, Sweden
ESRF, France
DESY, Germany
XFEL, Germany

FUSION RESEARCH
ITER (under construction), France. Global project with European office in Spain – Fusion for Energy.

GROUND-BASED SPACE RESEARCH
ESO, Chile, development and purchasing in Germany
EISCAT, Sweden
SKA, South Africa and Australia (under negotiation).

NEUTRON SOURCES FOR MATERIALS RESEARCH
ESS, Sweden
ILL, France
ISIS, UK

Big Science facilities to which Swedish companies can supply equipment and services

MARKET POTENTIAL

37 billion euros of business opportunities in 2022-2026

Identified by Big Science Business Forum 2022.

What is Big Science Sweden?

Big Science Sweden

We are a key component in the Swedish ecosystem supporting Big Science. We contribute to building up Sweden as an important Big Science nation through initiatives that promote cutting-edge knowledge, innovation, knowledge transfer, and competitiveness in Swedish industry.

Our mission is to:

- support Swedish industry, research institutes and universities in their contribution to Big Science, to facilitate excellent research at the forefront of knowledge.
- focus on high-tech contributions that drive research, innovation, and international collaboration, and generate business opportunities for Sweden.
- create value for Swedish industry and society by transferring new knowledge, technology and competence between Big Science and other areas of application.

FUNDING BODIES

The Swedish Research Council and Vinnova

Sweden's largest and most important organisations for supporting and funding Swedish research and high-tech research and growth: The Swedish Research Council (Vetenskapsrådet) and Vinnova (Sweden's Innovation Agency).

VINNOVA Sveriges innovationsmyndighet

Vetenskapsrådet

MANAGEMENT

Organisations working as a coalition

The Association of Swedish Engineering Industries (Teknikföretagen), Industrial Development Centre (Industrikluster IUC Syd), Chalmers University of Technology, Lund University, Luleå University of Technology, Uppsala University, RISE, and Region Skåne.

Teknikföretagen

RI.SE

IUC Syd Industriella utvecklingscentra

Region Skåne

Chalmers

Uppsala Universitet

Lunds Universitet

Luleå Tekniska Universitet

2021 & FACTS FIGURES

Big Science Sweden – strategic position in Big Science

Contact network

In 2021, we extended our contact network in the international ecosystem relating to Big Science. This has given us a strategically important role, putting us in a better position to give Swedish companies guidance, not least in the large procurements that require early information, international collaboration, and the formation of consortia.

We are a well-respected Big Science actor, able to drive issues in a way that promotes Swedish industry and opportunities for Swedish companies to conduct business with the research facilities.

Knowledge/technology transfer programmes

With our Knowledge Transfer Office, we are making scientific and technological development accessible to a range of relevant areas in industry and wider society, such as medical technology for cancer treatment, energy efficiency, big data processing, artificial intelligence, and innovative materials for many applications.

As part of our collaboration programme with the CERN Knowledge Transfer Group, strategic innovation challenges in Swedish companies have been identified, and matched with unique CERN know-how and technology.

We arranged an event in December, Innovate with Big Science, to show how companies can benefit from the knowledge/technology transfer programmes of the Big Science research facilities.

International collaborations

We encourage Swedish companies to join international consortia when bidding for larger contracts, and to set up collaborations when working with the Big Science research facilities. Our member companies are then in a stronger position to win orders and supply products and services to major projects.

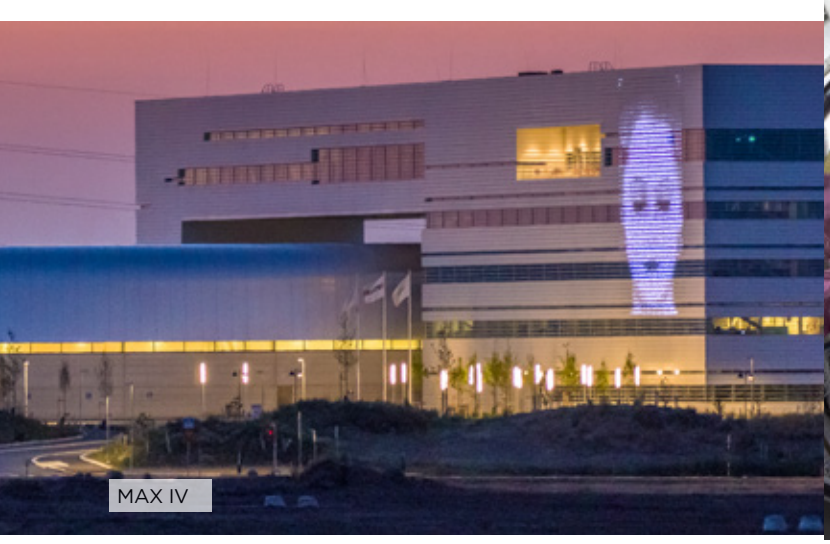
Our ILO work is constantly extending our international relationships and partnerships. We are on the board of PERIIA (Pan-European Research Infrastructure ILO Association) and participate in ENRIITC, an international network to increase industrial engagement with research facilities.

Promote early engagement

Early engagement is often an advantage when it comes to winning orders. We aim to get Swedish companies involved as early as possible in projects and tenders, with our Business Corner providing information about new procurements as soon as they are announced. At AIMdays, companies get first-hand information about the challenges the research facilities are facing and discuss possible solutions.

Companies can then take part in projects with great innovation potential that trigger technological advances. Here, an outstanding level of skills and expertise is an important success factor. We can clearly see how involving Swedish companies early in the discussions generates confidence and helps them win contracts.

One example is the construction of the international SKA Observatory. Sweden became a partner in the project at an early stage, and this resulted in new opportunities for Swedish companies.



MAX IV

ITER

& 2021 FACTS FIGURES

In the Swedish Guide

Sorted by research facility...

or

... sorted by coordinating Swedish university or institute.

ACADEMIC CONTRIBUTIONS

87

A selection of current academic projects where Swedish universities and research institutes have contributed, or are contributing, to Big Science facilities.

BUSINESS MATCHINGS

543

Big Science Sweden matched procurements with suppliers.

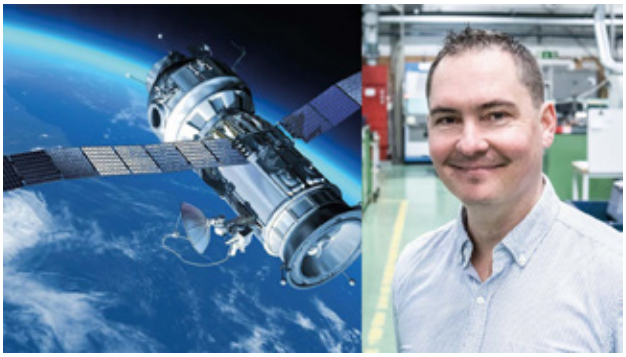
VIRTUAL SEMINARS & CONFERENCES

NATIONAL AND INTERNATIONAL

14 + 981

Seminars & conferences **Participants**

Seminars, conferences, workshops, and training events in cooperation with universities and international partners.



One of the new member companies is LK Precision, which produces components for industries with exacting requirements in terms of precision and performance.

SUPPLIERS AND PARTNERS

231

Number of high-tech suppliers and partners in our network. 10 different procurement categories.

AIMDAY BIG SCIENCE TECHNOLOGY 2021

60 participants

4 research facilities

16 challenges

9 digital workshops

Examples of areas addressed in workshops: Materials, Big Data, Software Development, AI/ML, Control Systems, Detector Technology & Instrumentation, Diagnostics. Results: Two pre-studies started, 'Turning of Tungsten' and 'Simulating the environment in a hot cell'. A third pre-study in the planning stage.

2021 & FACTS FIGURES

Activities and results

Big Science Sweden had a successful year in terms of activities and results. In 2021, our business-promoting activities contributed to Swedish companies winning contracts worth approximately SEK 100 million, and the total value of orders since the start in 2018 is now around SEK 350 million. These years have taught us that business with the research organisations is sometimes characterised by long lead times and that procurement processes are not always straightforward.

Experience has shown the importance of companies becoming involved with the research organisations at an early stage in projects. A number of our success stories reflect this, where companies are involved in building prototypes and participating in pilot studies. Partnerships too are important – every day we understand more about how working in consortia opens doors and increases the chances of winning large contracts.

We extended our collaboration with international system integrators. Swedish involvement in the international ecosystem around Big Science is essential if we are to be a strong host country for ESS and MAX IV and successfully promote Swedish industry. New channels for raising levels of expertise and promoting partnerships are essential.

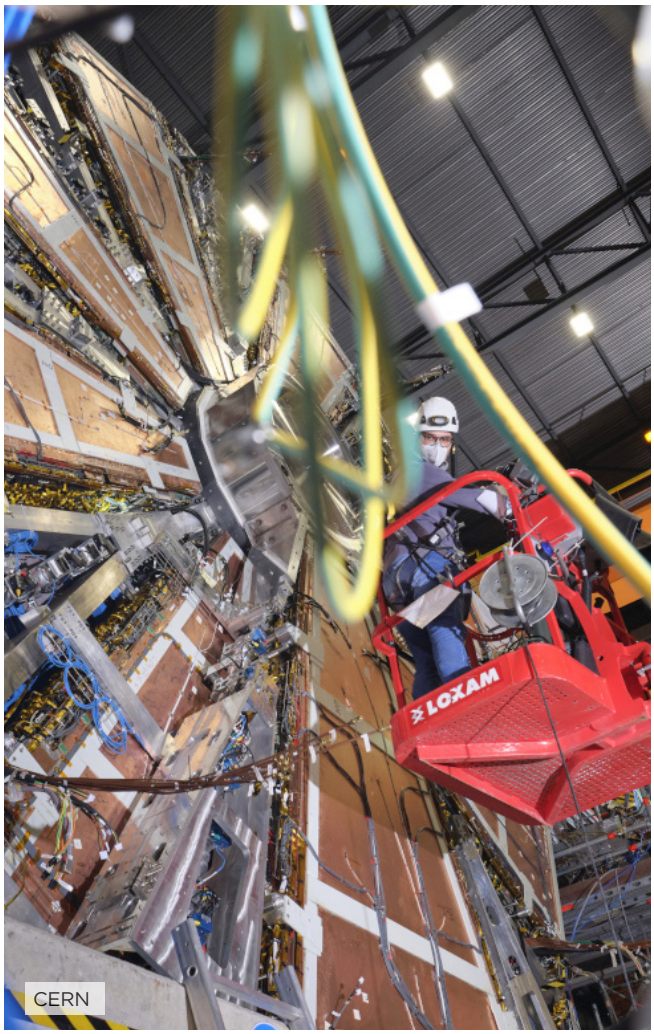
Our activities relating to knowledge transfer increased in 2021. Knowledge transfer increases Swedish competitiveness, contributes to the green transition, and brings solutions to the global challenges. We are testing knowledge transfer processes with a number of industries.

One large company in Sweden has started an important project with CERN that will address the green transition and open up new business opportunities worldwide. In this special project CERN is both a collaboration partner and an interesting testbed. Big Science Sweden is discussing a number of openings for collaboration.

One of our aims is to firmly establish Sweden in the Big Science ecosystem in the technological areas where we have expertise and can make a significant contribution. Research organisations have identified the areas of expertise that will become in demand in the coming years, and Swedish high-tech companies will be in a strong position when submitting tenders.

Some technological areas where expertise will be required in the next few years:

- Accelerator Technology
- Construction and Civil Engineering
- Coating, Joining and Casting
- Electronics, RF and Microwave Technologies
- Magnets
- Materials
- Mechanical Engineering
- Optics, Sensors and Diagnostics
- Detectors
- Power Supply
- 3D Printing
- Big Data
- AI/ML
- Data handling & Visualisation
- Remote Handling
- Cryogenics
- Robotics
- Software and Control Technologies
- Utilities and Instrumentation
- Vacuum and Low Temperature Technologies



CERN

2021 & FACTS FIGURES

SWEDISH BIG SCIENCE ORDERS

350 million SEK

Value of orders in the first four years of BiSS.

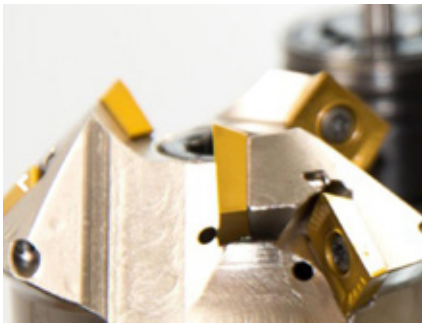
100 million SEK

Value of orders 2021

In 2021, Big Science Sweden member companies won multiple orders after submitting bids, and are now working on contracts in a range of challenging technological areas.

AQ ELAUTOMATIK
Orders to CERN and ESS

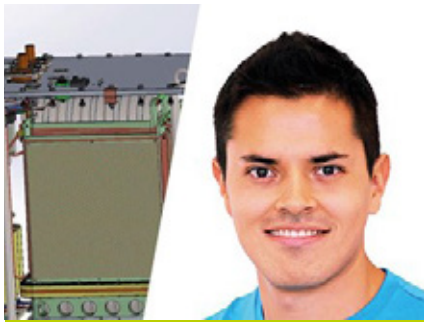
NVENT
Cabinet solutions to ESS



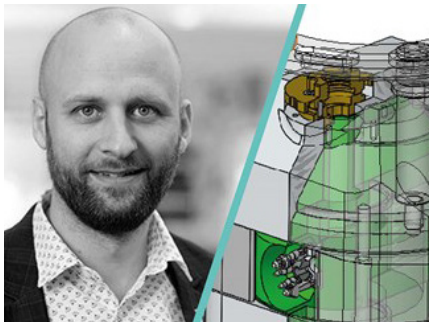
NORDISK INDUSTRIOPTIMERING
First order from FAIR

AIR LIQUIDE
Three-year agreement with ESS

EC KONSULT
Framework agreement with ESS



QUANTUM GROUP
Strategic order from FAIR



2B BEST BUSINESS
Exotic materials led to CERN order

MCT BRATTBERG
Key orders to ESS and Jules Horowitz Reactor

PROACT IT SWEDEN
Framework agreement with OCRE

2021 OUR ACTIVITIES

Our online breakfast meetings

Big Science Morning

Big Science Morning is our forum where member companies meet with each other, share experiences, and learn more about how to generate business in the Big Science market.

In 2021, we hosted four online breakfast meetings, featuring speakers from FAIR, RISE, SUNET, ESS, EKN, F4E and Studsvik Nuclear.

Many join us for the latest news every week.
Frida Tibblin-Citron, Big Science Sweden, moderator at Business Corner

A weekly procurement meeting

Business Corner

Every Wednesday morning, we open our Business Corner. This is an effective 30-minute virtual meeting where we go methodically through the new procurements announced by the research facilities, and talk about procurement procedures, contact channels, technical specifications, deadlines, etc.

Our 30-minute virtual meetings are an effective way to keep up to date and ask questions.

Promoting cutting-edge knowledge

Big Science Academy

Suppliers to research facilities need to continually raise their level of expertise, to ensure they remain at the forefront in the technological fields where suppliers are needed. Big Science Academy offers continual training in the areas that reflect the facilities' requirements and need.

June How can companies boost their chances of winning contracts from research facilities? We invited procurement experts from facilities to this special event.

2021 OUR ACTIVITIES

Seminar and workshop

Focused Technology Workshop

Big Science Technology Workshop is a combination of seminar and workshop, where the focus is on a specific field of technology, such as AI, advanced 3D printing, or other areas.

These workshops often allow the opportunity for one-to-one meetings.

March **At this workshop representatives from CERN gave us an overview of their need for low-density carbon-based materials.**

AIMday Big Science Technology 2021

Digital Workshops

The annual meeting between research facilities, industry, and academia opens the door to collaborations on new development projects.

In the nine digital workshops, participants discussed issues in categories such as Materials, Robotics and Remote Handling, Big Data, and Detector Technology and Diagnostics.

The popular event attracted around 60 participants.

Workshops for institutes and universities

Big Science@

Big Science@ is a series of workshops focusing on academic institutions' past, present, and future involvement in delivery to Big Science facilities. When academia delivers technology to Big Science facilities, this generates multiple scientific, technological, and societal benefits. The Big Science@ workshop in 2021 focused on Lund University.

Photo from a conference at Lund University.

Innovation in Big Science

Knowledge Transfer events

The BiSS Knowledge Transfer Office aims to create an ecosystem and collaboration models to facilitate the use of knowledge and technology from the Big Science sector.

We are continuously expanding our partnerships within the international innovation ecosystem, enabling us to become a strategic partner in promoting industrial utilisation of new technology in Sweden.

March **CERN, FAIR, ESS and F4E gave examples of what the facilities can share, and how industry can benefit.**

2021 OUR ACTIVITIES

Networking

External events

An important part of the ILO work is building networks. This is partly done through events Big Science Sweden arranges, but also by participating in various external events that promote knowledge sharing, collaborations, etc.

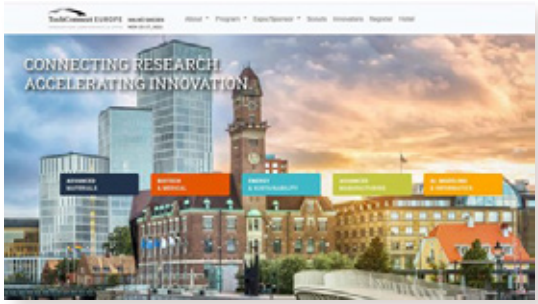
BSBF Miniseries

Ahead of the conference, BSBF is arranging three webinar miniseries covering different topics relating to Big Science. In three episodes, representatives from different Big Science facilities presented their research and development plans and future projects.

We're continually monitoring opportunities to collaborate and form alliances with large technical integrators. This gives Swedish companies the opportunity to become involved as sub-contractors.
Håkan Nilsson, Business Development Officer at Big Science Sweden, took part in the BSBF Fusion webinar.

PhotonicSweden

March This event gave an introduction to the need for optics and photonics in Big Science. Anna Hall gave a presentation about Big Science Sweden.



TechConnect Conference

November We were involved in TechConnect in Malmö, the first physical conference held in two years.

AIMday Materials

October Industry and the research community discussed issues that can be addressed in future joint development projects. Arranged by Uppsala University

Opinion

Industry data

April According to the AI agenda for Sweden, authorities must make data available to increase innovation in business and industry. But we lack data sharing in the other direction, say researchers Thomas Olsson, Per Runeson and Karin Rathsman in an article in Ny Teknik.

Thomas Olsson, Per Runeson and Karin Rathsman.

2021 OUR ACTIVITIES

Machine learning

Collaboration with ESS

April ESS hosted a meeting about collaboration projects in the field of machine learning. The collaboration projects are one example of how ESS is promoting innovation and increasing competitiveness for SMEs and large companies.

Big Science Sweden is playing a key role in this knowledge and technology transfer between ESS, other research facilities, industry, and academia.

”This knowledge and technology transfer is important for technological development and digitalisation in Swedish and European industry,” says Anna Hall, Director Big Science Sweden.

From left: Emma Söderberg, LTH, Karin Rathsman, ESS, Martha Dadson, ESS, Jan Eric Larsson, GolArt, Per Runeson, Computer Science LTH, Per Andersson, Goalart, and Anna Hall, Big Science Sweden.

Tenderer name	Lots
Sigma Technology Information AB, Sweden	1-7
Sweco Sverige AB, Sweden	1, 3, 4, 6, 7
OTIF AB, Sweden	1-5
Netgroup Energy Sweden AB, Sweden	1-5, 7
Alten Sverige AB, Sweden	1-5
Nipromec OY Ltd, Finland	1, 2, 5-7
ÅF-Industry AB, Sweden	1-4, 6, 7
Combitech AB, Sweden	2-6
M for Solution syd AB, Sweden	2
EC Konsult AB, Sweden	2-6
M5tec Ltd, UK	2
Senior Structural Engineers Sweden AB, Sweden	2
Altran Sverige AB, Sweden	2, 3
Additude AB, Sweden	2, 4
Fagerström Industrikonsult AB, Sweden	2, 5
One Nordic AB, Sweden	3
Idom consulting, engineering, architecture SAU, Spain	3
COWI AB, Sweden	5
Vysus Sweden AB, Sweden	6, 7
Nuvia Nordic AB, Sweden	7
KIWA Inspecta Technology AB, Sweden	6

Congratulations!

Business for Big Science Sweden members

ESS framework agreement

August ESS published a list of suppliers contracted in the framework agreement for technical consultants and services. The companies will be supplying services for two years, which can be extended up to five years.

Opinion

Sweden’s advanced technology environments

September In a debate article in Ny Teknik, a number of representatives of universities, companies, and research environments highlighted how serious it is that Sweden lacks a suitable structure and funding system to develop advanced technology environments.

According to the authors, one of whom was Anna Hall, Director of Big Science Sweden, the new Government Committee report on Sweden’s future research infrastructure leaves many highlighted unanswered. Responsibility for the technology environments currently falls between two stools and appropriate funding is lacking.

& 2021 ACADEMIA INDUSTRY

AIMday Big Science Technology

Feasibility studies and orders for Swedish companies

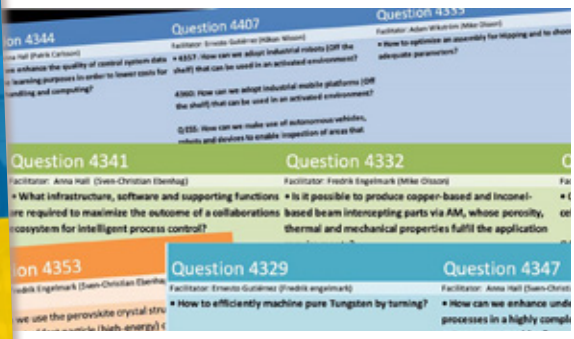
AIMday stands for Academic Industry Meeting day. The concept, developed by Uppsala University and adopted by Big Science Sweden, is an effective forum for discussions between research facilities, industry, and academia. AIMday events offer a unique opportunity for research facilities to present the challenges they are facing, discuss possible solutions, and initiate collaborations, feasibility studies, and development projects.

"It's encouraging to see how we've managed to adapt the AIMday format to Big Science, and how it can help to build new knowledge and generate business opportunities for Swedish companies," says Fredrik Engelmark, Big Science Sweden/ Uppsala University.

Big Science Sweden AIMdays are the starting point for a series of interesting collaborations between research facilities and Swedish companies and universities. This process, from identifying a need at a research facility to industry supplying appropriate products or services, normally extends over several years. Our Business Development Officers monitor the process, providing support and using their contacts at the facilities and in the rest of the Big Science ecosystem to strengthen opportunities for Swedish industry.

Below you can read about two examples of a successful progression from an AIMday event, one culminating in an order and the other in an exciting project involving cooling systems and cold magnets.

Picture from 2020



www.aimday.se/big-science-technology-2021

Cooling systems

Cooling systems was a challenge addressed at an Uppsala University AIMday in 2019. At one of the workshops experts discussed a challenge identified by CERN: How can we manufacture CO2 cooling systems that can handle temperatures down to -53 degrees for the ATLAS experiment?

The discussion also considered how Swedish companies with the relevant expertise could play a role in the development of new cooling systems for CERN.

Following on from this AIMday, in 2020, Big Science Sweden arranged a seminar at the Ångström Laboratory at Uppsala University on CO2 cooling. Representatives from CERN took part in the seminar, where they heard about a Swedish company called HUURRE, a pioneer in designing, manufacturing, and supplying energy-efficient and environmentally friendly cooling systems.

When a call for tenders was announced for a contract to supply new specialist cooling units for the CMS and ATLAS experiments at LHC, CERN contacted HURRE and invited the company to submit a bid. HUURRE did so and was awarded the contract to supply 20 refrigeration units to CERN before 2024.

Magnets

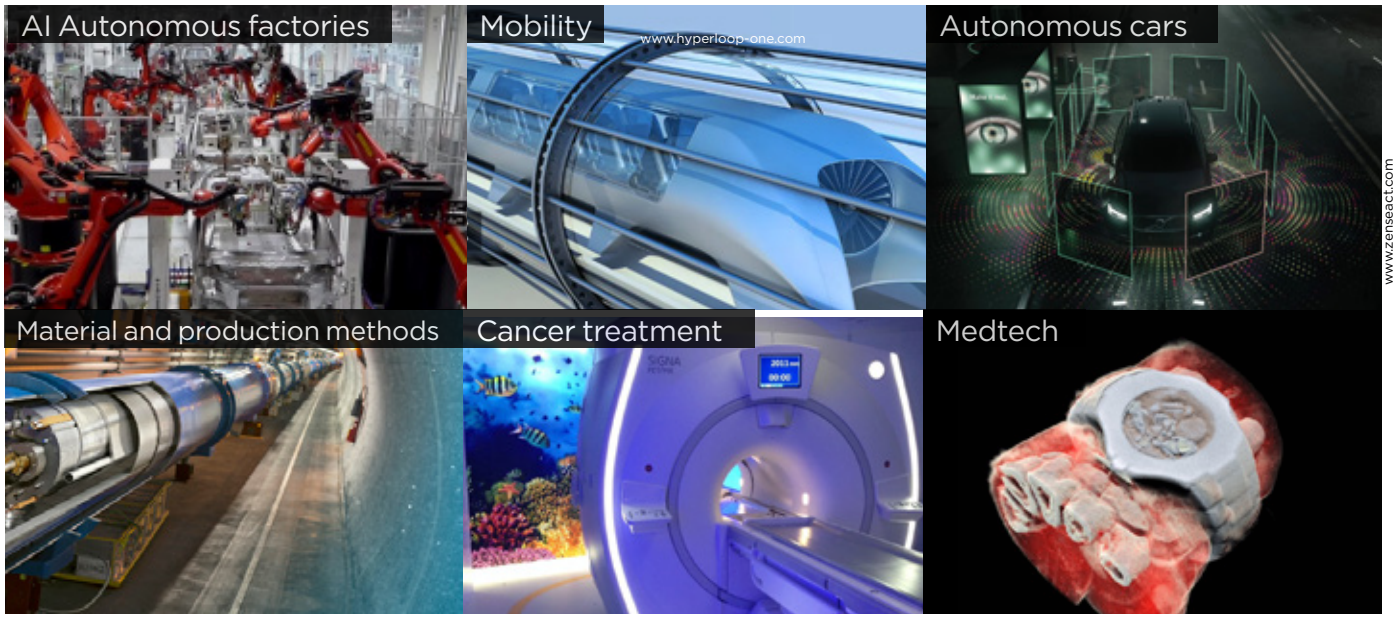
Superconducting magnets are becoming an increasingly important tool in science, medicine, and industry. During a workshop on magnets and cryotechnology at the Big Science Sweden AIMday in 2019, the idea of a project on cold magnets came up. The discussion initiated a feasibility study on the formation of a cluster in Småland that could develop such magnets.

The promising results led to EU funding for a more extensive research and innovation project on superconducting magnets, with three high-tech companies in Småland, Uppsala University, and Linnaeus University working in partnership.

A first stage in the project is to manufacture a prototype intended for CERN. The project will run until April 2023, and will combine expertise in research, business, technology, and innovation in developing and manufacturing cold magnet products that can compete on a global market in a variety of applications.

This is also an example of how a development project can raise the level of expertise for a cluster of small businesses, thereby improving their competitiveness and supply capacity.

2021 KNOWLEDGE TRANSFER



Knowledge Transfer Office

Implementation of knowledge and technology from Big Science

Knowledge and technology from the Big Science sector has the potential for application in a wide range of social and industrial fields, such as medical technology for cancer treatment, energy efficiency, big data processing and artificial intelligence, control systems and sensors, safety work in hazardous environments, and innovative materials for diverse applications.

The BiSS Knowledge Transfer Office aims to create an ecosystem and collaboration models to facilitate the use of knowledge and technology from the Big Science sector. The information can be used by businesses and organisations from other sectors to generate economic value, social impact, and to promote strategic development in industry.

We are continuously expanding our partnerships within the international innovation ecosystem, enabling us to become a strategic partner in promoting industrial utilisation of new technology in Sweden.

The latest advances in Big Science can be incorporated in new products, processes, applications, materials, and services.

Jonas Hjelm, Knowledge Transfer at Big Science Sweden

Knowledge transfer projects

Energy efficiency in major research facilities

Our Discovery Day with CERN was an event at which representatives from Swedish industry discussed opportunities for knowledge transfer with experts from CERN. One important topic considered was the need for energy efficiency in major research facilities. This resulted in a joint knowledge transfer project involving a major Swedish industrial company and CERN on efficient and optimised control of electric power consumption.

Cold magnets

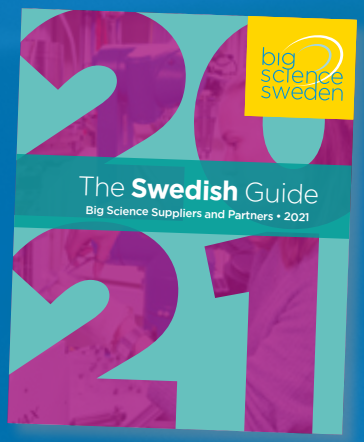
This collaboration project involves Uppsala University, Linnaeus University, and three technology companies. The aim is to develop energy-efficient superconducting magnets, for use in products that will be globally competitive. In addition to developing industrial expertise and capacity in superconducting magnets, the project findings could be transferred and applied in other areas, such as medical technology for cancer treatment.

ESS Data Lab

The objective of this study is to explore how to collect, store, manage, and share data from the ESS Control System. The three main project partners are ESS, GoalArt, and Lund University. A reference group built a network of companies and researchers interested in examining these issues. ESS is an advanced Industry 4.0 facility, and the openness of its research is conducive to knowledge transfer.

& 2021 SUPPLIERS PARTNERS

Our member companies are presented in more detail in The Swedish Guide, available both on our website and as a printed version.



Our member companies represent the broad range of technological fields that make up Big Science, but one thing they have in common is that they all have the necessary skills and expertise to supply high-tech products and services to the research facilities. Many have already won orders of varying sizes.

We work closely with the research facilities, and can quickly pass on news of upcoming procurements at our weekly Business Corner. We also match calls for tender with suitable companies and alert them about the business opportunity, providing support throughout the submission process where necessary.

Member companies also have access to all our events – training sessions, seminars, conferences, study visits, and participation in large trade fairs. Not least, they are part of an interesting network with other suppliers, allowing them to exchange experiences and find collaboration partners for various procurements and projects.

2
2B Best Business

A
A Teknik
ABB
ACP
Additive Composite Uppsala
Advanced Integration Technology Umeå
Advanced Vacuum Distribution
Air Liquide Gas
AirSon Engineering
Airwatergreen
Aisle Systems Sweden
Alfa Laval
Algeco
Aliaxis Utilities & Industry
AluFlex
Alumeco
AMO Kabel
AP&T Sweden
APR Technologies
AQ Elautomatik
Asensor Technology
Atlas Copco
Automation Region
Axis Communications
Azpect Photonics

B
Beckhoff Automation
BergmanLabora
Bergvik Sweden
BitSim
BL Monitor & Control
Blomdahls Mekaniska AB
Bluewave Microsytems
Bodycote Hot Isostatic Pressing
Boliden Electro
Bomans Lackering
Brogren Industries
Bröderna Carlsson
Bumax
Busch Vakuumteknik

C
Carlsson & Möller
Carpenter Powder Products
CCS Group
CEJN
Cervitrol
Cesium
CGit
Combinova
Combitech
Compliq IT
Composite Service Europe
Conex Engineering
CoorsTek Sweden
Coromatic
Corona Control
Crystopt-X
CUAV

D
Daikin Sweden
Danubia Metallkontor AB
Digital Mechanics
Divisoft
DVel

E
E.ON Sweden
EC Konsult
EcoDataCenter
Eitech Electro
EK Power Solutions
Elajo Mekanik
Electro Heat Sweden AB
Element Metech
Elitkomposit
Emv Holding
Enably
Enoc System
Entangly
Entech Energiteknik
Epiluvac
Examec
Exir Broadcasting

F
Fagerström Industrikonsult
FieldRobotiX
Finepart Sweden
Finverko
Flir Systems
Fredriksons Verkstad
Furhoffs Rostfria

G
Gammadata Instrument
Gefyr Cool & Energy
GKN Aerospace Sweden
Glenair Nordic
Go Virtual Nordic
GoalArt
Graniten
Grepit
Gränges

H
Habia Cable
Hagema
Halmstads Gummifabrik
Hamamatsu Photonics Norden
Hamek
Harald Pihl
Hemi Heating
Herrströms Mekaniska Verkstads

& 2021 SUPPLIERS PARTNERS

Hexatronic Cables & Interconnect Systems
Huurre Sweden
Hydroscand
Härdservice i Halmstad
Höganäs

I

Innovative Materials Arena (IMA)
INTAB, Interface Technology

J

Jobsab
JOIN Business & Technology

K

Karlskoga CNC Quality
KG Fridman
KISAB
Kraftpowercon Sweden
Kramers Mek
Kungsörs Mekaniska Verkstad

L

Labkontroll Syd
Larsson & Kjellberg
Laser Nova
Liedholms Maskinteknik
Linde Gas
LK Precision Parts
LOAD System AB
Low Noise Factory
Low2High Vacuum
Luma Metall
Löwener Vakuumservice

M

M A Kapslingsteknik
Malmö Mönsterkort
Mann Teknik
Maskinteknik i Oskarshamn
MB Scientific
MCT Brattberg
Medicast
Merx Svenska
Microbas Precision
Micropol Fiberoptic
Mikroponent
Mikroverktyg
Modellteknik
MP bolagen

N

Nanovac
Naverviken Logistic
Nelson Created
Neonest AB (Buyisotope)
Nordbergs Tekniska
Nordholms Industriinstallationer
Nordic Furnaces
Nordisk industrioptimering
Note
NSS Water Enhancement Technology
Nuvia Nordic

O

Omnisys Instruments
Optonyx
Optronic

P

Pfeiffer Vacuum Scandinavia
PhotonicSweden
Pickering Interfaces
Pilz Scandinavia
Polyamp
Power Heat Piping South
Proact IT Group
Produktionsteknik i Lund
Promech Lab
Protolabs
Provexa Surface Technology

Q

Qamcom Research and Technology
Qlosr
Qmt Science
Qtech Group

R

Recab
Rejlers Sverige
ReQuTech
Resinit
RFR Solutions
RISE Research Institutes of Sweden
Rowaco
Rydverken
RZ Gruppen
RZ Kils Verkstad

S

Sandvik
ScandiNova Systems
Scanditronix Magnet
Scanmast
Scanmatic In Situ AB
Scanscot Technology
Schneider Electric Sverige
Scienta Omicron
Semcon Sweden
Sigma
Sigma Lundinova
Silver Weibull Production
SKF Sverige
Skoglunds Mekaniska
Skoogs Maskin & Svets
Smoltek
Solectro
South Pole
Specialteknik i Sverige
Stavanger Steel
Stream Analyze Sweden
Studsvik
Sundbybergs mekaniska verkstad
Swedish Microwave
Svennes Verktygsmekaniska
Svep Design Center
Swerim
SvetsMekano
Svetstjänst i Höganäs

T

Tandem Laboratory/Ion Technology Center
Teledyne SP Devices
Tessella
Texor
The Quantum Group
Tranemo Metal
Tre-Mek i Trelleborg

U

Univrses
Unnaryd Modell
Uponor

W

Wallins Mekaniska
Wiretronic
WM Press

V

VBN Components
Ventana Hackås
Vertical Wind
Viflow group
VTT

X

X-officio

Z

Zert

Å

Åkerstedts Verkstads

Ö

Österby Gjuteri

2021 SUCCESS STORIES

How some companies have grown with Big Science and won orders from large-scale research facilities.

We have the right contacts for generating new business.
Anna Hall, Director Big Science Sweden

FAGERSTRÖM

Specialist expertise behind ESS collaboration since 2015

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

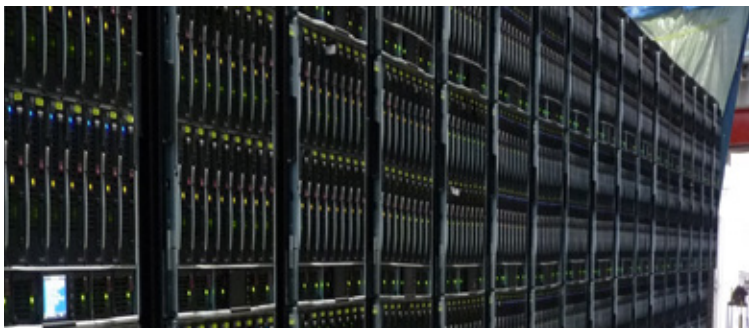
Head Office: Helsingborg
Sales: SEK 35 million
Employees: 24

MCT BRATTBERG

World leader in development of cable and pipe transits

"We've always worked with customers that demand high quality. We've gradually made the right contacts."

Head Office: Karlskrona
Sales: SEK 82 million
Employees: 43

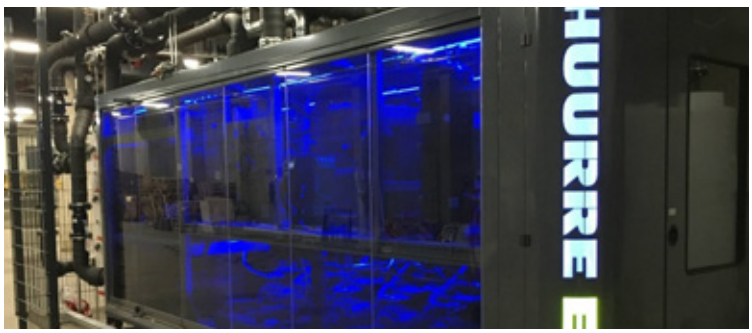


GO VIRTUAL NORDIC

Specialist expertise, experience, and flexibility

"Research facilities handle vast quantities of data, making them an interesting market for Go Virtual Nordic."

Head Office: Göteborg
Sales: SEK 95 million
Employees: 10



HUURRE SWEDEN

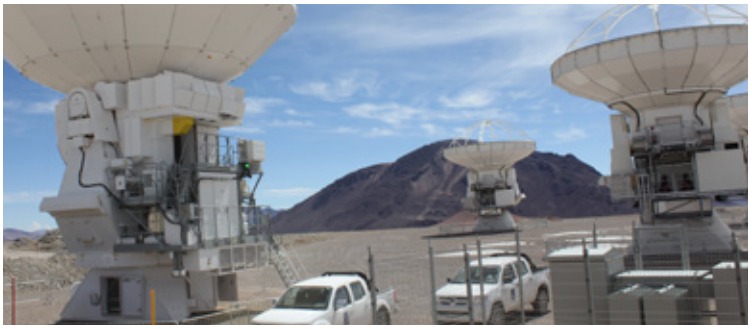
Designs, manufactures and supplies refrigeration units

"World leader in environmentally friendly refrigeration units."

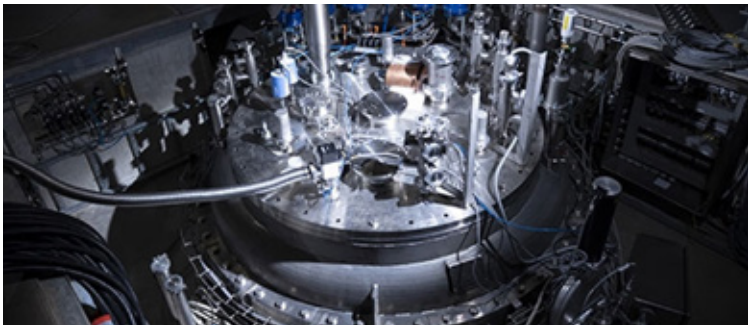
Head Office: Västerås
Sales: SEK 251 million
Employees: 114

2021 SUCCESS STORIES

We encurage suppliers and partners to submit tenders and win orders from Big Science.
Patrik Carlsson, Co-Director Big Science Sweden

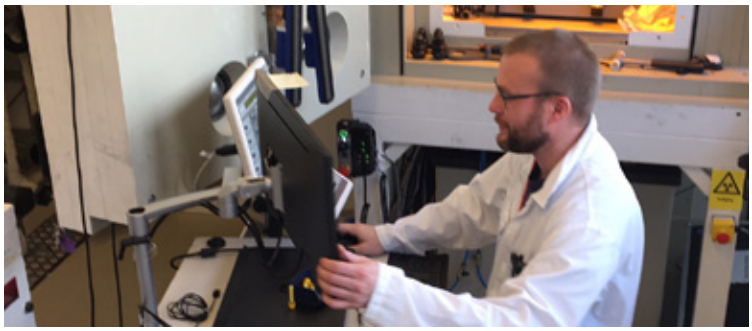


OMNISYS
Key supplier to the space industry
"Few other companies in Europe have the capacity for this type of contract."
Head Office: Västra Frölunda
Sales: SEK 34 million
Employees: 26



SCANDITRONIX MAGNET
Constructing new superconducting magnet
"The type of magnet we're currently developing has a design that has never been used before in accelerators."
Head Office: Vetlanda
Sales: SEK 34 million
Employees: 23

TELEDYNE SP DEVICES
Working to implement fusion technology
"Teledyne SP Devices delivers highly customised solutions and products requiring intensive R&D."
Head Office: Linköping
Sales: SEK 60 million
Employees: 26



STUDSVIK NUCLEAR
Working to implement fusion technology
"We've built up the collaborations needed to work in large international networks."
Head Office: Nyköping
Sales: SEK 251 million
Employees: 124

2021 LOOKING AHEAD

From the Programme Director

Join us in driving Big Science Technology

In 2022, we will continue to monitor developments in the Big Science universe and establish relationships with relevant actors. We will increase our international efforts to build networks that support business, innovation, knowledge transfer, and technology development.

We now see the importance of becoming involved in the processes concerning the Big Science research facilities at an earlier stage, such as through collaborations in pre-studies, prototype work, and development projects. We believe that this strategy will result in Sweden winning larger orders, with a greater innovation and technology content.

We are very pleased to see that the Big Science Business Forum (BSBF) is planned to be held in physical form in Granada on 4-7 October 2022. The major European Big Science organisations – CERN, EMBL, ESA, ESO, ESRF, ESS, European XFEL, FAIR, F4E, ILL and SKA – will all be attending, describing their upcoming procurement needs and meeting with existing and potential suppliers.

For Swedish companies, this is an ideal forum at which to make personal contacts that could lead to business opportunities with both research facilities and other European companies. Find the event in the Calendar on our website and click to register. We also invite member companies to participate free of charge in Big Science Sweden's Swedish Pavilion at the forum.

We sincerely hope that, as soon as possible in 2022, we will be able to resume physical meetings, take our member companies to the research facilities, and welcome companies and other guests to our Big Science Sweden offices. Quite simply, we hope to return to a more normal situation where we can exchange ideas and experiences face-to-face and talk informally.

Don't hesitate to contact us if you have any good ideas about new ways of working together to strengthen Sweden as a Big Science nation.

BSBF2022
4-7 October 2022
Granada, Spain

Big Science Sweden is Sweden's official Industrial Liaison Office

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