Big Science Sweden is funded by:

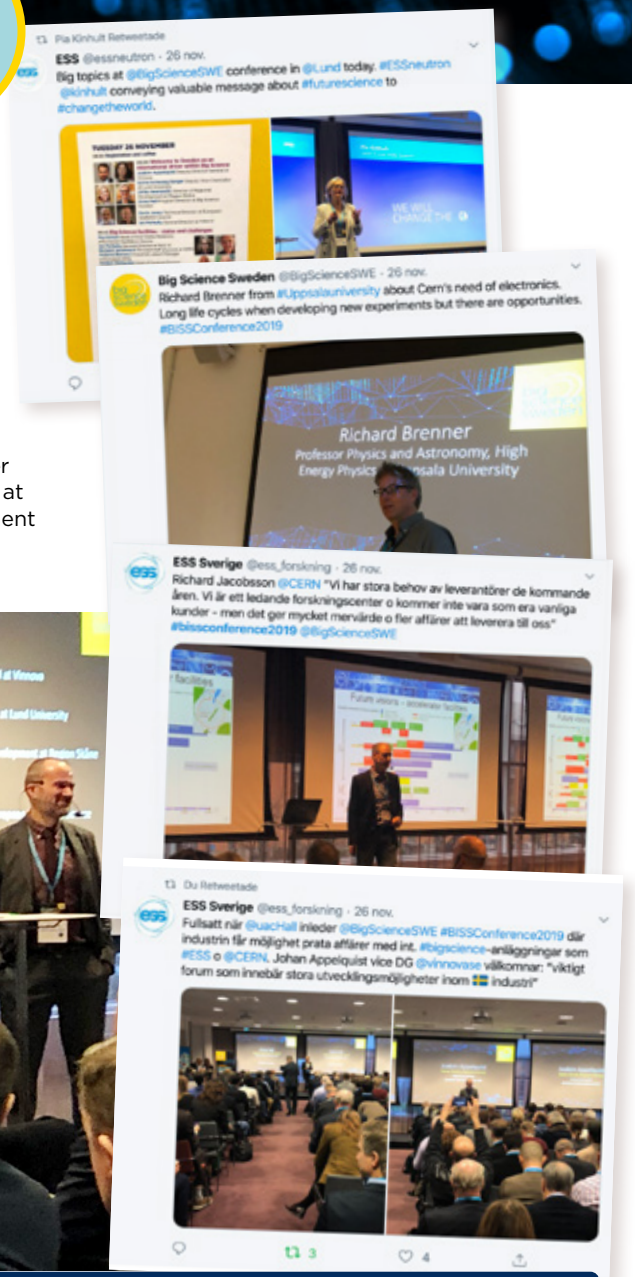
VINNOVA Sweden's Innovation Agency · Swedish Research Council · Swedish Agency for Economic and Regional Growth

big science sweden

BIG SCIENCE SWEDEN CONFERENCE 2019

JOIN US IN DRIVING BIG SCIENCE TECHNOLOGY

The Conference in Brief



LUND, SWEDEN, 26-27 NOVEMBER 2019

The theme of the inaugural Big Science Sweden Conference was Join Us in Driving Big Science Technology. High-tech companies, institutes and academia met with ESS, European XFEL, CERN, MAX IV, and ITER/Fusion for Energy in Lund. The event proved very popular, and the conference was fully booked with over 250 delegates.

Big Science Sweden Conference 2019

Anna Hall, Director of Big Science Sweden, held the opening address together with Ian McNulty, General Director of MAX IV, Kevin Jones, Technical Director at European Spallation Source, Ulrika Geeraedts, Director of Regional Development at Region Skåne, Sylvia Schwaag Serger, Deputy Vice-Chancellor at Lund University, and Joakim Appelquist, Deputy Director General at Vinnova.

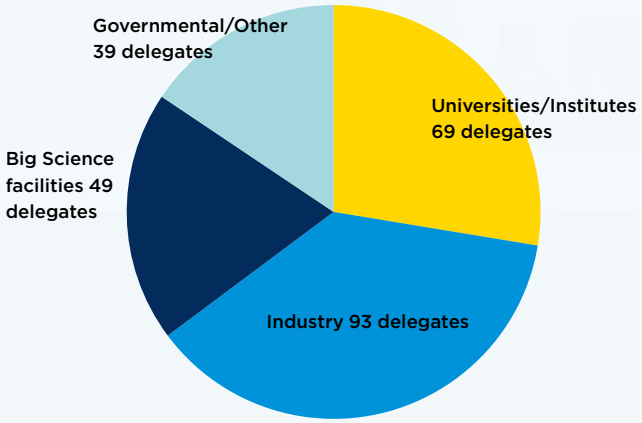
WELCOME TO SWEDEN, AN INTERNATIONAL DRIVER IN BIG SCIENCE

Download the PDF: www.bigsciencesweden.se/sv/nyheter/vara-publikationer/

BIG SCIENCE SWEDEN CONFERENCE

BRINGING TOGETHER INDUSTRY, UNIVERSITIES, INSTITUTES AND RESEARCH FACILITIES

OUR PARTICIPANTS



CONFERENCE RATING

DAY 1

Big Science Sweden Conference 2019 in figures

250 delegates from 10 different countries
69 from universities
93 from industry
49 from Big Science facilities
50 exhibitors
5 exhibitors - Strategic and sustainable environments
30 speakers
300 1-to-1 meetings
140 Big Science Evening
20 took part in study visit to ESS and MAX IV
9 parallel sessions on various technical themes

DAY 2

Challenge-driven innovation

19 different challenges identified by CERN, ESS, ITER, MAX IV, attracting **96** delegates
7 applications for pre-studies

QUOTES FROM THE EVALUATION

Looking forward to continuing the journey together with you.

Well organised. Good venue, good food, etc, but the exhibition area and space for match-making were too small.

Excellent organisation and 'commanding the crowd' by the staff.

Hoping to attend next Conference.

Very good, keep up the good work.

Exceeded my expectations by far.

Great job, you rock!

It was a great experience that I'd be happy to repeat. I'd like to thank everybody who put in the hard work to make it happen. Thank you!

Effective and intensive, good that the bar closed as early as eleven.

Great event and great 1-to-1 meetings. Thank you very much and please arrange more of these events in the future.

Nice people, nice atmosphere, enthusiastic team, and a very good moderator (Anna). Very interesting visit to ESS and MAX IV.

Excellent event quality in every aspect.

Best of any Big Science conference I have ever attended.

This is definitively an important hub for connecting industry, researchers and research facilities.

SEVEN BIG SCIENCE FACILITIES AT THE CONFERENCE
BUSINESS AND COLLABORATION

Kevin Jones, Technical Director, ESS.
I can see everything that ESS needs out in the industry exhibition. The exhibition was made up of 50 industrial companies, universities, institutes and research facilities.

Ian McNulty, General Director, MAX IV.
MAX IV has been in operation for a couple of years, and has received good help from Swedish suppliers. There are now several beamlines ready for use by researchers and industry.

Mario Di Castro
Head of Mechatronics, Robotics and Operation Section, CERN.
It's been valuable to meet so many people and discuss development ideas. The format's been good, with short meetings focused on results.

Darren Spruce
Head of Controls & IT, MAX IV Laboratory.
A conference like this gives us an overview of technological opportunities and possible future suppliers. It also gives us new ideas for projects and collaborations.

Patrik Carlsson, Co-Director Big Science Sweden and Industrial Liaison Officer (ILO) for ITER, ESO and SKA, talked about what was happening at SKA.

BIG SCIENCE SWEDEN CONFERENCE 2019
BUSINESS AND COLLABORATION

Jerome Pierlot, Head of Procurement for Accelerators & Technology Section, CERN, was impressed by what Swedish industry can supply.

7 research facilities took part

Niels Van de Ven, Commercial Manager, Fusion for Energy.

CERN, ITER and ESS talked about how to do business with the respective facilities.

Jonas Söderlund Note, Erik Strömqvist, GE Healthcare, Mats Orup RFR Solutions and, at the microphone, Mikael Vieweg, Scanditronix Magnet.

Industry shared experiences

BIG SCIENCE SWEDEN CONFERENCE 2019
BIG SCIENCE FACILITIES/STATUS AND CHALLENGES

Antonio Bonucci, Industrial Liaison Manager, XFEL.
Big Science Sweden Conference gave us the opportunity to show all the development work we've got planned at XFEL, and we came into contact with suppliers that were new to us. We can inspire companies to become suppliers by presenting all the exciting things that lie ahead in the next few years.

Pia Kinhult, Head of Host States Relations, ESS.
We're currently building ESS in Lund together with 12 other European countries. ESS will have a unique capacity that will enable important scientific discoveries in the fields of materials, biosciences, energy, environmental technology, cultural heritage and fundamental physics.

30 speakers contributed to an exciting programme.

Stefan Wikman, Head of Materials & Manufacturing Technologies & Processes Group, Fusion for Energy, ITER, is responsible for materials and fabrication of fusion reactor material, and sees great opportunities for Swedish industry.

BIG SCIENCE SWEDEN CONFERENCE 2019
JOIN US IN DRIVING BIG SCIENCE TECHNOLOGY

Mikael Vieweg, VD Scanditronix.
I've made a number of new contacts, and met previous customers, so I've been able to get up to date on their projects and plans.

Hans-Christian Becker, applications expert, Gammadata.
Gammadata sees the Big Science Sweden Conference as an opportunity to find more customers and collaboration partners.

Exhibitors comprised industry, universities and institutes, and Swedish sustainable and strategic technology environments.

Nine parallel sessions on technological developments
The Conference invited participants to Join Us in Driving Big Science Technology. With a strong focus on knowledge sharing and establishing contact networks, the two days were packed with workshops on various challenges relating to technology.

- Advanced materials and production methods, e.g. additive manufacturing
- Drones
- Robotics/Remote handling
- AI/Big Data/Data processing/Control systems
- Magnets and Cryo

Erik Sundström, Head of Communications, ScandiNova.
The Big Science Sweden Conference helps us to gather information that can inspire ideas on how we at ScandiNova can help the research facilities develop. It's important for us to keep up to date and find out about all the developments in our technological field.

Samuel Axklo, Technical Manager, 2B Best Business.
We hope to meet potential customers and possible partners, and we're constantly looking for new development opportunities.

BIG SCIENCE SWEDEN CONFERENCE 2019
1-TO-1 MATCHMAKING MEETINGS

Sweden
Switzerland
Netherlands
Finland
France
Germany
Spain
United Kingdom
Belgium
Italy

On the first day, no fewer than 300 one-to-one meetings were held, pre-arranged to maximise benefit.

BIG SCIENCE SWEDEN CONFERENCE 2019
NETWORKING OPPORTUNITIES

Professor Adrian Rennie, Uppsala University.
It's very useful to be able to speak informally with the participants between the sessions. It's also interesting to learn more about the projects at the facilities and what challenges they see.

Karin Cedergren, Researcher in transportation and safety, RISE.
A totally fantastic event! The one-to-one meetings have been extremely valuable. I've got many new and valuable contacts, and also had many interesting conversations in the breaks.

Leif Gjerløv-Jensen, Technical Sales, Carlsson & Möller.
A big plus for the one-to-one meetings, and because Big Science Sweden has attracted so many exhibitors. The Big Science Sweden team is strong, and will lay the foundation for Sweden being a great success in Big Science.

Networking generates business

Jenny Ståhlbom, Sales & Marketing Manager, Finepart.
At the conference, there were many companies I'd never come across before. Those that I didn't get time to finish talking with here, I can call later. It's also been interesting to learn more about all the facilities and their projects, so we can now start to look for supply opportunities.

Companies, institutes and academia met with ESS, European XFEL, CERN, DESY, MAX IV, ITER/Fusion for Energy, and each other.

Mats Ohlsson, CEO Examec.
The best conference I've ever been to. And, yes, you can quote me on that!

Anders Siward, Business Development Manager, BitSim.
We want to submit more tenders for procurements from CERN and other research facilities. Here we can make contacts that can give us tips on procurements and the associated requirements.

Anna Söderlund, Sales, Österby Gjuteri, here with Anna Hall, Programme Director, Big Science Sweden and Tord Ekelöf, Professor and Project Manager, FREIA Laboratory, Uppsala University.
For us at Österby, it's not just about finding business opportunities at the facilities, it's also about finding collaboration partners and possible customers among the participating companies. You need to meet many times before it can lead to a business contract, and we get this opportunity by participating in many events arranged by Big Science Sweden.

BIG SCIENCE CONFERENCE 2019
BIG SCIENCE EVENING

140 delegates joined us for the Big Science Evening

Big Science Sweden Award – for an individual showing particular engagement in helping to build Sweden as a Big Science nation and in driving Big Science Technology.

During the evening, the Big Science Sweden Awards were presented for the first time. Three Big Science Influencers were announced as prizewinners:
Influencer Facility – Rickard Jakobsson, CERN
Influencer Industry – Anna Söderlund, Österby Gjuteri
Influencer University – Tord Ekelöf, FREIA, Uppsala University.

Big Science Sweden Award 2019

BIG SCIENCE CONFERENCE 2019
BIG SCIENCE STUDY VISIT

Around 20 delegates from Swedish industry and CERN took the opportunity to visit ESS and MAX IV on the Wednesday morning. At ESS, we took part in a guided tour of the facility by bus and, at MAX IV, we visited the accelerator ring.

Study visit to ESS and MAX IV

AIMDAY BIG SCIENCE TECHNOLOGY 2019

LUND, SWEDEN, 27 NOVEMBER

big science sweden

AIM DAY

The programme item on challenges, as identified by CERN and ESS, attracted 96 delegates. Five applications for pre-studies for joint projects were submitted.

At the AIMday Big Science Technology, researchers and representatives from industry gathered to discuss challenges identified by the research facilities. The aim was to enable long-term collaborations on the basis of the different issues of the research facilities. The day was arranged according to the internationally renowned AIMday method, developed by Uppsala University.

7 applications for pre-study funding

BIG SCIENCE CONFERENCE 2019
CHALLENGES AS FORMULATED BY CERN AND ESS

Fredrik Engelmark, Business Development and Project Management, ILO for CERN at Big Science Sweden/Uppsala University, together with Frida Tibblin Citron Business Development and Project Management Big Science Sweden, Lennart Gisselsson, Business Development and Project Management Big Science Sweden/Lund University, and Ekaterina Osipova Research Funding Advisor at Luleå University of Technology.

Advanced materials and production methods, e.g. additive manufacturing.

1. Can we produce thicker sheets or bulk material of grain oriented steel, and steer the grain orientation? (CERN)
2. How to produce, cut and polish radiation-hard garnet crystals more efficiently for large detector applications? (CERN)
3. How to construct efficiently large and complex detector absorbers from tungsten alloys, whose composition are driven by the physics application? (CERN)
4. Radiation hardness on greases: Is there a roller screw/lubricant (dry) system that can withstand the conditions in a radiation environment, and take up to 10MGy? (CERN)
5. Is there a method to heavily bend 316L tubes (6mm or 18mm) with nearly no deformation? (CERN)
6. Can we design a cooling solution in a vacuum chamber that does not include welded seams? (CERN)

Drones

7. How can we make use of drones more efficient and more compatible in terms of flying time and having them work autonomously? (CERN)/How can we use drones for monitoring in the accelerator tunnels and other hostile environments? (ESS)

Robotics/Remote handling

8. How can we make industrial robots lighter, while maintaining their precision and dynamics? (CERN)
9. How can we increase safety for humans in close human/robot collaborations? (CERN)¨
10. How can we increase the "human touch" for robots working with humans in Big Science? (CERN)/ How can we increase proprioception in maintenance teleoperation in big science facilities? (CERN)

AI/Big Data/Data handling/ Control systems

11. How do we optimize the flow of data in machine learning projects? (ESS)
12. How do we develop Intelligent Alarm Handling? (ESS)
13. How to create a Software Development Ecosystem for Machine Learning (Agile mashine learning
14. What does tomorrows control rooms look like? (ESS)
15. How do we together drive the development of future Control Systems for Complex Processes (EPICS / Tango)? (ESS)
16. How can we optimize machine performance with machine learning?

Magnets and Cryo

17. What can Sweden do for helping CERN to develop a canted-cos-theta dipole magnet for the LHC?
18. How can we develop Superconducting Magnet Energy Storage (SMES) for the LHC at CERN?
19. How can we fabricate -53 degrees CO2 cooling systems for the experimental setup at the ATLAS experiment?

THE OFFICIAL SWEDISH ILO

BIG SCIENCE SWEDEN

BUSINESS AND INNOVATION

Big Science Sweden is funded by:

Big Science Sweden is led by a consortium of leading universities, institutes and industrial network organisations:

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