

The SINE2020 Industry Consultancy

Strengthening the role of neutron science in
industrial innovation

October 26, 2017

BalticTRAM Mid-Term Conference

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- Introduction: SINE2020/Neutrons and Industry
- Half way through: Results of first 2 Years
- Outreach actions

GEMS

German Engineering Materials Science Centre

**Helmholtz-Zentrum
Geesthacht**Zentrum für Material- und Küstenforschung

**SINE
2020****Industry Consultancy**

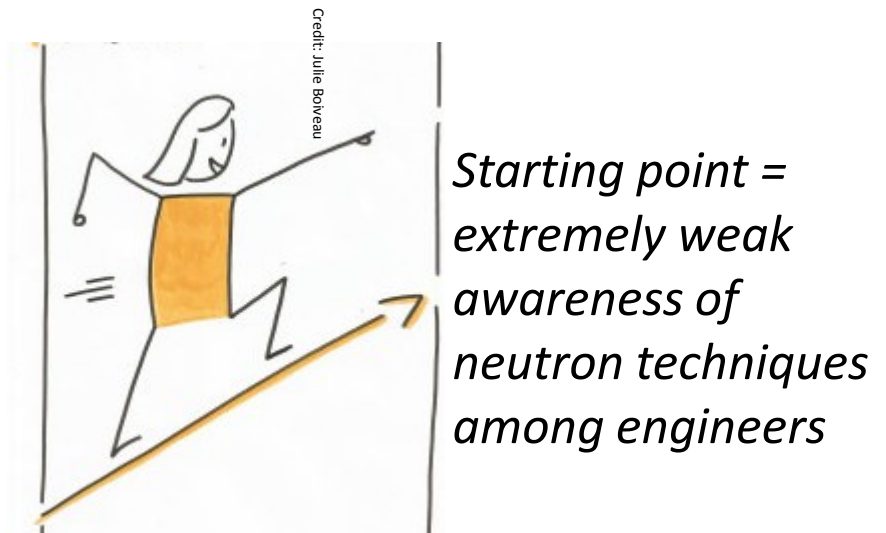
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What is SINE2020 ?

- Science and Innovation with Neutrons in Europe in 2020
 - SINE2020 is a consortium of 18 partner institutions from 12 countries. It is funded by the European Union (H2020 program).
 - Oct 2015- Oct 2019
- SINE2020's main objectives:

- ✓ Total budget : 10 M€
- ✓ Staff effort: 1128 PM
- ✓ Oct 2015- Oct 2019
- ✓ Lead partner: ILL

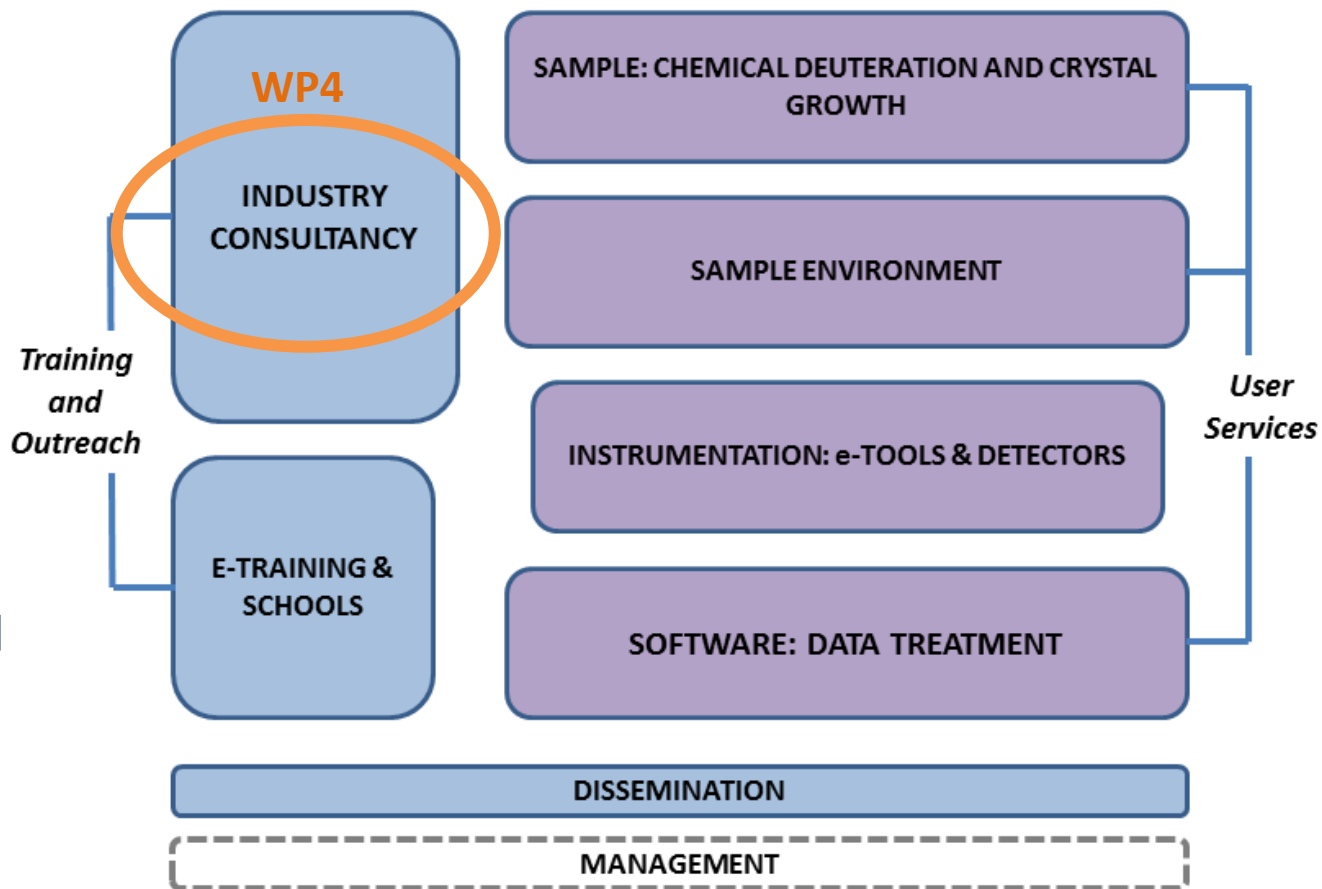
- To prepare Europe for opportunities at the European Spallation Source (ESS) in 2020
- **To encourage industrial companies to exploit the unique properties of neutrons for their R&D**



Partners involved in WP4

- ✓ HZG (DE), coordinator
- ✓ ILL (FR, DE, UK, +)
- ✓ LLB (FR)
- ✓ ISIS-STFC (UK)
- ✓ FRM-II (DE)
- ✓ BER-II (DE)
- ✓ NPI (CZ)
- ✓ BNC (HU)

+ Industry Advisory Board
(8 members)



- LSF can enhance the competitiveness of a knowledge and innovation based economy in collaboration with industry
- There is an increasing demand from industry for advanced analytical research tools e.g. as provided by large scale research facilities
- Still: A gap is described between the request by a company facing a R&D problem on one side and the way LSF offering a dedicated analysis technique (access mode, data analysis, intellectual property issues)



The SINE2020 **Industry Consultancy** initiative is working to provide industry with:

- **Information and Outreach:**

enhancing knowledge in industry about neutron analytical solutions by creating a Europe-wide network for outreach.

- **Education and Training:**

training and educating industrial researchers in the application of neutron-based techniques.

- **Access:**

offering a structured and direct access for industrial research to European LSF's through *test measurements and feasibility studies*

Feasibility tests offered by 7 neutron centres across Europe!



Request

**Evaluation
of feasibility**

⇒ *If not feasible with neutrons,
we advice techniques and
contacts*
⇒ *(e.g. CALIPSOplus or
BalticTRAM)*

**Experiment
at neutron
centre**

⇒ Apply directly at www.sine2020.eu/industry
or contact us industry@sine2020.eu

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First call for applications launched in March 2016

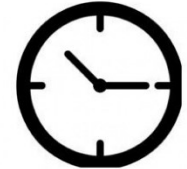
23 requests



**16 experiments
scheduled**



**~18 days of beam
time**



1 returning company

Among which 1 is pending

Reasons for non granting (6)

- 2 not feasible with neutrons
- 2 changed their mind about confidentiality (paid for 1)
- 1 from academia
- 1 required too much beamtime

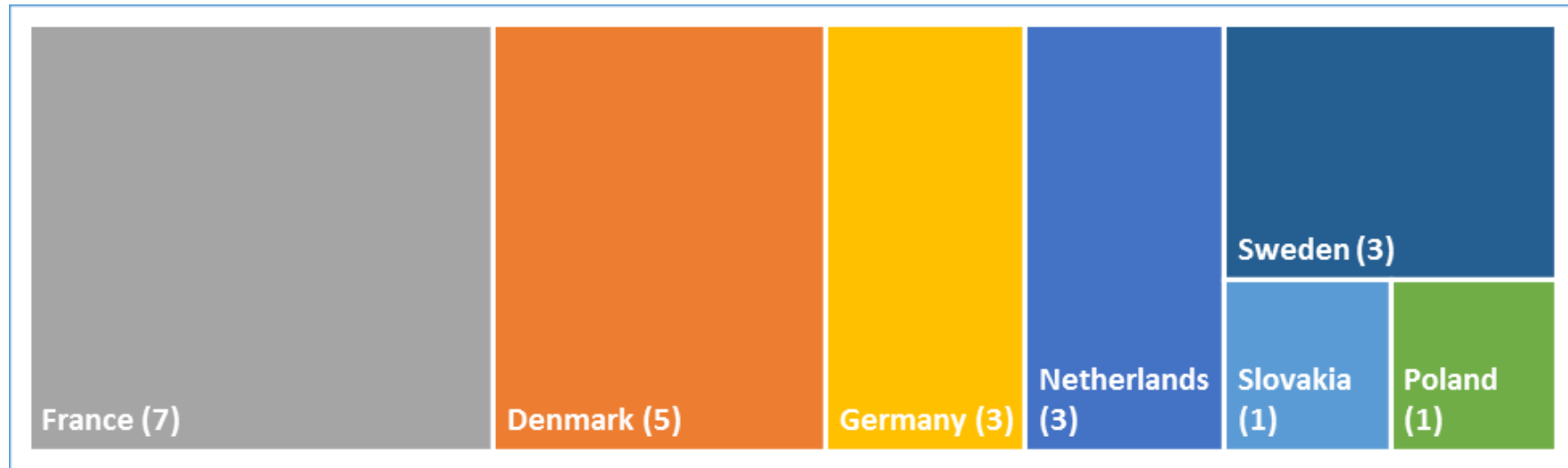
Origin of contact:

- Network: 7
- Other projects/
programmes: 6
- Web: 3
- Events: 3
- Advisory board: 2
- Not asked: 2



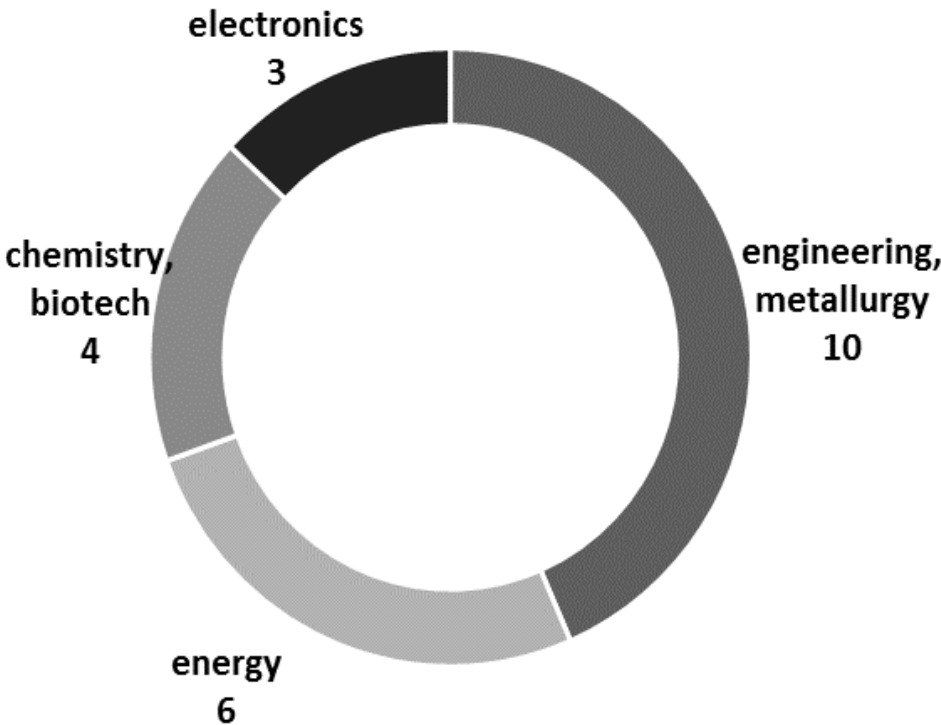
- Type of applicants: mainly large groups, French & Danish companies, carrying out engineering / material studies.

Origin of applicants

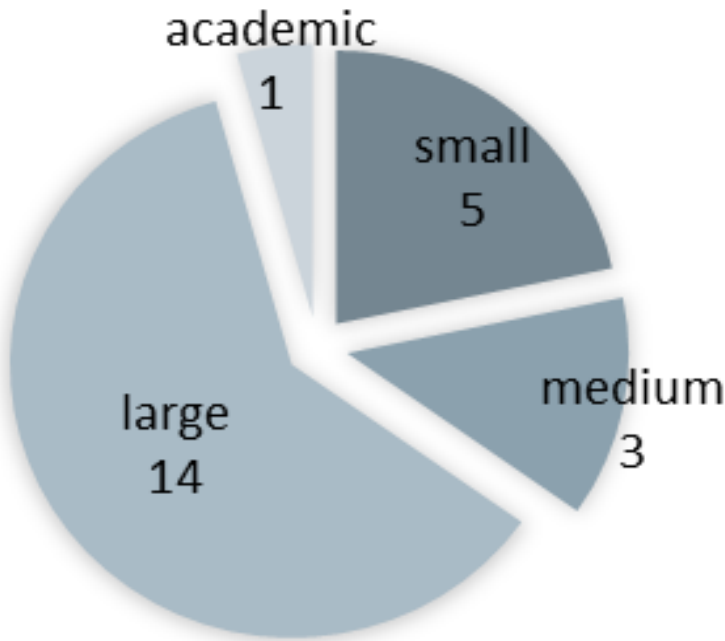




Main activity sector of applicants



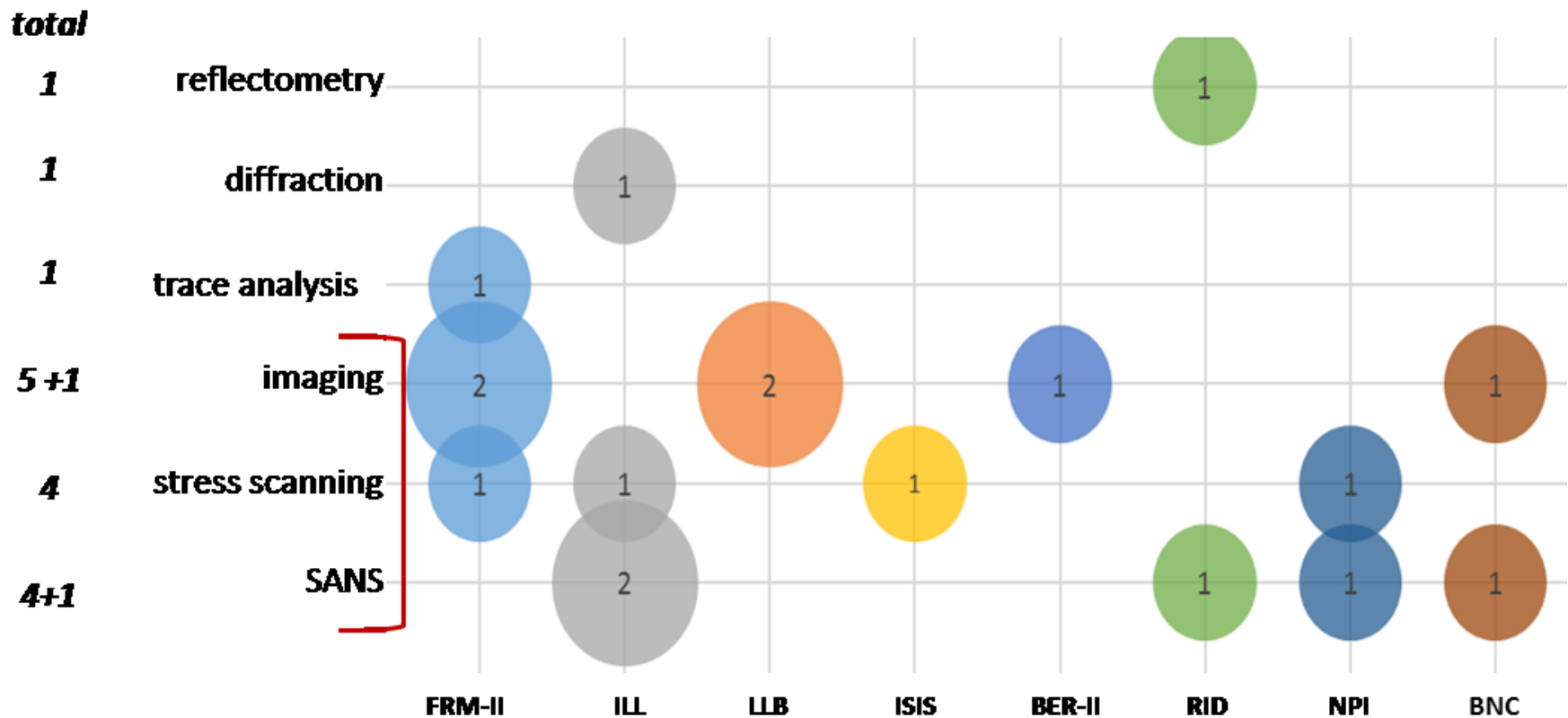
Type of organisation among applicants





Feasibility studies: techniques vs. centres

- 16 granted requests=> 16 experiments + 3 complementary experiments (among which one without neutrons: DLS by ILL)
- => Most popular techniques: imaging, stress scanning and SANS



- An action in the long-term...

- Time range for the numbers below 2016- 2017

**44 events
attended
+ material**



~ 400 contacts



**✓ 16 experiments
(performed/scheduled)
✓ ~15 contacts *in progress***



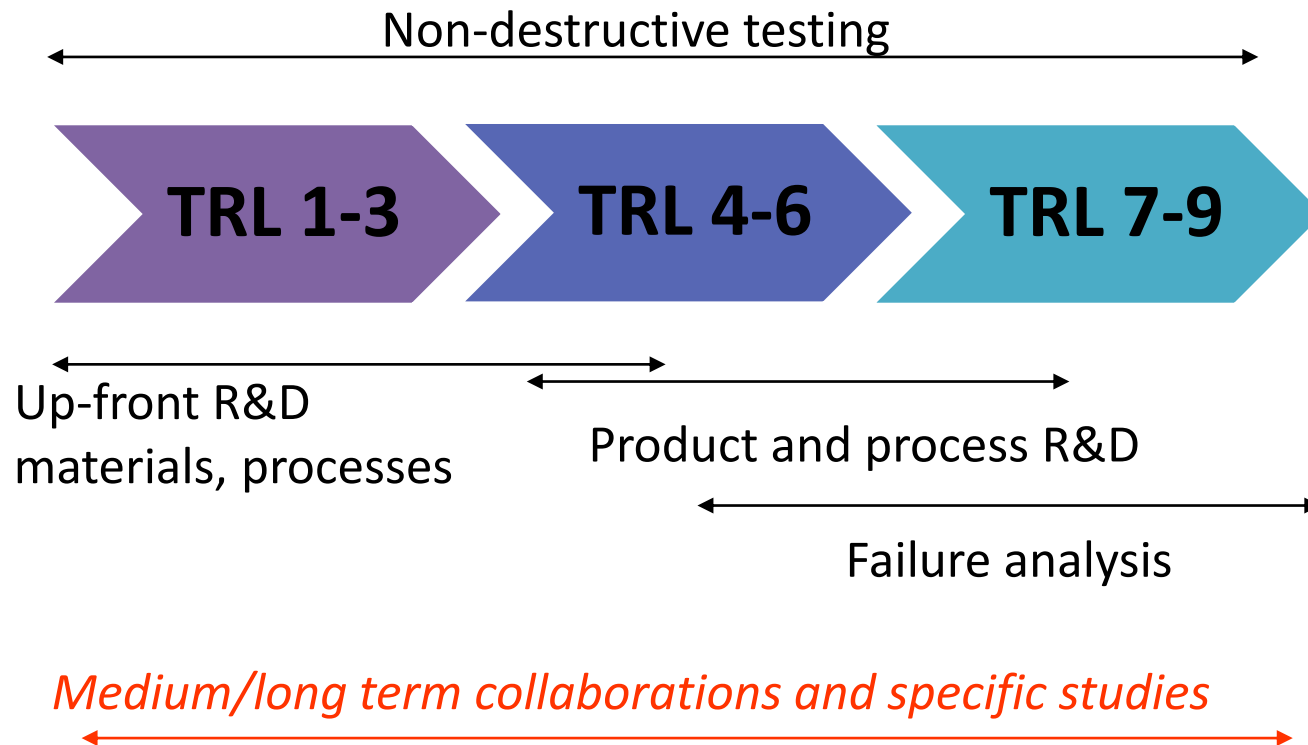
**+ ab. 15
visiting/visited
companies**

Contributions

- *B2B meetings / booth / talk / dedicated sessions*
- *Shared events with other projects / institutes => Research Infrastructure Village*

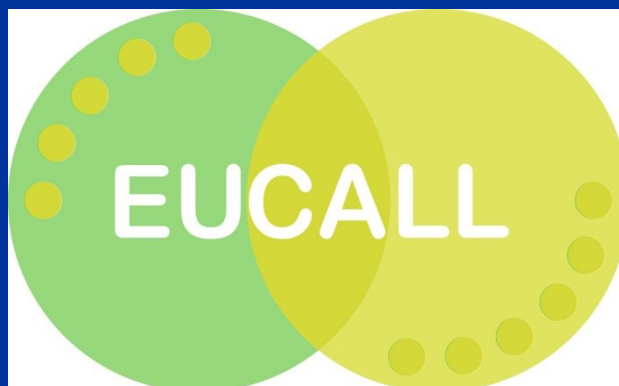
Neutrons at every step of the R&D process

- Neutrons at every step of the R&D process



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European Analytical Research Infrastructure Village



SYNERGI 2018

Synchrotron and NEutron Radiation Go Industrial
New analytical tools for engineering materials science

March 8/9
NEMO
Science Museum
Amsterdam

Keynote speeches on engineering applications
of neutron and synchrotron facilities:

- Daigo Setoyama, Toyota Central R&D Labs., Inc., JP
- Axel Müller, OHB System AG, DE
- Hjalmar Staf, SANDVIK AB, SE

Business to Research Matchmaking
(in cooperation with Enterprise Europe Network)

Exhibition (research service providers
and research infrastructures)

Detailed programme and registration at:

www.SYNERGI2018.eu

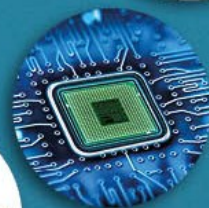


Automotive

Energy



Additive
Manufacturing



Metal
industry

Aerospace



Microelectronics

Involved projects:

SINE2020

CALIPSOplus

BalticTRAM

ACCELERATE

NFFA

Enterprise Europe
Network

- Industry Keynotes
- R2B matchmaking
- Breakout groups

Contact, application form and further Information:

www.sine2020.eu/industry

industry@sine2020.eu

Work Package Coordination:

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Applications coordination:

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Thank you!

RAPID ACCESS

Fast-stream processing for industrial applications, optimising result lead times.

FLEXIBLE SERVICES

In many cases industrial processes and conditions can be re-created in the test laboratory. Final data analysis and reporting are provided.



CONFIDENTIALITY

Activity covered by non-disclosure agreements. Only company name and measurement type to be published.

EXPERT CONSULTANCY

Industrial R&D professionals in collaboration with experienced specialists from European neutron centres.

Special thanks to:

BrightnESS

LINXS