

# **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

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**GEMS**

German Engineering Materials Science Centre

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

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



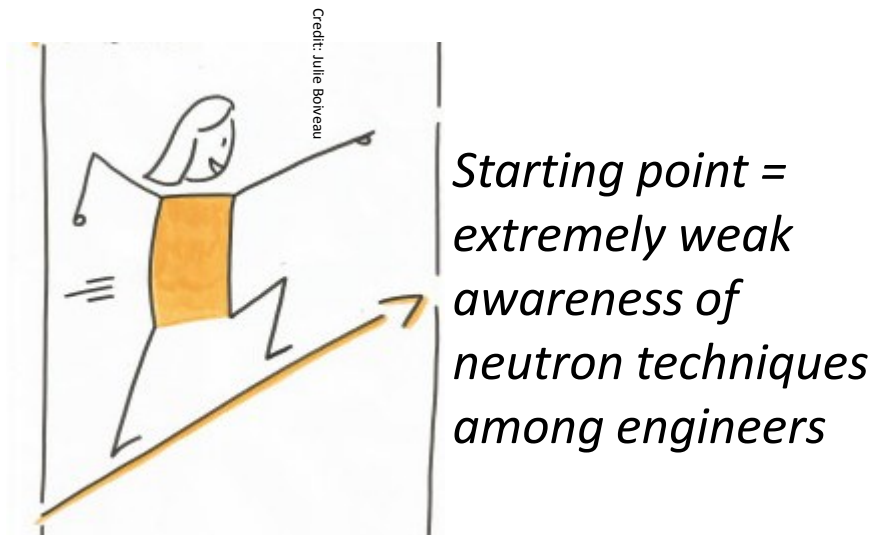
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# What is SINE2020 ?

- 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

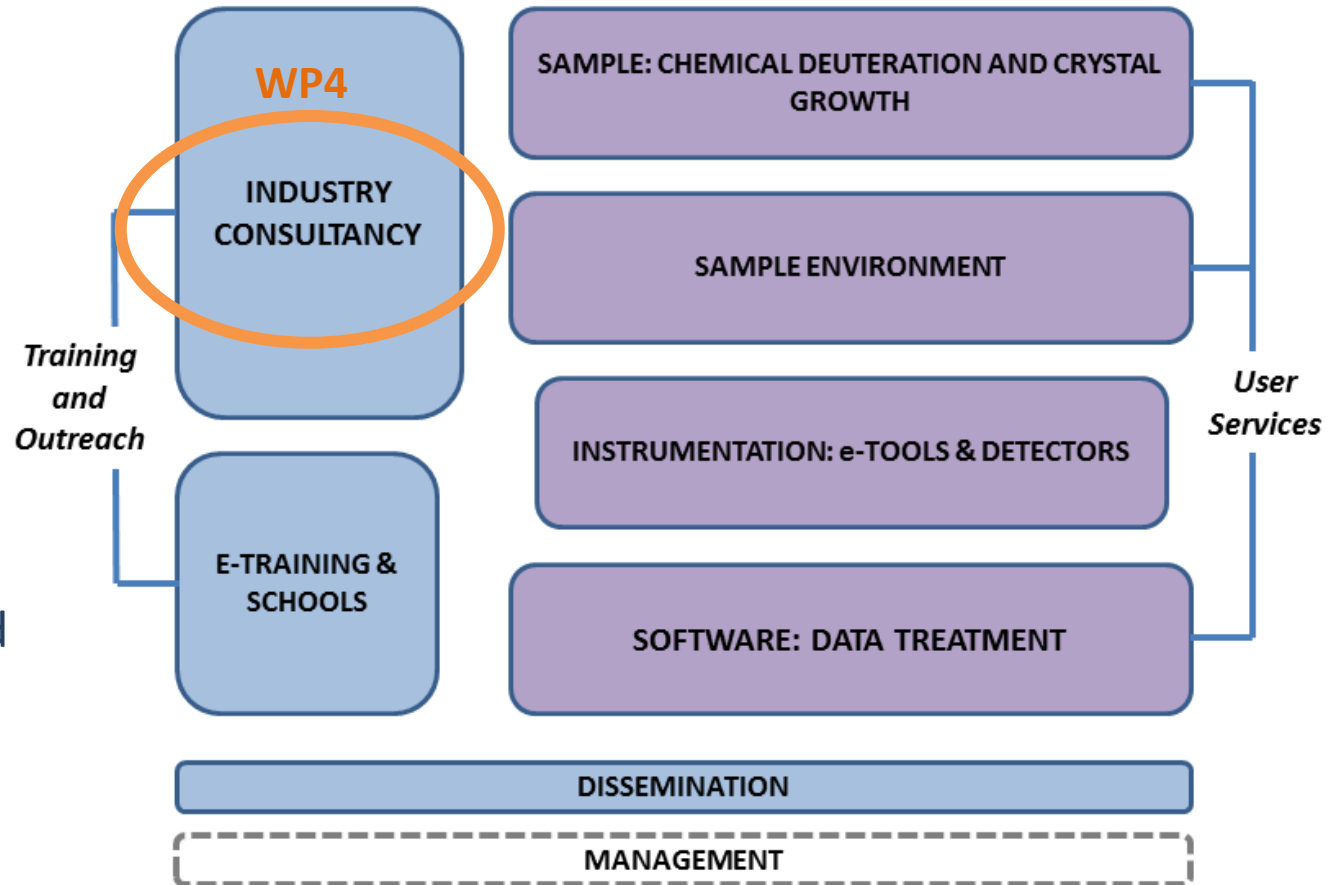
- To prepare Europe for opportunities at the European Spallation Source (ESS) in 2020
- **To encourage industrial companies to exploit the unique properties of neutrons for their R&D**



## 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](http://www.sine2020.eu/industry)  
or contact us [industry@sine2020.eu](mailto:industry@sine2020.eu)





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*First call for applications launched in March 2016*

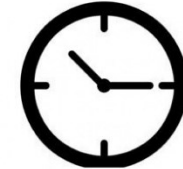
**23 requests**



**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

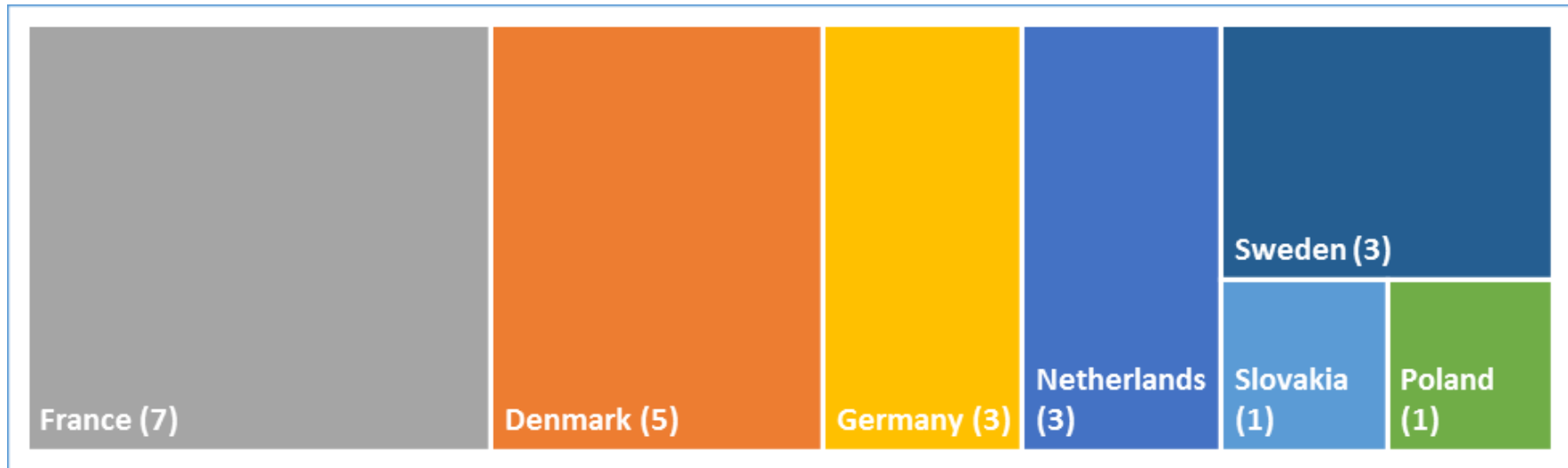
*Origin of contact:*

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



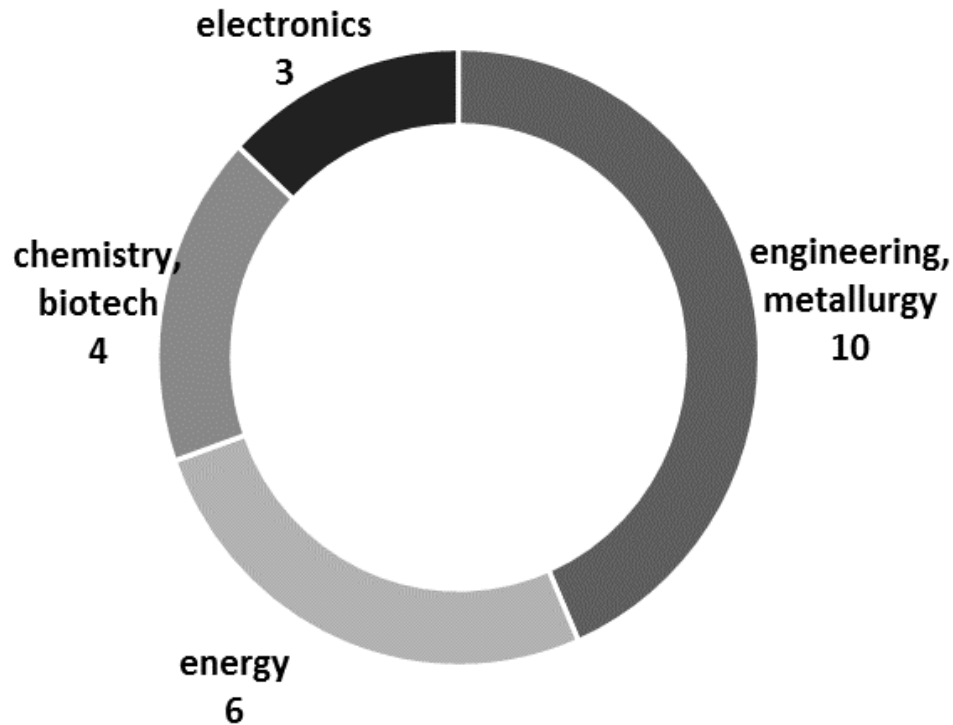
- Type of applicants: mainly large groups, French & Danish companies, carrying out engineering / material studies.

*Origin of applicants*

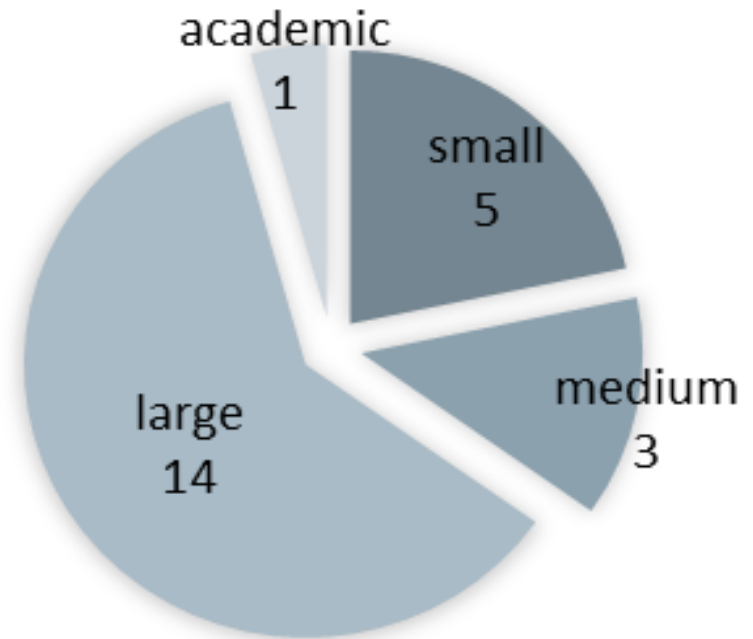




*Main activity sector of applicants*

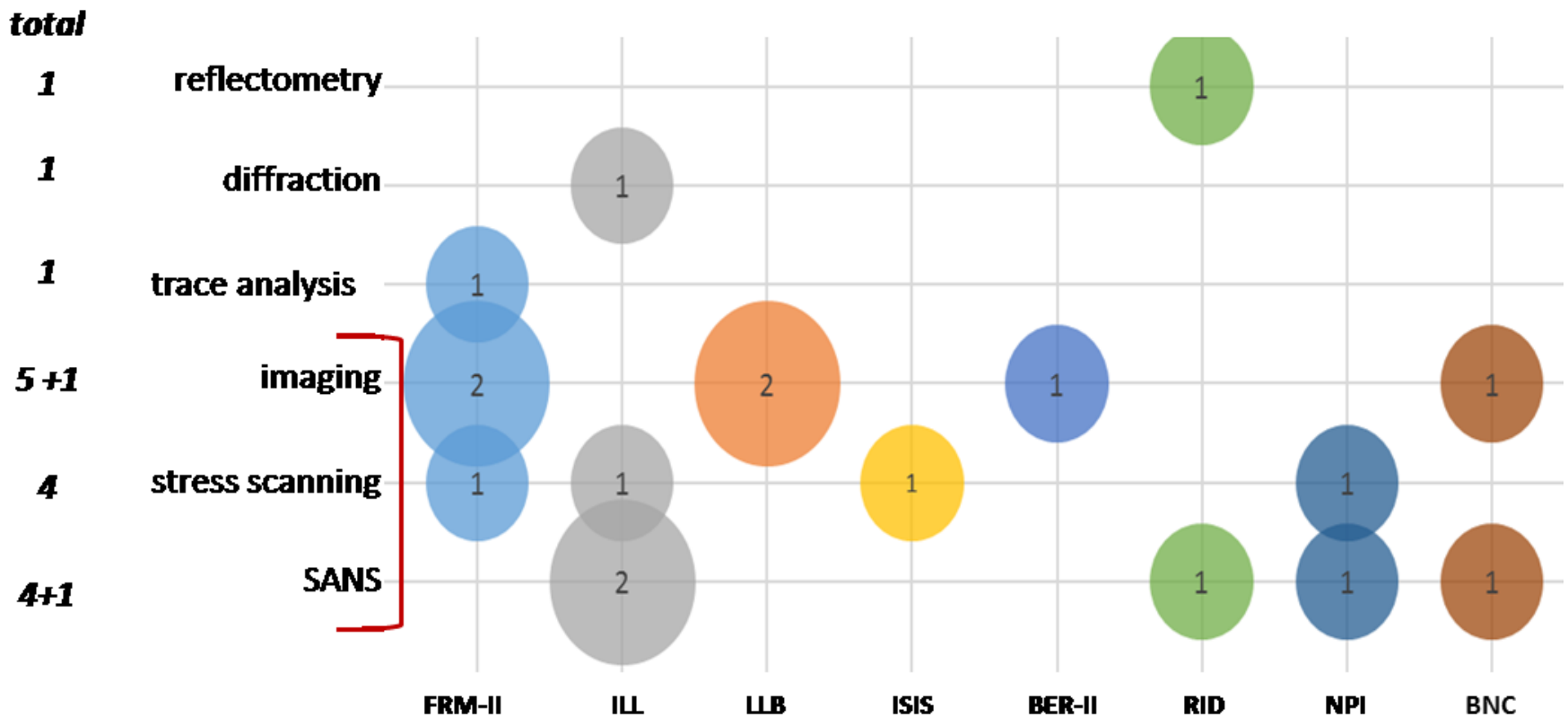


*Type of organisation among applicants*





- 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***



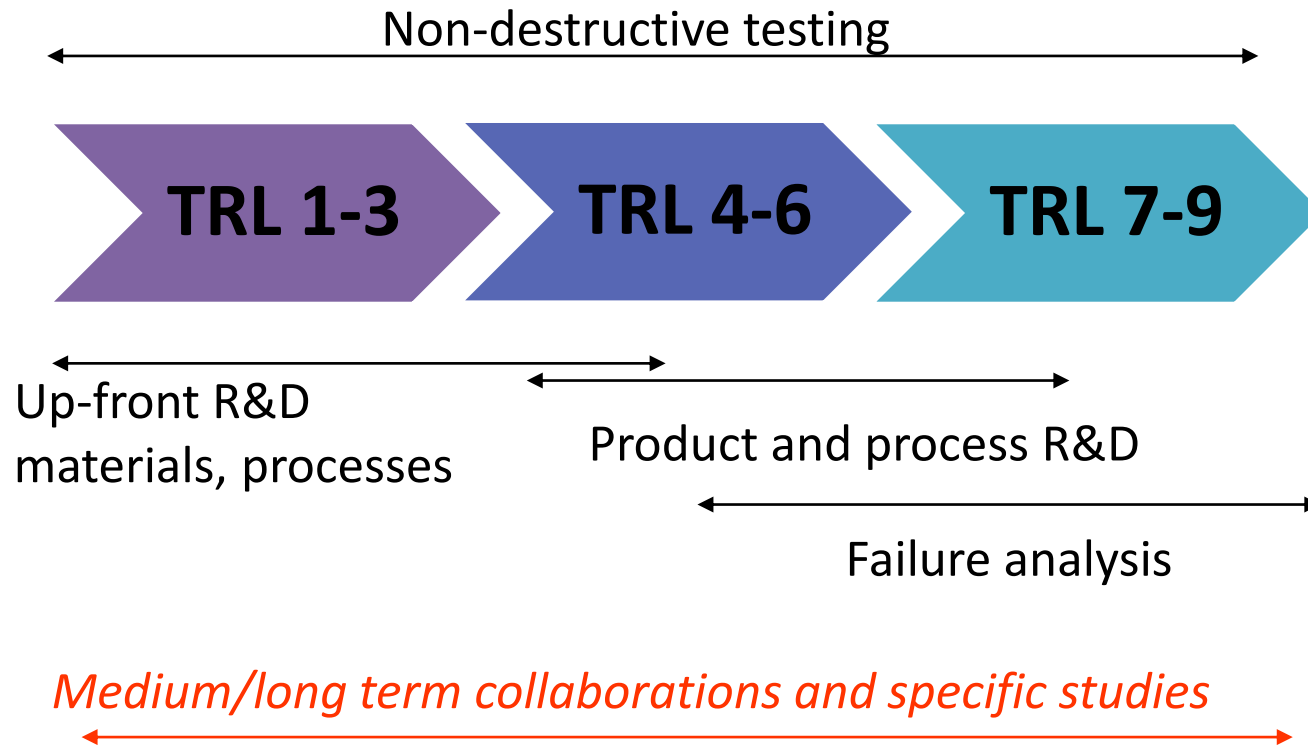
**+ ab. 15  
visiting/visited  
companies**

## *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

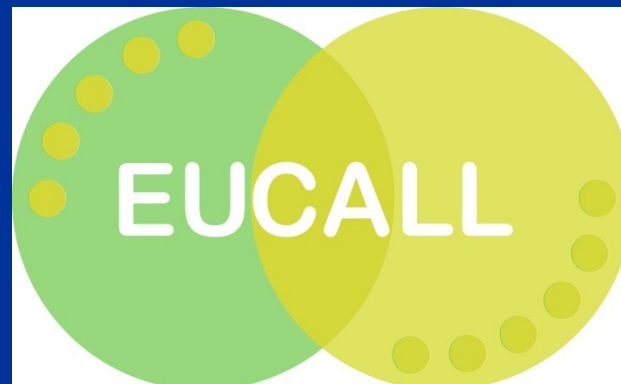




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# European Analytical Research Infrastructure Village



# 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](http://www.SYNERGI2018.eu)



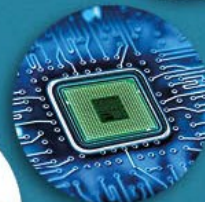
Automotive

Metal industry

Aerospace



Microelectronics



Energy



Additive Manufacturing

## 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](http://www.sine2020.eu/industry)

[industry@sine2020.eu](mailto:industry@sine2020.eu)

## Work Package Coordination:

Marc Thiry, Helmholtz-Zentrum Geesthacht: [marc.thiry@hzg.de](mailto:marc.thiry@hzg.de)

## Applications coordination:

Caroline Boudou, Institut Laue Langevin (ILL): [boudou@ill.fr](mailto:boudou@ill.fr)

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# Thank you!

## RAPID ACCESS

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

## CONFIDENTIALITY

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

Special thanks to:

**BrightnESS**

**LINXS**

## FLEXIBLE SERVICES

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



## EXPERT CONSULTANCY

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