EMN for Advanced Manufacturing Open Stakeholder Event



23 October 2024 | 09:00 to 14:45 (CEST)

Location: PTB
Bundesallee 100, 38116 Braunschweig, DE
and online

EUROPEAN METROLOGY NETWORKS

ADVANCED MANUFACTURING

EURAMET



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EMN for Advanced Manufacturing – Welcome and introduction

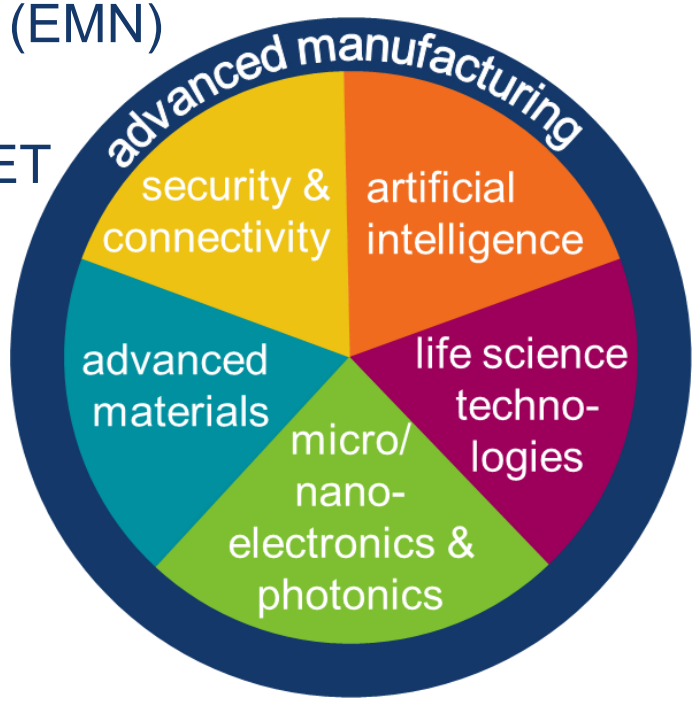
EMN Open Stakeholder Meeting
PTB Braunschweig, DE
23 October 2024

H. Bosse, EMN chairperson

Our Vision:
"To provide European Advanced Manufacturing industries with dedicated metrology solutions supporting the transition processes to a competitive, digitalized and green production."

EMN for Advanced Manufacturing: Why?

- EURAMET has established a set of **European Metrology Networks** (EMN)
  - to intensify **stakeholder dialogue** in strategic areas for Europe
  - **twelve EMN's** were established so far as integral parts of EURAMET



- Why an EMN for Advanced Manufacturing?
  - Advanced Manufacturing is one of six **Key Enabling Technologies**
  - Identified by the European Commission "to have applications in multiple industries and help tackle societal challenges. Countries and regions that fully exploit KETs will be at the forefront of creating advanced and sustainable economies."
- "**Manufacturing**, with its approximately 20 industrial sectors, is the backbone of the European economy. Manufacturing 2030 reflects a time scale in which a fundamental change-initiated by research activities and technical innovations-can be reached."
  - **ETP ManuFuture** as strategy developing organization
  - European Partnership '**Made in Europe** / EFFRA'



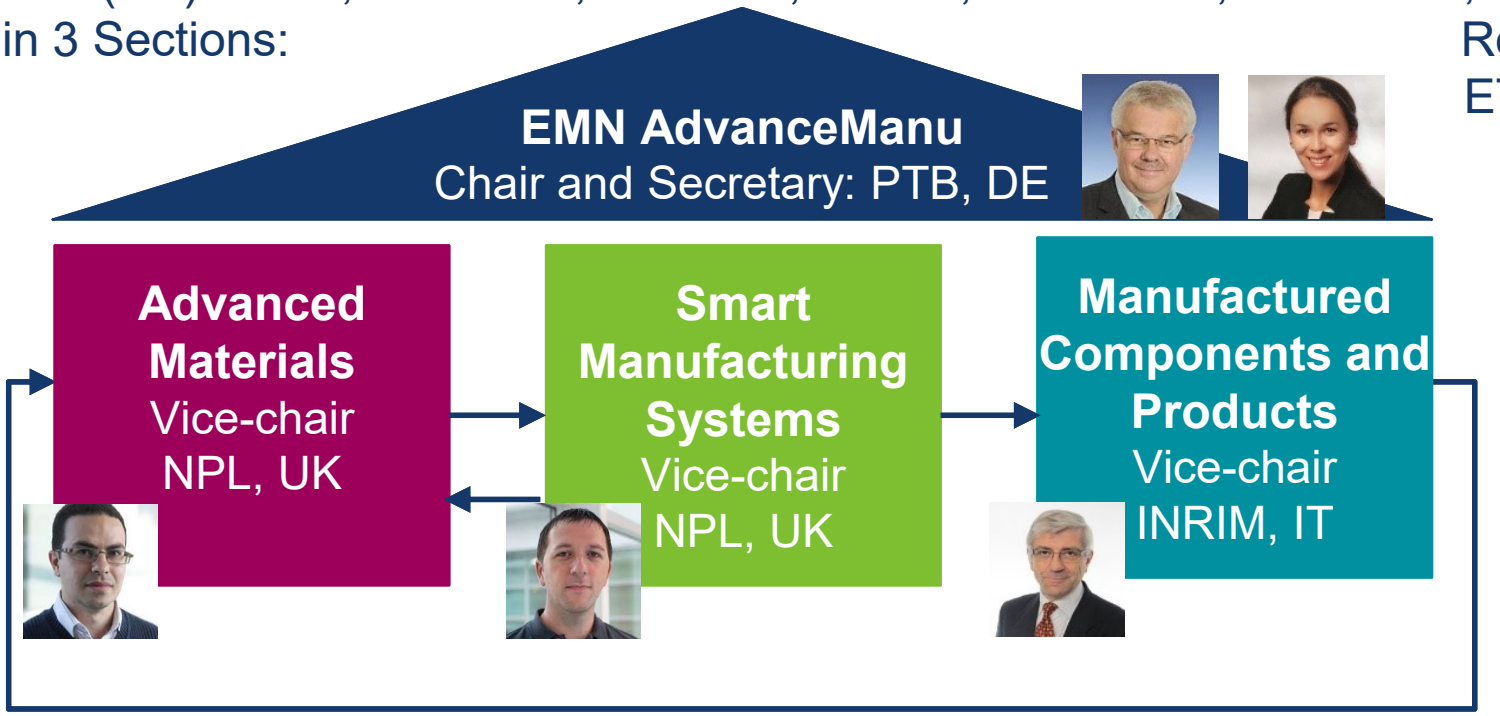
- Advanced manufacturing is key for EU competitiveness; JRC study (9/2024)

EMN for Advanced Manufacturing

- EMN for Advanced Manufacturing formally established in Oct. 2021 (18 NMIs/DIs)
- EMN Partner-Organisations: euspen
- EMN established regular contacts: ETP Manu*Future*, EFFRA/Made in Europe, NanoFabNet, KDT, AMI 2030
- Stakeholder Council (SC): Zeiss, Renishaw, Siemens, Vestas, STMicroel., DTU/CIRP, CERN, BfR, BASF, RollsRoyce, Hexagon, ETP ManuFuture, …
- EMN organized in 3 Sections:



SC convenor:
Dr. Imkamp, Zeiss



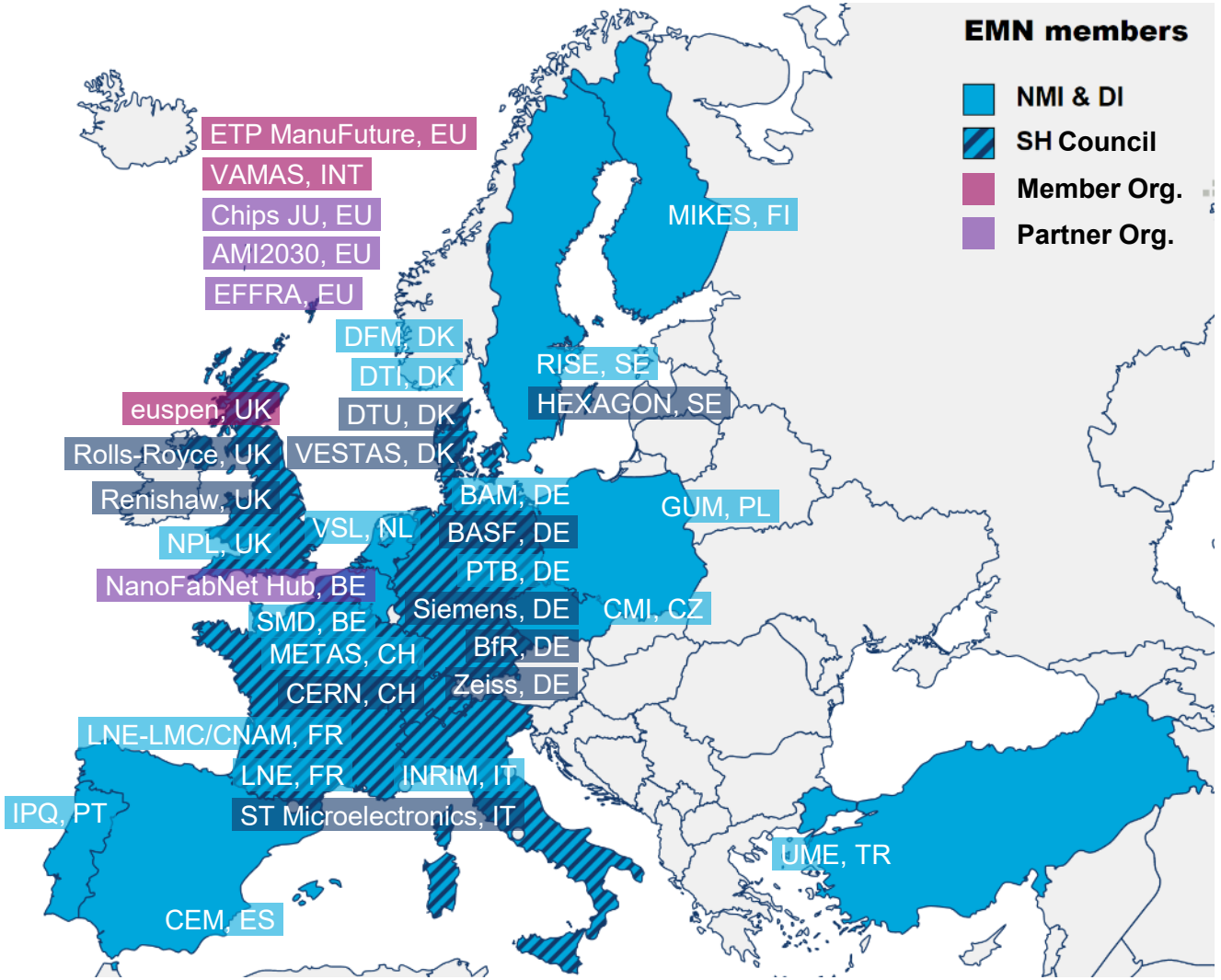
- Stakeholder-Dialogue: Larger companies & SME, Industry org., Networks, Univ., R&D-Institutes)
- Strategic Research Agenda (SRA) for Metrology for AdvanceManu ⇨ 1st SRA (pdf document) ⇨
- EMN organised several events
- EMN published several papers, e.g.: Meas. Sci. Technol. 32 (2021) 111001



Representation across Europe

European Metrology Network for Advanced Manufacturing members:

- National Metrology Institutes
- Designated Institutes
- Research Institutes
- Companies
- Universities
- Agencies
- Associations and Initiatives



Key Industry Sectors for Advanced Manufacturing

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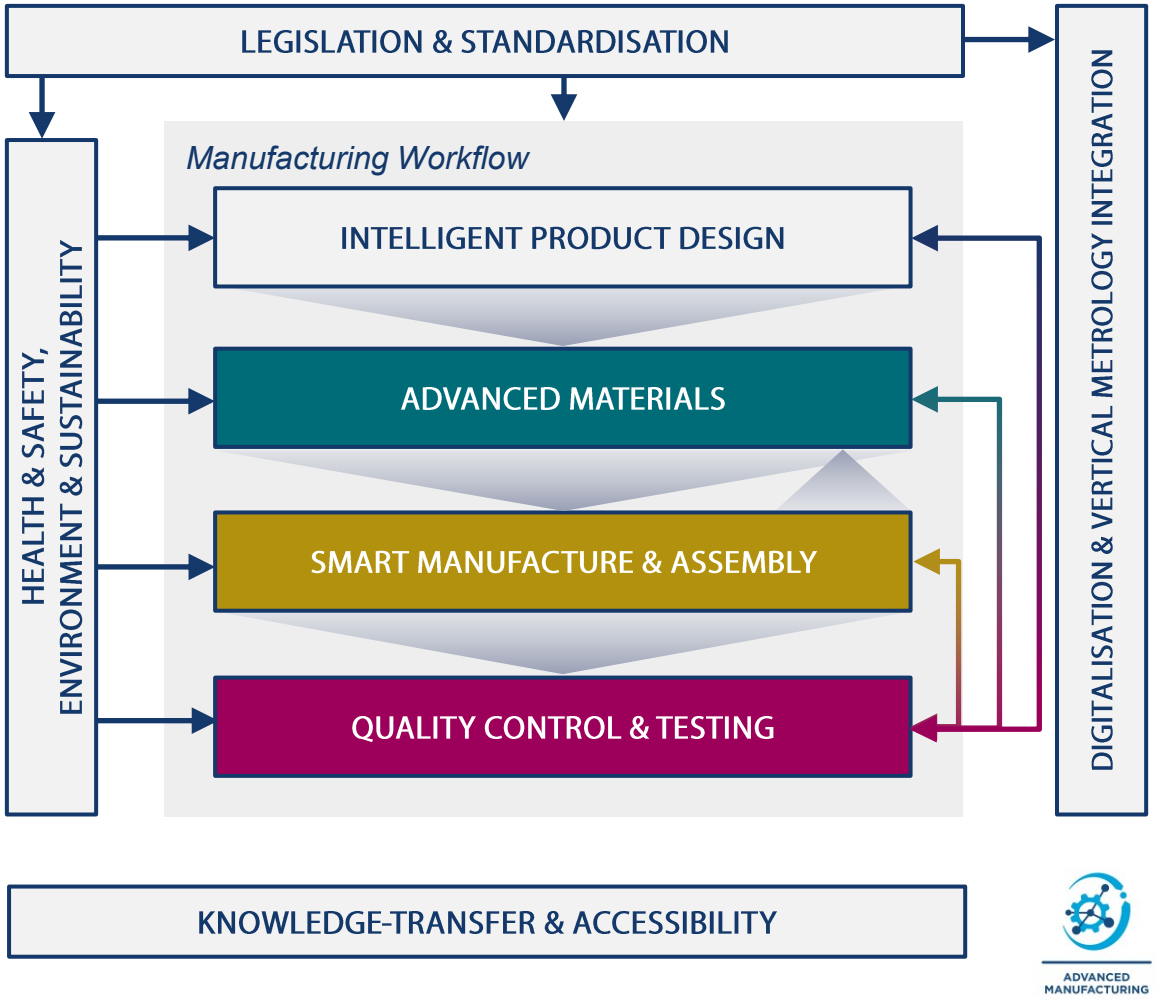
1. Metrology equipment & service
2. Machine tools & robotics
3. Digitalized & integrated manufacturing systems
4. Advanced materials & processing

overarching KIS relevant for the other KISs

5. Energy generation, transmission & storage
6. Nano- & microelectronics
7. Nano- & microtechnology
8. Optics & photonics
9. Land & sea-based mobility
10. Aerospace
11. Complex infrastructure & civil engineering
12. Life science technology
13. Defense & security

KIS related to manufactured products

Our themes – Cross-Cutting Topics
Manufacturing workflow and boundary conditions



SRA-structure



Stakeholder engagement events

EMN Workshop: The future of metrology for advanced manufacturing
2024-05-23 at BAM, Berlin, DE

EMN: Metrology for Manufacturing of the Future
2023-11-23, ManuFuture Conference, San Sebastian, ES

EMN Advanced Manufacturing Annual General Meeting 2023
2023-10-24 to 2023-10-25

Workshop: The Future of Metrology for Advanced Manufacturing
2023-06-12 to 2023-06-12

EMN Advanced Manufacturing Capacity Building Workshop
2023-05-16 to 2023-05-17

3DMC 2022 - The future of 3D metrology for advanced manufacturing
2022-11-15 to 2022-11-17

EMN Advanced Manufacturing Annual General Meeting 2022
2022-10-10 to 2022-10-11

Open consultation on Metrology for Semiconductor Technologies
2022-07-08 to 2022-07-08



Open Consultation on Metrology for Digital Transformation
2021-11-09 to 2021-11-09

EMN Advanced Manufacturing Annual General Meeting 2021
2021-10-12 to 2021-10-12

EMN Advanced Manufacturing Stakeholder Meeting 2021
2021-10-11 to 2021-10-11

Metrology for Digital Transformation
2021-09-23 to 2021-09-30

Introductory Meeting of EMN Advanced Manufacturing
2021-06-23 to 2021-06-23

EMN for Advanced Manufacturing: Achievements

- **Strategic liaisons** established with **partnerships** Made in Europe, KDT (Chips JU) and Advanced Material Initiative 2030
- **Formal liaisons (MoUs)** with **VAMAS** and **euspen** established
- Several **Stakeholder workshops** organised
- **Stakeholder council** established representing **13 Key Industry Sectors (KISs)** with strong metrology needs
- Development of Strategic Research Agenda (**SRA**) and foster joint projects
- Increased **visibility of metrology via EMN** fosters participation in Horizon Europe projects
- **Capacity Building** workshop held to evaluate situation in Advanced Manufacturing in **EU-13 and candidate countries (widening countries)**
- **New Website**

EMN for Advanced Manufacturing: AGM 2024

EMN Advanced Manufacturing
Open Stakeholder Meeting
Agenda

23 October 2024
Free hybrid event hosted by PTB and online via MS Teams

Time	09:00 – 14:45 local time (CEST)
Place	PTB, Bundesallee 100, 38116 Braunschweig, Germany
Registration	Online/in person registration: https://ptb.de/cms/index.php?id=21260
Responsibility	PTB & the European Metrology Network for Advanced Manufacturing
Participants	EMN members and officials, EURAMET representatives, Stakeholders, Public

24. Oct:
Closed Stakeholder Council Meeting, 09:00-11:00

24. Oct:
Closed EMN Annual General Meeting, 13:00-15:00

Time	Topic	Speaker
08h30	Registration and soft start	
09h00	Welcome and introduction	Harald Bosse, PTB EMN Chair
09h10	News from EURAMET	Dolores del Campo, CEM EURAMET Chair
09h20	The international dimension of digitalization in metrology	Cornelia Denz, PTB President
09h50	Metrology requirements for the realisation of the Future Circular Collider	Hélène Mainaud Durand, CERN
10h20	**Coffee Break**	
10h50	Testing and production of Coradia Max, Alstom's winning combination of capacity and accessibility	Rüdiger Wendt, Alstom
11h20	Decarbonisation as Driver for the Transformation of Metrology Markets	Dietrich Imkamp, Zeiss
11h50	Precision Engineering for Sustainability	Liam Blunt, euspen President, University of Huddersfield
12h10	AI-MATTERS project: AI in Manufacturing, Test and Experimentation Facilities Network	Valentina Ivanova, CEA
12h30	**Lunch**	
13h30	Integrated Metrology for Advanced Manufacturing	Alkan Donmez, NIST
14h00	DG RTD activities on Advanced Manufacturing and Advanced Materials and link with the EMN Advanced Manufacturing	Edoardo Mascalchi, EC, DG R&I, RTD.E3
14h20	Manufacturing and Metrology, complementary aspects and challenges	Maurizio Gattiglio, ETP Manufuture
14h40	Concluding remarks and next steps	Harald Bosse, PTB EMN Chair
14h45	**End of meeting / Farewell coffee**	
15h30	**Optional: lab visits of PTB facilities**	
17h00	**End of lab visits**	

EMN AdvanceManu: Open Stakeholder Meeting

We are looking forward to an inspiring meeting today!

Our Mission: "*To sustainably provide an effective European Metrology Network comprising experts in the field of measurement science to drive forward innovation and to support the European Advanced Manufacturing industries in the transition to a competitive, digitalized and green production.*"

Acknowledgement

Thanks to all colleagues who provided input for this presentation,
in particular those from JNP AdvManuNet and EMN for Advanced Manufacturing

=> *https://www.euramet.org/european-metrology-networks/advanced-manufacturing/*
=> ***advancemanu@euramet.org***

Thank you for your attention!



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EMPIR
EURAMET
The EMPIR initiative is co-funded by the European Union's Horizon 2020 research and innovation programme and the EMPIR Participating States