



## Overview of preliminary content of Strategic Research Agenda (SRA) EMN for Advanced Manufacturing



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EMN AdvanceManu SC meeting,  
Hybrid meeting, hosted by NPL, Teddington, UK  
Update December 2022

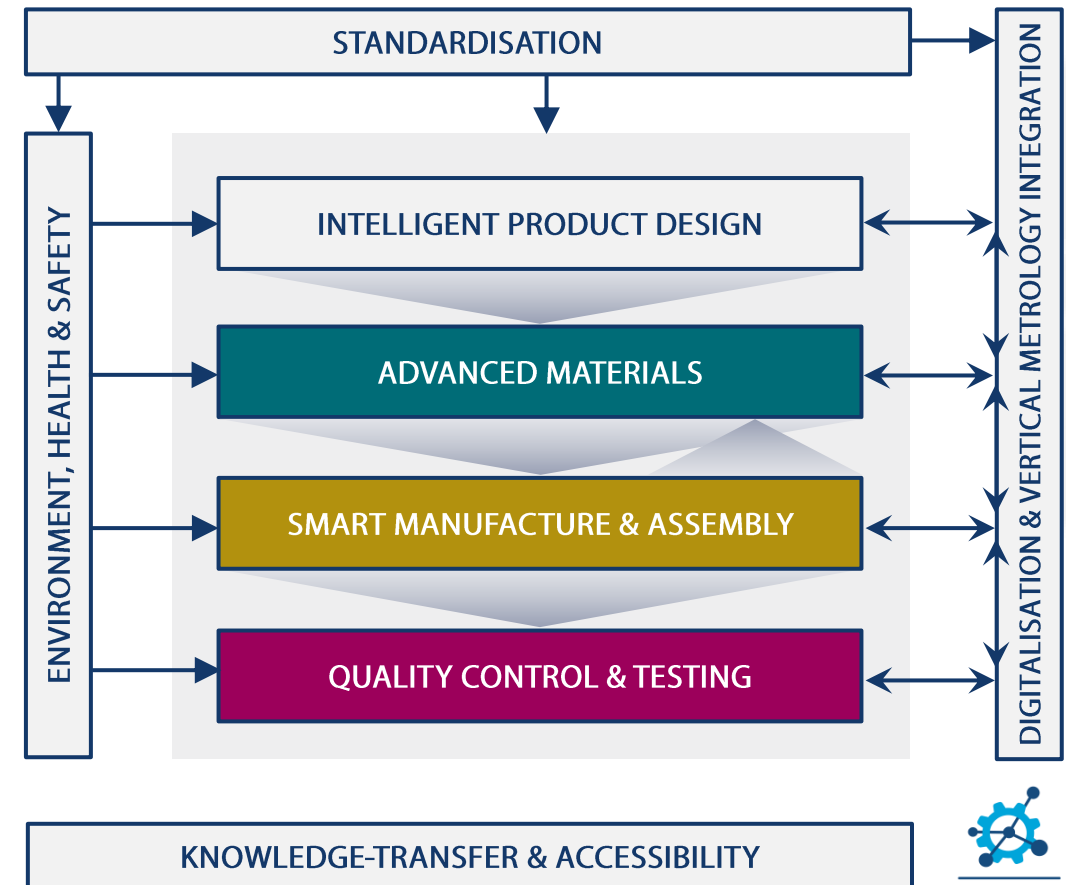
D O'Connor (NPL), EMN Vice-Chair

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# Contents

- Overall purpose of the Strategic Research Agenda (SRA)
- Current structure of the SRA
- Overview of Key Industrial Sectors
- Overview of Cross Cutting Topics
- Mapping of input from SC members

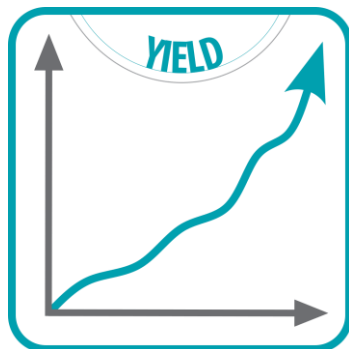
Further information about the EMN for Advanced Manufacturing can be found in the following publication <https://iopscience.iop.org/article/10.1088/1361-6501/ac0d25>



# Overall purpose of SRA

- It is a **living document** that will be maintained by the EMN
- It is a mechanism for obtaining, integrating and sharing **input from all stakeholders**
- It **guides the development of metrology** in support of advanced manufacturing
- It will help **steer the direction of funded research**
  - e.g. The European Partnership on Metrology (EPM) call 2023: Metrology for Industry
- It **acts as a key reference** for metrology needs in any proposed research (related to advanced manufacturing)
- It also **facilitates inputs in to other initiatives**, TCs and EMNs

Zero Defect



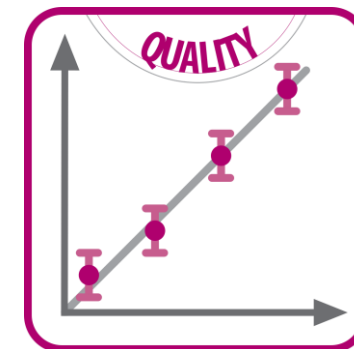
Zero Waste



Zero Delay



Zero Surprise



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# Approach for developing the SRA

- Analysis of existing strategy and technology roadmap documents
- Initial proposal of structure and content themes from EMN
- Brainstorming of EMN experts
- Questionnaires and other inputs from wider metrology community
- Key industrial sector inputs and cross cutting topics
- Open forums and discussion of content
- Cross cutting topics workshops
- Key industry sector specific workshops / open consultation
- Periodic Stakeholder Council input, review and guidance



*Timeline of SRA development stages*

# Current structure of the SRA

## Scene setting

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## Cross cutting content

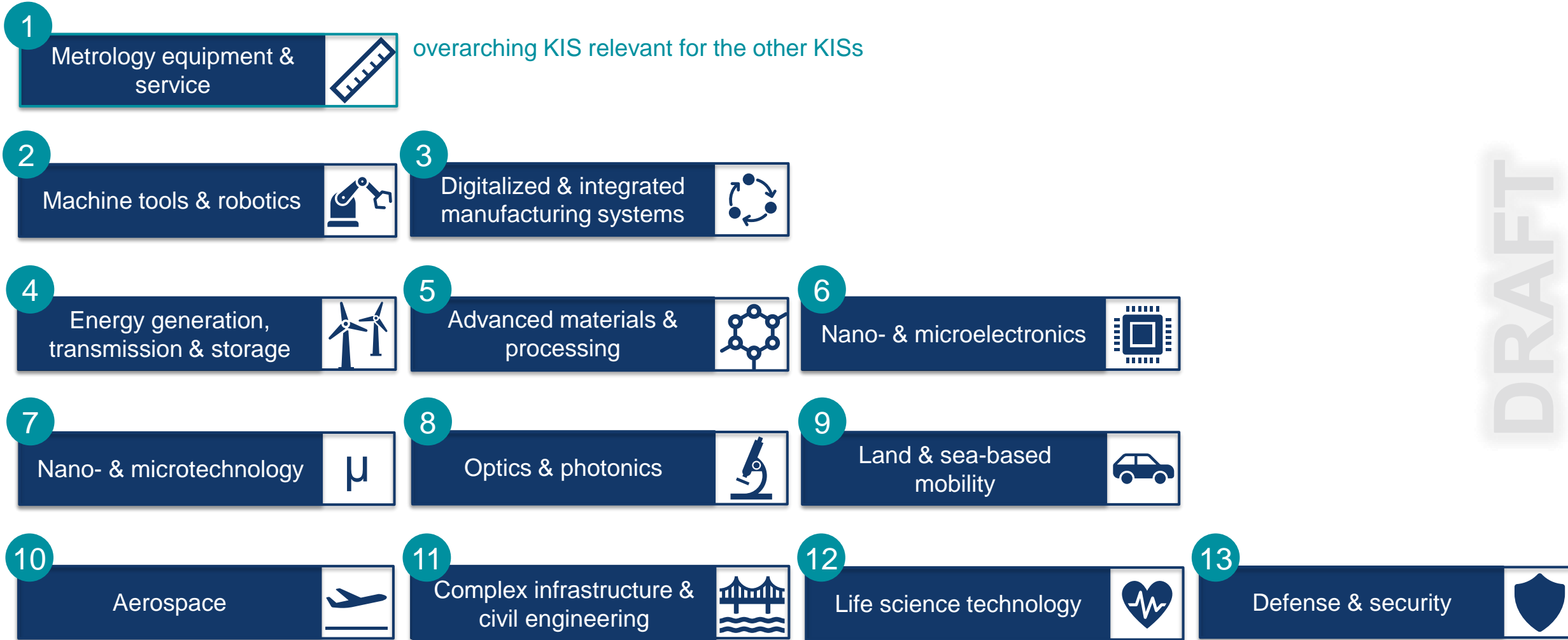
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# Key Industry Sectors (KIS) – Overview



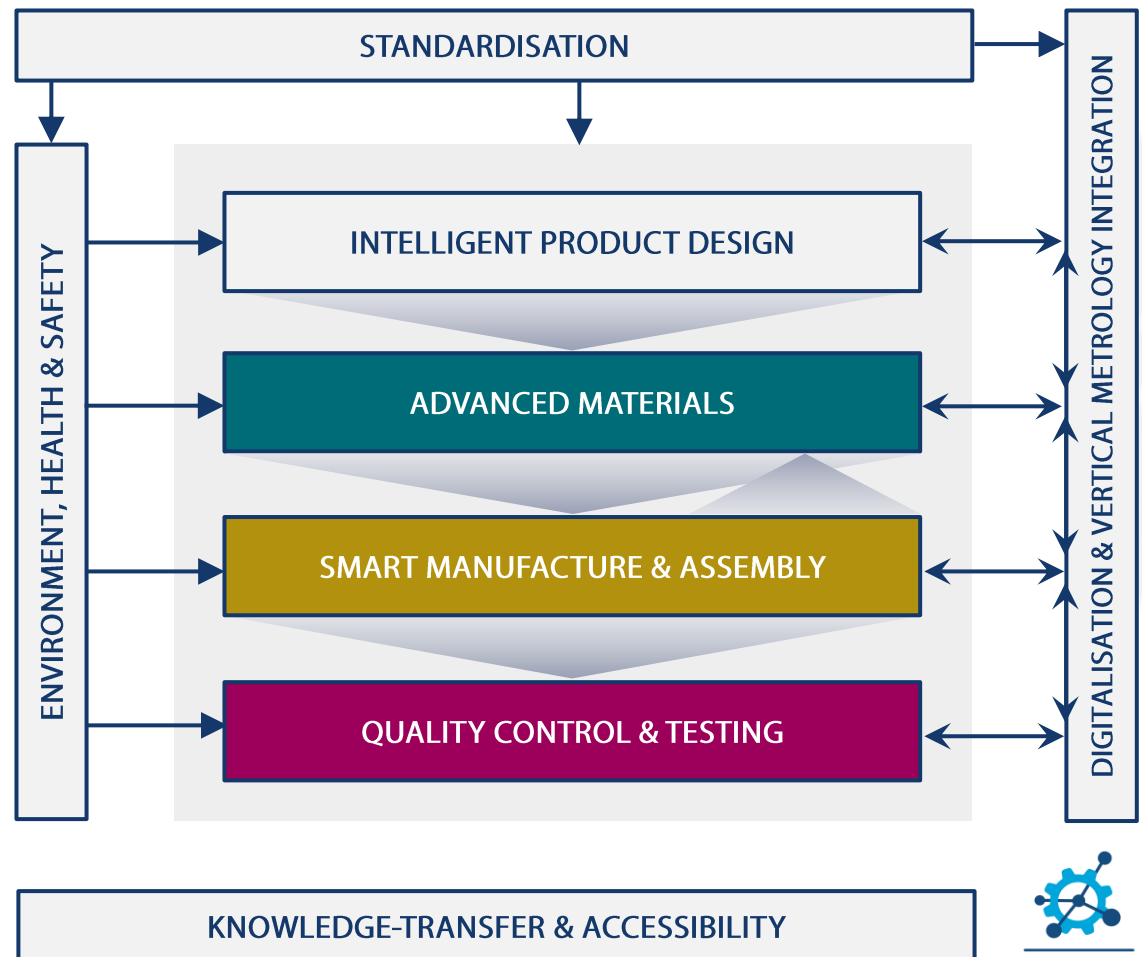
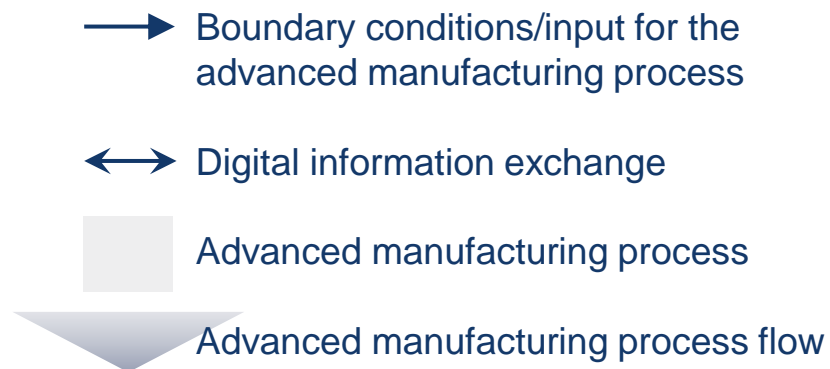
# Status of Key Industrial Sector content



#	Key Industrial Sector	Initial EMN proposals	Trends and developments	Metrology Community	Open Consultation	SC final review
1	Metrology Equipment & Service	✓		✓		✓
2	Machine Tools & Robotics	✓	✓	✓		✓
3	Digitalized and integrated manufacturing systems	✓	✓	✓		✓
4	Energy generation, transmission & storage	✓	✓	✓		
5	Advanced Materials & Processing	✓	✓	✓		✓
6	Nano- & Microelectronics	✓	✓	✓✓	✓	
7	Nano- & Microtechnology	✓		✓		✓
8	Optics and photonics	✓	✓	✓		
9	Land and sea-based mobility	✓		✓		
10	Aerospace	✓		✓		
11	Complex Infrastructure & Civil Engineering	✓		✓		✓
12	Life Science Technology	✓		✓		
13	Defence & Security	✓		✓		

# Cross Cutting Topics (CCT) - Overview

- The cross cutting topics broadly cover the key steps in manufacturing
- The content of cross cutting topics is broadly applicable and relevant to many Key Industry Sectors (KIS)



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# Status of Cross Cutting Topic content



#	Cross Cutting Section	Initial EMN proposal	Trends and developments	Metrology Community	Focussed Workshop	SC final review
1	Intelligent product design	✓	✓	✓		✓
2	Advanced Materials	✓	✓	✓	✓	✓
3	Smart Manufacture & Assembly	✓	✓	✓	✓	
4	Quality control & Testing	✓		✓	✓	✓
5	Digitalisation & Vertical Integration of Metrology	✓		✓		✓
6	Standardisation	✓		✓		✓
7	Environment, Health & Safety	✓		✓		✓
8	Knowledge-Transfer & Accessibility	✓		✓		✓

# Next steps



- Address feedback from Stakeholder Council and EMN members
- Finalise draft text
- Share draft document for review
- Finishing touches for publication
- 1st Draft SRA released in Dec 2022, to support EPM Call 2023: Metrology for Industry

⇒ Input from stakeholders and metrology community is still highly welcome **at any time!**



# Acknowledgements



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Thank you very much for your support and input as stakeholders!

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