AM INTERACTION DAYS

Beatriz Lopez, EWF

Additive Manufacturing Roadmap

AMable

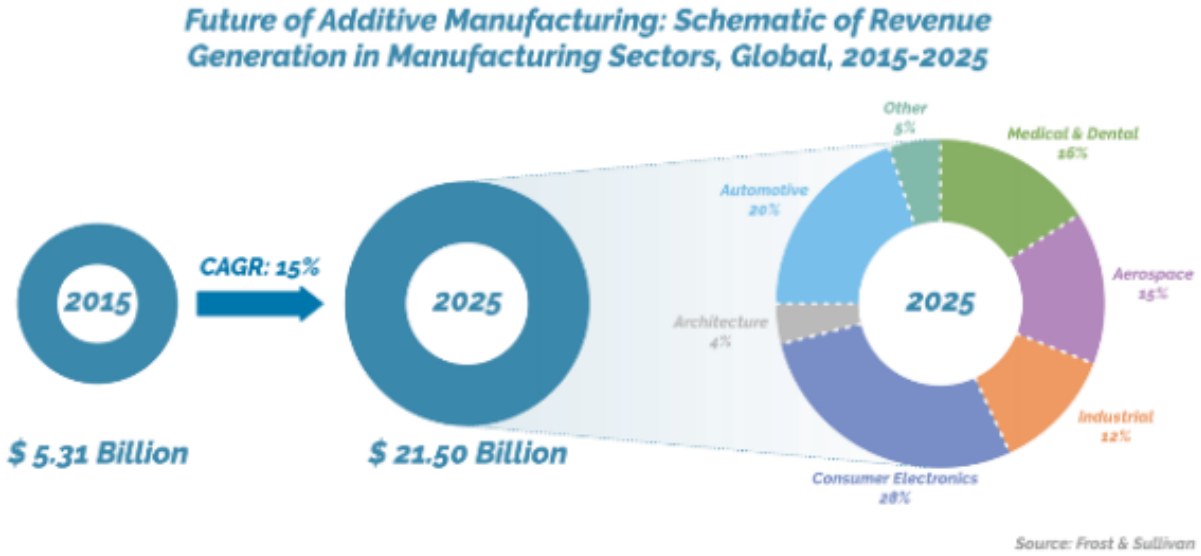
SAM
SECTOR SKILLS STRATEGY
IN ADDITIVE MANUFACTURING

EU Industry Week
#EUIndustryWeek
2021

AM Trends

AM Market

ARE YOU— AM — READY?



AM-motion
Because AM matters

AM-motion vision for 2030 foresees that **Europe will improve its leading role in Additive Manufacturing**, greatly impacting on the competitiveness of European industrial sectors.

AM Challenges

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Several **technical and non-technical challenges**, which may hinder AM full development and market success must be addressed:

CHALLENGES	
TECHNOLOGY:	*new materials, better material quality and reliability, faster & cost-effective production and cyber implementation*
INDUSTRIAL ACCESS:	*to technology at lower cost, in particular for SMEs*
STANDARDISATION:	*industry and user engagement and certification*
EDUCATION & TRAINING:	*appropriate modules for regular curricula and training on the job*
BUSINESS & FINANCING:	*new and successful business models & business collaboration strategies*
IPR:	*ensure protection and market opportunities*
SMART SPECIALISATION:	*cross-regional and cross-sectorial collaboration in AM*

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AM Vision for 2030

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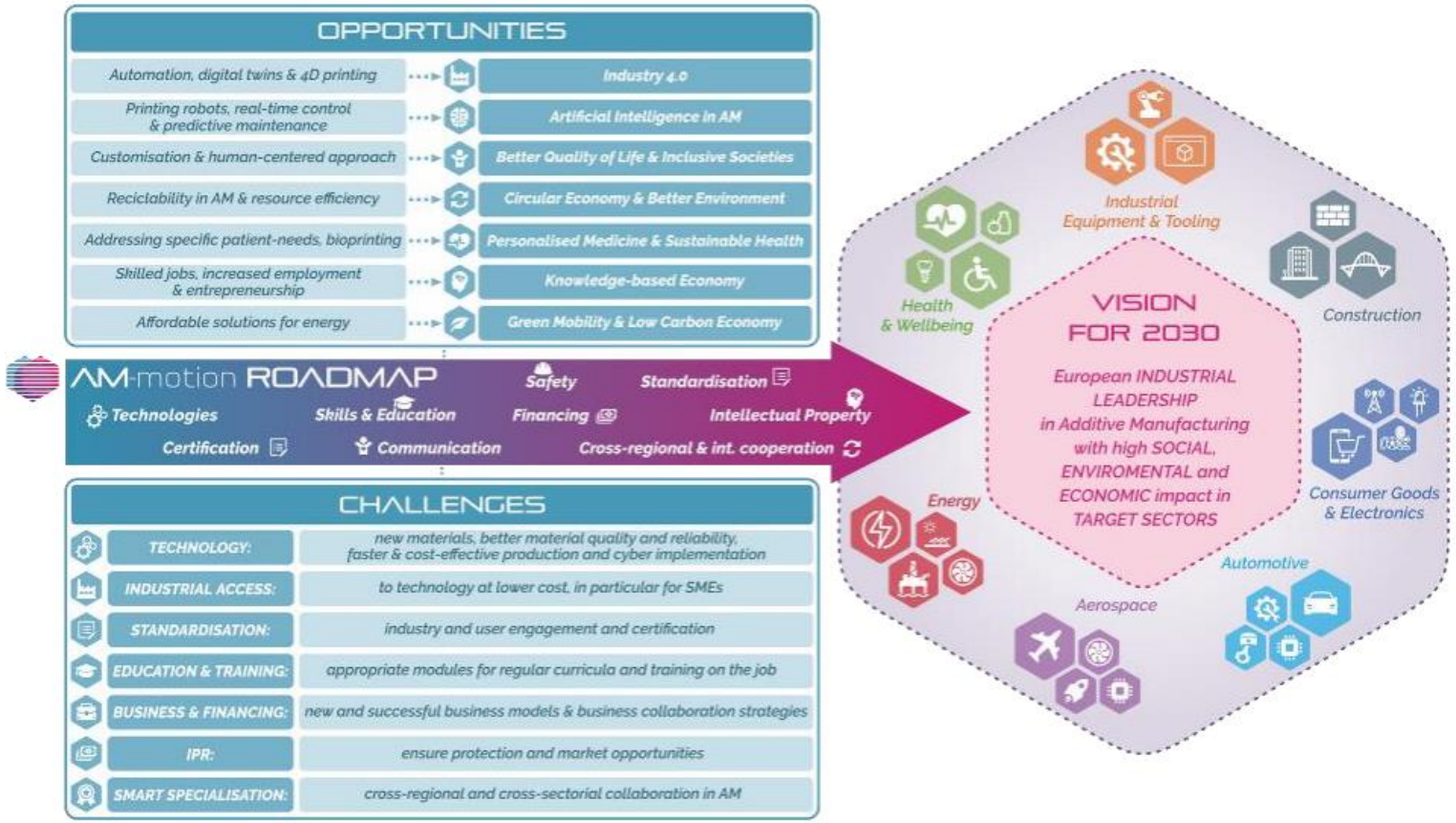


AM Roadmap with a **common vision** for successful European leadership in additive manufacturing is thus required for supporting **the growth, the innovation and competitiveness of the AM sector**

Long-term Technological and Industrial Plan

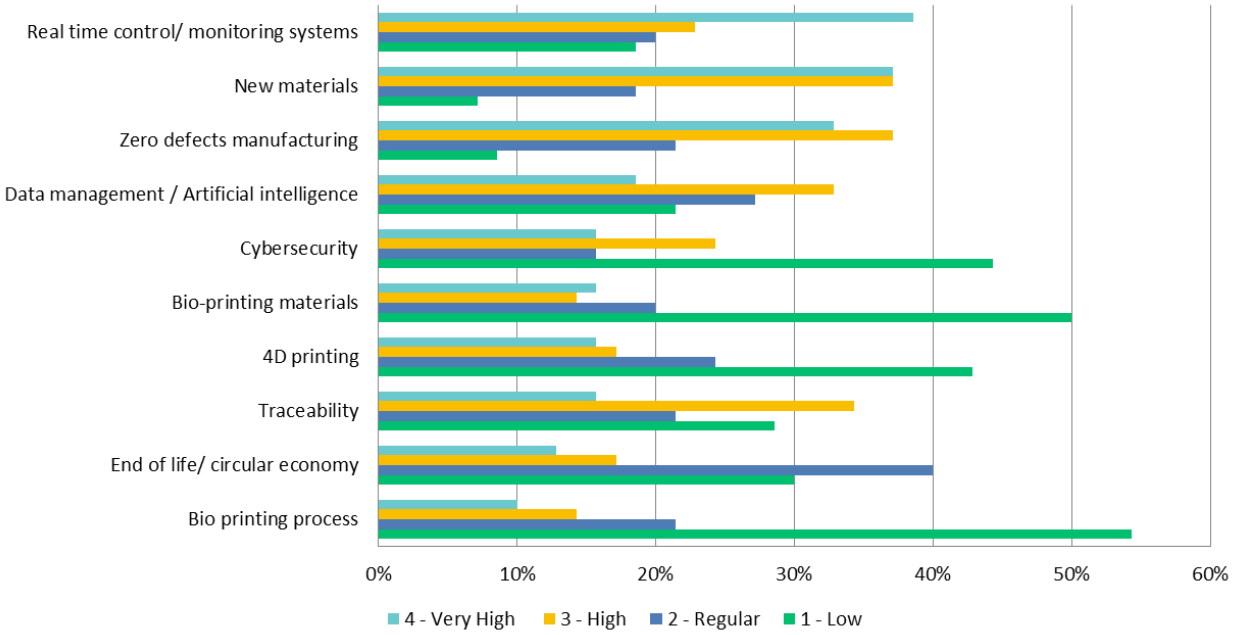
Aiming to define a **strategy** for building the fundamental knowledge and actions necessary to **accelerate the design, application and implementation of AM in the market,**

A **long-term technological plan,** which collects the major technological developments foreseen to happen **in the next 10 years** was defined,

By analysing the **common areas/ priorities** of other European initiatives in order to **identify the technological breakthroughs** foreseen to happen until 2030.

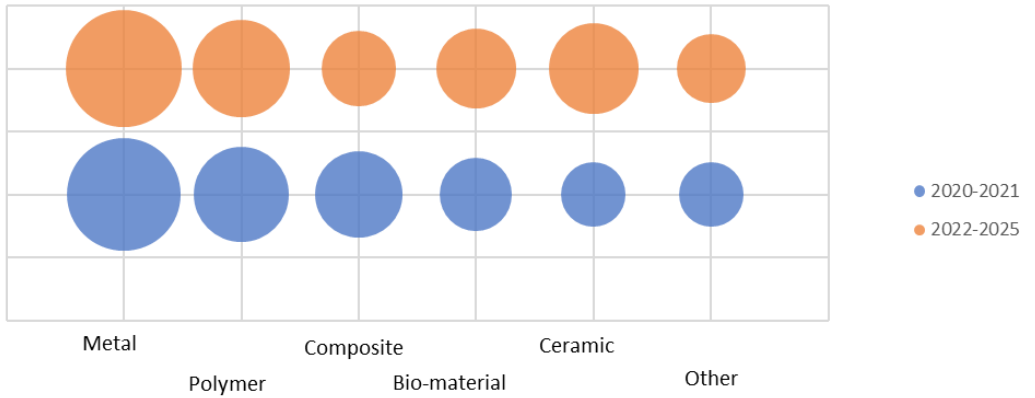
RTD Identified Needs

Relevance of different AM technology trends for R&D&I activities for 2020-2021



Real time control, new materials, zero defects manufacturing

Relevance of materials in R&D&I activities: 2020-2021 vs. 2022-2025



Metal will continue in top of RTD activities until 2025 followed by polymers

Industry Validation

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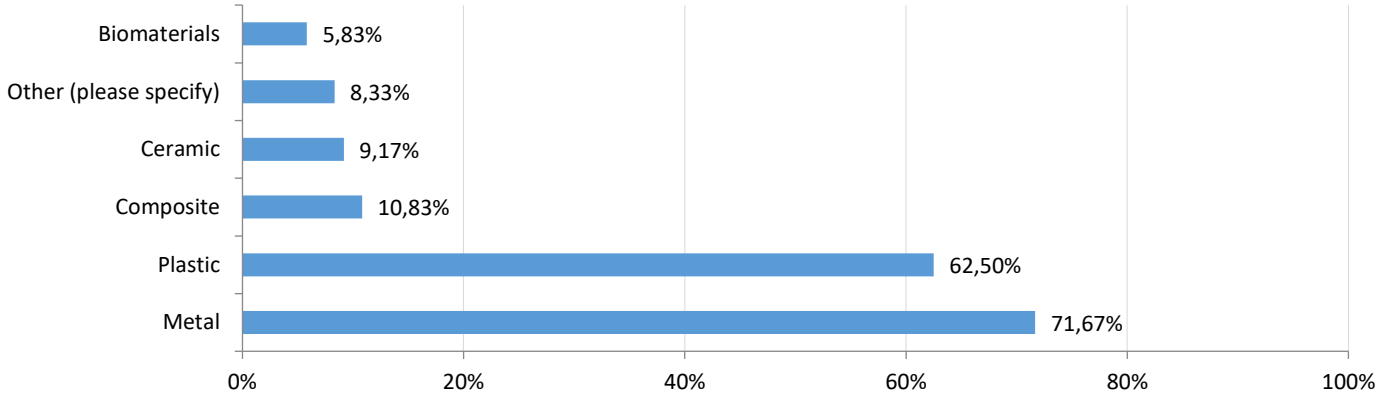
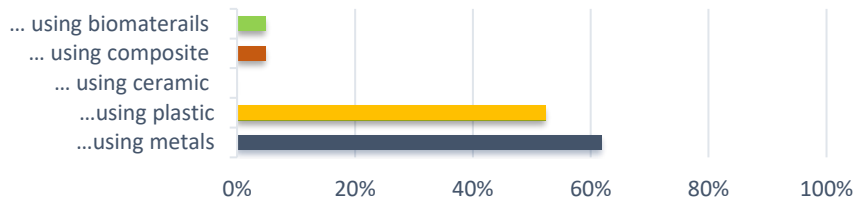
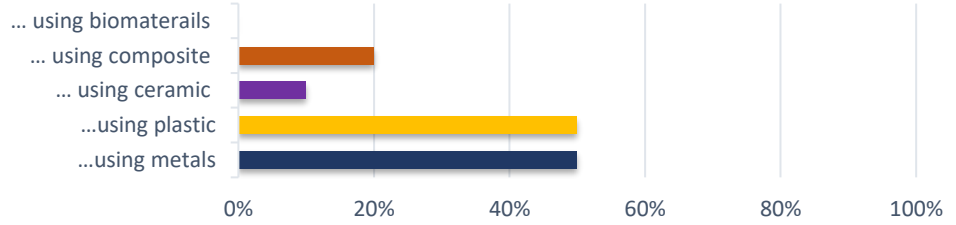
Main AM material used by industrial organisations



Companies dedicated to Aerospace only applying AM



Companies dedicated to Automotive only applying AM



Industry Validation

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Technological Trends Applicable to all Three Segments:
Quality Control / Sustainability (Life cycle) / Modeling

Materials / Feedstock

Process / Manufacturing

Finishing / Post Process

Specific trends Directly Related to Three Main Segments

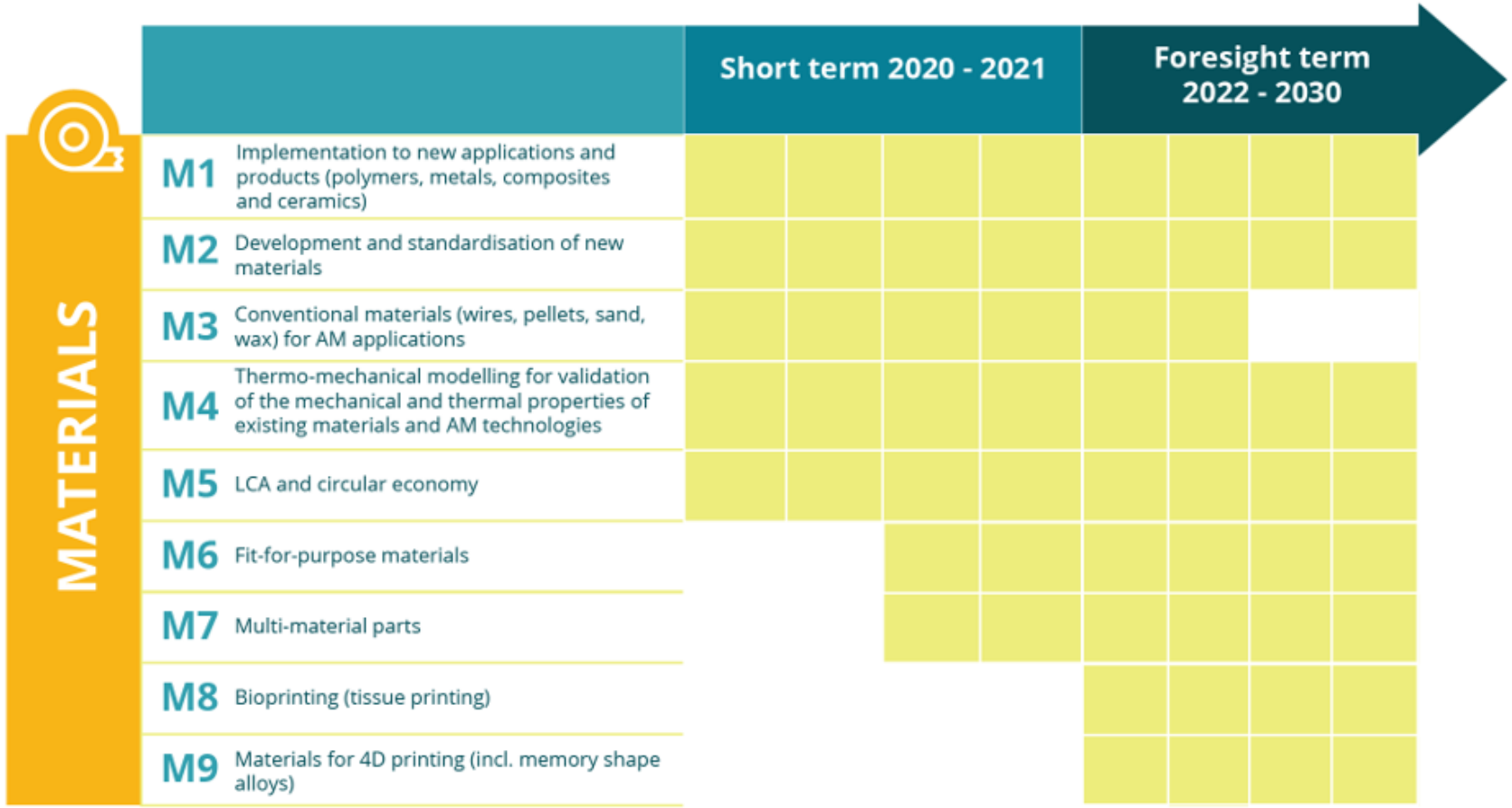
- Metal
- Plastic
- Composites
- Ceramics

Requirements

- Design
- Equipment
- ICT
- Modelling

- Type
- Inspection
- Testing

Technological Trends



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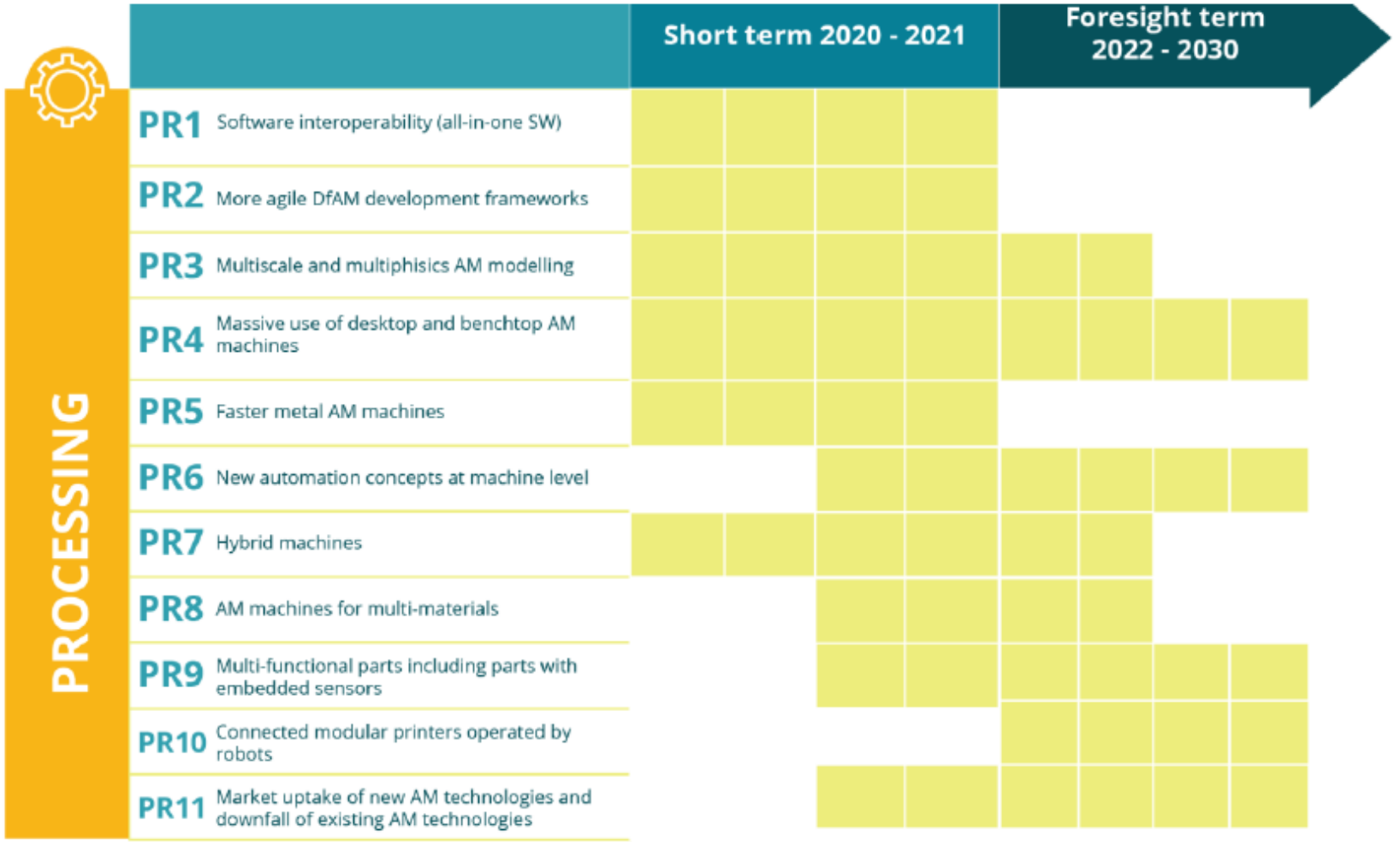

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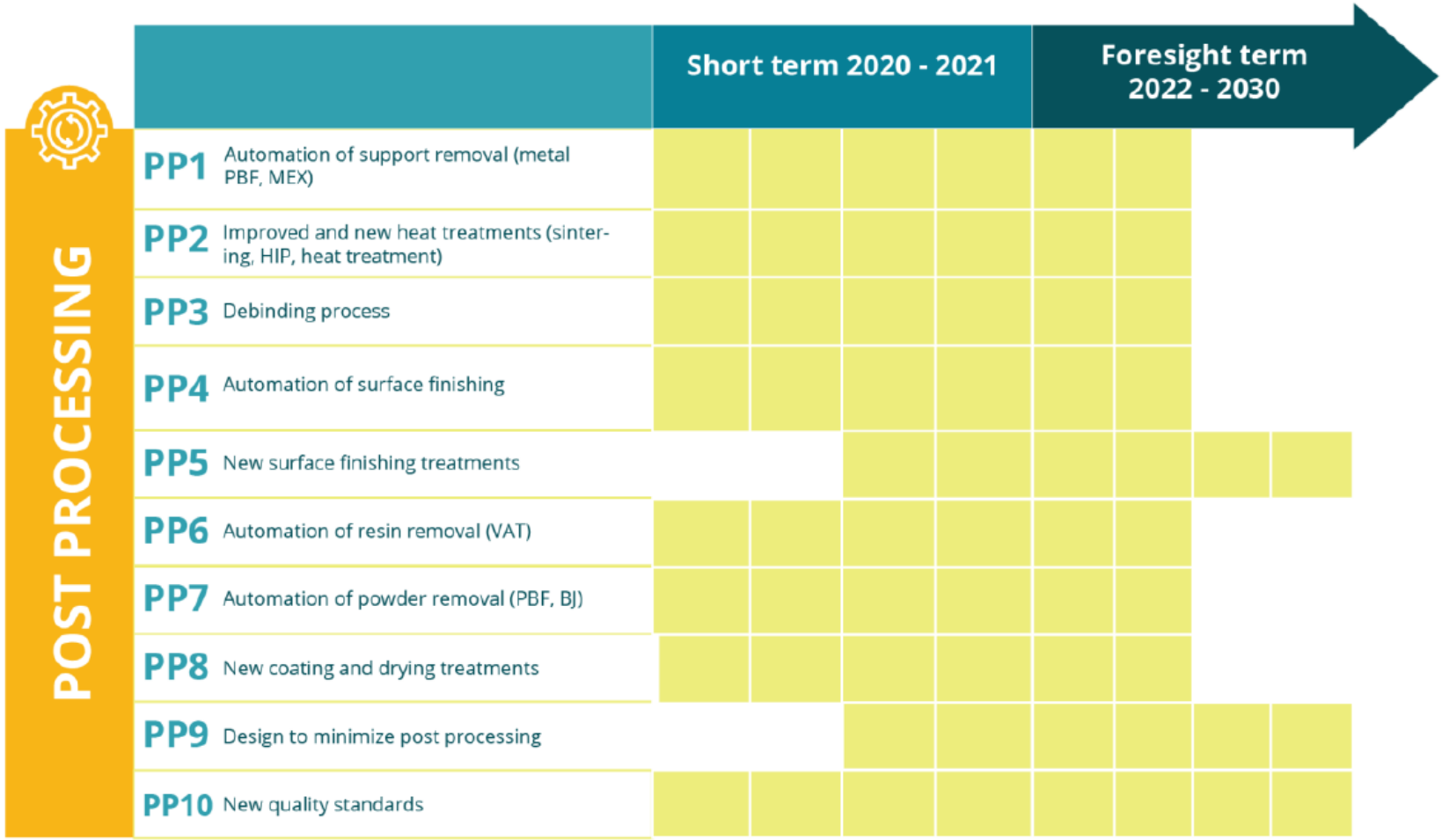
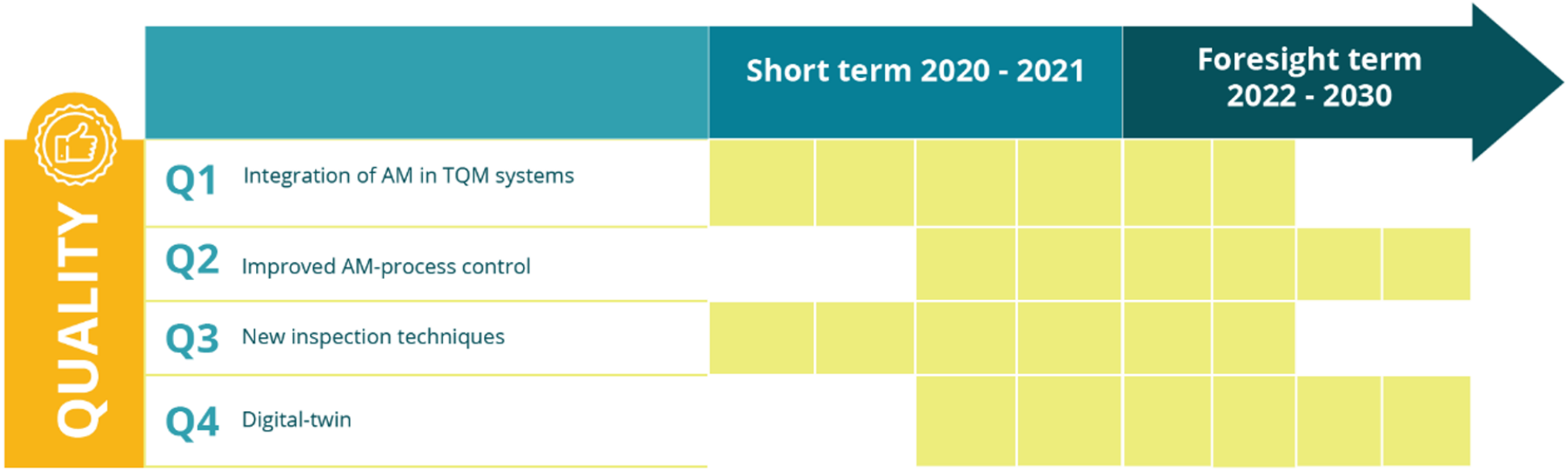


Technological Trends



Non-Technological Trends

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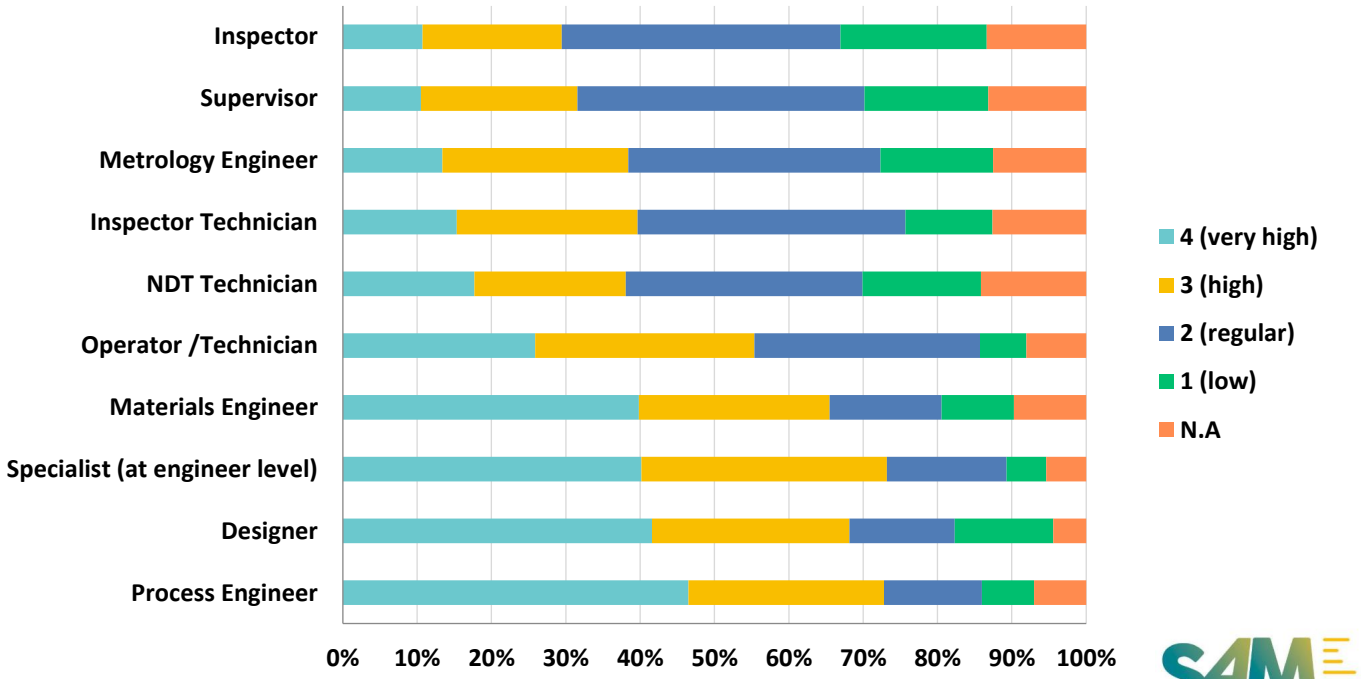
	Priority Description
Short Term (2021-2022)	1. Improving SME access to AM technologies and market through cross-regional cooperation, innovative business models and promotion of effective innovation management approaches
	2. Promoting safety in AM: safety assessment, safety management and guidelines and education on EHS challenges.
	3. Development of educational and training modules both through linking with higher education curricula (engineering, business schools, etc.) and on-the-job training approaches.
Med. Term (2023-2027)	4. Developing and promoting effective intellectual properties strategies in AM and better awareness of IP issues. Promoting the creation of a suitable IP framework.

Current relevance of AM professional profiles for industrial organisation activites



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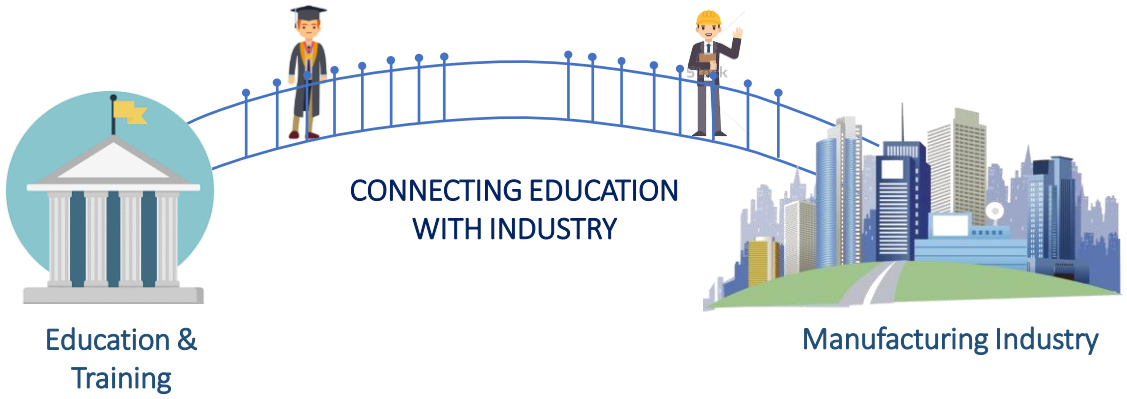
Conclusions

ARE YOU— AM —READY?

- The identified segments confirmed to be the most required technological breakthroughs at short and long-term;
- Quality in AM appears as the most covered cross-cutting field, indicating the need to address this topic in the future;
- The main future skills defined for AM will be focused on Materials, Processing, Post-processing and Quality;
- The mapping of initiatives in AM are aligned, foreseeing to boost the competitiveness of the manufacturing industry by investing in policies, research and human resources.



The Skills of today …

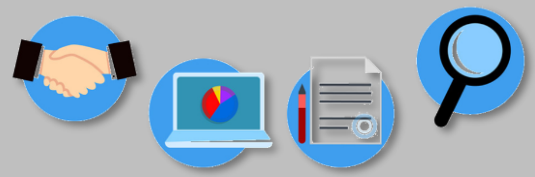
… and Skills of the future

AM Roadmap

the consequences of a **huge technological transformation** and **continuous evolution** …

AM adoption support

Services



Implementation

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Stay with us and get to know all about it

Thank you!

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