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Rapporteurs' Report from the Different Programme Streams

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MANUFUTURE Moving Up the Value Chain

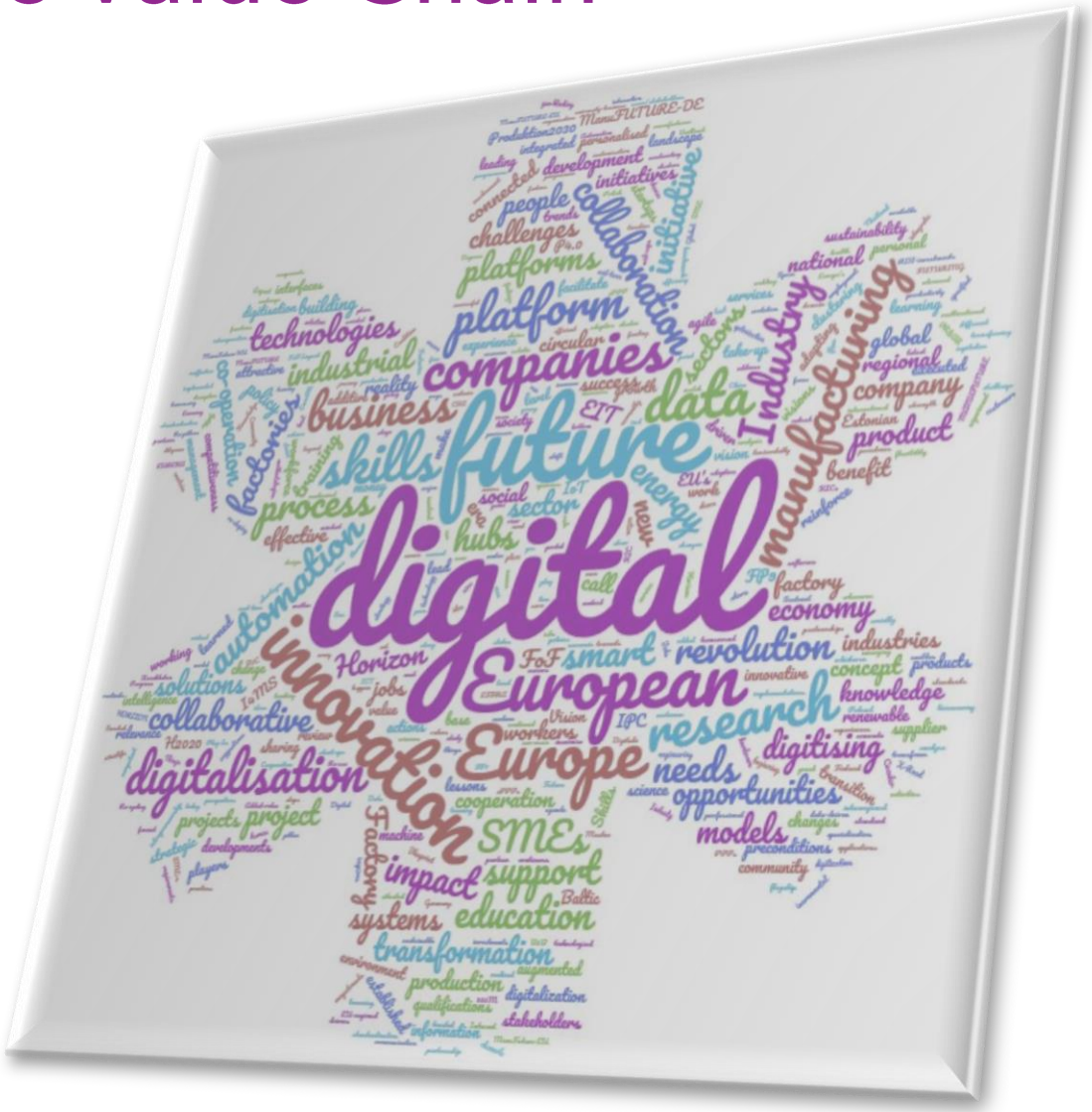
Main Themes

- Digital Manufacturing and the 4th Industrial Revolution
- Collaborative Technological Innovation
- Sustainable Energy and Resource Efficient Manufacturing

Cross Cutting Themes

- Higher Value Skills
- Access to Finance
- New Business Models
- Better Regulation

Enhancing delegates' experience to foster co-creation



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European Perspective (1)

- ✓ Europe is leader in several sectors
- ✓ EU's Industry Policy Strategy
- ✓ Europe is good in scientific publications (1/3 of the world production) but how to get that into business and growth and jobs
- ✓ Digitising European Industry, Digital Innovation Hubs & Digital Industrial Platforms, and funding programme under Horizon 2020 to support platform building and digital innovation hubs (support also for SMEs in technology adoption)
- ✓ European cPPPs. E.g. FoF PPP supports targeted RDI projects. The ConnectedFactories Coordination Actions establish links among these developing concrete pathways towards the further deployment of digital platforms in manufacturing
- ✓ In Europe strong commitment both from EC and industry in developing digital skills
  - ➢ Digital Skills and Jobs Coalition and 'Blueprint for Sectoral Cooperation on Skills'
- ✓ EIT Knowledge and Innovation Communities (AVM KIC, EIT Digital, …)

European Perspective (2)

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- ✓ High Level Group's recommendations for FP9 (HLG Report 'LAB - FAB – APP')
- ✓ ManuFUTURE Perspectives in FP9 ->Industrial pillar in FP9 is extremely important
- ✓ Digital is the major growth driver. Digitalisation leads to loss of exisiting jobs but it also creates new jobs.
- ✓ When building the regulatory framework we should ensure that we don't create too many barriers
- ✓ We should stop being scared about the future (AI, …). Instead let's focus on the opportunities and make them and digital technologies our strengths
  - ➢ "Let's shape the future together!"
- ✓ Technology must be ethical, anthroprocentric and democratic
- ✓ Digitalisation and automation have taken investments back to developed countries (e.g. Adidas SpeedFactory in Ansbach, Germany)

Industry 4.0 in Practice - Digitalisation

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- ✓ Digitalisation changes everything and all industry sectors
- ✓ PLCs are not dead but they are reborn for the digital era
- ✓ LEAN is not dead (Digital & Lean enable next generation Lean (Lean in the digital era)
- ✓ 92% of factory machines in the world (from total 65 million) are not network connected
- ✓ Next trillion (thousand billion) dollars will be earned with data
- ✓ Connectivity and data sharing across software applications and contexts will create new optimisation opportunities and revenue streams
- ✓ Digitalisation is not just technology but also a new way to do customer centric business based on customer value and outcomes
- ✓ Wide range of digital platforms available. It's crucial to address interoperability across applications
- ✓ Digital transformation needs a clear strategy and acceleration of innovation

Sustainability and Circular Economy

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- ✓ No consensus yet on the actual impact of manufacturing digitization/automation to jobs
- ✓ Digitalisation and automation have major impacts on future manufacturing work and future jobs at all levels. How to achieve social sustainability?
- ✓ How to make manufacturing more attractive to young people? There is lack of clear insight on how modern manufacturing works. Education must be adapted to real-life needs and awareness raising starting already at primary school.
- ✓ Flexibility of the workforce to change jobs during their life careers
- ✓ Future technical skill needs (advanced technologies, digital and interdisciplinary skills)
- ✓ EIT Knowledge and Innovation Community (KIC) on 'Added-value manufacturing' can play an important role in re-shaping the education landscape
- ✓ International qualifications in adjusting professional skills to industry needs
- ✓ FUTURING project aims to define a strategy for Europe's Circular Economy in the context also of digitizing manufacturing ("Re-"pillars: Re-use, Re-manufacturing, Re-cycling)

Collaborative Technological Innovation

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- ✓ MANUFUTURE VISION 2030
- ✓ National Programmes and initiatives (UK Catapult; ManuFUTURE-DE: SRA for manufacturing technologies with a time horizon around 2030; Produktion2030: Swedish platform for research and innovation in production; …)
- ✓ Digital transformation calls for new type of collaboration and partnerships between IT companies (incl. start-ups) and manufacturing companies
- ✓ University-Industry cooperation (Spin-offs; Joint publications; new university rankings based on university-industry cooperation)
- ✓ Cooperation models: Stragling alone, Working in pairs, Co-creation in consortium, Co-cretion and information sharing, …
- ✓ P4.0 = Public Private People Partnership involving and mobilising also citizens in the RDI (also recommendation of the HLG)
- ✓ Capitalizing EU collaboration in national/regional innovation policy

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Warm Thanks to all contributors and participants for the excellent MANUFUTURE conference!

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