'25 MANUFUTURE CONFERENCE

MANUFUTURE CONFERENCE

MANU*FUTURE* Vision 2050

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MANUFUTURE-EU

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cecimo
Centimfe
DIE METALLTECHNISCHE INDUSTRIE
Österreichs stärkste Branche
INESC TEC
InoPro
IRISH MANUFACTURING RESEARCH
LMS
MANU-KET
MONDRAGON
Prima Additive by Sodick
PRODUTECH
SINTEF
smart advanced manufacturing
TAL TECH
Teaching Factory
Teknikföretagen

MANU*FUTURE* European Technology Platform (ETP)

Manufacturing »the general transformation of all resources to meet human needs«

The Mission: to **propose, develop and implement a strategy based on Research and Innovation, capable of speeding up the rate of industrial transformation** to high-added-value products, processes and services , securing high-skills employment and winning **a major share of world Manufacturing output in the knowledge-driven economy.**

MANU*FUTURE* governs **research, technological development, and innovation** (RTDI) efforts aimed at **transforming the European manufacturing industry** at two levels:

- ✓**Operational level:** An operational level, employing a technological approach exploiting all possible synergies arising from the converging nature of science and technologies
- ✓**Policy level:** A policy level, aimed at **continuous development** of the MANU*FUTURE* Vision and Strategic Research and Innovation Agenda and promotion of the Lisbon objectives

MANU*FUTURE* European Technology Platform (ETP)

Embracing the Future: Long-Term and Forward-Looking

MANU*FUTURE* Vision 2030

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Strategic Research and Innovation Agenda 2030 (SRIA)

Joint FP10 Paper of MANUFUTURE, EFFRA and EIT Manufacturing
November 2024

European Technology Platforms: Joint Statement: Leveraging European Technology Platforms to boost Europe's public and private R&I outcomes
November 2024

The Future of Europe and Manufacturing
July 2025

Working Groups

Decentralised Technical Intelligence (DTI) for increased manufacturing performance
July 2024

- Manufacturing for green products
- Generative AI in Manufacturing
- Advanced Manufacturing Technologies for Common use
- Radical thinking in manufacturing
- State aid in the scope of research and innovation

Towards MANU*FUTURE* Vision 2050: Automation of end-to-end and circular processes – Part 1, March 2025

TOWARDS MANU*FUTURE* Vision 2050

Automation of end-to-end and circular processes

- Emphasizes the **optimisation and expansion** of existing **end-to-end business processes, across all manufacturing system levels and value chains**

- This strategy seeks to **foster a competitive and sustainable manufacturing** sector in Europe **that masters critical technologies while simultaneously reducing dependencies on material resources and energy**, aiming to:
  - boost industrial manufacturing productivity while lowering costs
  - react and adapt rapidly to market changes
  - achieve a high degree of resource efficiency
  - shorten the time-to-market of manufacturing sustainable products and solutions, particularly in low-volume or highly personalized production at scale
  - assure the physical and cognitive augmentation of humans
  - optimise product performance, durability and circularity

- Envisions **industrial manufacturing as a pivotal driver for growth, competitiveness, and sustainability**, leveraging current trends, challenges, and opportunities to shape the future of all manufacturing sectors

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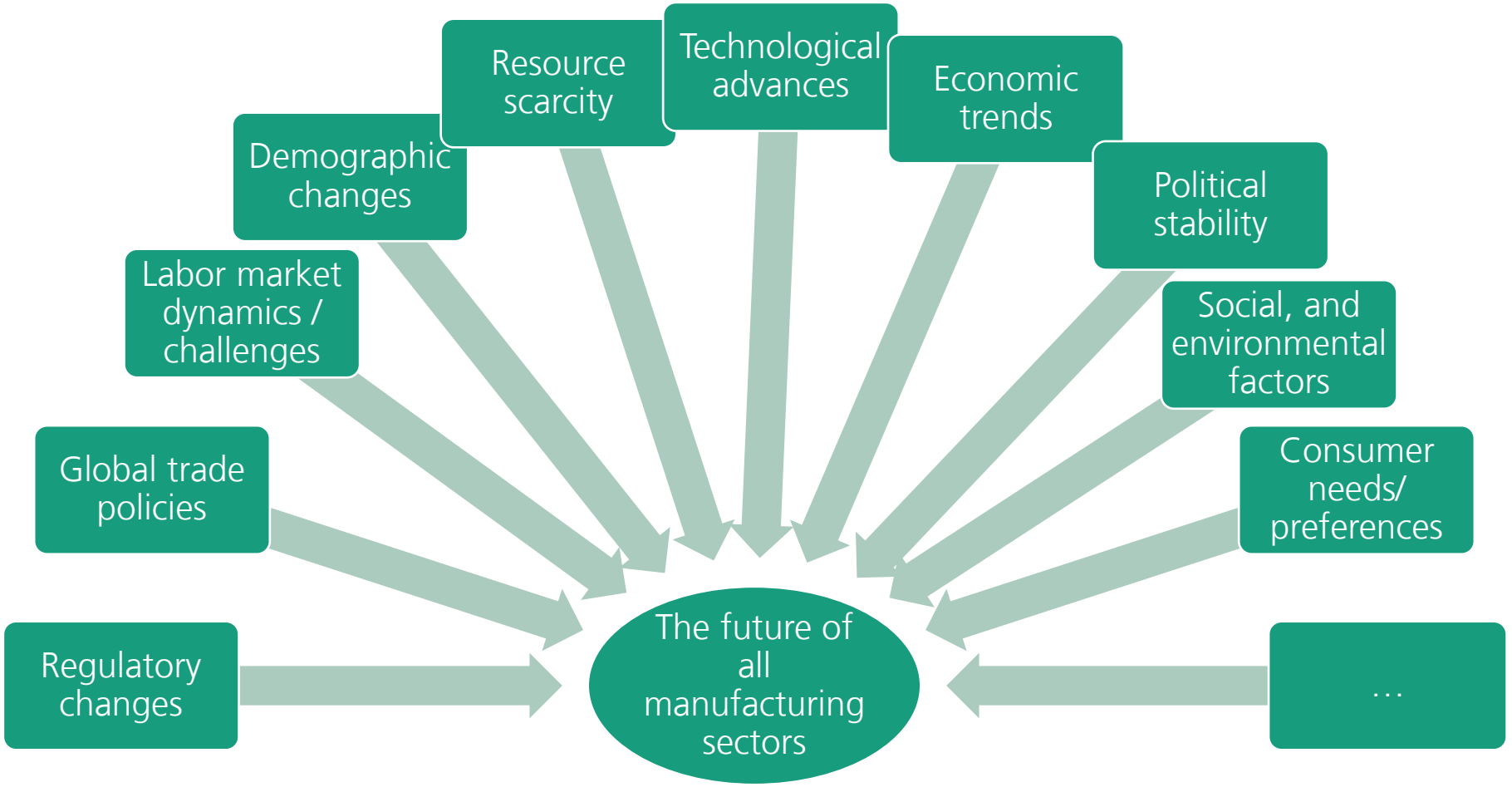
Towards MANU*FUTURE* Vision 2050: Automation of end-to-end and circular processes – Part 1, March 2025

MANU*FUTURE* Vision 2050

Key Factors



MANU*FUTURE* Vision 2050

Embracing the Future: Long-Term and Forward-Looking

Building on the MANU*FUTURE* ETP mission and its objectives

- **Competitiveness in manufacturing industries**
- **Leadership in manufacturing technologies**
- **Eco-efficient products and manufacturing**
- **Leadership in products and processes, as well as in cultural, ethical and social values**

MANU*FUTURE* bears a European responsibility to craft a comprehensive vision that spans every dimension, from technological breakthroughs and geopolitics to demographic shifts, workforce dynamics, and emerging business models.

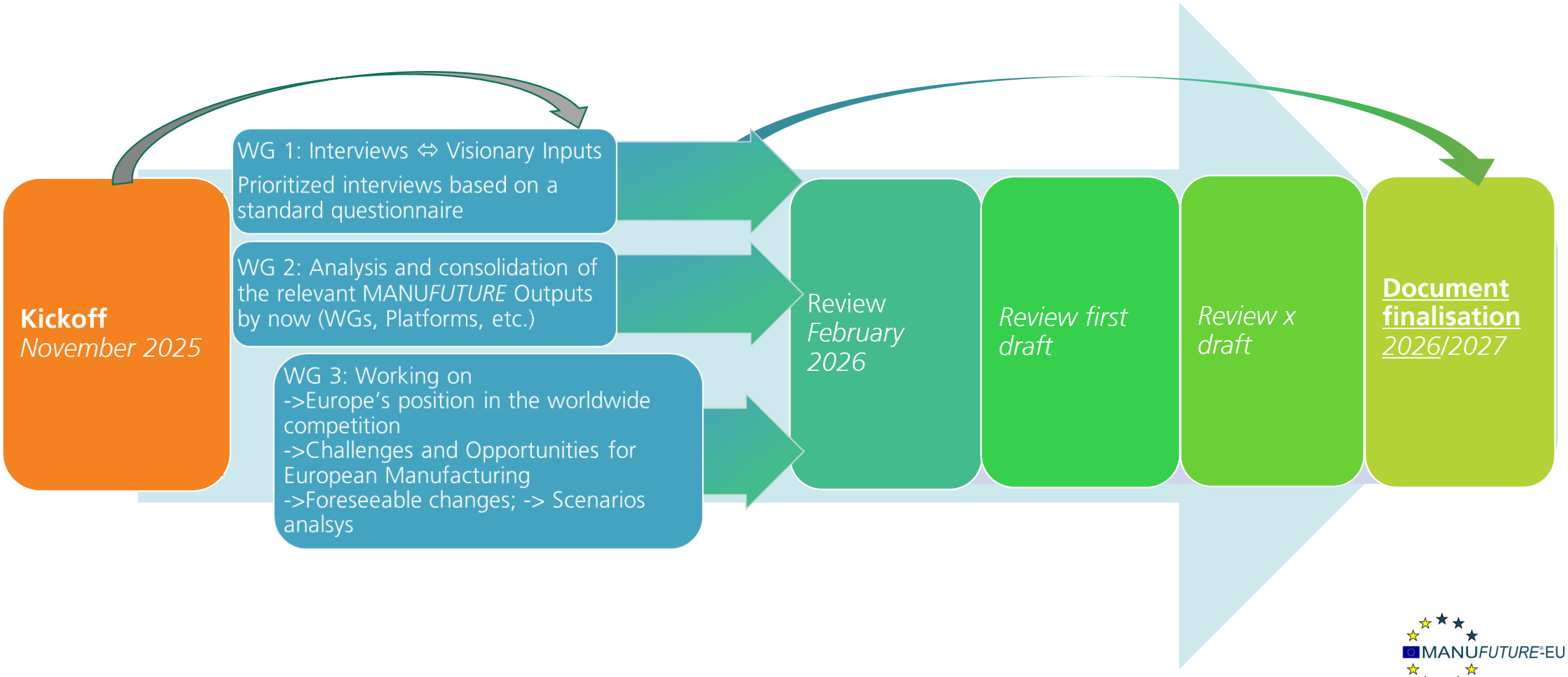
MANU*FUTURE* Vision 2050

Tech advances, geopolitics, demographics, workforce & future business models

- How will **AI and automation** reshape manufacturing business models and strategies, and what will it mean for shop-floor work and workforce skill profiles?
- How will **advances in materials science** *(e.g., smart, bio-based, or infinitely recyclable materials)* transform product design and production methods?
- Which **emerging technologies should European industry monitor closely** over the next two decades? *(e.g., quantum technologies, artificial superintelligence [ASI], advanced humanoid robots)*
- Which **traits will define the success of a top-performing European factory in 2050**? *(e.g., closed-loop sustainability, AI-driven self-optimization, hyper-automation, on-site green-hydrogen power, data-driven flexibility, cyber-secure operations, highly skilled hybrid workforce)*
- Which **geopolitical challenges** could most disrupt European manufacturing by 2050? *(e.g., diverging data-sovereignty, AI regulations)*
- Which **collaboration model** will best accelerate innovation? *(global R&D networks, regional alliances, tech sovereignty ⇔ competitive isolation)*
- Which **world regions** are likely to be **manufacturing powerhouses in 2050**, and why? *(e.g., Southeast Asia for market scale, North America for low-cost energy and automation, Africa for green-hydrogen potential)*
- How must the **workforce evolve?** *(large-scale up/reskilling, stronger Science, Technology, Engineering, and Mathematics (STEM) pipelines, human-machine co-working cultures -AR/VR, cobots-)*
- Which **manufacturing business models** are likely to prevail by 2050? *(e.g., product-as-a-service, pay-per-use, outcome-based contracts, manufacturing platforms)*

MANU*FUTURE* Vision 2050

The way forward



MANU*FUTURE* Vision 2050

Embracing the Future: Long-Term and Forward-Looking

Building a MANU*FUTURE* Vision 2050 that serves as a contribution to political, economic, ecological, and social orientation from a European perspective.

Providing a research, development, and innovation (RDI) framework for all stakeholders to transform the European manufacturing industry and secure a major share of world Manufacturing output in the knowledge-driven economy.

“Vision without action is merely a dream.
Action without vision just passes the time.
Vision with action can change the world.”

-Joel Arthur Barker -

Thank you!

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