



Keynote Speech

The importance of Manufacturing for the European Recovery from the COVID-19: Manu*FUTURE*-EU European Technology Platform's vision on the European Recovery Plan

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MANUMIX INTERREG EUROPE
Basque Country

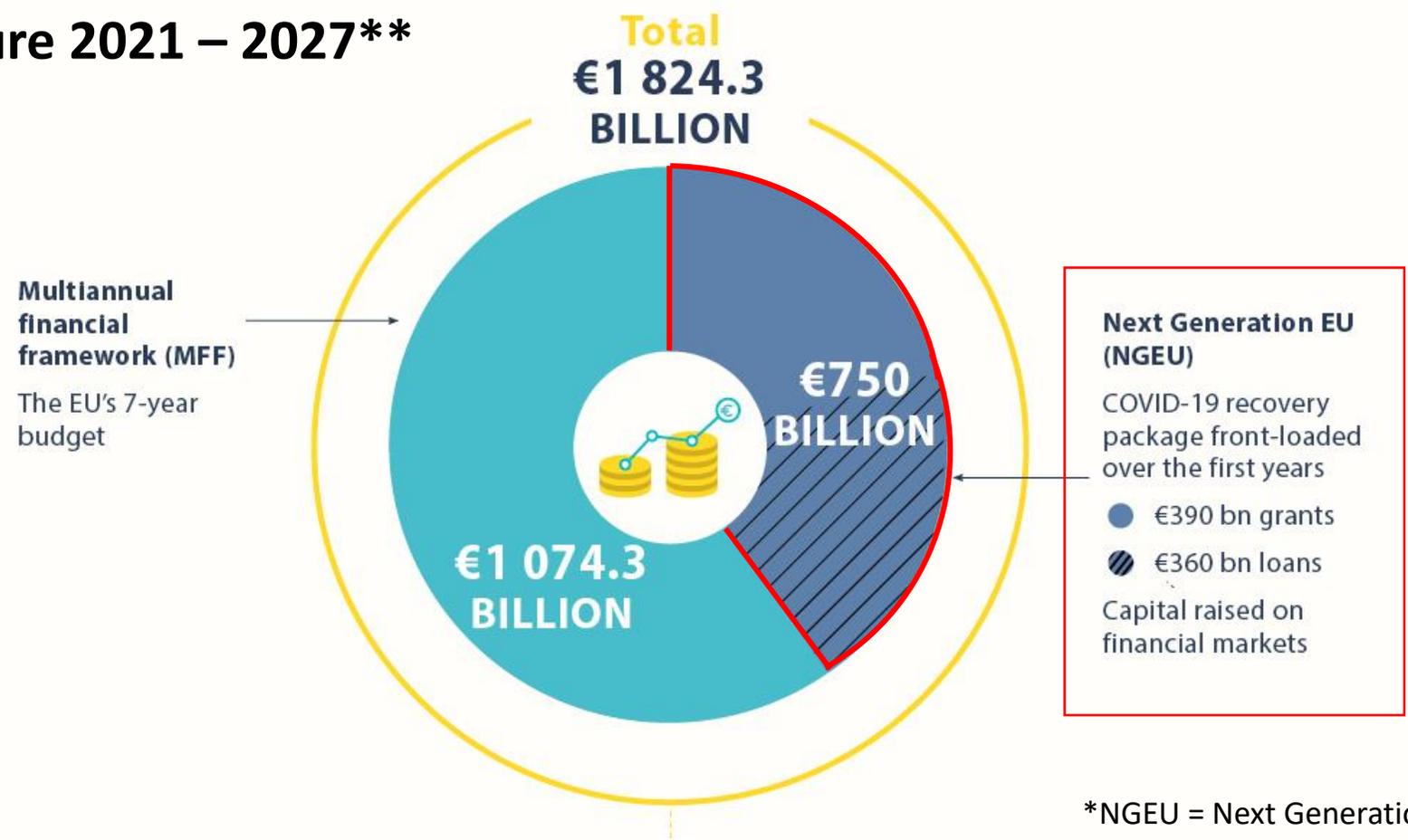
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Content

- European COVID-19 Recovery Plan (“Facts & Figures”)
- Role of Manufacturing in Recovery and Future of Europe
- Enablers and Technologies for Resilience, Sovereignty and Circularity
- Instruments and Support on European, national and regional level
- Political messages for recovery and future success

European COVID-19 Recovery Package (NGEU*) and MFF together Facts and Figures

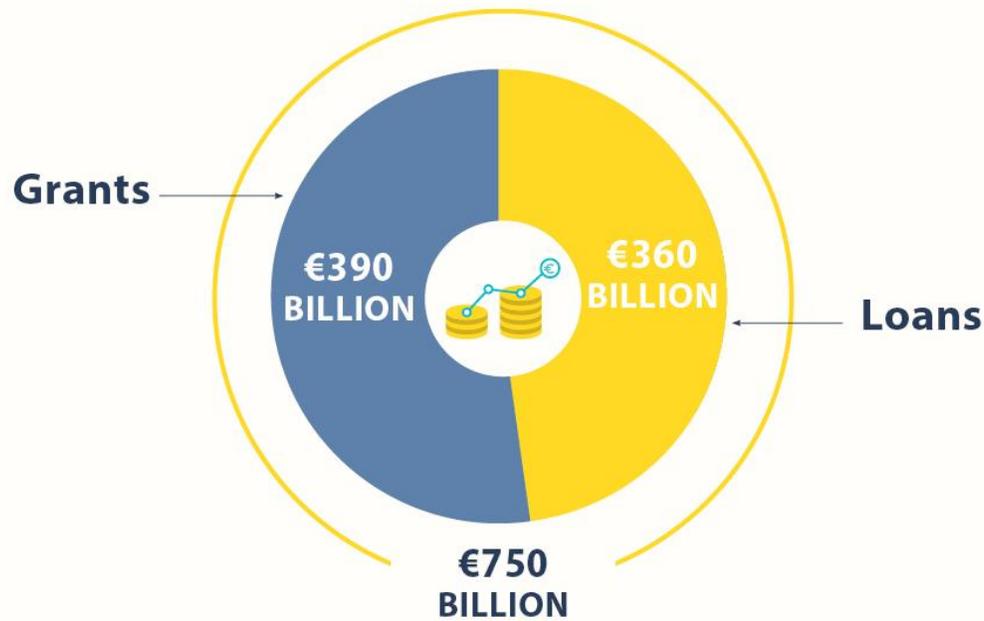
EU expenditure 2021 – 2027**



*NGEU = Next Generation EU
** Approval of EU-Parliament is pending

European COVID-19 Recovery Package (NGEU)

Facts and Figures



- Capital raised on financial markets
- Repayment period until 2058

Investing in a green, digital and resilient EU



- **Legal commitments:** by 31 December 2023
- **Payments:** by 31 December 2026



European COVID-19 Recovery Package (NGEU*) Conditions

Recovery and Resilience Facility Conditions

- **Member States** shall **prepare national recovery and resilience plans** setting out the reform and investment agenda of the Member State concerned for the years 2021-23. The plans will be reviewed and adapted as necessary in 2022 to take account of the **final allocation of funds for 2023**.
- **The recovery and resilience plans shall be assessed by the Commission** within two months of the submission. The **criteria of consistency with the country-specific recommendations**, as well as **strengthening the growth potential, job creation and economic and social resilience** of the Member State shall need the **highest score of the assessment**.
- The **Commission** shall adopt a **decision** on the assessment of the **satisfactory fulfilment of the relevant milestones and targets and on the approval of payments** in accordance with the examination procedure.

*NGEU = Next Generation EU

Role of Manufacturing in Recovery and Future of Europe

Situation of Manufacturing

Impact of COVID: **Trade disruptions, shocks on the supply side, but in particular big impact on order intake.** Economic downturn is unprecedented.

In parallel, the **manufacturing industry is facing the double transitions:** 1) green and digital and 2) structural changes in global markets.

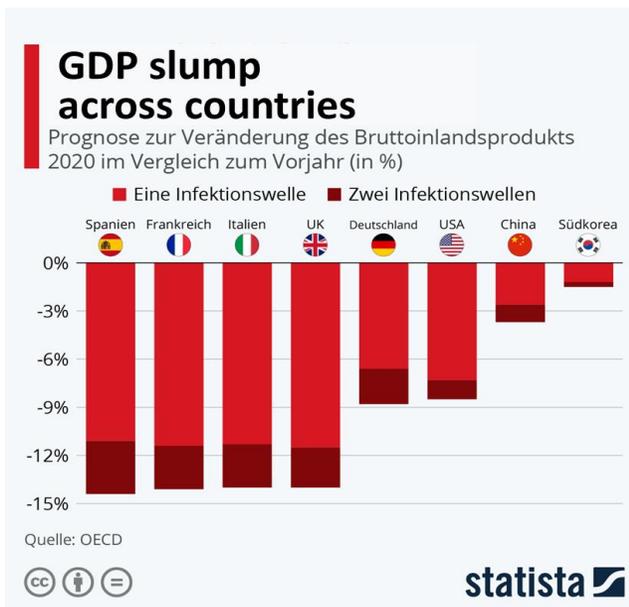


Figure 1

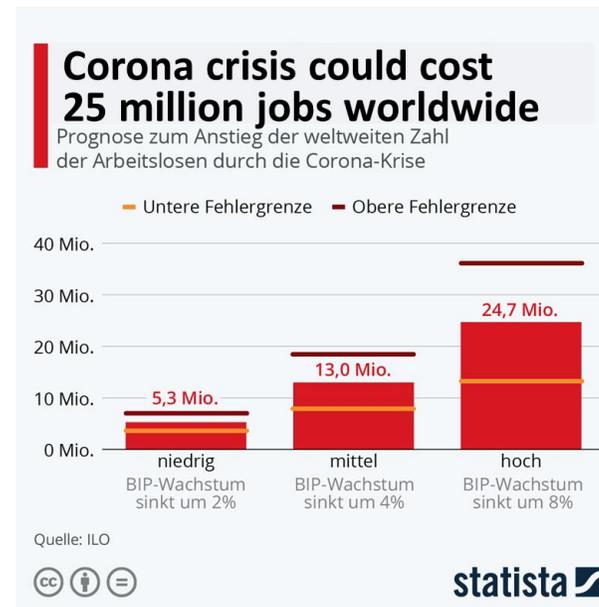


Figure 2

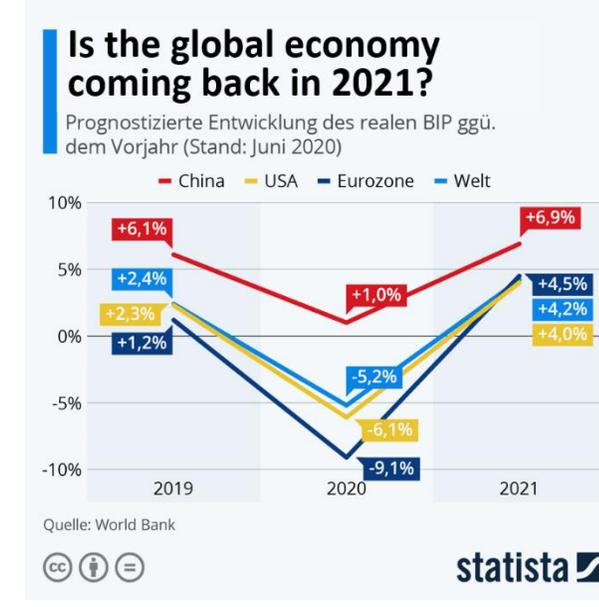
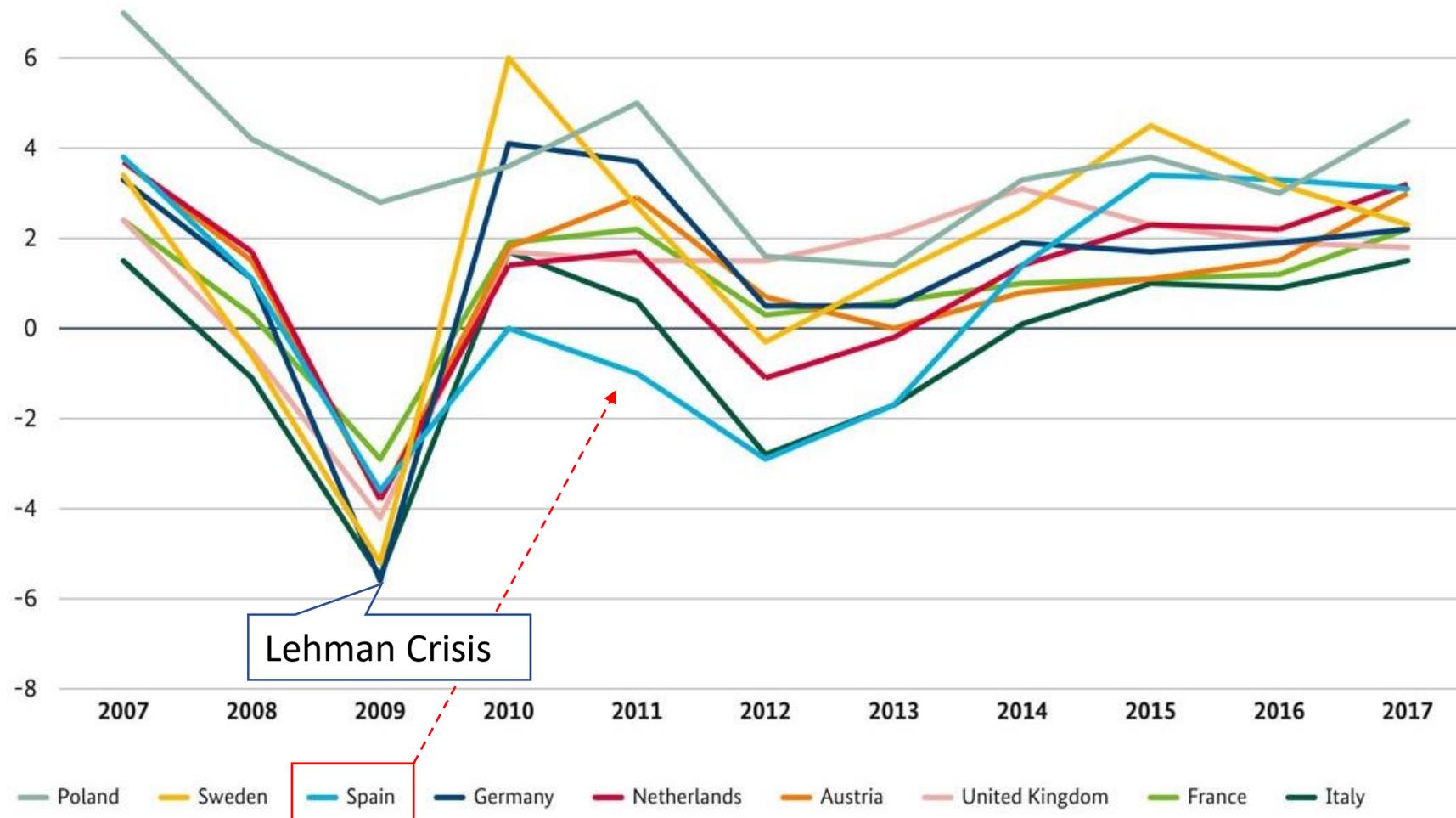


Figure 3

Economic Growth in selected EU-Member states 2007 - 2017

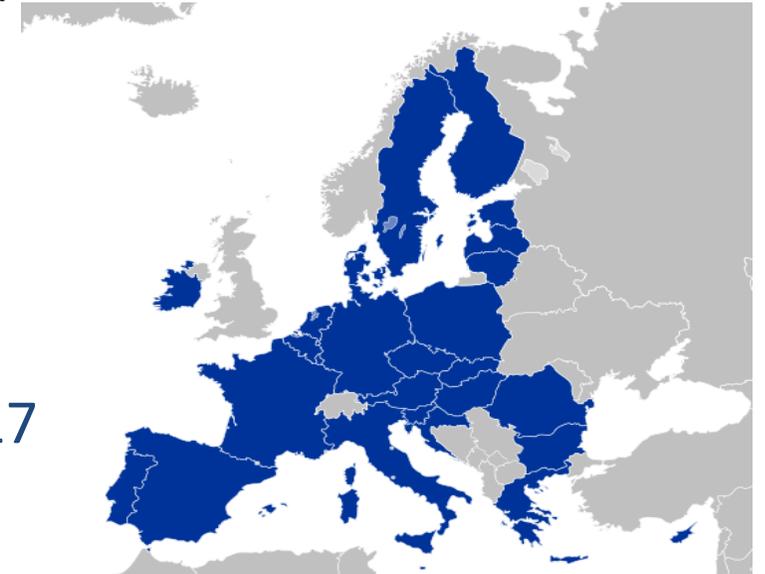


Employment Figures and Value Added of the manufacturing sector in the EU and in Spain

EU

The manufacturing sector employed **more than 28.5 million people** in the EU in 2017 in **almost 2 million enterprises**

Manufacturing **Value Added** in the EU **15 % of GDP** in 2017



Spain

In **Spain** the manufacturing employed **2.3 million people** in 2017, **12.3% of the population**

Manufacturing **Value Added** in **Spain 11.4% of GDP** in 2017

Employment Figures and Value Added of the manufacturing sector in the Basque Country

Basque Country

The manufacturing sector employed about **200 thousand people** in the **Basque Country** in 2017, **9.2% of the population**

Manufacturing **Value Added** in the **Basque Country 20.9 % of GDP** in 2017

Role of Manufacturing in Recovery and Future of Europe (I)

Manufacturing is Crucial for Recovery and the future of Europe

“Next Generation EU” aims at kick-starting the economy and protecting employment. In addition to short-term and economic and social aid, however, the recovery plan has the strategic objective make Europe’s Economy green, digital and resilient.

Both the **short-term objectives** and the **long-term structural changes cannot be attained without a strong manufacturing industry and innovative manufacturing technologies.**

Manufacturing industry is a driver of innovation which invests heavily in R&D. **Keeping manufacturing in Europe means keeping quality jobs in Europe**, not only in factories, but also in related services, R&I and supply ecosystems.

No Resilience without strong manufacturing capabilities

Capabilities in manufacturing are essential for continuity of business models, future competitiveness and progress in productivity. Innovative manufacturing technologies are needed to cope with economic shocks on both the supply and demand side, adapt to volatile environments and to a changing societal context.

Role of Manufacturing in Recovery and Future of Europe (II)

Manufacturing is Crucial for Recovery and the future of Europe

Digital Manufacturing paves the way into a data-driven industry

Industry 4.0 is demonstrating how the combination of strong industrial capabilities, context knowledge and digital technologies can become an asset of Europe. Whereas global competition in digital B2C-markets has become an uphill battle, Europe is still in a good position in industrial B2B-value chains. Manufacturing equipment and manufacturing processes are strong reference cases for digital technologies: What works under the demanding and regulated conditions in a factory, will also work in other environments.

Manufacturing the products for the Green Transition

Manufacturing has a double role in the green transition: it is one of the main users of resources, but also the enabler of sustainable and affordable products. The challenge is to reduce the environmental footprint whilst ensuring the supply of innovative and sustainable products. **Manufacturing is the starting point for a circular and sustainable life-cycle of products:** It is during engineering and production when the desired function materializes as a physical product, when the use of materials is defined and when the future options for use and circularity - re-use, remanufacturing, tracing, recycling - are set.

Enablers and Technologies for Resilience, Sovereignty and Circularity (I)

Substantial impact would be achieved with particular with a view to the policy objectives of the recovery plan.

Improving Strategic Resilience through excellence of processes and people

- Reduce reaction time in case fast changing market needs, through improving capabilities to develop, produce and distribute new products/services with high varieties.
- Reducing material dependencies by minimizing materials usage and facilitating the use of substitute and/or recycled materials.
- Improve adaptability of machines, factories and value chains to new customers, regulations, geographies, volumes and product range. This can be achieved through flexibility and reconfigurability of production processes, the establishment of digital manufacturing platforms, data exchange models and interoperability, flexible and skilled people.
- Focus must be rather on general competences and capabilities rather than on specific product families or sectors. The strategic objective must be to maintain leadership in production technologies and other relevant key enabling technologies. It will be essential to support the creativity and problem-solving capabilities of people, e.g. through improving product development competences, Technical Intelligence and Engineering capabilities as well as the skills and knowledge of workers.

Enablers and Technologies for Resilience, Sovereignty and Circularity (II)

Making the Green Transition reality

- Produce what the consumer needs, when and where he needs it (as close as possible). Customization and urban manufacturing are strong contributions.
- Reducing waste and material use through better product designs, manufacturing processes and as a last resort, improved collection and recycling.
- Increase lifecycle of products, namely via innovative and competitive maintenance and repair services.
- Increasing information and data exchange about circularity along and across value chains. Stimulating a joint effort of discrete and process industry. Making sustainable life-cycle management a reality.

Accelerating the Digital Transition

- Accelerating the digitization of manufacturing SMEs through improved interoperability, easy-to-use tools and platforms. Digital integration of value chains and ecosystems.
- Facilitating access to new markets and customers for SME´s through digital tools.
- Improving digital skills and context knowledge of manufacturing workers
- Bringing production of essential IT-components back to Europe, through developing and maintaining the related top-notch manufacturing technologies in Europe (semiconductor, assembly, micro-nano-manufacturing)

Enablers and Technologies for Resilience, Sovereignty and Circularity (III)

Europe's manufacturing capabilities are one crucial pillar of the transition towards a green, digital and resilient economy. Therefore, we recommend Member states and the EU-Commission to dedicate a substantial share of the recovery fund to Manufacturing technologies and technology-based innovations.

In Manufuture's view, the following **thematic priorities promise huge impact** and leverage effects:

- Design and engineering innovative and sustainable products.
- Flexible, adaptive and resilient smart factories and manufacturing technologies.
- Manufacturing and Engineering Technologies for a circular economy (“Reduce, Reuse, Remanufacture, Recycle”),
- Digital Manufacturing, in **particular with a view to digitization of manufacturing SME's** (Digital Twin, Digital Platforms, Interoperability, Artificial Intelligence in Manufacturing).
- Engineering tools and capabilities, facilitating the development of new, clean solutions
- Infrastructures and capabilities for manufacturing innovation (Hubs, Cluster, Pilot plants, Networks).
- Education and training

Instruments and Support on European, national and regional level (I)

- **Manufacturing needs a strong European R&D programme for collaborative research**, following PPP FoF, with a broader ambition and a budget capable of matching that bigger ambition (**Made in Europe**).
- **Manufacturing also needs to tackle, at European level, the new demands for education and training and entrepreneurship** (EIT Manufacturing)
- These **European programmes need to be complemented with actions and investments, both public and private, at national/regional level**, aiming namely at:
 - Reinforce the European investments (R&D, Education and training, etc.) in relevant areas for each country.
 - Support further **valorization and cross fertilization of results** from the EU programmes/projects
 - Support the **development and operation of research and innovation infrastructures for industry** (pilot lines, test and demonstration facilities, DIH, etc.)
 - **Support market uptake** (investment)

Instruments and Support on European, national and regional level (II)

- The recovery package should be used to support the programmes and investments needed at national/regional level.
- Member States need to include the respective initiatives in their plans and they have to be approved by Brussels.
- The existence of supporting national strategies and the alignment with the European Semester recommendations are important factors.
- Complementary, ERDF should be used to support relevant Manufacturing programmes and investments at national/regional level (where relevant).
- To facilitate the synergies, the national/regional strategies (including the RIS3) should be aligned with the European ones and MANUFUTURE/EFFRA Vision and Roadmaps.

Political messages for recovery and future success

Manufacturing R&D even more important than before

- Sustain technology based innovation at European manufacturing industry through R&D programmes where industry will cooperate with RTOs and universities.
- Support a strong manufacturing research base at European RTOs and universities.
- Move towards manufacturing activities and services with greater added value to help companies; especially SMEs.

Accelerated Technology Dissemination and Adaptation is the key for success

- Support measures for manufacturing SMEs to adopt new technologies: cooperating at their value networks with larger companies and RTOs, facilitating the training on new technologies and innovation, both for professional training and engineering and managerial profiles, investing in test-beds for technology assessment and validation...
- Promote in a structured way the multidisciplinary and technological convergence to develop capacities and solutions of best-in-class manufacturing.
- To promote collaboration and support formulas that accelerate the industrialization of R&D results.

Need for the „best in class“ education and training system

- Support cultural change, education, practical training in technologies and management systems related to the Intelligent Industry and the circular economy.