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The role of manufacturing industries in Europe has declined in recent years. Over 3.8 million jobs have been lost in manufacturing in Europe since the beginning of the recent economic crisis. The European Commission is acting to reverse this trend and the Report of the Task Force on Advanced Manufacturing for Clean Production, just published, presents an overview of measures to foster the adoption of advanced manufacturing, including sustainable processes, to increase European competitiveness.

Europe is looking to enable an Industrial Renaissance and to increase the contribution that European industry makes to EU GDP to 20% by 2020. The process sectors represented by the SPIRE (Sustainable Process Industry through Resource Efficiency) PPP, have a clear role here.

In 2012, the manufacturing sector in the EU employed 30 million people directly and provided twice as many jobs indirectly manufactured goods amount to more than 80 % of total EU exports and manufacturing accounted for 80 % of private research and development expenditure.

Manufacturing currently faces a number of challenges such as the increasing scarcity of resources, the availability of big data, and mass customisation that have the potential to modify the global industrial landscape. Anticipating and reacting to these trends will be a major challenge for the European manufacturing sector.

Advanced manufacturing

Advanced manufacturing includes all production solutions that can improve the productivity and/or to improve waste and pollution of manufacturing production both in traditional sectors and emerging industries. For example sustainable manufacturing technologies can increase manufacturing efficiency in the use of energy and materials and drastically reduce emissions.

Advanced manufacturing technologies are of a cross-cutting nature, providing a crucial input for process innovation in all manufacturing sectors. Their greater uptake in production processes would increase the competitiveness of the EU's manufacturing industry.

The global market for industrial automation solutions is estimated at \$ 155 billion in 2011, 35 % of it in Europe, and is forecast to reach \$ 190 billion by 2015. In addition, the market volume for resource-efficiency technologies – an area of significant focus for SPIRE - is estimated at € 128 billion per annum.

Faster commercialisation, finance

Horizon 2020, the new Research & Innovation Framework Programme of the EU, will offer funding opportunities for research and innovation in advanced manufacturing. Public-private partnerships have been established such as Factories of the Future with an indicative budget of €1.15 billion and SPIRE with a €0.9 billion budget from the EU and matching contributions from private sources. New public-private partnerships in the area of Robotics and Photonics will also play a role for advanced manufacturing technologies.

A new emphasis on technology transfer and demonstration activities will bring research results quicker to the European market.

The European Investment Bank has introduced new measures that provide financing for advanced manufacturing. The Structural and Investment Funds also provide significant opportunities for European regions to modernise their industrial base via smart specialisation.

Incentives schemes on the EU level to foster the adoption of advanced manufacturing technologies by EU industry such as SILC (Sustainable Industry Low Carbon) and I4MS (ICT Innovation for Manufacturing SMEs) could serve as sources of inspiration for Member States and their regions.

The Commission will present information campaigns to industry on business opportunities for sustainable manufacturing opened by the Energy Efficiency Directive. A technology-neutral internal market legislation and enhanced cooperation with standardisation organisations on advanced manufacturing will also help to avoid obstacles for the uptake of advanced manufacturing technologies in European industry.

Links between industry, education and training institutions will be strengthened, notably with the Knowledge and Innovation Community (KIC) on added-value manufacturing

that will be launched in 2016.

Future activities

During 2014 the Commission services will continue their partnership with Member States, Regions and industry to discuss potential measures in the medium-term that would contribute to improving the productivity and competitiveness of EU manufacturing industry.

For more information on the Advanced Manufacturing Technologies initiative visit the dedicated website and download the full report.