



**COUNCIL OF
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NOTE

From: Commission
To: Delegations
Subject: Key enabling technologies - State of play
- Information from the Commission

Delegations will find attached a note from the Commission on the above-mentioned topic with a view to the Competitiveness Council on 26 May 2014.

State of play of the European Strategy for Key Enabling Technologies

Information note from the Commission

At the request of the Presidency the Commission wishes to inform the Council on the state of implementation of the European Strategy for Key Enabling Technologies.

Key Enabling Technologies (KETs)¹ are the technologies of the future and the **technology bricks which drive innovation** in many traditional and newly emerging sectors, in large companies and SMEs. Globally the market is estimated to be worth more than €1 trillion by 2015, which is equivalent to around **8% of the EU's GDP**. The EU export of KETs-based products currently represents **5% of total EU export**. The EU28 accounts for **23.4% of the world exports in KETs-based products**². Their market opportunities are huge and expected to grow rapidly, between 5% and 15% per year depending upon the particular KET. Europe has a strong knowledge base in KETs with 26% of international patent applications³, but is not strong in translating this knowledge advantage into new marketable products and services (the so called 'Valley of Death').

¹ Micro- and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics and advanced manufacturing technologies

² Asia is capturing large parts of world markets in KETs-based products but Europe is resilient. The increase in the market share of Asia since 2002 was to the detriment of North America and not to the detriment of Europe. Export market shares in 2012 for KETs-based products are distributed as follows: East Asia 57% (against 45.7% in 2002), EU28 23.4% (23.7% in 2002), and North America 19.5% (30.7% in 2002).

³ North America holds 24% and East Asia 43% of international patent applications in KETs.

The **European strategy for KETs**, adopted by the Commission in June 2012⁴ aims to close this innovation gap in KETs, in order to help **reversing the trend of Europe's industry decline**, notably in **manufacturing capacities**, and to stimulate growth and jobs. KETs not only underpin European industrial competitiveness but also Europe's capability to respond to grand societal challenges and in particular also the shift towards a greener economy. KETs are one of the priorities in the Commission's re-industrialization strategy, as highlighted by the recent Communication for a **European Industrial Renaissance**. The implementation of the European strategy to boost the deployment of KETs is ongoing and most of the actions planned have been successfully implemented:

- The EU funding instruments (Horizon 2020, European Structural and Investment Funds) give high importance and visibility to KETs to foster innovation, including through public private partnerships under Horizon 2020. **Horizon 2020** includes a dedicated budget for KETs of almost 6 billion euro, significant rebalancing of RD&I support towards closer-to-the-market projects (including pilot lines and demonstrators), priority for the cross-fertilisation between KETs (30% of the KETs budget for cross-cutting KETs projects), and it provides major simplification with a single set of rules, less paperwork and faster funding as well as industry-oriented selection criteria in order to increase industry participation along the value chains.
- In addition, KETs are now a priority for the **European Structural and Investment Funds** (ESIF). Two out of three regions registered in the smart specialisation platform indicate a KETs-related priority and cluster-specific actions are being promoted. Further, combining Horizon 2020 funds and ESIF has been made possible to allow **combined public support** which could be specifically interesting for ambitious industrial projects. KETs have also been identified as a priority by the **European Investment Bank** (EIB). Following the Memorandum of Understanding signed in February 2013 between the European Commission and the EIB, the EIB lending to KETs projects has increased by 60% (from €2.7 bn in 2012 to €4.4 billion in 2013), some of them being supported by the FP7 **Risk-Sharing Finance Facility (RSFF)**, a joint EU/EIB debt financial instrument that will be continued under Horizon 2020.

⁴ « A European strategy for Key Enabling Technologies – A bridge to growth and jobs”, COM(2012) 341 final

- **State aid policy** is being modernised, notably by reforming the R&D&I guidelines, the GBER and the Risk Finance Guidelines. A new Communication on Important Projects of Common European Interest (IPCEI) will be soon adopted by the Commission. IPCEIs may include research infrastructure or pan-European investments linked to the deployment of KETs.
- A **KETs Observatory** is being established⁵ providing quantitative and qualitative information on the performance of EU Member States and other competing economies. Cooperation with and involvement of private and public stakeholders are ensured through a **High Level Group on KETs and a Member States Group** respectively.
- Much progress has been made in adapting and **aligning European instruments and policies in support of KETs deployment**. Further progress and significant economic impacts will require the full involvement and commitment of both public and private stakeholders. Beyond the KETs action plan and its further implementation and consolidation, additional initiatives are being launched:
- KETs offer huge opportunities to SMEs, and the Commission is exploring how best to help them fully exploit these opportunities, for example **facilitating the access of SMEs to KETs technology platforms** which might significantly increase their innovation capabilities by allowing them to test their ideas and transform them into innovative goods and services. Preliminary actions are being taken by the Commission: the SME instrument (Horizon 2020) can be used by SMEs to access technology platforms and an ongoing study will explore how to streamline the EU KETs technology platforms.
- Full and successful implementation of the EU KETs strategy might be hindered by a lack of a skilled workforce. A study has been launched to identify the necessary **KETs multidisciplinary skills** and take actions to better meet the industrial needs. The Knowledge Innovation Community (KIC) on value-added manufacturing will contribute, from 2016 onwards, to address the need for the KETs multidisciplinary skills in Europe.

⁵ www.KETsObservatory.eu

- **The European Council in its conclusions of 20/21 March 2014** underlined the crucial importance of KETs for Europe’s industrial competitiveness and called **to strengthen KETs of high industrial interest** such as batteries for electro-mobility, intelligent materials, high performance production and industrial bioprocesses by swiftly identifying projects of European interest. Progress in these areas can also build on existing R&D+I initiatives at European and national level and will require specific public-private cooperation. The instrument of **Important Projects of Common European Interest (IPCEI)** could be explored and used in this respect.
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