A MAPPING OF EU INDUSTRIAL AND INNOVATION POLICY

AN I24C & VUB-IES WORKING PAPER

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FOREWORD

On September 18, 2017, a few days after it was flagged by President Juncker in his State of the Union address to the European Parliament, the European Commission formally launched its communication on “Investing in a smart, innovative and sustainable Industry - A renewed EU Industrial Policy Strategy.” Although understandably broad in scope, the communication incorporates deep decarbonisation consistent with the Paris Agreement objective of net zero emissions by mid-century as a central goal; and in doing this, it emphasises the economic opportunity and need for innovation arising from this, both of which are a reflection of the new agenda for climate action globally. From an economic and social perspective, the question for the EU is how best to win the clean industrial ‘race to the top’ that has now been launched and is accelerating— and what policies are necessary for this for the EU to succeed.

The Commission communication is relatively weak in that respect; it provides an overview of current initiatives, but does not set out a further agenda on a process that is also a central component of the ‘Future of Europe’, and one that will need to be fully addressed within that broader debate too. It nonetheless provides a useful starting point for this reflection and debate about how to develop and implement a transformative industrial decarbonisation strategy for 2050 that is fully integrated in a wider economic transformation.

Since its inception in 2015, i24c has, together with the Institute for European Studies at the Vrije Universiteit Brussel, been investigating and considering what an industrial strategy for Europe would have to contain – and indeed calling for the development of just such a strategy. It is within this context that this working paper, “A mapping of EU Industrial and Innovation policy”, assesses the developments in EU industrial and innovation policy since the beginning of the 21st century, up until today.

Our objective in undertaking this mapping is to better understand the state of play of EU industrial and innovation policy. The paper provides a high-level inventory of EU initiatives and identifies the number and type of activities, the institutional responsibilities, their governance and evolution over time. The working paper concludes that in the last decade EU industrial policy has been relatively consistent, but that there are further options for greater ambition, and streamlining of policy initiatives and possibilities of synergies between EU and member state initiatives to fully enable the industrial transition towards a net-zero economy in 2050.
CONTENTS

FOREWORD .................................................................................................................................. 2

CONTENT ..................................................................................................................................... 3

GLOSSARY ................................................................................................................................... 4

1. INTRODUCTION .......................................................................................................................... 5

1.1. SCOPE OF THE PAPER ......................................................................................................... 5

1.2. ANALYTICAL APPROACH ...................................................................................................... 5

2. MAPPING EU INDUSTRIAL POLICY RELATED INITIATIVES...................................................... 7

2.1. STRATEGIC INITIATIVES ....................................................................................................... 7

2.1.1. EU Industrial policy in the 21st century ............................................................................. 7

2.1.2. Mapping of strategic initiatives ......................................................................................... 9

2.1.3. Insights ............................................................................................................................... 11

2.2. MAPPING OF GOVERNANCE INSTRUMENTS ........................................................................ 12

2.2.1. Monitoring and reporting .................................................................................................. 12

2.2.2. Other governance instruments ........................................................................................ 14

2.2.3. Insights ............................................................................................................................... 15

2.3. MAPPING OF ENABLING INSTRUMENTS ............................................................................... 16

2.3.1 Analysis of the initiatives ................................................................................................ 16

2.3.2. Recommendations ............................................................................................................ 19

2.4. REGULATORY INSTRUMENTS ............................................................................................... 20

3. CONCLUSIONS AND RECOMMENDATIONS ............................................................................ 21
### GLOSSARY

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DG GROW</td>
<td>The European Commission’s Directorate-General for Internal Market, Industry,</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship and SMEs</td>
</tr>
<tr>
<td>EIB</td>
<td>European Investment Bank</td>
</tr>
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<td>EIP</td>
<td>European Innovation Partnerships</td>
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<tr>
<td>EFSI</td>
<td>European Fund for Strategic Investments</td>
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<tr>
<td>EIF</td>
<td>European Investment Fund</td>
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<tr>
<td>ETP</td>
<td>European Technology Platforms</td>
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<tr>
<td>Horizon 2020/FP8</td>
<td>The EU’s Research and Innovation framework programme for the period 2014-2020</td>
</tr>
<tr>
<td>Innovfin</td>
<td>EU Finance for innovators (financing tools managed by the European Investment Bank)</td>
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<tr>
<td>KET</td>
<td>Key Enabling Technologies</td>
</tr>
<tr>
<td>KIC</td>
<td>Knowledge and Innovation Communities</td>
</tr>
<tr>
<td>MFF</td>
<td>Multi-annual Financial Framework, the EU budget</td>
</tr>
<tr>
<td>NER 300</td>
<td>New Entrants Reserve 300. A fund under the EU ETS (2012-2020) to support</td>
</tr>
<tr>
<td></td>
<td>carbon capture and storage and innovative renewable energy</td>
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<tr>
<td>REFIT</td>
<td>Regulatory Fitness and Performance Programme</td>
</tr>
<tr>
<td>SET-plan</td>
<td>Strategic Energy Technology Plan</td>
</tr>
<tr>
<td>SILC</td>
<td>Sustainable Industry Low Carbon programme</td>
</tr>
<tr>
<td>SPIRE</td>
<td>Sustainable Process Industry through Resource and Energy Efficiency public</td>
</tr>
<tr>
<td></td>
<td>private partnership</td>
</tr>
<tr>
<td>TFEU</td>
<td>Treaty on the Functioning of the European Union</td>
</tr>
<tr>
<td>TRL</td>
<td>Technology Readiness Level (1-9)</td>
</tr>
</tbody>
</table>
1. Introduction

1.1. Scope of the Paper

This working paper highlights the first insights that result from mapping the EU’s industrial policy and innovation instruments that have been applied since the beginning of the 21st century, with focus on the current EU budget period (2014-2020).

The main scope of the analysis is the European Union’s (EU) manufacturing industry, but it goes beyond these classical industrial sectors by taking into account the broader areas that have an impact on industrial sectors (e.g. value and supply chains). The instruments considered for mapping do also indirectly or directly link to climate change, competitiveness, energy, resource efficiency and circular economy, investment, SME, skills and innovation policy. Finally, framework and horizontal instruments and themes (e.g. social and regional funds, trade and internal market) are also included due to their impact or connection to one or more of the above-mentioned policy areas.

The objective of this analysis is to create an inventory of EU initiatives and identify the number and type of activities, the institutional responsibilities, their governance and evolution over time (in particular since 2008). This will enable some first high-level insights into the EU’s industrial policy, in particular the identification of areas where streamlining of activities can be realised, the identification of industrial policy gaps (e.g. marketization of R&D) and possibilities of synergies between EU (and national) initiatives.

1.2. Analytical Approach

The mapping EU instruments consisted of identifying and tagging relevant EU level activities (on industrial policy in the broad sense) to four broad areas; umbrella initiatives and strategies, governance and related tools, enabling instruments and finally regulatory instruments.

Strategic initiatives are broad action plans or policy sets often announced under the form of a communication of the European Commission and sometimes followed up by legal initiatives. This also includes initiatives that are not directly aimed at industry but (can) have an important impact on industrial activities (e.g. the Energy Union).

Governance instruments represent monitoring instruments, observatories, high level groups and task forces that e.g. provide input to EU institutions, strategies and policy initiatives. The analysis of governance instruments looks at three areas; innovation, competitiveness and investments.

Enabling instruments are funds and financing instruments in the areas of investment and innovation.
in the EU, including facilitation of finance and investments.

*Regulatory instruments* are EU laws (in)directly impacting industrial competitiveness and innovation potential (e.g. internal market, trade, ...). A full inventory of regulatory instruments affecting industry is beyond the scope of this paper due to the large size and diversity of regulations in and across different sectors. A high level and holistic analysis will be given, followed by a discussion on links between regulation and innovation in industry.

This paper does not directly address the effectiveness of the instruments themselves. This would require an in-depth audit of the different instruments. Furthermore, some of the instruments are relatively new or in the process of being implemented, preventing a complete assessment. However, following the mapping of the EU industrial policy initiatives, an in-depth assessment of the different projects and (the effectiveness) of their linkages from a competitiveness, innovation and investment perspective, would be a logical next step. The latter will require a more in-depth analysis of the projects and programmes that are being supported by EU instruments (e.g. Horizon 2020, European Investment Bank Innovfin and European Fund for Strategic Investments (EFSI)) and what stage of the innovation cycle is targeted more or to a lesser degree. This will inform a more detailed gap-analysis of EU industrial policy and allow the formulation of specific policy recommendations towards the realisation of what could in the end be called an ‘Entrepreneurial Union’.

Finally, a comprehensive assessment of industrial policy in the EU does also require mapping of national (and regional) activities in this area, as it is a shared competence between the EU and its Member States. Such comprehensive mapping will be necessary to identify gaps and possible enhanced linkages between national and EU initiatives, both in planning as in executive phases of industrial policy.
2. Mapping EU industrial policy related initiatives

2.1. STRATEGIC INITIATIVES

2.1.1. EU Industrial policy in the 21st century

Before introducing the mapping of strategic initiatives, it is relevant to introduce EU industrial policy briefly to facilitate the discussion in the following section. In particular, it is important to understand that EU competences on industrial policy are limited, but keeping in mind that certain EU initiatives are critical for industrial competitiveness and growth.

Industrial policy, according to the Treaty of the Functioning of the EU (TFEU), is a shared competence between the EU and its Member States. Member States are free, within the limits of internal market and competition policies, to choose and develop their own industrial sectors and policies and the conditions to enhance the competitiveness of these sectors. Notwithstanding the above, consultation and (where possible) coordination of these policies between Member States and EU is deemed a necessity according to the Treaty. The EU’s role mostly consists in supporting Member States to ensure that the conditions necessary for the competitiveness of the Union's industry exist by enhancing the coordination and cooperation between Member States. These conditions relate to:\1:

- speeding up the adjustment of industry to structural changes
- encouraging an environment favourable to initiative and to the development of undertakings throughout the Union, particularly small and medium-sized undertakings,
- encouraging an environment favourable to cooperation between undertakings and
- fostering better exploitation of the industrial potential of policies of innovation, research and technological development.

So called ‘hard’ or ‘old’ industrial policies, such as production limits or (direct) production subsidies are normally-speaking not part of the EU’s or national industrial policy portfolio.

The EU internal market for goods and services can be seen as the instrument that has had the biggest impact on industrial performance in the EU over the past decades. It created one of the world’s biggest consumer markets and enhanced the development of intra-EU value chains. Common standards and internal EU competition law enhanced the economic efficiency of industrial production. The formation of an internal market both necessitated (a level playing field) and facilitated the introduction of EU legislation and initiatives related to better environmental protection and sustainable, secure and affordable energy.

In the beginning of the 21st century the EU’s industrial policy primed horizontal actions, as opposed to sectoral initiatives. The 2004 European Commission’s communication on industrial policy is a good example of this. It introduced, in particular, a bifurcated horizontal approach consisting of:

- **Better EU law-making**: e.g. one-stop-shop regulations, regulatory impact assessments, (cumulative) impact of EU regulation on competitiveness
- **Integrated multi-policy approach on competitiveness**: including research and innovation policies that are business driven and linked to innovation diffusion and systems, human capital and skills, deepening and widening of the internal market, cohesion and industrial clusters, clean tech and access-to-markets outside the EU.

This strategy has proven to be consistent since 2004. It was however influenced and refined through critical processes taking place during the last decade, such as accelerating globalisation and the power of emerging economies and the recent economic crisis that significantly affected EU industrial sectors. There were four major communications on industrial strategy over the past decade. The 2010 the European Commission communication ‘An Integrated Industrial Policy for the Globalisation Era’ prioritised competitiveness and sustainability. It had the ambition to set up an integrated industrial policy strategy encompassing competition, trade, innovation and energy. The 2012 communication ‘A Stronger European Industry for Growth and Economic recovery’ introduced four industrial policy pillars: investments in innovation, better market conditions, access to finance and capital, human capital and skills. The European Commission also expressed the voluntaristic goal of having the EU manufacturing sector contribute 20% to the EU GDP by 2020. The 2014 communication ‘For a European Industrial Renaissance’ built further upon the vision presented in 2012, but fine-tuned some of the previously identified priorities: Mainstreaming industrial competitiveness in other policy areas, maximising potential of internal market, instruments of regional development supporting innovation, skills and entrepreneurship, promoting access to critical inputs to encourage investments and facilitating integration of EU firms in global value chains.

Finally, the most recent communication ‘Investing in a smart, innovative and sustainable Industry: A renewed EU Industrial Policy Strategy’ (September 2017) can be (mostly) seen as a stock-taking exercise by mainly reflecting on the current state of EU activities in the area of what can be considered industrial policy. In particular, the Commission sought to re-organise these as a holistic package with the goal of achieving a stronger and more competitive EU industry. This holistic

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2 Jacques Pelkmans, 2006, European Industrial Policy, BEEP briefing n 15.
3 European Commission Communication, 20 April 2004, ‘Fostering structural change: an industrial policy for an enlarged Europe’
4 European Commission Communication, 28 November 2010, ‘An integrated industrial policy for the globalisation era’
5 European Commission Communication, 10 October 2012, ‘A Stronger European Industry for Growth and Economic recovery’
6 European Commission Communication, 13 September 2017, ‘Investing in a smart, innovative and sustainable industry: A renewed EU industrial policy’
[http://eur-lex.europa.eu/resource.html?uri=cellar:c8b9aac5-9861-11e7-b92d-01aa75ed71a1.0001.02/DOC_1&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:c8b9aac5-9861-11e7-b92d-01aa75ed71a1.0001.02/DOC_1&format=PDF)
approach features five elements: investments (e.g. the European Fund for Strategic Investments (EFSI)), innovation (e.g. Key enabling Technologies (KETs) and Horizon 2020), circular and low-carbon economy, completion of the single market (capital and digital markets) and skills, digitisation and the international (trade) dimension. All of these elements are in their turn linked to national and regional policies such as smart specialisation and cooperation and industrial transformation and modernisation. Most of the activities and policies mentioned in the communication are ‘horizontal’, i.e. they cover multiple industrial sectors and wider sectors in the economy. Sectoral policies or initiatives are currently limited to the EU defence industry, space industry, automotive and to a lesser extent the steel sector. New initiatives mentioned in the communication mostly build on existing and previous actions (e.g. circular economy, better regulation (including Regulatory Fitness Tests (REFIT)), continuation of EFSI, projects of common interests, digital single market, capital markets union, energy union and (new) CO2 standards for cars and vans).

2.1.2. Mapping of strategic initiatives

Beyond the industrial strategy related communications mentioned above, it is interesting to zoom into some of the comprehensive initiatives mentioned or initiated under these strategies over the past 10 years.

For the purpose of this working paper we look at four categories to classify these initiatives:

- Horizontal initiatives that cover multiple industrial sectors or have an economy wide scope
- Innovation promoting initiatives with link to industry
- Sectoral initiatives
- Other actions impacting industrial activities

**Horizontal initiatives**

The EU has engaged in powerful horizontal activities related to industry since 2008. The New Legislative Framework (adopted in 2008) in particular, strengthened the conditions for a wide range of (industrial) products in the internal market. This includes better rules for accreditation of conformity bodies, conformity assessments of products, market surveillance and common legal framework for industrial products. The completion of the single market has become the next prime strategy with focus on areas where the EU internal market is lagging behind; energy (via the Energy Union), digital economy and the capital markets.

Other important horizontal initiatives were the Europe 2020 strategy, regulatory fitness, and better regulation initiatives. The Europe 2020 strategy was clearly mission-oriented with specific goals set in areas of employment, education, poverty reduction, energy, climate and R&D. The better regulation and regulatory fitness initiatives have the ambition to improve the regulatory and hence the investment climate for industry in the EU.
The Investment Plan for Europe and the resulting European Fund for Strategic Investments (EFSI), a demand driven industrial initiative, formed an innovative response to a protracted economic slowdown in the EU resulting from low (domestic) demand. Part of the EU budget and resources provided by the EIB were used to stimulate investments in the EU, including in projects with a common interest for the EU.

**Innovation oriented initiatives**

As announced in the EC’s industrial policy strategy communications (since 2004), from 2007 onwards innovation became an important pillar to the EU’s industrial development at scale. The 7th EU framework programme on R&I (FP7) was succeeded by a framework programme (FP8/Horizon 2020) that includes solid societal challenges and advanced manufacturing pillars at a significant higher budget compared to the FP7 funds. Other industrial innovation initiatives were the Strategic Energy Technology (SET) plan and the launch of the Innovation Union. Section 2.3 of this paper goes into a bit more detail in analysing these instruments.

**Sectoral initiatives**

As expected following the Commission’s enduring strategy to favour horizontal activities, sector specific initiatives are rather scarce since 2008. There was a specific action plan for the EU Steel Industry and a forest based industries strategy (2013), likely triggered by the continuing economic recession. Other sector specific action plans were announced in 2014, however, these action plans mainly refer to other existing horizontal initiatives and policies (e.g. regulatory fitness, trade defence) and did not lead to significant sector specific support.

**Other relevant initiatives/strategies**

Next to the strategic, sectoral, horizontal and innovation oriented plans, a list of other actions relevant to industry were initiated over the past decade. This includes important EU programmes on climate action and energy transformation. Growing attention has been directed to resource efficiency and the shaping of a circular economy. These areas demonstrate growing awareness that environmental challenges have a major economic component and can bring economic opportunities. This is also visible in the EU’s innovation actions where they are taken up as societal challenges with potential for industrial innovation.

More attention has also been given to smart and regional specialisation in the EU and the development of skills for a rapidly digitising economy. A relative new theme that is being explored is using demand side policies for innovation and industrial development. This includes, as mentioned before, the EFSI but also initiatives to use public procurement for innovation and new market creation in the EU.
2.1.3. Insights

Over the past decade there has been a relative high level of consistency in the EU’s industrial strategy and implementation thereof through sustained focus on better law-making and a multi-policy (horizontal) approach to competitiveness. The EU’s R&I initiatives have moved more in the
direction of industry and societal challenges. Completion of the internal market remains one of the priorities of an industrial strategy with focus on areas where the EU is lagging behind (i.e. digital, energy and capital markets). External factors, most importantly the long economic crisis, also shaped EU initiatives important for industry over the past 10 years, leading to the introduction of demand side policies such as the EFSI.

While grand challenges such as reducing greenhouse gas emissions and resource efficiency feature in the industrial strategies of the EU, they are often (but not always) referred to as elements where regulation must be designed in a way to not negatively impact industry and not as core ingredients or missions whose transformative power can revitalise Europe’s industrial base.

2.2. MAPPING OF GOVERNANCE INSTRUMENTS

The mapping of governance instruments shows the application of two main types of tools in the EU. First of all, there is an extensive use of monitoring and reporting tools; secondly, the EU deployed a number of (soft) governance bodies to assist with or implement EU industrial and/or innovation activities. The actions are (where possible) classified into three areas; competitiveness, innovation and investments.

2.2.1. Monitoring and reporting (Table 1)

In relation to competitiveness, the EU currently has 10 monitoring and/or reporting instruments. Most of these fall under the responsibility of DG GROW. It is worth investigating whether streamlining or rationalising these instruments is possible. The goal thereof to bring about more effective and transparent insights on the EU’s, industrial and national competitiveness. This includes enhanced linkage with the EU semester and its country specific recommendations, as this is one of the few governance tools that can facilitate enhanced competitiveness at national levels.

There is extensive monitoring on innovation (regional, national, industrial, digital, …). Again most of these instruments are managed by DG GROW. Again, it would be valuable to analyse if this can be streamlined (e.g. in relation to EU semester), but more importantly if links to monitoring industrial competitiveness are currently under-explored. The fact that both areas (i.e. competitiveness and innovation) are mostly monitored by the same DG (GROW), opens short-term opportunities for streamlining and strengthening the EU’s monitoring capacity (see figure 2, left).
### Monitoring instruments

<table>
<thead>
<tr>
<th>Instruments on Competitiveness</th>
<th>Responsible entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Semester (CSR)s</td>
<td>EC Sec Gen</td>
</tr>
<tr>
<td>Quarterly Reports DG ECFIN data on price and cost competitiveness</td>
<td>DG ECFIN</td>
</tr>
<tr>
<td>Annual European Competitiveness Report</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Report on Single Market Integration and Competitiveness in the EU and its Member States</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Member States’ Competitiveness Report</td>
<td>DG GROW</td>
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<tr>
<td>EU Industrial Structure Report</td>
<td>DG GROW</td>
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<tr>
<td>Short-term Industrial Outlook</td>
<td>DG GROW</td>
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<tr>
<td>Good Practice Reports</td>
<td>DG GROW</td>
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<tr>
<td>Public Administration Scoreboard</td>
<td>DG GROW</td>
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<tr>
<td>European Cluster Observatory</td>
<td>DG GROW</td>
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<tr>
<td>Regulatory Scrutiny Board</td>
<td>Other: Independent body of the EC</td>
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<table>
<thead>
<tr>
<th>Instruments on Innovation</th>
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<tbody>
<tr>
<td>European Public Sector Innovation Scoreboard (EPSIS)</td>
<td>DG GROW</td>
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<tr>
<td>Digital Transformation Monitor</td>
<td>DG GROW</td>
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<tr>
<td>Digital Transformation Scoreboard</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Key Enabling Technologies (KETs) - KET Technology centres and KET’s observatory</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Regional Innovation Monitor Plus (RIM Plus)</td>
<td>DG GROW</td>
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<tr>
<td>European Innovation Scoreboard</td>
<td>DG GROW</td>
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<tr>
<td>Regional Innovation Scoreboard</td>
<td>DG GROW</td>
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<tr>
<td>Innobarometer</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Business Innovation Observatory</td>
<td>DG GROW</td>
</tr>
<tr>
<td>The EU Industrial R&amp;D Investment Scoreboard</td>
<td>JRC</td>
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<tr>
<td>Research and Innovation Observatory (RIO)</td>
<td>JRC</td>
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</tbody>
</table>

*The European Semester (CSR) extends beyond innovation, and could also be classified as an instrument on competitiveness.

**Table 1: EU monitoring instruments on competitiveness and innovation**

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7 European Semester (CSR), [https://ec.europa.eu/info/strategy/european-semester/european-semester-timeline/eu-country-specific-recommendations_en](https://ec.europa.eu/info/strategy/european-semester/european-semester-timeline/eu-country-specific-recommendations_en)


23 European Innovation Scoreboard, [http://ec.europa.eu/growth/industry/innovation/facts-figures/euroscoreboards_de](http://ec.europa.eu/growth/industry/innovation/facts-figures/euroscoreboards_de)


28 Research and Innovation Observatory (RIO), [https://rio.jrc.ec.europa.eu/](https://rio.jrc.ec.europa.eu/)
2.2.2. Other governance instruments (Table 2)

In the area of competitiveness, other governance instruments take the form of (sectoral) high level groups, sometimes of a temporary nature. The competitiveness council and the REFIT platform are more structural instruments.

The other governance instruments in the area of innovation tend to play an (important) role in the implementation of EU R&I and technology deployment activities. For instance, the roles of the European Innovation Partnerships (EIPs), Knowledge and Innovation Communities (KICs) and European Technology Platforms (ETPs) in the implementation of e.g. Horizon 2020, the Strategic Energy Technology (SET) plan and activities in the area of resource efficiency. With regard to investment related governance, the focus is on facilitation through the use of business and investment portals, hubs, network or platforms.

Again a significant proportion of these instruments is managed by DG GROW, but with much higher level of involvement of other DG’s and other actors from the broader industrial, innovation or investment community (see figure 2, right).

<table>
<thead>
<tr>
<th>Other governance instruments</th>
<th>Responsible entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Resource Efficiency Platform 29</td>
<td>DG ENV</td>
</tr>
<tr>
<td>Competitiveness proofing (guidance) 30</td>
<td>DG GROW</td>
</tr>
<tr>
<td>High Level Group on the Competitiveness of the EU Chemicals Industry 31</td>
<td>DG GROW</td>
</tr>
<tr>
<td>List of Critical Raw Materials in the EU 32</td>
<td>DG GROW</td>
</tr>
<tr>
<td>High Level Expert Group on energy-intensive industries (E03326) 33</td>
<td>DG GROW</td>
</tr>
<tr>
<td>High Level Expert Group on Steel (E02972) 34</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Expert Group on Forest-based Industries and Sector-related Issues 35</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Raw Materials Supply Group (X01353) 36</td>
<td>DG GROW</td>
</tr>
<tr>
<td>High level group on Business Services 37</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Competitiveness Council (COMPET) 38</td>
<td>EC Sec Gen</td>
</tr>
<tr>
<td>REFIT Platform - Better Regulation 39</td>
<td>EC Sec Gen</td>
</tr>
</tbody>
</table>

Instruments on Innovation

33 High Level Expert Group on energy-intensive industries (E03326) [http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3326](http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3326)
34 High Level Expert Group on Steel (E02972) [http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=2972](http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=2972)
### Table 2: EU governance tools related to competitiveness, innovation and investments

<table>
<thead>
<tr>
<th>Instrument/Platform</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial task forces to implement ‘action lines’&lt;sup&gt;40&lt;/sup&gt;</td>
<td>DG GROW</td>
</tr>
<tr>
<td>Guidebook: Public Procurement as a Driver of Innovation in SMEs and Public Services&lt;sup&gt;41&lt;/sup&gt;</td>
<td>DG GROW</td>
</tr>
<tr>
<td>European Innovation Partnerships (EIPs)&lt;sup&gt;42&lt;/sup&gt;</td>
<td>DG RTD</td>
</tr>
<tr>
<td>European Technology Platforms (ETPs)&lt;sup&gt;43&lt;/sup&gt;</td>
<td>DG RTD</td>
</tr>
<tr>
<td>Joint Technology Initiatives (JTIs)&lt;sup&gt;44&lt;/sup&gt;</td>
<td>DG RTD</td>
</tr>
<tr>
<td>Competence Centre on Composite Indicators and Scoreboards&lt;sup&gt;**&lt;/sup&gt;&lt;sup&gt;45&lt;/sup&gt;</td>
<td>JRC</td>
</tr>
<tr>
<td>Smart Specialisation Platform (S3P)&lt;sup&gt;46&lt;/sup&gt;</td>
<td>JRC</td>
</tr>
<tr>
<td>Procurement of Innovation Platform&lt;sup&gt;47&lt;/sup&gt;</td>
<td>Other: ICLEI, funded by DG GROW</td>
</tr>
<tr>
<td>Procurement forum&lt;sup&gt;48&lt;/sup&gt;</td>
<td>Other: ICLEI, funded by DG GROW</td>
</tr>
<tr>
<td>Innovation and Networks Executive Agency (INEA)&lt;sup&gt;49&lt;/sup&gt;</td>
<td>Other: Independent body of the EC (DG ENERGY, DG MOVE, DG RTD, DG CONNECT)</td>
</tr>
<tr>
<td>European Institute of Innovation and Society (EIT) Knowledge and Innovation Communities (KICs)&lt;sup&gt;50&lt;/sup&gt;</td>
<td>Other: Independent body of the EU</td>
</tr>
</tbody>
</table>

**Instruments on Investment**

<table>
<thead>
<tr>
<th>Instrument/Platform</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Investment Project Portal (EIPP)&lt;sup&gt;51&lt;/sup&gt;</td>
<td>DG DIGIT</td>
</tr>
<tr>
<td>IPR SME helpdesks&lt;sup&gt;52&lt;/sup&gt;</td>
<td>DG EASME</td>
</tr>
<tr>
<td>Your Europe Business Portal&lt;sup&gt;53&lt;/sup&gt;</td>
<td>DG EASME</td>
</tr>
<tr>
<td>European Cluster Collaboration Platform (ECCP)&lt;sup&gt;54&lt;/sup&gt;</td>
<td>DG EASME</td>
</tr>
<tr>
<td>European Investment Advisory Hub (EIAH)&lt;sup&gt;55&lt;/sup&gt;</td>
<td>Other: EC and EIB</td>
</tr>
<tr>
<td>Enterprise Europe Network (EEN)&lt;sup&gt;56&lt;/sup&gt;</td>
<td>Other: EU initiative by the commissioner of DG GROW, partially funded by DG GROW (under COSME)</td>
</tr>
</tbody>
</table>

**Competence Centre on Composite Indicators and Scoreboards extends beyond innovation, and could also be classified as an instrument on competitiveness.**

### 2.2.3. Insights

Most of the instruments at the disposal of the EU when it comes to governance of industrial innovation, competitiveness and investments can be seen as soft or facilitative instruments. This is a result of the shared competence between the EU and its Member States in these areas. However, the actions the EU undertakes (in particular in monitoring), are fairly extensive and comprehensive.
It is therefore recommended to investigate whether streamlining the competitiveness monitoring instruments and the innovation instruments is warranted, with the objective to enhance the effectiveness, linkages and transparency of these tools. The ongoing efforts to develop effective governance instruments under the Energy Union can be seen as an interesting and relevant precedent here.

\[
\text{Figure 2: number of monitoring initiatives on innovation and competitiveness by EU entity (left), number of other governance instruments by EU entity (right)}
\]

2.3. MAPPPING OF ENABLING INSTRUMENTS

2.3.1 Analysis of the initiatives

The mapping of enabling (i.e. funds, finance and finance facilitating) instruments uses four categories; investment oriented, innovation oriented, mixed (investment & innovation), social and supporting instruments (see table 3 and figure 3 below).

The areas of innovation and investment did see a proliferation of many initiatives aimed at industry (including SMEs) over the past decade, but also an ongoing streamlining and introduction of new financing mechanisms. There is also a growing connection between support for industrial innovation and societal challenges (e.g. climate change, resource efficiency). Ad hoc initiatives such as SPIRE (Sustainable Process Industry through Resource and Energy Efficiency) and SILC (Sustainable Industry Low Carbon) have been amplified and streamlined into Horizon 2020 (and EFSI to a lesser extent). While it is too early to speak of a mission-oriented approach, a trend can be spotted in particular under Horizon 2020 (see figure 5) with the introduction of societal challenges and industrial leadership pillars under the framework programme. Some initiatives and projects do seem to go in the direction of more holistic innovation challenges (across the value chain). This is
especially the case with innovation support related to the circular economy.

<table>
<thead>
<tr>
<th>EU FUNDS and FINANCE</th>
<th>Total investment</th>
<th>Responsible entity</th>
</tr>
</thead>
</table>

**Innovation oriented**

- Research Fund for Coal and Steel (RFCS)*[^57] 55.000.000 DG RTD
- EU ETS New Entrants Reserve (NER) 300[^58] 2.100.000.000 DG CLIMA and EIB
- EU ETS Innovation Fund[^59] Post 2020 DG CLIMA and EIB
- EU ETS Modernisation Fund[^60] Post 2020 DG CLIMA

**Horizon 2020[^61]** 74.000.000.000 DG RTD

- Sustainable Industry Low Carbon (SILC)[^62]
  - Included in Horizon 2020 DG GROW
- Sustainable Process Industries through Resource and Energy Efficiency (SPIRE)[^63]
  - Included in Horizon 2020 DG RTD and DG GROW

**Investment oriented**

- Cohesion Fund (CF)[^64] 63.400.000.000 DG REGIO
- European Regional Development Fund (ERDF)[^65] 256.000.000.000 DG REGIO
- European Fund for Strategic Investments (EFSI)[^66] 33.500.000.000 EIB and EC
- Connecting Europe Facility (CEF)[^67] 30.400.000.000 DG ENER, DG MOVE, INEA (implementing agent)

**Mixed (e.g. innovation and investment)**

- European Energy Programme for Recovery (EEPR)[^68] 3.980.000.000 DG ENER
- European Energy Efficiency Fund (EEE-F)[^69] Included in EEPR DG ENER (managed by its shareholders e.g. EC, EIB, Deutsche Bank, ...)
- EIB - Innovfin[^70] 24.000.000.000 EIB
- LIFE[^71] 3.400.000.000 DG ENV

**Social dimension**

- European Social Fund (ESF)[^72] Included in ERDF DG EMPL
- European Globalisation Adjustment Fund (EGF)[^73] 150.000.000 DG EMPL

[^57]: Research Fund for Coal and Steel (RFCS), [http://ec.europa.eu/research/industrial_technologies/rfcs_about.html](http://ec.europa.eu/research/industrial_technologies/rfcs_about.html)
[^58]: EU ETS New Entrants Reserve (NER) 300, [https://ec.europa.eu/clima/policies/lowcarbon/ner300_en](https://ec.europa.eu/clima/policies/lowcarbon/ner300_en)
[^59]: EU ETS Innovation fund, [https://ec.europa.eu/clima/events/articles/0115_en](https://ec.europa.eu/clima/events/articles/0115_en)
[^60]: EU ETS Modernisation Fund, [https://ec.europa.eu/clima/policies/ets/revision_en](https://ec.europa.eu/clima/policies/ets/revision_en)
Over the past decade, the role of the European Investment Bank (EIB but also EIF) in EU innovation and industrial policies has increased. The EFSI but also the Innovfin make use of the EIB’s strength (e.g. AAA rating) to finance and de-risk large investments. This is linked with the increased use of innovative financing instruments (at EU level) such as guarantees and investment platforms. Sizable and focussed Public Private Partnerships for industrial innovation (e.g. SPIRE, bio-based PPP), seem to bring together innovation, societal challenges (e.g. GHG mitigation, resource efficiency) and enhanced industrial competitiveness especially at the latter stages of the innovation cycle (demonstration phase).

### Table 3: EU funds and financing instruments related to industrial activities

<table>
<thead>
<tr>
<th>Supporting instruments (incl. on competitiveness/entrepreneurship)</th>
<th>JASPERS 24</th>
<th>JESSICA 25</th>
<th>ELENA 26</th>
<th>Competitiveness of Enterprises and SMEs (COSME) 27</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>2.300.000.000</td>
</tr>
<tr>
<td></td>
<td>DG REGIO</td>
<td>DG REGIO</td>
<td>DG ENER and EIB</td>
<td>DG GROW</td>
</tr>
</tbody>
</table>

*RFCS has a budget of €55 Mn annually. **ESF covers €84Bn over MFF 2014-2020.*

Over the past decade, the role of the European Investment Bank (EIB but also EIF) in EU innovation and industrial policies has increased. The EFSI but also the Innovfin make use of the EIB’s strength (e.g. AAA rating) to finance and de-risk large investments. This is linked with the increased use of innovative financing instruments (at EU level) such as guarantees and investment platforms. Sizable and focussed Public Private Partnerships for industrial innovation (e.g. SPIRE, bio-based PPP), seem to bring together innovation, societal challenges (e.g. GHG mitigation, resource efficiency) and enhanced industrial competitiveness especially at the latter stages of the innovation cycle (demonstration phase).
It is less clear how some of the larger investment funds of the EU (e.g. Cohesion Fund, European Regional Development Fund) link to innovation initiatives (e.g. Horizon 2020). This is relevant because R&I support is on the one hand an important enabling condition for regional development and cohesion; and on the other hand, the large budgets available for investments could accelerate the marketization of R&I and assist in filling the gap to market R&I in Europe. Furthermore, a brief analysis of funding initiatives, show that they cover innovation support across technology readiness level (e.g. lower TRL’s covered by Horizon 2020 and higher TRL development by initiatives such as EEPR and EIB Innovfin). However, an over-arching upfront strategy or architecture to ensure full support coverage of the innovation cycle including bringing R&I to the market, is missing in the EU.

**Figure 4: Main pillars under Horizon 2020**

### 2.3.2. Recommendations

Horizon 2020, following its size and design, seems to become an essential catalyst for what can become mission-oriented industrial innovation. This is relevant for the design of the forthcoming EU innovation programme under the next Multi-annual Financial Framework (MFF). It is therefore recommended, in general terms, that the next EU R&I framework programme has a similar approach and at least equal (financial) size.

The main challenge will be to embed the EU R&I funding into a broader investment framework to
ensure economic and industrial maximisation of EU R&I input and hence reduce the gap between R&D and commercialisation. This requires that the next EU MFF contains an overarching vision in its design and architecture through establishing enhanced links between other EU (investment, cohesion, development) funds. This would of course also enhance the impact of societal challenges and industrial leadership R&I.

Better and streamlined governance of EU competitiveness, investment and innovation instruments, as earlier mentioned, can also have a positive impact, as it will allow the design of future EU innovation and investment funds to be better aligned with national and regional needs that emerged from competitiveness and innovation monitoring instruments at EU level. Otherwise said, it should improve coordination between national and EU activities.

2.4. REGULATORY INSTRUMENTS

The regulatory environment for industrial sectors is densely populated across different areas (environment, energy, competition, trade, standards/internal market, ...). Therefore, a comprehensive mapping of all EU regulatory instruments relevant to industry is beyond the scope of this mapping exercise at the moment. However, some general observations can be made by sampling some larger and important regulatory initiatives.

EU regulations seem de-coupled from innovation dynamics
Some EU regulations (especially in the area of climate and environment) look as if they are designed to automatically trigger the necessary industrial innovation to meet targets and maintain competitiveness at the same time. The EU ETS is such a regulation. So far the system has not induced the radical innovations that are required to decarbonise EU industrial and energy sectors within the next 30 years. At the same time, no sustainable solution has been presented to tackle competitiveness issues following the introduction of a carbon price. This perception seems valid given the recent changes to the system e.g. introduction of first the NER300 and later the innovation and modernisation funds. EU regulations also seems to prevent (radical) innovation itself by embracing technological neutrality too extensively. The latter can unduly favour incumbent industries and technologies and damage the EU’s innovative capacity. The design and implementation of EU CO2 cars regulation is a clear example of this problem. It was designed (intentionally or not) to implicitly promote efficient diesel engines and hence slowed innovation in battery based electric vehicles. The recent disruptive innovation in electric vehicles in other parts of the world, in combination with fraudulent behaviour by EU car manufacturers (likely enabled by the design of EU regulations), is now having a negative impact on the future (innovative) competitiveness of most EU car manufacturers.

A possible solution would be to introduce (as an analogue to regulatory fitness checks) innovation fitness checks (IFIT) in the development of new EU regulations. This includes checking the innovative
potential of new products, processes, services and business models following the introduction of new EU regulation but also the impact on value added to the EU GDP and potential of (global) disruptive market leadership of EU companies. For the European Commission this would imply reviewing, adjusting or even replacing the current macro-economic models and approaches used to measure the impact of EU rules.

In this context enhanced streamlining or integration of EU R&I, investment and regulatory initiatives, would also be recommended. In practice this could imply that industrial R&I support is linked to the medium and long term challenges or constraints put forward in regulatory initiatives. The use of a societal challenges pillar under Horizon 2020 is in this context a step in the right direction. Future EU R&I (and investment) programmes could be made even more mission-oriented, in particular in relation to regulatory targets and challenges.

**Demand side policies seem under-explored**
Another observation linked to the streamlining of R&I, investment and regulatory initiatives, is that demand side policies and their potential for market formation, seem under-used. In particular, the promotion of use of public procurement to stimulate innovation (especially in the context of sustainability) is limited. The EC has initiatives in this area and some Member States are already engaging firmly, but the EU’s own resources and funds could be used better as leverage for innovative public procurement, both at Member State level and on EU level. For example, an EU body for facilitation of public-private partnerships and enhanced public procurement practices, could support the interaction between industrial actors and public bodies (e.g. facilitation of platforms for best practice sharing, training etc). But also the EU’s own investment oriented funds could be used better as leverage for innovative public procurement (at Member State level), but including specific criteria that enhance market formation for innovative and sustainable products and services in the EU.

**3. Conclusions and recommendations**

While this working paper cannot bring an in depth analysis of all industrial policy related initiatives introduced by the EU over the past decade, it does offer an interesting bird’s eye perspective on the flurry of (changing) activities in this area. In general over the past decade, there was a relative high level of consistency in the EU’s industrial strategy and implementation thereof with sustained focus on better law making and a multi-policy (horizontal) approach on competitiveness. The EU’s R&I initiatives have moved in the direction of industry and societal challenges. Completion of the internal market remains one of the priorities of an industrial strategy focusing on areas where the EU is lagging behind (i.e. digital, energy and capital markets). External factors, most importantly the long economic crisis, also shaped EU initiatives important for industry since 2008, leading to the introduction of demand side policies such as the EFSI.
In the area of governance, most of the instruments at the disposal of the EU on industrial innovation, competitiveness and investments, can be seen as soft or facilitative instruments. This is a result of the shared competences between the EU and its Member States in these policy areas. However, the actions the EU undertakes (in particular in monitoring) are fairly extensive and comprehensive. It is recommended to investigate whether streamlining the competitiveness monitoring instruments and the innovation governance instruments is warranted, with the goal to enhance the effectiveness, linkages and transparency of these tools. The ongoing efforts to develop effective governance instruments under the Energy Union can be seen as an interesting and relevant precedent here.

Horizon 2020 and the growing engagement of the EIB seem to become an essential catalyst for what can become mission-oriented industrial innovation. This is relevant for the design of the forthcoming EU innovation programme under the next Multi-annual Financial Framework (MFF). It is therefore recommended, in general terms, that the next EU R&I framework programme has a similar approach and at least equal (financial) size. The main challenge will be to embed the EU R&I funding into a broader investment framework to ensure economic and industrial maximisation of EU R&I input and hence reduce the gap between R&D and commercialisation. This requires that the next EU MFF contains an overarching vision in its design and architecture through establishing enhanced links between other EU (investment, cohesion, development) funds. This would of course also enhance the (economic) impact of EU funded R&I on societal challenges and industrial leadership. Better and streamlined governance of EU competitiveness, investment and innovation instruments, can also have a positive impact as it will allow the design of future EU innovation and investment funds to be better aligned with national and regional needs. Said otherwise, it should improve coordination between national and EU activities.

EU regulation should be better linked with innovation and innovative capacities of industries and be streamlined with other innovation supporting initiatives. This is to avoid regulatory induced technological lock-ins and competitive disadvantages. The introduction of an innovation fitness-check for new EU regulations, similar to the existing REFIT, would assist in bringing such a synergy about.

Finally, the use of demand side instruments to enhance market creation for innovative and sustainable products in the EU, should be explored further. This includes refining (EU) procurement rules and targeted use of EU investment funds. These initiatives can reduce the R&I to market gap but also create (global) markets for new products and services developed by EU companies.