

CHAPTER

I

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I.1

INTRODUCTION

After several years of economic, political and social crisis, Europe is now ready to set the foundations for its future. In contrast to enhanced uncertainty in the United States, the European Union (EU) is increasingly perceived as an area of stability, which opens up new opportunities. New and bold economic and political initiatives are being put forward in order to leave the crisis mode behind and put Europe into a construction mode. Resilient economic growth at around 2% has returned; employment rates are high, and pan-European reinvigorated political support for bolder European initiatives seems to be gaining strength.

While these are all positive signals, Europe needs to ensure that the recovery solidifies, not only from a macroeconomic perspective, but also from a microeconomic perspective, so that people see Europe as a platform that supports social and economic prosperity for all. In other words, Europe needs to ensure solid economic growth that creates new opportunities for larger segments of the population and helps to fund our ambitious and inclusive social system.

However, productivity growth remains sluggish and is holding back stronger economic growth. The rise and diffusion of new technologies, such as The Internet of Things, big data, artificial intelligence or robotics promises large market-creating disruptive innovations and productivity gains, but also generates uncertainty and risks about potential negative effects on jobs and inequality.

In this changing context, more than ever before, research and innovation (R&I) are regarded as crucial drivers of Europe's competitiveness and its ability to ensure solid economic and social prosperity by setting sturdy foundations for the present and notably the future of our societies.

It is against this backdrop that this Science, Research and Innovation Performance 2018 Report ('The Report') analyses the long-term forces that shape the role and expectations that society places on R&I, the dynamics that change the nature and impacts of innovation in a digitised society, as well as the R&I performance of Europe and its Members States. The objectives of this analysis are to provide analytical foundations for evidence-based policymaking, identify areas where more research and analytical work is needed, and contribute to the debate on how R&I policies should be shaped and adapted to today's dynamic changes in the innovation landscape, so that their economic and societal impacts can be maximised.

More precisely, to achieve these goals, the Report is organised into two main parts. Part I depicts an indicator-based macro-analysis to provide an overview of the R&I ecosystem in Europe, focusing notably on the influence of R&I on productivity growth and on shaping the work world of the future and, through it, affecting the patterns of inequality. It also identifies Europe's main strengths and weaknesses in a global context, as well as differences across Member States, paying particular attention to the evolution of the innovation divide

in Europe. In so doing, it analyses investment levels and trends in R&I and other intangible assets; scientific performance and notably scientific excellence; knowledge flows and their determinants; technological and innovation performance; the framework conditions for R&I; as well as transformative entrepreneurship and shifts in the economic structure towards higher added value. In addition, Part I also benefits from a set of reflections and qualitative analyses contributed by renowned experts in particular fields to complement the indicator-based analysis. These reflections aim at stimulating the debate and deepening our understanding in areas such as the role innovation plays in an ageing society and in the future of energy or how skills and R&I and social policies behave in a rapidly changing economy that seems to alter 'our social contract' model.

Part II of the Report complements the macro-based analysis in Part I by presenting micro-oriented analysis and conceptual work carried out by leading scholars and researchers from international organisations, academ-

ic institutions and think-tanks, such as the Organisation for Economic Co-operation and Development (OECD), the European Investment Bank (EIB), Bruegel, UNU-MERIT and the European Commission's DG Joint Research Centre. These analyses aim to provide 'deep insight' into particular fields of interest, i.e. the complementarity between R&D and ICT, the degree of concentration of R&D, employment and sales in "superstar firms", productivity and wage divergence patterns across companies, differences in productivity across regions and sectors among large R&D investors, the role and conditions for financing innovation, and the role of mission-oriented public research.

The Report builds on a long tradition of indicator and economic analysis at the European Commission's Directorate-General for Research and Innovation, and as the second edition of this biennial publication, it complements other reports such as the European Innovation Scoreboard¹, the EU R&D Industrial Investment Scoreboard² and the European Research and Innovation Area (ERA) Progress Report³.

1 http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en

2 <http://iri.jrc.ec.europa.eu/scoreboard16.html>

3 http://ec.europa.eu/research/era/eraprogress_en.htm