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(Research)  
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Presidency discussion paper

## Research and innovation as drivers of sustainable growth

### Introduction and aim of the discussion

The pace of the new wave of innovation is fierce. This is demonstrated by advances in research and innovation in fields such as artificial intelligence, 5G, energy and health and by the transformational effects these advances will have on all aspects of our lives, economies and society. To remain a globally relevant actor, the EU needs to keep up with these developments, to move quickly and decisively to meet the demands for continuous innovation and ongoing transformation, including of industry.

At the same time, sustainability, in particular the mitigation of climate change, is becoming a central driver of global competitiveness and the wellbeing of citizens. While there is a need to solve pressing European and global challenges, they also provide opportunities to turn sustainability into Europe's competitive advantage. For example, breakthrough innovations with significant contributions from research and development are a way to help achieve sustainability in a competitive manner.

Besides continuing to step up investments in research and innovation, the EU approach is to set the direction for investments without being prescriptive. Smarter and more targeted use of investments will support technological change and accelerate the transition towards a more sustainable economic model while increasing impact. Investments need to be directed in a holistic way across government and in collaboration with the main interlocutors, citizens and society.

In this context, we need a new sustainable growth model that is capable of addressing and nurturing the transition of key socio-economic systems in our economy (energy, mobility, health, etc.) that will provide prosperity and jobs in the coming decades. The real impact of this new model increasingly

depends on EU and international-level policies, actions and cooperation towards jointly agreed goals, such as the UN Sustainable Development Goals and the global emissions reduction targets.

The aim of the discussion is to provide input for the development of a comprehensive, research and innovation-led sustainable growth agenda for the European Union beyond 2020.

## Developing innovation-friendly markets to encourage uptake of research results and deployment of innovations

Industrial transformation requires new knowledge and innovation to penetrate into existing markets and, to an even greater extent, the creation of new markets. Europe struggles to turn new knowledge into growth and new businesses. The structural barriers are well known (fragmented markets, limited access to risk financing, low investment in intangible assets, lack of digital platforms, skills shortages, etc.) and a more systemic and integrated approach at local, regional, national and EU level would help to remove them.

A crucial element of innovation-led growth is a well-functioning European single market. The single market is essential in terms of creating a level playing field for European businesses and making it possible for them to scale up and grow quickly. For example, the quality of the regulatory and legislative culture in relation to innovation is becoming increasingly important for competitiveness globally. In developing the future single market, it is important to ensure the best possible ecosystem for innovation activities to flourish. This also requires the adoption and implementation of ambitious reforms at national level.

Furthermore, a more open and growth-oriented mindset should be encouraged among European innovators. Embracing global markets and trends in innovation is essential for high-value creation in Europe. Innovation encompasses a much broader array of activities than just research and development: innovation needs to be brought to the market and adopted by businesses. Market-readiness levels are often just as important as technology-readiness levels. Users and customers are the most important external source of new ideas and most innovations originate from their needs or from collaboration with other businesses. This is particularly true in the digital and circular economies, where the most successful companies intelligently and systematically harness the potential of users, identify changes in the market and build up their innovation capacity accordingly.

Data in all its forms has become a central source of open science and innovation, and an important factor for economic growth. In this era of artificial intelligence, the quality, availability and strategic use of data is a growing area of focus in education, research and innovation policies as well. Developing a balanced framework for utilising this important asset is critical, as is encouraging testing and deployment of digital solutions. Moreover, to enhance the competitive edge, the European intellectual property

framework should be fine-tuned in line with evolutions in technologies and in innovation processes, to continue to offer companies optimal support.

## Promoting innovation-led transitions with an ambitious policy mix

The innovation-led sustainable growth agenda should be based on a holistic approach, where transitions are supported and oriented by a multi-dimensional public policy. This requires a sound common understanding of the global challenges which is integrated with common endeavours aimed at solving them through high-quality research and innovation activities throughout the economy and society. Given the scale of the societal challenges we face, we need to strengthen the conditions for European competitiveness and the impact of research and innovation investments.

Many important societal, environmental and economic transitions are already underway. One example is the transformation of mobility systems. The global transport market is growing rapidly and its drivers are emissions reduction, congestion, technologies and data. This disruption and transformation creates business opportunities and new markets. The platform economy provides opportunities to develop globally scalable services, but this requires close collaboration between the public and private sectors in building innovation ecosystems and in global leadership to develop the EU and international regulatory framework.

The new, innovation-led sustainable growth model should promote economic openness and innovation-friendly markets with an ambitious policy mix including higher investment levels in research and innovation and renewal of our industry. We need to ensure that market-creating innovations and stronger innovation ecosystems will be supported. In particular, we need appropriate instruments to support radical innovations and to share risks with innovative, growth-seeking and often research-intensive SMEs.

The public sector has an important role to play in enabling innovation-led transitions. When formulating policies, more attention needs to be paid to infrastructure, governance, fair markets, regulation, industry structures and overcoming resistance to system change. To emphasise this wider scope, policies should promote broader system change not only in the technologies used, but also in consumer practices and in the needs, skills and capabilities of all parties involved. This is likely to include broader institutional changes, the design of new kinds of policies and tools and the integration thereof in a new policy mix. It is important to recognise the potential uncertainties of system change and to use experimentation and policy learning in adjusting strategies in a flexible way.

A public-private-people partnership approach can significantly increase impact by creating not only markets but also solutions for those markets. Demand for new solutions and market uptake can also be stimulated by means of innovation-friendly legislation and public procurement. Significant investments in public-sector services and in infrastructure, for example by cities, can generate substantial demand for new solutions, which can be

tested and developed in an authentic environment by businesses working together with professionals.

Furthermore, a challenge-driven and mission-oriented approach to research and innovation is likely to bring improved focus, create linkages and provide direction across different disciplines and between parties, thereby enhancing the impact. Improving conditions and tools for multi-disciplinary and inter-sectoral research and innovation activities would enable research and innovation systems to make this shift.

Investing in people should be considered a strategic choice to ensure the EU's competitiveness. Skills requirements are changing extensively and rapidly. To harness the potential of new technologies, both society and companies must invest in skilling, upskilling and reskilling workers and researchers at all stages, facilitating workforce mobility and generating innovations that complement human labour. A prerequisite for this is greater awareness of the changing markets and the potential of new technologies. Additionally, a strategic European approach to continuous learning is needed.

Finally, we need governance models that better link research and innovation with each other and with other policies. The public sector can be instrumental in actively integrating innovation and the transformative change perspective into public policy (e.g. healthcare and social services, climate change, circular economy, energy, transport) and can thus strengthen the ability to tackle challenges that are often horizontal in nature. In addition, changes in sectoral policies can remove barriers to the upscaling of innovations and create markets for them. This calls for new policy design and a cross-sectoral commitment to common goals. EU research and innovation policy should be embedded as an integral, horizontal part of the European sustainable growth agenda.

### Questions for discussion (interventions max 3 minutes):

- How can research and innovation be better linked to other policies to boost innovation-led transitions?
- What kinds of new governance and policy tools can best support the implementation of the new holistic research and innovation policy for sustainable growth? How do we include and engage different parties at different levels in innovation-led transitions?