



Brussels, 5 February 2019  
(OR. en)

5804/19

COMPET 74  
MI 69  
IND 20  
DIGIT 14  
JUSTCIV 25  
RECH 54  
EDUC 32

**NOTE**

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From: Presidency  
To: Permanent Representatives Committee/Council

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Subject: *Preparation of the Competitiveness Council on 18-19 February 2019*  
**Artificial intelligence**  
**a) Impact of artificial intelligence on EU industry**  
*- Presentation by the Commission and the Presidency*  
*- Exchange of views*

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1. On 7 December 2018 the European Commission adopted a Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the Coordinated Plan on Artificial Intelligence<sup>1</sup>;
2. The European Commission adopted a Communication on 25 April 2018 to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Artificial Intelligence for Europe<sup>2</sup>;

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<sup>1</sup> COM (2018) final.

<sup>2</sup> Doc. 8507/18.

3. The European Council adopted conclusions at its meeting on 19 October 2017<sup>3</sup>, which highlighted the need to develop an approach to Artificial Intelligence at European level;
4. The European Council adopted conclusions at its meeting on 13-14 December 2018<sup>4</sup>, which underlined the need for the Single Market to evolve so that it fully embraces the digital transformation, including Artificial Intelligence;
5. The European Commission adopted a Communication on 22 November 2018 to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the Single Market in a changing world<sup>5</sup>;
6. The Council adopted conclusions on 12 March 2018 on an EU industrial policy strategy for competitiveness, growth and innovation<sup>6</sup>, which stressed that companies need a continued focus on the innovative development and take-up of key forward looking trends including Artificial Intelligence;
7. The European Commission adopted a Communication on 22 November 2016 to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Europe's next leaders: the Start-up and Scale-up Initiative<sup>7</sup>;
8. On 10 April 2018 all Member States and Norway adopted the Ministerial declaration for cooperation on Artificial Intelligence, signed further to the Digital Day 2018 event;
9. The High Level Working Group on Competitiveness and Growth discussed Artificial Intelligence on 24 January 2019, with a view to prepare the ministerial debates at the Competitiveness Council of 18 February 2019;

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<sup>3</sup> Doc. EUCO 14/17, paragraph 11.

<sup>4</sup> Doc. EUCO 17/18, paragraph 2.

<sup>5</sup> COM/2018/772 final.

<sup>6</sup> Doc. 7037/18.

<sup>7</sup> COM/2016/0733 final.

10. The Working Party on Competitiveness and Growth (Industry) discussed the Commission Communication and its annex on 7 January 2019 and elaborated draft Council conclusions on the coordinated plan on the development and use of artificial intelligence made in Europe at its meetings of 14, 18 and 30 January 2019;
  11. With a view to the meeting of the Competitiveness Council on 18 February 2019, the Presidency has prepared a background paper and questions (in Annex) to help structure the ministerial debate.
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**Impact of artificial intelligence on EU industry**

*Presentation by the Commission and the Presidency*

*Exchange of views*

1. AI has become an integral part of the future EU industrial strategy. Digitisation and AI are essential for the EU's economic success and for the rethinking of industrial policy. The future industrial policy setting a vision for 2030, or beyond, should focus on the key success factors, i.e. the opportunities brought by AI, digitisation and data economy and by disruptive innovation and its major spillover effects into other policy areas, such as SME policy. Member States are invited to analyse the synergies and opportunities that AI offers and to speed up efforts to place the European Union among the drivers of AI at global level.
2. AI is remarkably complex and advancing quickly. It is developing much faster and achieving much more in certain areas than anyone would have guessed a decade ago. AI could hold the keys to solving many challenges citizens are facing and improve the lives of people across the globe. The goal of the European Union is to promote AI capacity and solutions that meet citizens' aspirations, respond to societal needs and boost the competitiveness and industrial leadership of European businesses at global level. The Member States have agreed to work towards a comprehensive and integrated European approach on AI to increase the EU's competitiveness, attractiveness, as confirmed by the "the Coordinated Plan on the development and use of Artificial Intelligence Made in Europe".
3. To fully seize the opportunities AI offers for economic development, it is vital to foster the global competitiveness of European enterprises, including start-ups, scale-ups and SMEs, as well as their access to global value chains and networks, and to facilitate the broadest uptake of AI in SMEs, particularly through awareness raising and promoting the necessary skills. It is also vital to mobilise the public sector which can contribute to the development and purchase of AI solutions, including through public procurement.

4. AI holds great potential that is now within closer reach than ever due to the combination of powerful computing and massive data sets that are increasingly available for industrial and commercial use – although more could be done to foster data availability, data sharing and data trading. Furthermore, AI technology has been acknowledged to be an area of strategic importance for European industry and a key driver of productivity growth and economic development.
5. Computing capacity is essential to process big data. The European High-Performance Computing Initiative (EuroHPC) is pooling resources to develop the next generation of supercomputers to process big data and train AI. In that context, the ongoing partnership with Member States and industry on microelectronic components and systems (ECSEL) as well as the European Processor Initiative, which aims at creating low-power processor technology for high-performance computing, data-centres and autonomous vehicles, are key to developing an independent and innovative European ecosystem in high-end chip design.
6. Employees want to know what AI means for their job and income, while businesses are asking how they can capitalise on the opportunities that AI presents and where investment should be targeted. Around a quarter of all industrial robots and half of all professional service robots in the world are produced by European companies. Together with the overall manufacturing industry, these are part of the EU's key assets on which it should base its European Industrial Policy to drive future growth. This must be communicated effectively.
7. AI and robotics are likely to have a disruptive impact on the current labour market, in particular in industrial sectors, making certain types of jobs disappear, while creating better quality and new types of jobs. While it is hard to anticipate which jobs will be affected and created in the future, emerging trends point to an increasing number in creative jobs based on tacit knowledge, intuition and imagination. Employment growth is expected to be highest in services and occupations requiring higher social or analytical skills. With the right approach that encourages a gradual evolution in the job market with AI, there is thus a strong employment potential in several services sectors and scope that people will work more efficiently with the help of AI.

8. There is a need to promote science, technology and math literacy and lifelong learning as well as greater level of IT professionalism. The internet allows learners to pull information and resources anywhere and at any time. Employability includes the skills and ability to think, communicate and the motivation to continuously learn. Individuals will increasingly need to have a deep understanding of a subject matter and the relevant attitudes, entrepreneurial capabilities and other so-called soft skills. To meet these expectations, education and training will need to be much more flexible, so that individuals can master the rapid changes and get the right knowledge and skills at the right time.
9. The European Union aims to develop AI based on ethical and societal values in full respect of the European citizen's rights and derive global competitiveness from this approach. It will be crucial for the EU to become a significant developer of AI and a promoter of strong AI ethical guidelines at global level. Intensified discussions are needed on the implementation of ethical trustworthy AI by the private and the public sector, in order for citizens to confidently reap the benefits of AI.
10. Trust is essential for the acceptance and uptake of AI by citizens and businesses. The EU legal frameworks for safety and liability must take into account the new opportunities and challenges raised by AI, while allowing significant amount of leeway for innovation and developments.
11. Public and private investments in AI must be scaled up in order to reach the target of EUR 20 billion per year over the next decade. The next Multiannual Financial Framework and its sectoral programmes, in particular the Digital Europe Programme and its focus on strengthening capacities, as well as other programmes (e.g. InvestEU, Horizon Europe and the Single Market Programme), will contribute to the development of AI in EU. In ensuring the uptake of AI by European businesses, efforts should be made in utilising and linking relevant instruments from the European Commission and Member States as well as in creating linkages with clusters and other SMEs intermediaries (e.g. the Enterprise Europe Network, Smart Specialisation Platform, etc.) in order to reach out to SMEs in a coherent and integrated manner.

12. The coordinated plan on the development and use of Artificial Intelligence Made in Europe provides a strategic framework for national AI strategies. All Member States are encouraged to develop their national AI strategy by mid-2019, building on the work done at the European level. These strategies are expected to outline investment levels and implementation measures.
13. The EU should raise its level of ambition in digitisation and aim at becoming a leading player for the digital economy and society and a driver of AI at global level. The EU now needs to place AI efforts and policies at the forefront of its future growth policy agenda beyond 2020.

Questions:

- a. *Which challenges Member States meet when designing and implementing their national strategies on AI?*
  - b. *What additional measures to those contained in the Coordinated Plan on AI could maximise the benefits of AI uptake so as to contribute to industrial and SME competitiveness in the next decade?*
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