


The EU in the Global Economy

Online learning

Document identifier				
Lesson	Title	How to proceed?	Time need	
#10	The EU and the Industry 4.0	1) Video (Intro to Industry 4.0) 2) <u>Reading material</u> 3) Online test	cc. 10 mins.	





1 INTRODUCTION

We can say economy has been going through sequential industrial revolution before industry 4.0. General purpose technology including technologies like information communication



Please watch the related video about Industry 4.0

technology (ICT), electricity with prevalent growth across different sectors for high improvement, making invent of more innovations easier with great effect on the economy.

Industry 4.0 is in close connection with digitalization and artificial intelligence. And it seems that there is a digitalization competition: the more robots a country use, the more developed it is. It may have risks on the long run, as the notion responsible research and innovation (RRI) draws attention to it.

The European Union also takes part in this process. But we need to analyse: how large the EU's participation in this process? Is the EU more digitalized than other countries in the world?



RESPONSIBLE RESEARCH AND INNOVATION

Responsible Research and Innovation as a notion appeared in the beginning of the Millennium. Shortly, it draws attention to the negative impacts and non-expected side-effects of research and innovation. In order to avoid these, researchers and innovators should be more responsible when conducting research. Dan Brown's books (The Da Vinci Code, Angels and Demons, Origin, etc.) are really good examples when an innovation appears in the hand of a harmful person.

For further details see René von Schomberg-book or the EU's activity in it: <https://www.rri-tools.eu/about-rri>

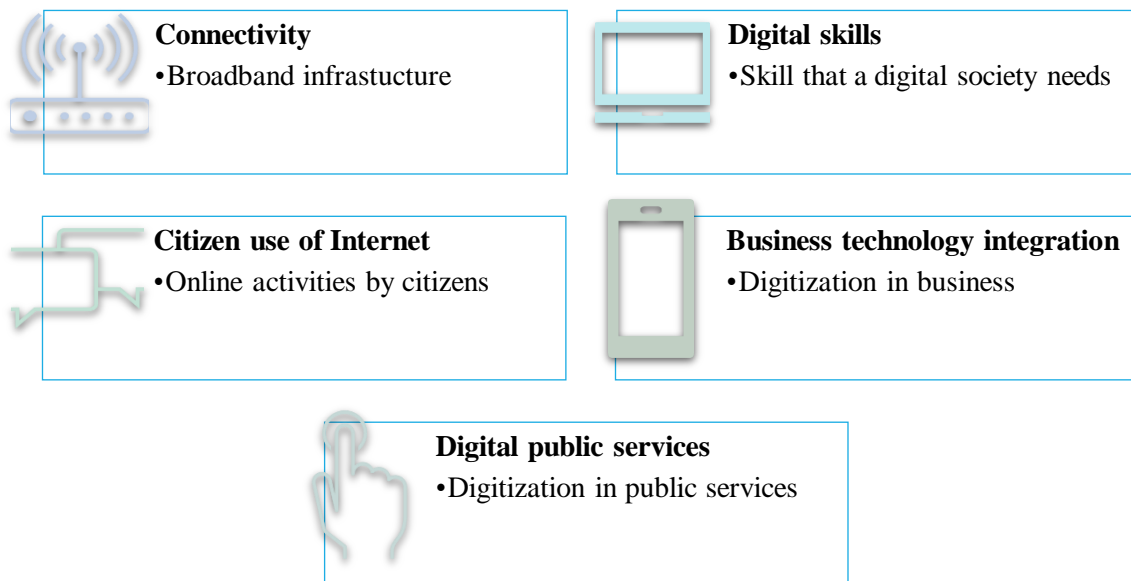


Thus, in this lesson we are analysing how the EU can be characterized in the era of digitalization.



2 DIGITAL ECONOMY AND SOCIETY INDEX

From the major concern through the decline of industrial sector in the European Union, the EU increases their capacity to fully adapt and take advantage of Industry 4.0. It is expected that four areas will change the manufacturing in the EU: nature, local communities, value chains, and humans. In order to assess the achievement, the EU created the so-called the **Digital Economy and Society Index (DESI)** that analyze digitalization with five dimensions.

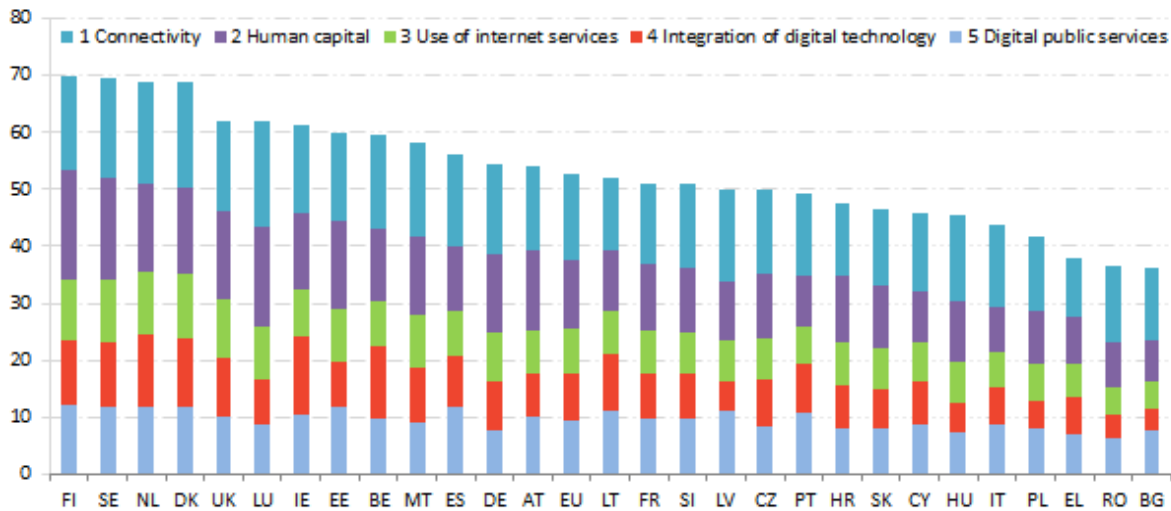


Thus, DESI is a complex indicator measuring the digital performance in the EU. DESI contributes to define intervention areas to achieve the final goal, a truly Digital Single Market. In 2019, the DESI was the highest in the Northern-European countries: Finland, Sweden, the Netherlands, and Denmark scored the highest ratings (Figure 1). On the other side of the scale stood Romania and Bulgaria. Out of the five dimensions of the DESI, connectivity seems to be the best part, but the majority of the EU countries really need development in human capital and digital public services.

Connectivity is the strongest dimension in all EU countries



Figure 1 Digital Economy and Society Index in the EU, 2019 (ranking)

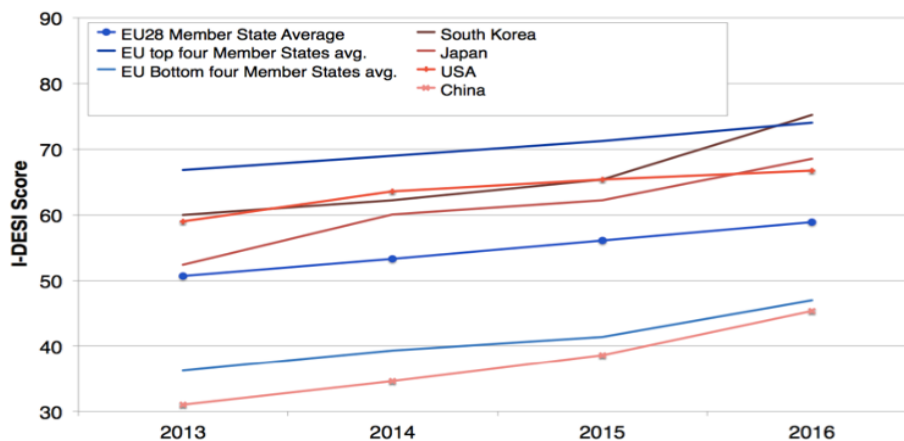


Source: European Commission

3 INTERNATIONAL DIGITAL ECONOMY AND SOCIETY INDEX – I-DESI

Besides the EU-level DESI, an International Digital Economy and Society Index (I-DESI) also exists. It was firstly published in 2016. I-DESI enables to (1) assess general performance of non-EU countries, too, (2) compare them with the EU countries, and (3) identify the areas that needs improvement. The 2016-standings show that South Korea, Japan and the USA perform much better than the EU countries in average. However, the top 4 EU members perform better than these non-EU countries. All in all, the heterogeneity of the EU members can be recognized here, too.

Figure 2 International Digital Economy and Society overall Index 2016



Source: European Commission



4 FURTHER READING

<https://ec.europa.eu/digital-single-market/en/desi>

<https://ec.europa.eu/growth/tools-databases/dem/monitor/category/skills>

https://ec.europa.eu/growth/tools-databases/dem/monitor/sites/default/files/Digital%20Transformation%20Scoreboard%202018_0.pdf



THE EU IN THE GLOBAL ECONOMY

Lesson #10

The EU and the Industry 4.0



This teaching material has been made at the University of Szeged, and supported by the European Union.

Project identity number: EFOP-3.4.3-16-2016-00014

SZÉCHENYI 2020 



HUNGARIAN
GOVERNMENT

European Union
European Social
Fund



INVESTING IN YOUR FUTURE