

# The Digital Transformation of the EU as a Factor in Sustainable Development



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## Digitalization

### Agriculture and food production

- Remote sensing and GIS*
- APP based agricultural services*
- Precision agriculture, robotics, and artificial intelligence*
- Genomics, bioinformatics, and big data*

### Clean water for all

- Artificial intelligence and data*
- Water quality sensing*

### Energy challenges

- Renewable energy sources management*
- Smart grid integration*
- Energy efficiency*

### Industry and social wellbeing

- Industry 4.0 for sustainable manufacturing*
- e-Health technologies*

### Climate research

- Global biodiversity assessment*
- Ecological monitoring*
- Digital Earth observation data*

*Summary of the digitalization aspects related to each SDG. Source: Mondejar, M. E., 2021*

# SDGs represent the interrelationship between digitalization and sustainability

**4** QUALITY  
EDUCATION



**5** GENDER  
EQUALITY



**8** DECENT WORK AND  
ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



Further, their use can lessen all kind of inequalities, reduce poverty, and promote peace and justice, by supplying access to better healthcare, access to improved water and sanitation services, and access to clean energy.

# How Digital Technologies Accelerate Sustainable Development:

- ✓ Digital technologies act as a catalyst for sustainable development.
- ✓ They optimize resource utilization and energy consumption.
- ✓ They promote the development of renewable energy sources.
- ✓ Digitalization stimulates innovation across all economic sectors.
- ✓ It improves transportation networks, leading to reduced congestion and emissions.



**Digital technologies  
have the potential to  
cut global emissions by  
a fifth by 2030.**

**How do we grasp this  
opportunity?**



# The European Green Deal



EUROPEAN COMMISSION

Brussels, 11.12.2019

COM(2019) 640 final

## COMMUNICATION FROM THE COMMISSION

### The European Green Deal

#### 1. INTRODUCTION - TURNING AN URGENT CHALLENGE INTO A UNIQUE OPPORTUNITY

Digital technologies are a critical enabler for attaining the sustainability goals of the Green deal in many different sectors. The Commission will explore measures to ensure that digital technologies such as artificial intelligence, 5G, cloud and edge computing and the internet of things can accelerate and maximise the impact of policies to deal with climate change and protect the environment. Digitalisation also presents new opportunities for distance monitoring of air and water pollution, or for monitoring and optimising how energy and natural resources are used. At the same time, Europe needs a digital sector that puts sustainability at its heart. The Commission will also consider measures to improve the energy efficiency and circular economy performance of the sector itself, from broadband networks to data centres and ICT devices. The Commission will assess the need for more transparency on the environmental impact of electronic communication services, more stringent measures when deploying new networks and the benefits of supporting ‘take-back’ schemes to incentivise people to return their unwanted devices such as mobile phones, tablets and chargers.

# 2030 Digital Compass: the European way for the Digital Decade



EUROPEAN COMMISSION

Brussels, 9.3.2021

COM(2021) 118 final

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL,  
THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**2030 Digital Compass: the European way for the Digital Decade**

## **1. JOINING FORCES: DIGITAL TRANSFORMATION FOR EUROPE'S RESILIENCE**

Digital technologies can significantly contribute to the achievement of the European Green Deal objectives. The uptake of digital solutions and the use of data will help in the transition to a climate neutral, circular and more resilient economy. The substitution of business travel by videoconferencing reduces emissions while digital technologies allow greener processes in agriculture, energy, buildings, industry or city planning and services, thus contributing to Europe's proposed goal to reduce greenhouse gas emissions by at least 55% by 2030 and a better protection of our environment. Digital infrastructures and technologies themselves will have to become more sustainable and energy and resource efficient. With innovation and ambitious eco-standards, businesses, in their digital transformation, will be able to adopt digital technologies with lower environmental footprint and higher energy and material efficiency.





**Ursula von der Leyen**  
President of the European  
Commission

*If we are serious about reaching our climate goals, while driving Europe's industrial competitiveness agenda in a global world, we need to accelerate the twin – green and digital – transition.*



**The von der Leyen Commission has shown clear strategic direction and ambitious leadership, putting the green and digital transitions on top of the political agenda as the two trends that will shape Europe and its future.**



# 26 CEOs of companies have signed a Declaration to support the Green and Digital Transformation of the EU.



They formed a European Green Digital Coalition, committing on behalf of their companies to take action in the following areas:

- To invest in the development and deployment of greener digital technologies & services that are more energy and material efficient,
- Develop methods and tools to measure the net impact of green digital technologies on the environment and climate by joining forces with NGOs and relevant expert organisations, and
- Co-create with representatives of others sectors recommendations and guidelines for green digital transformation of these sectors that benefits environment, society and economy.



**Companies take action to support the green and digital transformation of the...**

26 CEOs of companies have signed a Declaration to support the Green and Digital Transformation of th...

Shaping Europe's digital future

[https://ec.europa.eu/information\\_society/newsroom/image/document/2021-12/european\\_green\\_digital\\_coalition\\_declaration\\_-\\_final\\_digital\\_day\\_2021\\_E592503B-D1CC-A599-5EF97E6891B038DF\\_74943.pdf](https://ec.europa.eu/information_society/newsroom/image/document/2021-12/european_green_digital_coalition_declaration_-_final_digital_day_2021_E592503B-D1CC-A599-5EF97E6891B038DF_74943.pdf)



The EGDC is open to interested companies. For a company to become a member of the EGDC, the executive leader of the company (CEO or President) needs to sign the declaration committing to the above actions and confirming that the company:

- has submitted or will submit shortly a sustainability pledge that is monitored by an independent organisation and publicly reported;
- has established science-based targets for reducing GHG emissions by 2030 aligned with the 1.5°C climate trajectory;
- will become climate neutral or net-zero no later than 2040.







From buildings to transport, to farming, to energy, data-driven insights are helping the private and public sectors to radically improve their material and energy efficiency and cut waste.





**Europe's digital evolution emerges not as a technological end in itself but as a conscious choice in favour of a sustainable, human-centric, and environmentally responsible future, where technology serves as a potent instrument for achieving ambitious ecological objectives.**

**The strategic fusion of digital transformation and environmental policy is a key imperative for ensuring the long-term resilience of the European Union in the context of global change.**