PROJECT

Computing Power Goes Green –
GO_GREEN

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Cooperation Programme 2014-2020

Abstract

The digital transformation of the public and private sectors has become a European priority to increase the European competitiveness. At national level, it is thus a priority to create digital transformation plans and roadmaps and to fund initiatives for the digitalization of the enterprises. During this journey, it is important to focus on green digitalization and on the creation of digital infrastructures that are environmentally sustainable.

However, until recently, the center of focus when assessing the environmental footprint of an enterprise has been the energy efficiency of its buildings and vehicles. As far as the digital transformation plan of an enterprise is concerned, there is no assessment framework and relevant indicators that would allow to measure such initiatives and plans from the perspective of their environmental/energy footprint.

In line with the European framework for a 'twin transition', it is important to take actions that support a sustainable digital transformation, both in terms of climate neutrality and Europe's digital sovereignty.

In order to reach its climate and economic goals, the digital sector must contribute its share and embrace sustainability in all its facets: circular economy models for hardware, climate-neutral CPU models and server centers, software advancements to reduce energy consumption, and many more. Digital technologies such as artificial intelligence, 5G, IoT, cloud and edge computing also have the capacity to accelerate and maximize the effects of environmental policies. However, in practice, investments are focused on measures that contribute to either the green or the digital transition. In other words, EU funding is usually directed on energy efficiency and climate or in digital transformation without focusing on the synergies between both.

The new approach that this project adopts refers to the monitoring, assessment, and promotion of **TWIN investments**; The digital transformation is not promoted in isolation but is seen under the lens of green development.

Main target groups

1. Public sector (regional authorities, universities, professional associations) through:
   - combined actions for the creation of public infrastructures (green data centers) that guarantee an energy source renewability
   - the monitoring of relevant trends in the economy through a 'twin transition' Barometer
   - the creation of an assessment framework for the classification of relevant investments
   - the creation of a green-digital certification scheme and
   - the creation of a green-digitalization roadmap
2. Private sector through
   - creation of economies of scale from the use of infrastructure that creates efficiancy gains
   - adoption of green digital guidelines, frameworks, plans adopted by the public authorities above
   - increase of necessary capabilities through capacity building activities (training and creation of green - digital skills)
   - accreditation as 'twin transition' promoters who will increase their competitiveness
3. Citizens of the Programme area through creation of a sustainable and more competitive economy with improved environmental conditions, a digital transformation culture and creation of relevant job opportunities

Objectives

In line with the EU goals for a 'twin transition', it is important to take actions that support a sustainable digital transformation. Within this twin transition policy framework, the **main objective** of the project is to promote the adoption of an integrated approach and framework for the creation of combined green and digital transformation initiatives at the national and transnational level, that will lead to a 'greener' functioning of digital infrastructures using data centers. The project objective is relevant with Priority Axis 2 Environment of the Program, which recognizes the importance of increasing the capacity of local actors to apply innovative approaches in developing friendly environmental strategies for the benefit of the program area; this capacity can be enhanced through different types of joint activities and the implementation of best practices in the field.

Expected Outcomes

The main output of the project is the creation of an overall framework for monitoring, assessment, measurement & accreditation of green-digital initiatives & a pilot demonstration of measurable environmental /energy efficiency gains for different types of environmental resources using green-digital infrastructures, contributing to the integrated-horizontal (twin) objectives of the Project. This will be achieved through:

1. An Observatory for the assessment of the energy efficiency of the digital processing and digital infrastructures of various sectors of economic activity. The activities-outputs linked with this are:
   - Mapping of trends of digital transformation initiatives with significant environmental footprint
   - Analysis - description of factors preventing the adoption of green digitalization measures.
   - Establishment of Barometer for the monitoring of relevant trends in the economy
   - Promotion of green digital processes and environmentally friendly digital culture
   - Twin Competency framework & academic research

2. Comparative assessment of the measurements recorded in the participating countries. The activities-outputs linked with this are:
   - Assessment Framework creation
   - Comparative assessment of measurements

3. Creation of Action Plan towards Green Digitalization (green digitalization roadmap). The activities-outputs linked with this are:
   - Best practices for green digitalization
   - Green digitalization certificate creation
   - Green digitalization roadmap/action plan

4. Pilot applications enabling the 'greening' of selected digital transformation initiatives and assessment of their environmental footprint. The activities-outputs linked with this are:
   - Preparation & Design of pilot actions to showcase how existing or new digital infrastructures can become greener:
   - Green Data center pilot producing green benefits & recycling of produced-consumed energy
   - Green digital pilot initiatives through grant schemes
   - Measuring energy efficiency gains

Expected Results

The project results in the creation of a long-term cooperation structure and capacity building measures for promoting the greening of digital investments. This is primarily achieved through the establishment of the Barometer as a Permanent monitoring mechanism. The parallel establishment of the Green Certificate results in concrete environment benefits (measurable energy efficiency gains) thorough the provision of incentives to public bodies, infrastructure manufacturers and private enterprises for a green-innovation economy.

The Program recognizes the need for a balanced development, where amongst others environmental protection, resources' efficiency and economic growth will be sought in parallel. Digital transformation as a main driver of economic development for the modern economy is seen under the lens of environmental protection.

On the level of institutional capacity building and culture, the project results in the creation of a 'twin transition' culture supported by the necessary skills and in fostering for innovative environmental management approaches. As acknowledged by the program, the public sector, is necessary to better anticipate and manage adjustments and challenges towards transition to a greener economy. Dealing with sustainable resources' management and monitoring EU environmental targets require skills aligned with the latest scientific knowledge and the applicable legal and policy framework. The academic program, green-digital certificate and competency framework and best practice tools established by the project contribute towards that aim.

TWIN TRANSITION
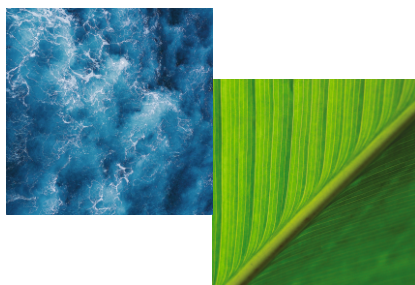
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ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ

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