Digital for Development

Open Innovations for a Green and Digital Transformation

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Intersection between Green and Digital Transformation

- Paris Agreement: need for innovations and technology pull and push
- Green and Digital transformation are taking place at the same time and are closely intertwined with each other
- Digital innovations (AI, Blockchain, IoT, supercomputing) provide unprecedented opportunities to enhance sustainability of economy & society
- Radical new thinking and business models are required- Business as usual will not be sufficient to address the climate crisis
- Getting innovations out of the lab into the market- Commercialization of digital clean tech solutions is an important challenge for Europe
- Scale-up of clean tech innovations: 2 valleys of death. Lack of early-stage financing and growth financing- most innovative startups leave Europe

Context

- Climate change is the foremost challenge of our lifetime; developing countries particularly affected
- Digital & green transitions go hand in hand, must be conceptualized accordingly
- CODES Action plan outlines three fundamental shifts:
  - **Enable alignment:** Create conditions to align vision, values & objectives of digital with sustainable development.
  - **Mitigate negative impact:** Sustainable digitalization that mitigates negative environmental & social impacts of digital technologies
  - **Accelerate innovation:** Efforts & investments toward digital innovation to accelerate environmental & social sustainability
- **Greening ICT:** reducing negative climate effects of digital technologies
- **ICT for green:** harnessing the „sustainability-enabling“ potential of digital technologies

The environmental footprint of ICT

- ICT: 8-10% of the electricity consumption, 2-4% of carbon emissions.
- Data centres all over the world alone are set to account by 2025 for as much as GHG emissions as all air traffic.
- e-waste: fastest-growing waste sources in the EU, 12 M tonnes by 2020.
- To produce a mobile phone 60 different metals are required, ~ 20 can currently be recycled, only 26 % of all phones are collected, less 15% recycled
- 32 kg of raw materials are needed to produce a microchip weighing 2g.
- Life of digital devices, has steadily decreased between 1985 and 2015, the useful life of a computer was reduced from 11 to only 4 years.

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Team Europe Initiative on Digital & Green Transition Priority Areas

1) Enabling Environment and Policy Advice:

- provide policy advice to governments to develop twin transition policies and support the development of national strategies and create the vision and enabling conditions for digital for climate action and sustainability

2) Capacity Building and Technical Assistance:

- to support partner countries by raising the awareness, enhance the institutional capacities and provide technical assistance to policymakers about the opportunities and risks of the digital and green transition

3) Innovation Ecosystems and Digital 4 Climate Hubs

to support the development of national and local innovation ecosystem through a network of Digtal4Climate Hubs that link digital innovative startups, with research institutions, corporates, governments and investors

3) Innovation Finance and Digital Clean Tech Entrepreneurs

to enhance the access to venture capital and growth financing to support the incubation and scale up of innovative digital clean tech startups and SMEs

Team Europe Initiative on Digital & Green Twin Transition (TEI Twin Transition)

Stakeholders, frameworks, initiatives on Twin Transition

UN environment programme

African Union
Digital Transformation Strategy for Africa

United Nations Climate Change
Global Innovation Hub

ADAPTATION FUND

CODES
COALITION FOR DIGITAL ENVIRONMENTAL SUSTAINABILITY

GREEN DEAL

Global Gateway

THE WORLD BANK

UNDP

THE GSMA INNOVATION FUND
FOR CLIMATE RESILIENCE & ADAPTATION

GREEN CLIMATE FUND

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1. Policy & regulatory environment

- Strengthen institutional capacity to advance green & digital agenda through holistic twin transition policies and regulation
- Implementation through technical assistance & strategic advice on the drafting of policies and comprehensive regulatory frameworks
- E.g. policy & standards for procuring sustainable data centres, sustainable digital infrastructure, circular economy policy and regulation, emissions trading, regulatory sandboxing, efficiency of electronic devices etc.
- Needs-based, building on knowledge transfer & best practices

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2. Digital innovation ecosystem support

- Building on existing structures, the TEI aims to set up a network of **Digital4Green Hubs** that
  1. supports the incubation, scale-up, and adoption of **breakthrough digital green tech solutions**;
  2. provides technical assistance and advisory services to partner countries (-> implementing component 1);
  3. enables the exchange of knowledge, and best practices on the nexus between the digital and green transformation, including South-South knowledge exchanges;
  4. provides services to start-ups and SMEs on topics like the development of innovative business models;
  5. fosters digital skills development;
  6. provides improved access to finance for highly innovative digital green tech solutions (-> implementing component 3).

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3. Access to finance

To increase access to finance for disruptive start-ups and SMEs which innovate in climate solutions, the TEI will implement activities and programmes

1. A **Green Tech Acceleration Programme** (to be implemented via component 2)
2. A **Digital Green Tech Investment Fund** (a dedicated fund to enhance the access to finance for innovative digital green tech start-ups, and SMEs).

4. Sustainable digital infrastructure

The TEI aims to

- invest in sustainable digital infrastructure, e.g., components of networks that are energy efficient, such as green data centres,
- support public infrastructure, such as public utilities, to become more resource-efficient by relying on digital tools (e.g., smart grids, smart water management).

Interaction with smart city applications, e-government, and more generally public services necessitates alignment with components 1 and 5 of the TEI.

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Areas of Action

A **modular approach** will allow for flexible and timely delivery of programme components. Member states can commit to activities along six areas of action:

1. **Enhance the global knowledge base and facilitate knowledge exchange**
2. **Strengthen the capacity of partner countries and local digital ecosystems**
3. **Provide needs-based research to partner countries and local digital ecosystems**
4. **Develop strategic partnerships and collaborative programs**
5. **Provide technical assistance**
6. **Facilitate access to finance**

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