ONE PLANET NETWORK FLAGSHIP INITIATIVE:
Harnessing Digital Technologies for a Circular Economy

Strategic Context

This flagship initiative on digitalization is led by the 10YFP Secretariat -alongside UNEP & Metabolic Institute - and supports Pillar II of the Global Strategy for Sustainable consumption and production entitled *'Enable changes through circularity, transformative multistakeholder and public-private partnerships, tools and solutions across high-impact systems and sectors'*. It is also an output under Outcome 2 of the 10YFP Results Framework that refers to: "*The transition of societal choices and markets towards sustainability is supported by common principles and standards for sustainable consumption and circularity in high-impact sectors (food, construction, tourism, e-commerce)*".

Initiative Objective

To direct the trajectory of digital transformation so that it **accelerates and scales environmentally and socially sustainable** products and services as well as behaviors and lifestyles.

Justification

Our current linear economy has caused major global humanitarian crisis such as climate change, material scarcity, biodiversity and pollution, increased vulnerability to global shocks, and other economic and environmental impacts associated with the inefficient production, use, and loss of products and materials. **This current situation has led to the development of a new economic paradigm over the last decade called the 'circular economy'**.

The urgency and benefits of moving towards a circular economy are clear. By shifting to a circular economy, we can preserve the value of materials and products, increase employment opportunities, boost innovation, and safeguard the ecological systems on which we depend. **This shift goes beyond simply recycling and recovery technologies, to redesigning our economic system into one that is regenerative and inclusive by design.**

Meanwhile, **data, digital technologies and related innovations are sweeping the planet at an exponential rate**. They are increasingly structuring our economies and the exchanges that underly the way we consume and produce, with over 60% of global GDP passing through digital channels and 2 billion people consuming online by the end of 2023.

Digital technologies come with incredible opportunities to unleash major structural economic, environmental, and social transformations, but also with unprecedented environmental and social risks. While digital technologies and improved design can help reduce natural resources and other materials used in products by 90% - through efficiency, tracking and tracing, the e-waste generation and energy requirements of the digital technologies themselves pose new risks to our Planet. Similarly, while digital technologies can help place the power in the hands of the consumer, digital technologies also pose unprecedented challenges to equality, as evident by the growing digital divide.

As such, **it is an urgent priority that we direct the trajectory of digital transformation so that it also accelerates and scales environmentally and socially sustainable products and services, as well as behaviors and lifestyles.** We need enabling institutional environments and investments that

prioritize, facilitate and incentivize sustainably sourced digital and technical solutions that accelerate the shift to a circular economy and sustainable consumption and production.

Baseline recommendations

To effectively harness digital technologies for the circular economy **guidance for policy makers and the private sector is needed** to understand

1. how digital technologies can be combined and leveraged to lay a progressive digital foundation for the circular economy,
2. what **barriers** and **challenges** are currently limiting the integration of digital technologies
3. which **risks** are associated with digital technologies in the circular economy, including adverse environmental and social impacts, that must be mitigated within any solutions
4. which concrete **solutions** may unlock the potential of digital technologies for the circular economy

As such, the Secretariat, along with UNEP and Metabolic Institute, has initiated the co-development of a *Critical Path for Harnessing Digital Technologies* to unleash the full potential of a Circular Economy, to be launched in early 2023. Guided by an expert group comprised of alliances and coalitions, businesses, venture capitals, academia, international organisations and public entities within circular economy, behavior change and the digitalisation space, this Critical Path will set out **concrete, feasible and urgent recommendations for both the public and private sector for immediate actions needed in the next 2-4 years that will enable digital technologies to accelerate the shift to a Circular Economy.**

These recommendations will provide the basis for the One Planet network initiative, guiding concrete interventions and formation of communities of practice to effectively support public and private sector in the implementation of the Critical Path.

Approach

This initiative will be **evidence-based** – guided by scientific evidence and expert knowledge to ensure the impact and relevance of co-developed interventions. The joint **Critical Path**, to be launched in early 2023, identifies key challenges and barriers in harnessing digital technologies to unleash the full potential of the circular economy. In its development, the Critical Path takes a **circular economy** and **value chain approach**, addressing, through identified **key digital pathways and functions** (such as artificial intelligence, blockchain, internet of things, additive manufacturing and big data for data collection, analysis, automation and dissemination), the smart use of products and their manufacturing, extension of the lifespan of products and its parts, and the effective use of materials, throughout the value chain – from policy and investments, through raw material use and production, to the dissemination and consumption stages.

Capitalizing on existing knowledge and expertise, the initiative will partner with digital, circular economy and consumption experts with thematic and sectoral expertise across the existing One Planet network Programmes and external coalitions, such as the Coalition for Digital Environmental Sustainability, World Economic Forum, Green Digital Finance Alliance, Green Tech Alliance, Digitalization for Sustainability, and the World Business Council for Sustainable Development, as well as businesses, academia, international organizations and public entities.

Engaging these partners through concrete interventions aimed a facilitating the enabling conditions urgently needed to enable a digital circular economy, this initiative will:

I. **Mobilize public and private actors around a common critical path** towards a digital circular economy **with concrete actions** to create the enabling environments urgently needed to accelerate digitalisation.

II. **Drive multi-stakeholder efforts to jointly address the concrete challenges and barriers** currently blocking the realization of digital circular economy impacts, addressing four areas: willingness to adopt; technology and data; policy and regulations; and finance and investments.

As an enabling initiative across OPN Programmes, the initiative will link to and support the efforts, as relevant, within consumer information, lifestyles, buildings and construction, food systems, tourism, and public procurement. Identifying high-impact sectors and concrete value-add interventions – which are well addressed by an UN-led multi-stakeholder network on digital circular economy.

Concretely the initiative will mobilize its communities of practice around three areas of intervention:

1. **Agenda setting** in areas critical to the realization of a digital circular economy (e.g. global standards, resolutions, commitments, and investments)
2. **Standards** for concrete digital circular economy interventions in 1-2 high-impact sectors through enabling environments (e.g. consumer information, procurement)
3. **Practical Guidelines** for concrete digital circular economy interventions in 1-2 high-impact sectors through enabling environments (e.g. consumer information, procurement)

Partners engaged

To support the development of this initiative and ensure its value addition, the One Planet Network Secretariat convened the first meeting of an **Expert Group on Digital Tech for Circular Economy**. The Expert Group is composed of the following organizations:

Alliances/Networks	Circular Electronics Partnership
	Green Tech Alliance / Plan A
	Adelphi
	OPN Consumer Information Programme
	Responsible Business Alliance
	The Global Partnership on Artificial Intelligence
	World Business Council for Sustainable Development (WBCSD)
	Wellbeing Economic Alliance
	Green Digital Finance Alliance
	Digitalization for Sustainability (D4S) / TU Berlin
	Network for the Digital Economy and the Environment
	World Economic Forum
	Club of Rome / Governing Board of Climate-KIC / Swedish Association of Recycling Industries
	Coalition for Digital Environmental Sustainability (CODES)
Private sector	Amazon

	CISCO
	Ericsson
	All Purpose
Venture Capital	PlugnPlay
	Spring Activator
Academia	Wuppertal Institute
	Institute of Economic Structures Research (GWS)
Government	Government of South Africa
UN/IGOs	ITU
	European Commission DG Connect
	GIZ
	UNEP Finance initiative
	UNEP Digital Transformation
	UNEP Economy and Trade Policy Unit
	UNEP Youth, Education & Advocacy

Note for 10YFP Board

Members of the 10YFP Board are encouraged to nominate experts from their respective countries to join the new One Planet network *Digitalisation Initiative* within areas of key interventions, to be further detailed and shared in early 2023 based on the *Critical Path for Harnessing Digital Technologies* and its key recommendations. Key interventions will include the design of standards for Digital Product Passports in a high-impact sector, financed through the Environment Fund.

This One Planet Network Digitalisation flagship initiative features as part of the broader UNEP Digital Transformation subprogramme, partially funded through the Environment Fund, and critical to the Coalition for Digital Environmental Sustainability (CODES) Action Plan, including Impact Initiative 6: Digital Product Passport for Circularity.