The Twin Transition: Going Green and Digital

Current state of play, challenges and opportunities

David Jensen, 2 May 2023
Acting Coordinator, Digital Transformations Subprogramme

We are living at a pivot moment in time when two of the greatest transformations in human history are underway

Digital transformation:

1. Global reach
2. Disrupting all sectors
3. New geopolitics

Sustainability transformation:

1. Economic
2. Social
3. Environmental

Our greatest collective challenge is connecting these two transformation into a twin transition. Digital must be sustainable and sustainability must be enabled with digital technology.

Digital technologies are fundamentally changing the way we live, consume, entertain & relate to each other

Human Behavior

8000 days

of screen time
21 years of our life

E-commerce

2 billion

people shop online with e-commerce platforms

Gaming

3 billion

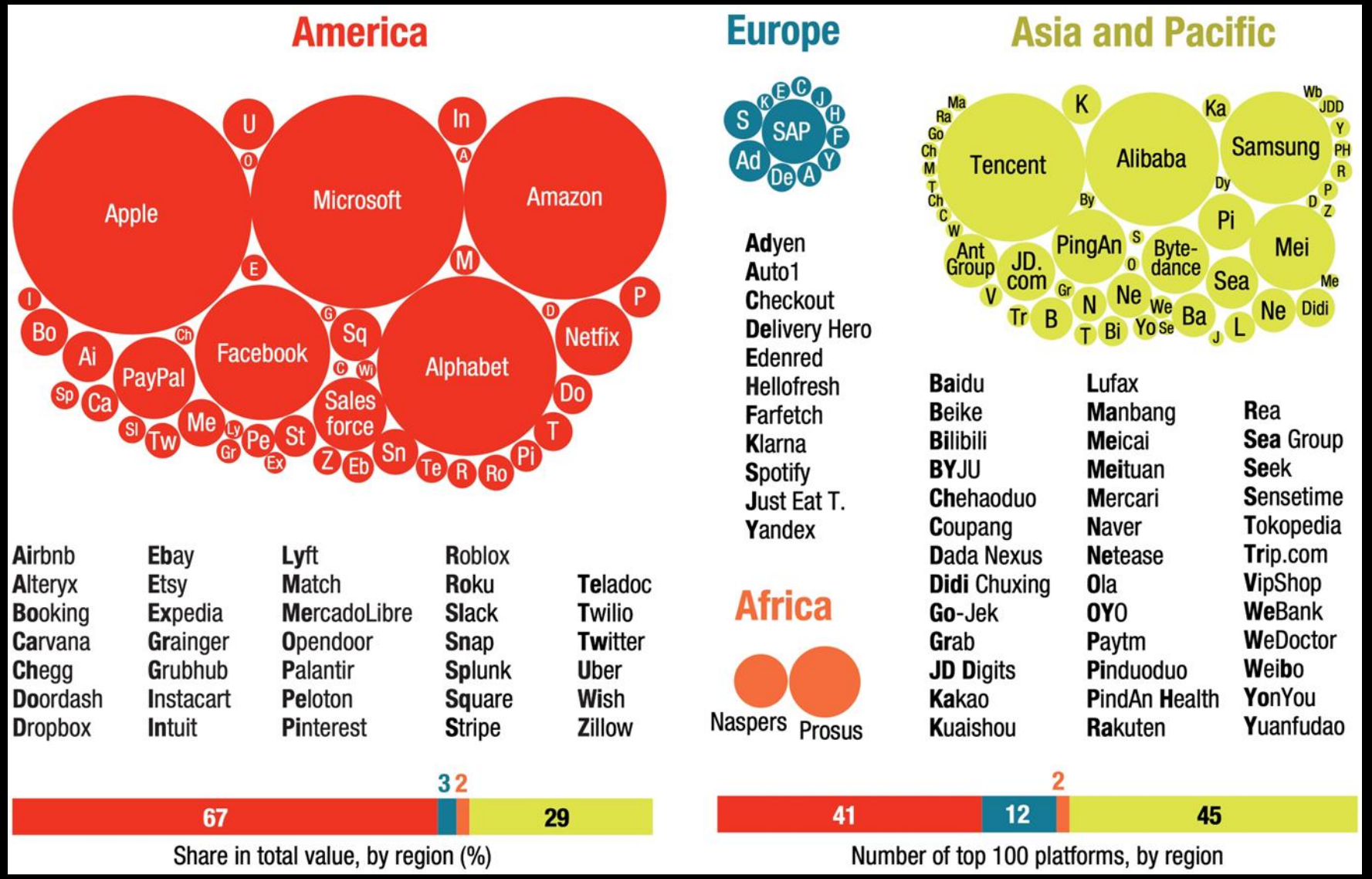
people play online video games

Social Media

4 Billion

people are connected on social media

They are influencing global geopolitics…..



By market capitalization, 2021 (UNCTAD)

In 2021, 8 of the largest digital firms from the US and China had a combined market capitalization of 8.5 trillion

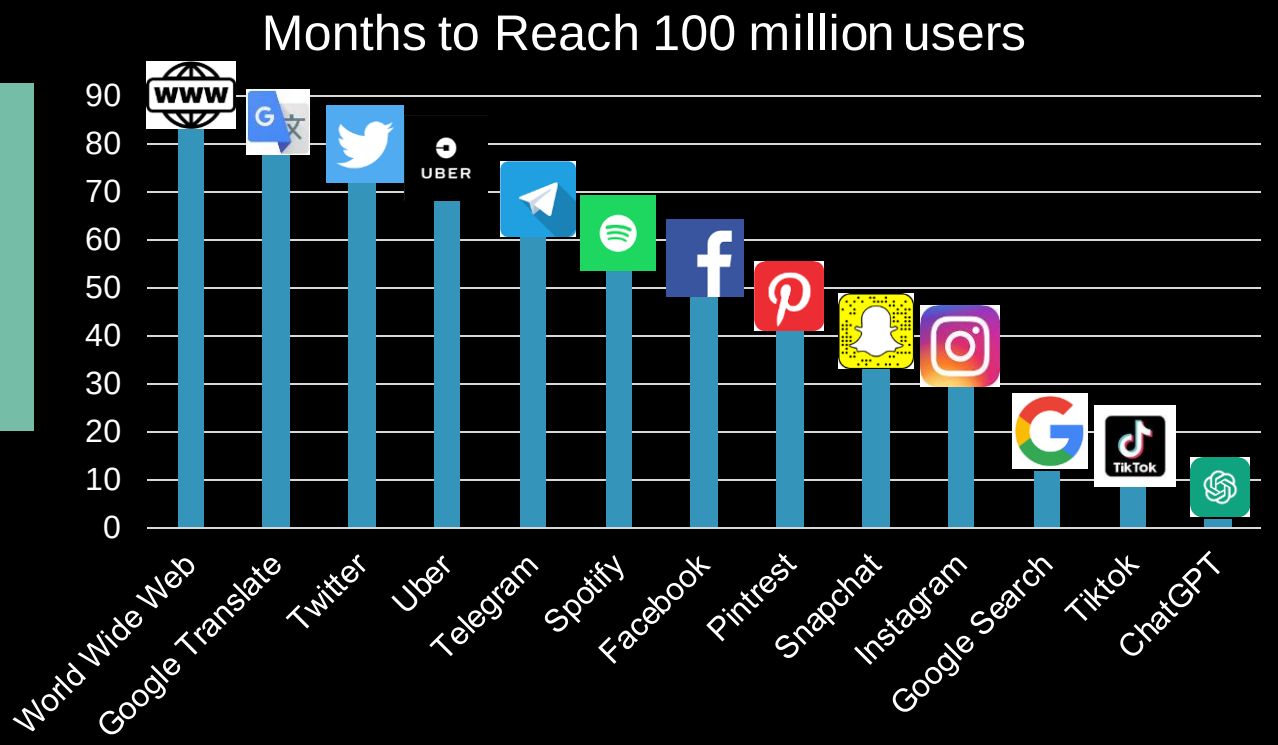
World GDP was 94 trillion

And some technologies like Chat GPT are exploding onto the market with massive implications for all sectors

Global Job Disruption

25%

Of work could be substituted



Global GDP Increase

7 trillion

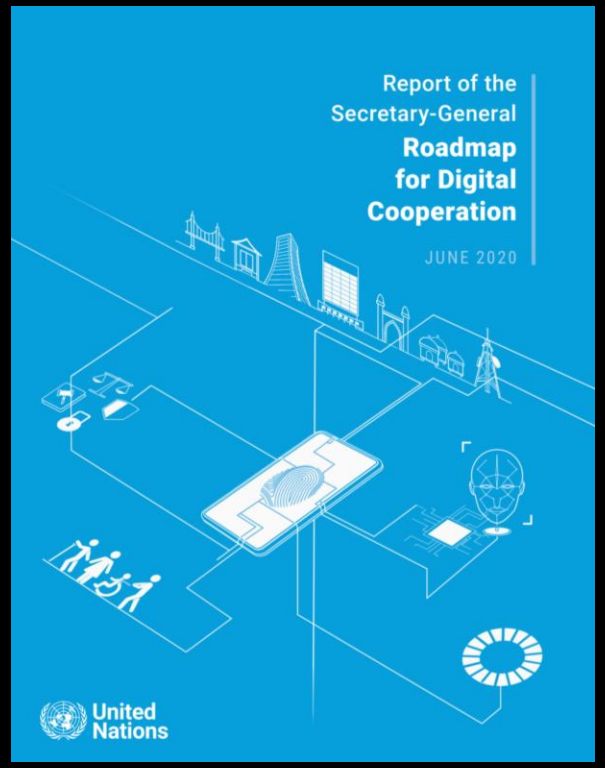
Over 10-year period

But how are these technologies intentionally contributing to our global sustainability goals and how much power are we concentrating in the hands of a few companies?

Harnessing and governing digital technologies for the SDGs is the focus of the SG's Digital Cooperation efforts.

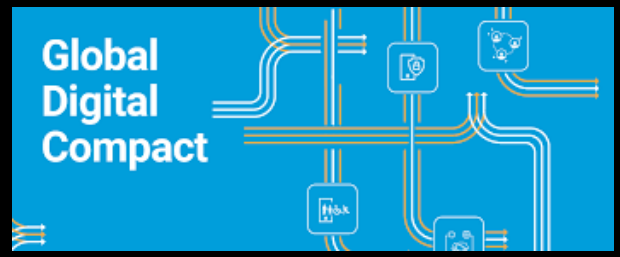
Progress on all 17 SDG goals intertwined with digital technologies and new forms of multi-stakeholder digital cooperation.

2019



2020

2022



2024

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But there is a massive gap in the emerging international vision and current digital governance dialogues:

UNIVERSAL CONNECTIVITY

DIGITAL PUBLIC GOODS

DIGITAL INCLUSION

DIGITAL CAPACITY BUILDING

DIGITAL HUMAN RIGHTS

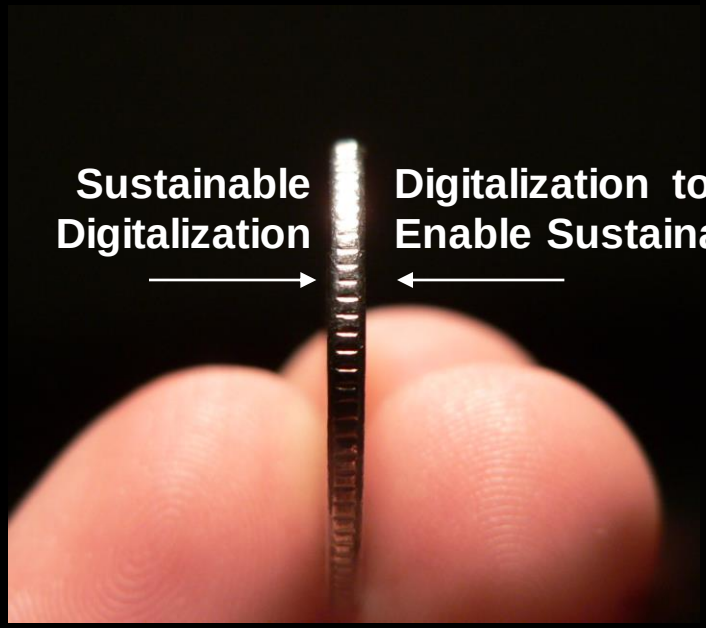
ARTIFICIAL INTELLIGENCE

DIGITAL TRUST AND SECURITY

DIGITAL COOPERATION

?

Digital Sustainability



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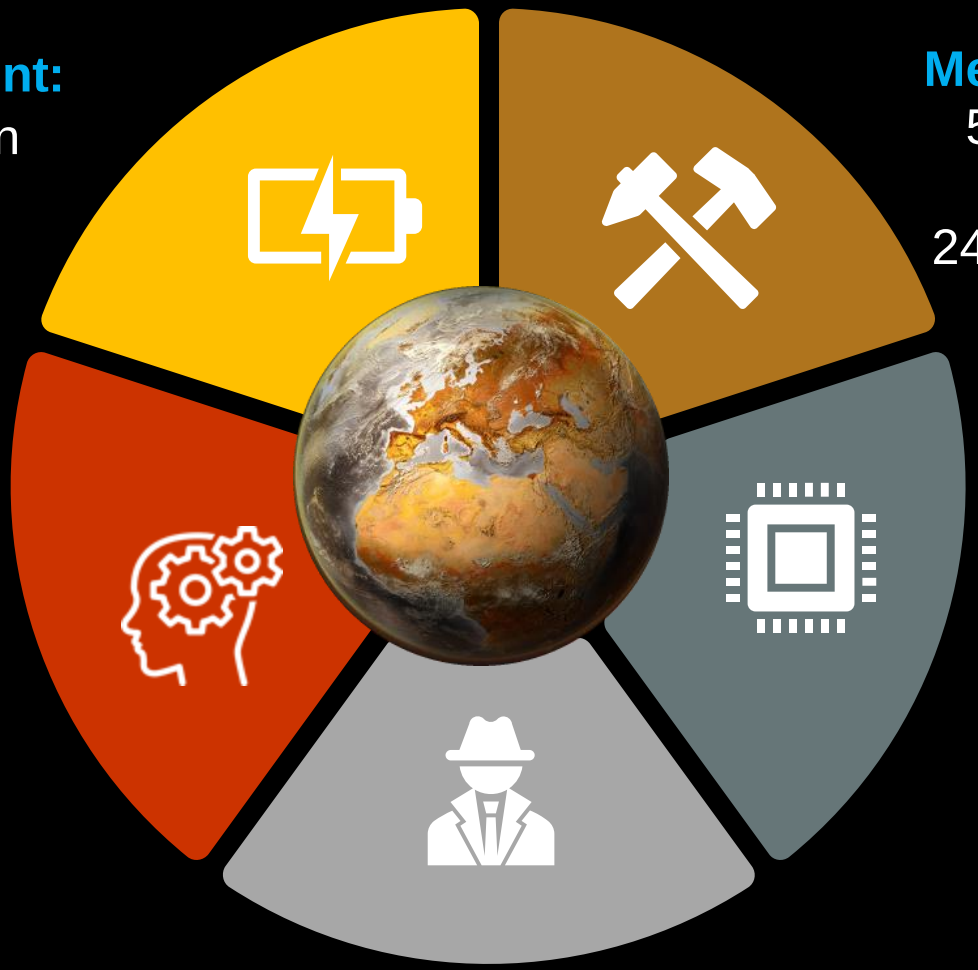
Side 1.Sustainable Digitalization: Must begin to minimize the environmental risks & impacts of digital technologies

Energy, GHG and water footprint:
3% of global energy consumption
2-4% of GHG emissions
435 billion liters of water by hyperscale data centers

Metals and rare earth minerals:
500% increase in demand for lithium and cobalt by 2050.
24 essential elements for digital.



Hyper consumption and rebound effects:
62% of advertising sales are now digital and worth 710 billion

Pollution and e-waste:
53 million metric tons, only 17% recycled, 40% of countries have regulation

Misinformation:
misinformation spreads 6X faster than facts, 70% more likely to reshared

Side 2. Digitalization to Enable Sustainability: Harness digital technologies to enable and accelerate environmental solutions – 5 "impact apps"

Monitoring and modelling environmental systems and emissions

Full supply chain transparency and circularity

Empowering consumers to adopt sustainable lifestyles and behaviors

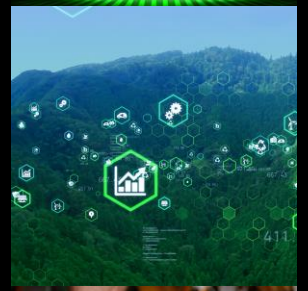
Automated sustainability decisions and optimization of resources

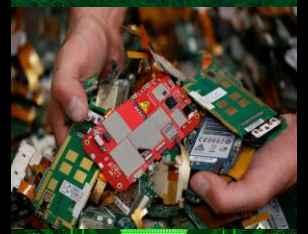
Supporting participatory environmental governance processes and legal enforcement

While 60 countries have digital transformation strategies - only partial provisions on environmental sustainability. 133 countries lack strategies.

Existing strategies over emphasize economic growth using “green ICT solutions” while missing enabling environmental sustainability through digital technologies.

National digital transformation strategies should begin to explicitly recognize





1. Environmental Goals:
Digital transformation must be done in a sustainable way that takes into account environmental risks and opportunities. How can countries respond to the increasing demand for data about the environment and climate performance of all products and services.

2. Data as an enabler of national SDG goals, circular economy and commitments to MEAs:
Identify how environmental data can contribute to accelerating SDG goals, MEA commitments and a circular green economy. How can environmental analytics detect risks to economic development ?

3. Data needed to measure the impact of the digital sector:
Identify the types of data needed to monitor and mitigate the environmental footprint of digital transformation (e.g. energy, GHG emissions, water, e-waste).

4. Green Digital Infrastructure:
What digital infrastructure are needed to support the collection, sharing, storage and analysis of environmental data. How can this infrastructure be green and climate-resilient ?

5. Capacities and capabilities:
Identify the public and private sector capacities needed to collect environmental data for decision-making, product transparency, and environmental disclosures.

Various UN agencies are addressing this challenge

UNITED NATIONS
UNCTAD

- E-trade readiness assessments
- E-commerce strategies
- Digital economy report
- Intergovernmental Group of Experts on E-commerce and Digital Economy
- E-Week: Shaping the Future of the Digital Economy

ITU

- GHG assessments of ICT sector
- E-Waste Monitor
- Digital product passport for ICT
- GovStack and greengov stack
- AI for Good

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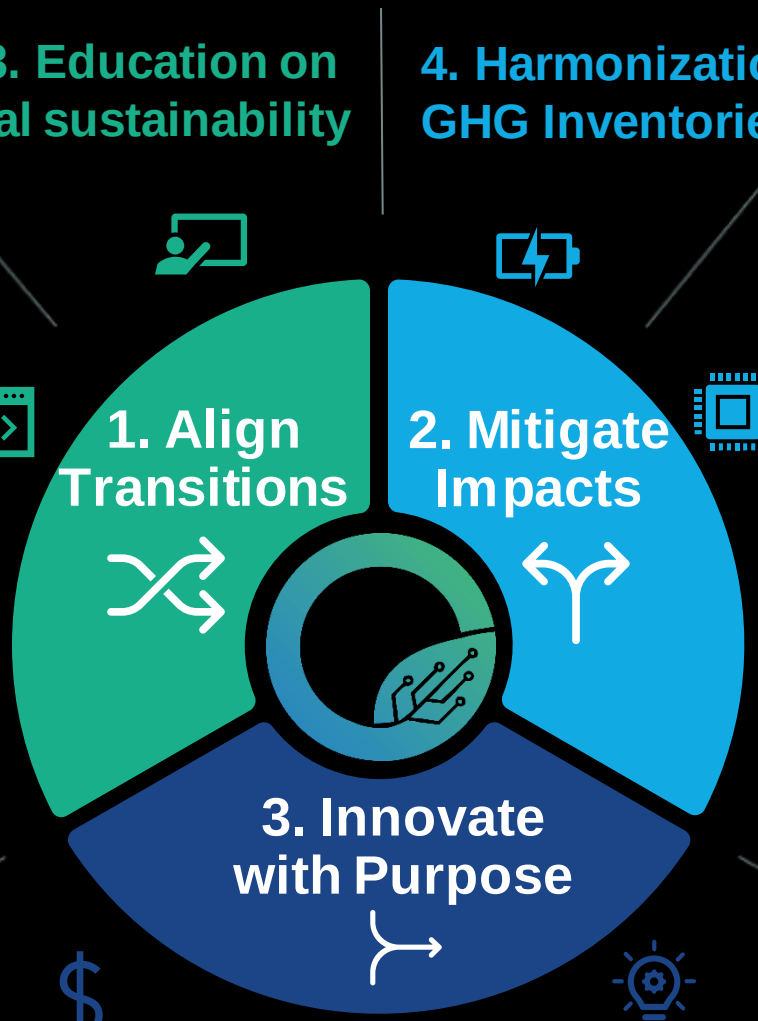
- Digital technologies for climate, nature and pollution action
- Environmental data and analytics
- Public-private partnerships (tech4planet)
- National capacity building
- Coalition for Digital Environmental Sustainability (CODES)
  Kenya, Germany, UNEP, UNDP, ISC, Future Earth

Different organizations will lead each Impact Initiative:

CODES
COALITION FOR DIGITAL ENVIRONMENTAL SUSTAINABILITY

ITU | SDA | UBA | UNDP | UN environment programme | International Science Council – The global voice for science | futureearth – Research. Innovation. Sustainability | REPUBLIC OF KENYA MINISTRY OF ENVIRONMENT AND FORESTRY



1. World Commission on Digital Sustainability
2. Digital standards clearing house
3. Education on digital sustainability
4. Harmonization of GHG Inventories
5. Sustainable procurement & green digital infrastructure
6. Digital Product Passport
7. Digital Sustainability Innovation Hubs and Accelerators
8. Data and Assessments for Sustainability
9. Decentralized Financing of Sustainable Solutions

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Connecting the dots to the Global Digital Compact

GDC Vision: the United Nations, Governments, the private sector and civil society will could come together to agree on a Global Digital Compact that outlines would outline shared principles for an open, free and secure digital future for all.

Our Common Agenda (Sept '21)

Stakeholder meetings (Jan-Dec '22)

Roadmap for GDC issued (Jan '23)

Deadline for GDC submissions (30 Apr '23)

Thematic deep dives (Apr-June '23)

Issues paper (Jun-Aug '23)

Intergovernmental negotiations on GDC (Q4 '23 – Q2 '24)

Summit of the Future (Sep '24)

The GDC could be critical opportunity to institutionalize the twin transition, a once in a lifetime opportunity. The two sides of digital sustainability have to be integrated into the GDC.

UNEP is looking forward to strengthening our collaboration with international, regional and national partners in addressing these challenges together

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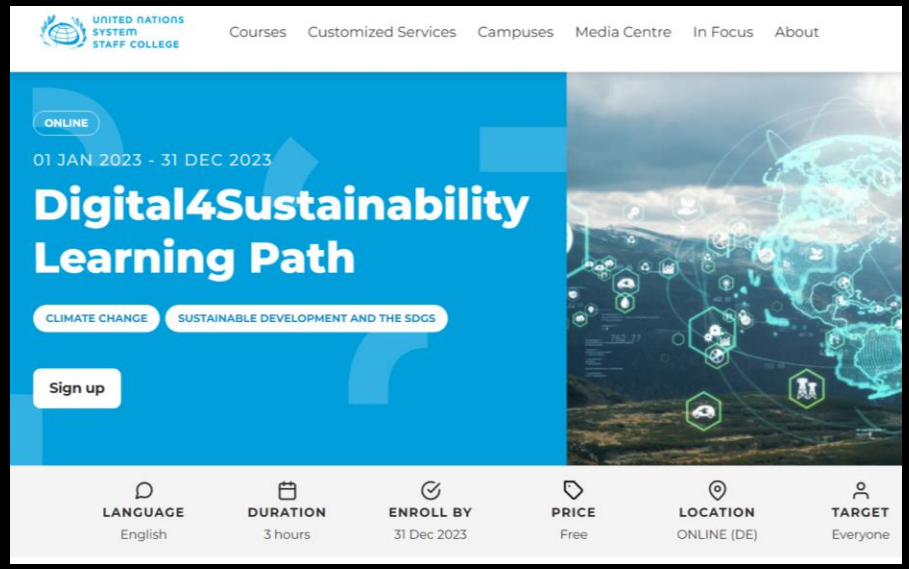
david.jensen@un.org

Coordinator of the Digital Transformations Programme



To learn more about digital sustainability:

https://www.unssc.org/courses/digital4sustainability-learning-path

https://www.sparkblue.org/joincodes