IOTWeek

Dublin — June 20-23, 2022

Conflicts and synergies of the digital and green transitions

Ilias Iakovidis, DG CONNECT, European Commission

GLOBAL VISION:
IoT TODAY AND BEYOND

IOTForum

The nexus of Green transition & Digital Transformation

European Commission

Synergies

- **Digital transformation for climate neutrality. It can reduce 15-20% of total GHG emissions**
- **Green transition for sustainable financing and new jobs in green digital transformation**

Conflicts

- ICT footprint: 2.1 and 3.9% of total emissions; eWaste- fastest growing waste category
- Green transition may block certain digitalisations patterns (built in obsolescence, blockchain mining, single use electronics, etc).

- Today's focus is mostly on the Conflicts because they are measurable.
- What is needed: To realise benefits of Synergies for sustainability and digital sector
- How: Science based methods to measure the contribution of digital to environment

-> leading to sustainable finance for green digital (EU Taxonomy, Green Public Proc.)

European Green Digital Coalition

34 CEOs of ICT companies, that lead their own transition to climate neutrality by 2040, have committed on behalf of their companies to take action in the following areas:

- Investing in the **development and deployment** of green digital solutions with significant energy and material efficiency that achieve a net positive impact in a wide range of sectors.

- Developing **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 organizations.

- Co-creating, with representatives of others sectors, **recommendations and guidelines** for green digital transformation of these sectors that benefits environment, society and economy.

https://digital-strategy.ec.europa.eu/en/policies/european-green-digital-coalition
https://www.greendigitalcoalition.eu/

IoT integrates Digital Technologies

Sensor-Control Infrastructure

Telecom (5G) Infrastructure

Data Spaces

Cloud Infrastructure

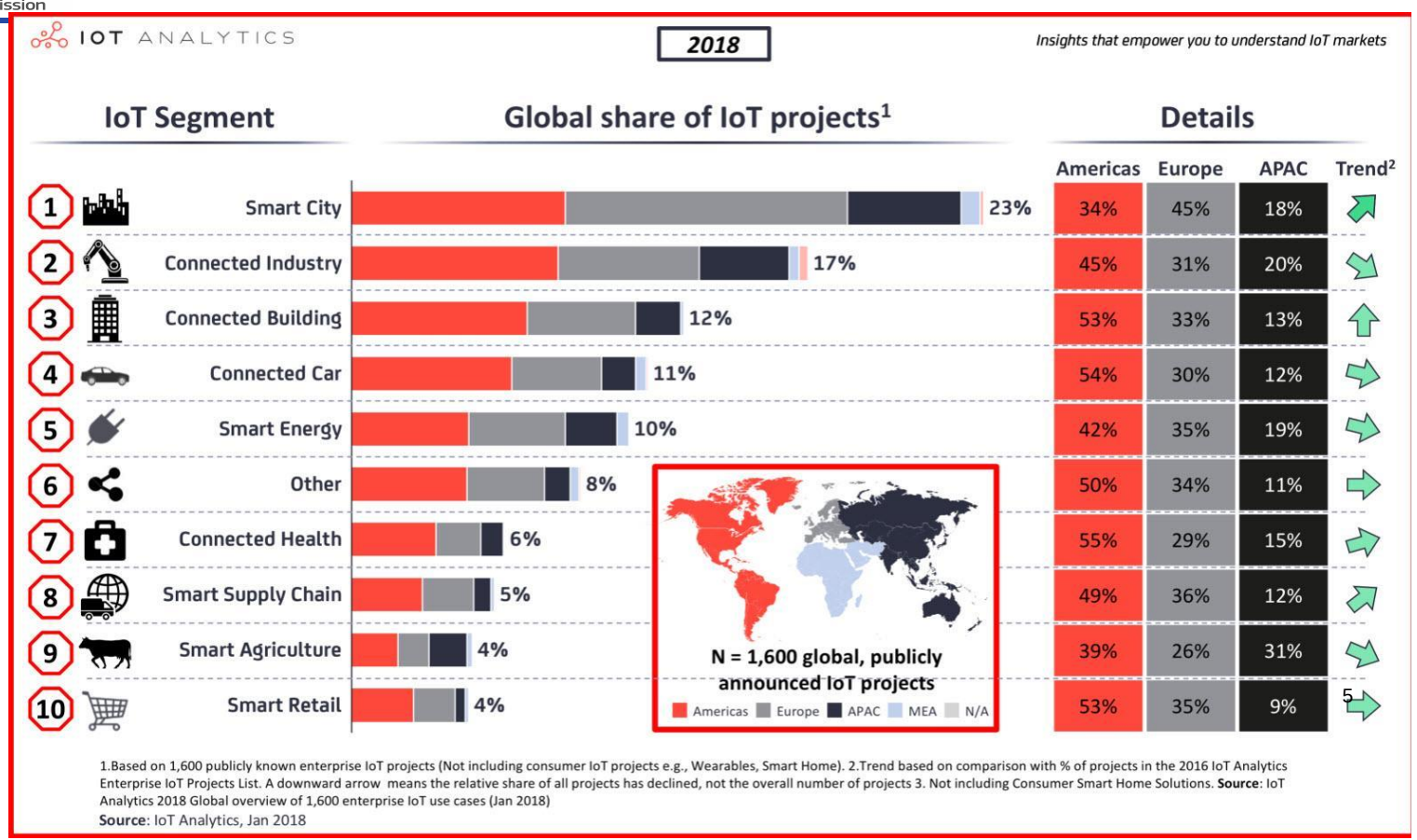
Apps - Services

IoT is much more than Connectivity:

- Industrial Internet of Things
- Industrie 4.0
- Cyber-physical Systems
- Smart Internet of Things

Max Lemke,
Connect University, June 2021

IoT across Industry



Max Lemke,
Connect University,
June 2021

The Consumer Perspective:

- Target: home comfort and low energy usage
- Smart appliances
- ‘Green’ consumption
- Apps: market-driven empowerment

Key challenges

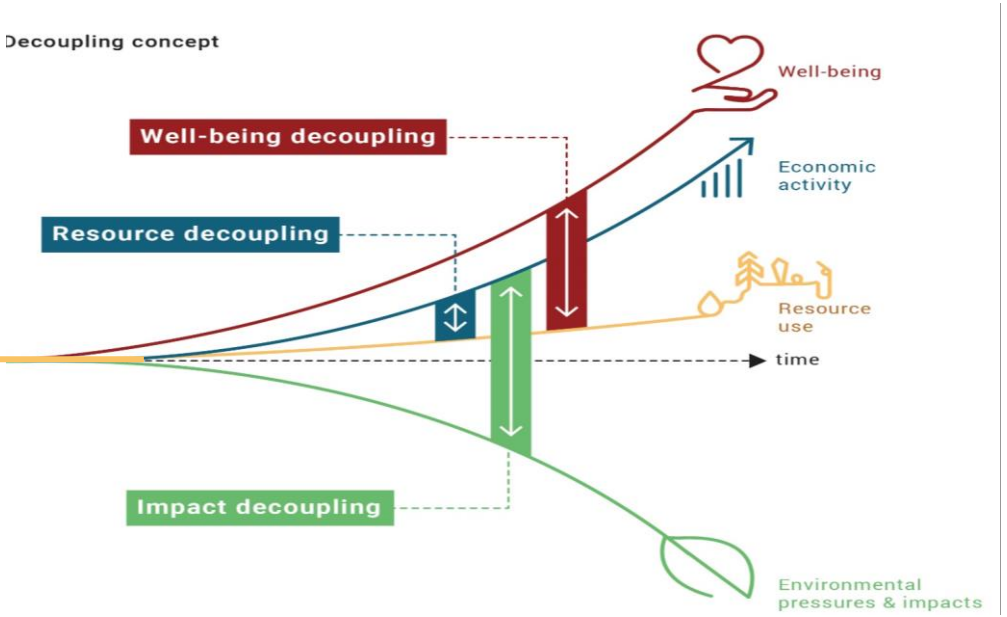
- Efficient integration of renewables
- Integrated smart home services through IoT
- Interoperable smart grids

Next Generation IoT Solution Space:

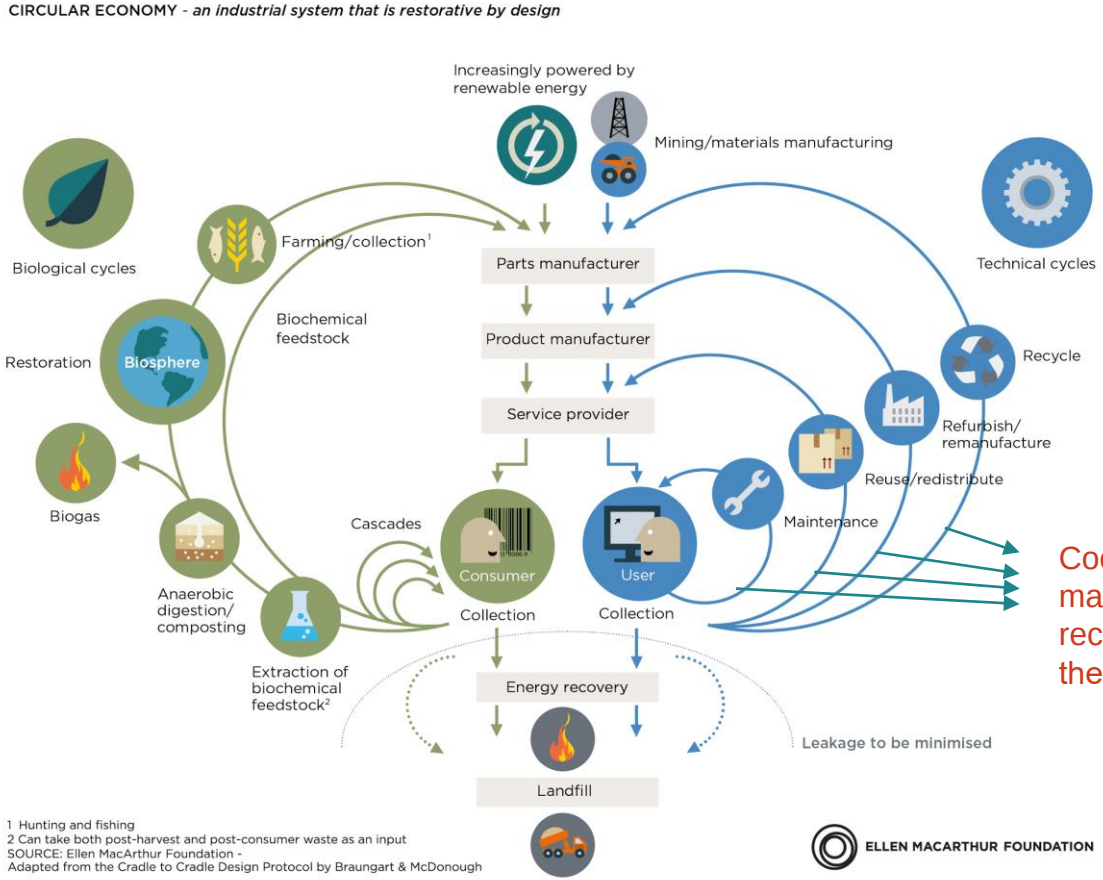
- Decentralisation
- Decarbonisation
- Intelligence at the far edge

Max Lemke,
Connect University, June 2021

Sustainability is not only about GHG emissions reduction



Key for Sustainability - Circular economy



Cooperation among manufacturers, retailers, repairers, recyclers, is essential to enable these ‘circles’

European Commission

Transition to Circular economy

Sustainable products – durable, re-usable, reparable, refurbishable, …recyclable

Sustainable Business models – e.g. Product as a service,

Key enabler: Digital Product Passport

Recent EU legislations:

- Ecodesign for sustainable products - European Commission – product requirements, information requirements across who supply chain, **Digital Product passport** (30.3.2022)
- Empowering consumers for the green transition - European Commission (30.3.2022)
- Initiative on substantiating green claims - European Commission (coming soon)

European Commission

ESPR
Digital Product Passport (DPP) – expected benefits

Tracking of **raw materials extraction/production**, supporting due dili

Enable **manufacturers** to create products **digital twins**, embedding all the information required

Tracking the life story of a product, enabling services related to its **remanufacturing**, **reparability, re-use/re-sale/second-life, recycl** nodels

Benefit **market surveillance authorities and customs authorities**, by making available information they would need to carry out their

Make available to **public authorities and policy makers** reliable information. Enable to link **incentives** to **sustainability performance**

Allow **citizens** to have access to **relevant and verified information** related to the characteristics of the products they own or are considering to buy/rent (e.g. using apps a to read the identifier

Thank you

European Commission

Sustainable products package

https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2013

Ecodesign Working Plan 2022-2024

→ Higher energy efficiency and circularity for energy-related products
→ New rules for consumer electronics (smartphones, tablets, solar panels)

Strategy for Sustainable and Circular Textiles

→ Binding eco-design requirements, incl. durability, reparability, and recycled fibre content
→ Stop microplastics pollution
→ Tackle fast fashion, textile waste, and the destruction of unsold products
→ Accurate green claims
→ Sustainable global value chains

Support for circular business models

→ European circular business hub
→ Guidance to businesses

New rules to empower consumers for the green transition

→ Protection against greenwashing and the deliberate planning or design of products with limited lifespans
→ Information on product durability and reparability

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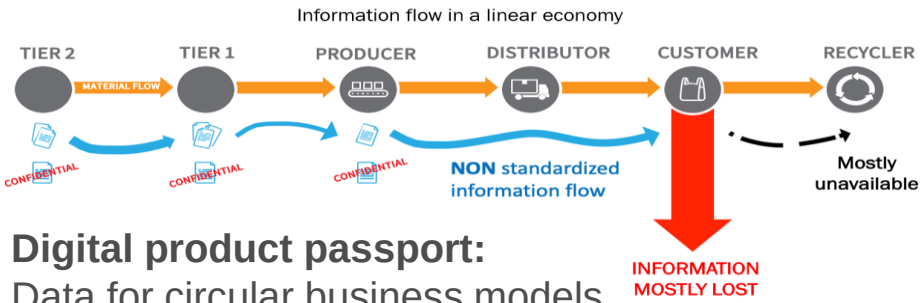
Digital contribution to environment & climate



ETSI ES 203 199 V1.3.0 (2014-12)

Digital contribution: reduction by up to 15%-20% of total emissions with deployment of today's technology.

Digital product passport:
Data for circular business models, Sustainable, integrated Single Market

Smart mobility: reduction of transport emissions up to 37%; **smart buildings** with emissions reduction by 17%;

Destination Earth / digital twins: High Performance Computing, AI for better anticipation of extreme events prediction, climate modelling.

Also: smart energy networks; Precision farming, Blockchain for emissions accounting, smart cities; AI for climate; smart manufacturing;

RRPs: Missed opportunity to use digital solutions for climate action

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Sustainable Digital Technologies

Climate Neutral and highly energy efficient datacentres by 2030: review **JRC's CoC,** the Energy Efficiency Directive and the Taxonomy Regulation

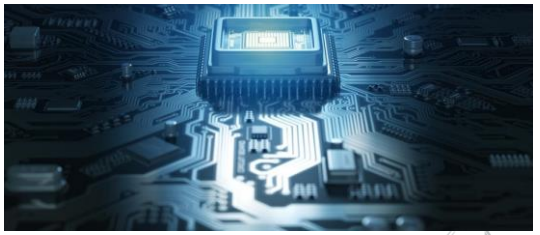
Greener electronic communications by 2030:

- Transparency measures
- Administrative incentives for green deployment

Circular Electronics Initiative: Better durability, reparability, refurbishment, recycling for consumer and industrial electronics & IoT

"Right to repair" for consumers.

Low power processors, software and AI: investing in new ultra-low-power



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