



ecos

Exploring the environmental impacts of ICT products

Welcome!

Meet the speakers



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Co-Founder & Executive Director, Community Creativity for Development(CC4D)



On the agenda today

- Introduction
- The impacts of ICT products on health and the environment
- EU Initiatives on the sustainability of ICT products
- Deep dive into best practices in Africa: community repair



Introduction



Nerea Ruiz Fuente

Global Engagement Director
ECOS

ECOS

Environmental Coalition on Standards

is an international NGO with a network of members and experts advocating for environmentally friendly technical standards, policies, and laws.



Where we are

From our headquarters in **Belgium** and office in **Kenya**, ECOS brings technical expertise to **international**, **regional**, and **national** policymaking, legislation, and standardisation worldwide.



BRUSSELS (HQ)



NAIROBI (Africa office)

ECOS in Africa



Quick facts

- Active since 2024 through regional office in Nairobi, Kenya
- Building partnerships with organisations (e.g. ARSO) and members (Cameroon, Nigeria...)
- Implementing projects across environmental areas: industrial decarbonisation, plastics, textiles, ICT.



What are we aiming at?

- Increased the level of ambition in environmental management tools
- Strengthened the capacity of African experts
- Enhanced inclusion and access for environmental civil society in policy and standards development
- Environmental objectives in EU-Africa initiatives

InDiCo Global Project: shaping global ICT standards

Our mission

To develop mutual understanding of policy, regulatory, and technical approaches to ICT/digital technologies, enhancing cooperation on ICT standards and aligning policies and regulations for the benefit of the European industry.

Technology focus area

- AI
- 5G
- IoT
- Cybersecurity
- Data
- eID
- Smart Cities
- Quantum Technologies
- DLT
- Circular Economy and more.

Regions

- India
- China
- Southeast Asia
- African Union
- Western Balkans
- Eastern Partnership
- Latin America
- Caribbean

Objectives

- Promote EU ICT/digital standards globally.
- Foster understanding and capacity building in partner countries.
- Advocate for global acceptance and interoperability of European standards.
- Create awareness about the EU vision and approach to data protection.



Promoting green digitalisation: sharing EU ICT product standardisation and policy insights

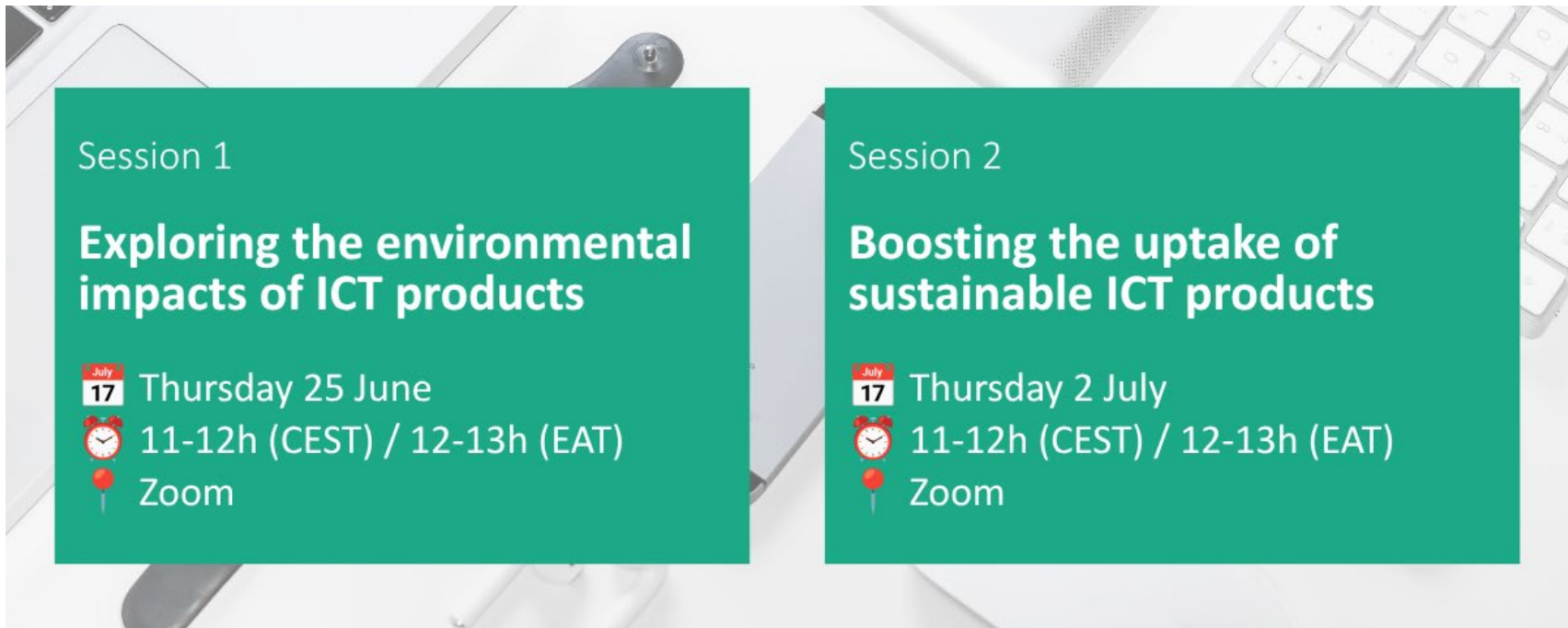


ECOS actions and scope

- Promote practical, long-term **uptake of sustainable ICT management and procurement practices** in the African Region
- Raise awareness on the **role of EU policy and standardisation** on sustainable digital and ICT sectors
- Provide a platform to **share expertise and technical knowledge** between Europe and Africa
- Highlight **opportunities for collaboration and inclusiveness** in standardisation.





ECOS actions and scope – where to find us






Session 1

Exploring the environmental impacts of ICT products

 Thursday 25 June
 11-12h (CEST) / 12-13h (EAT)
 Zoom

Session 2

Boosting the uptake of sustainable ICT products

 Thursday 2 July
 11-12h (CEST) / 12-13h (EAT)
 Zoom



And an in-person workshop in Nairobi on **24 September!**

The impacts of ICT products on health and the environment



Mathieu Rama

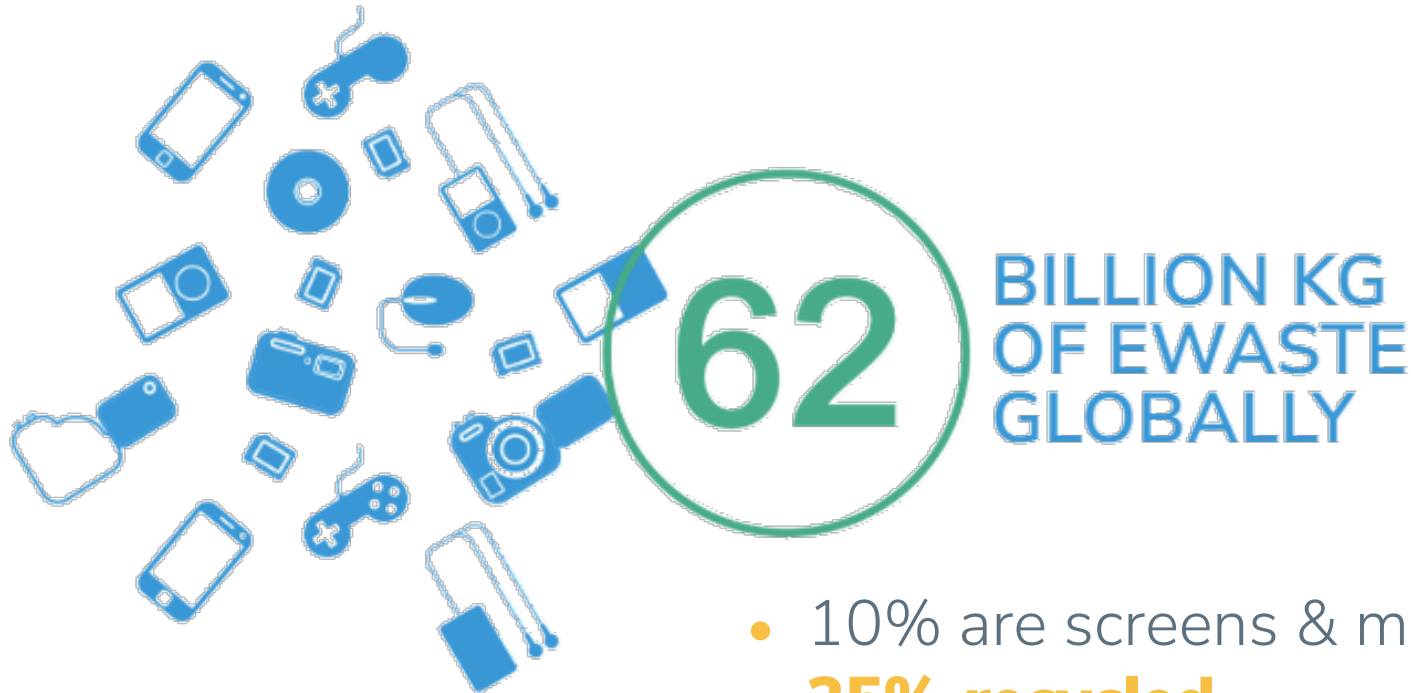
Senior Programme Manager
ECOS

The impacts of ICT products on health and the environment

- E-waste globally
- Strain on resources
- Toxicity of e-waste
- Illegal trade of e-waste



E-waste is the fastest-growing waste stream in the world



- 10% are screens & monitors – **25% recycled**
- 8.3% are small IT and telecommunication equipment – **22% recycled**

Strain on resources

Increased production of ICT products, combined with poor waste prevention and management, **means increased extraction and wastage of valuable materials:**

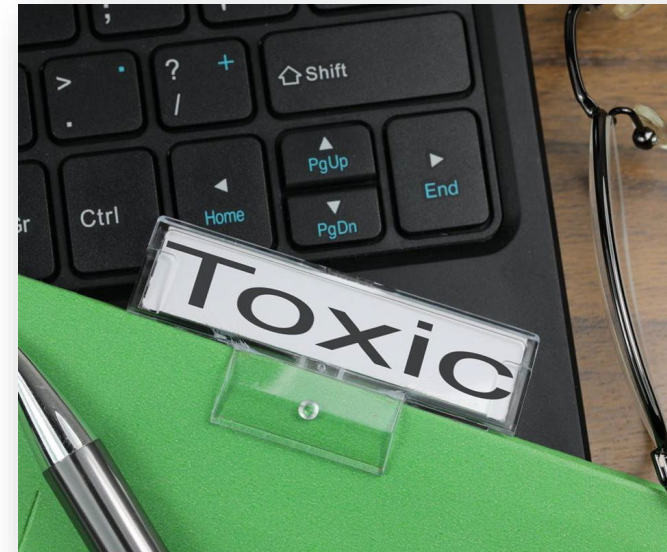
Gold, silver, copper, aluminum, platinum, palladium, rare earth metals, plastics, and more...



Toxicity of e-waste

Once discarded and opened for disassembly, e-waste can pose **a serious health threat** to recycling workers - it can contain the following toxic substances:

Lead, mercury, flame retardants (such as brominated flame retardants and PBDEs), cadmium, beryllium, bisphenol-A (BPA), and more...



Illegal trade of e-waste

- The export of second-hand ICT products from the Global North to the Global South **can be an economic and environmental opportunity**:
 - Prolonged lifetime of products
 - Access to lower-priced products in the Global South
 - Job opportunities in the repair/refurbishment sector in the Global South
- A **great risk of illegal e-waste exports** (banned by the Basel Convention), disguised as the shipment of reusable products
- In certain regions, treatment of non-reusable e-waste leads to burning circuit boards, soaking microchips in acid, and burning plastics to sort them by order

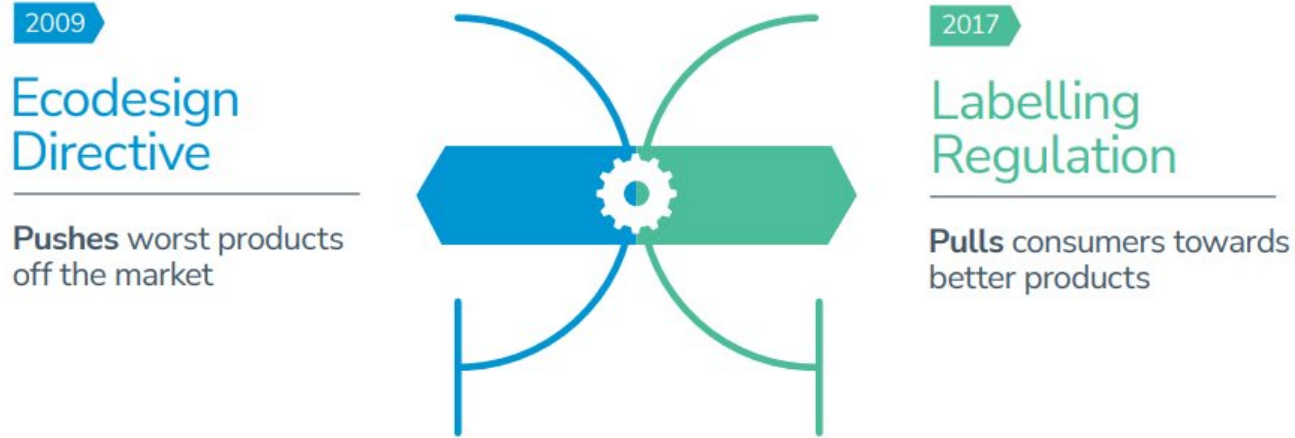


EU initiatives on the sustainability of ICT products

- Ecodesign
 - Link to standardisation
 - Focus on smartphones, servers and data storage products
 - Associated standardisation efforts
- Battery Regulation
- Repair of Goods Directive

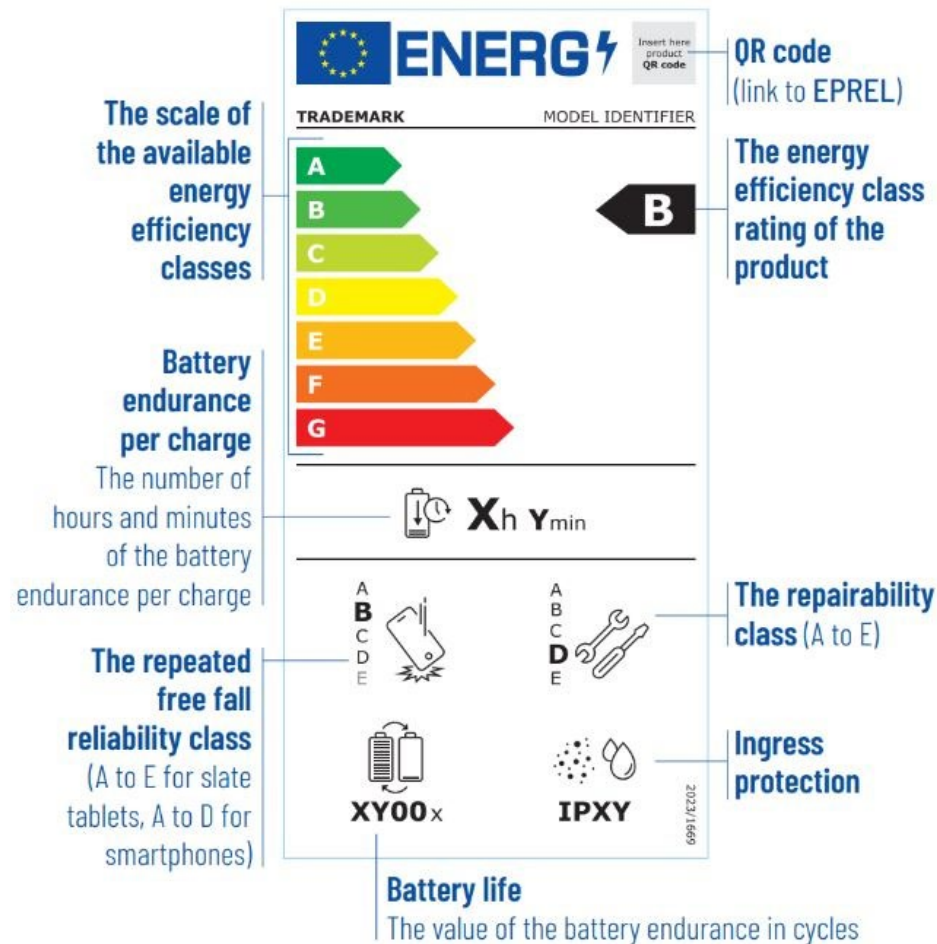


Ecodesign and Energy Labelling



The **Ecodesign Directive** is currently replaced by the **Ecodesign for Sustainable Products Regulation**, following the same principle with a wider scope

Ecodesign and Energy Labelling



Ecodesign and Energy Labelling

CEN-CENELEC - JTC10 – and the material efficiency standards

- The 2015 **Circular Economy Action Plan** led the European Commission to request new standards for material efficiency.
- CEN, CENELEC, and ETSI were tasked with developing **ecodesign standards** focusing on durability, reparability, and recyclability.
- CEN-CLC/JTC 10 **created eight horizontal standards with generic principles** to improve material efficiency in energy-related products.
- These standards **support product-specific Technical Committees** in incorporating material efficiency into their own standards.

JTC10 Document Status



- EN45552 Durability – *published 2020*
- EN45553 Ability to remanufacture ErP – *published 2020*
- EN45554 Ability to Repair, Reuse, Upgrade – *published 2020*
- EN45555 Recyclability, Recoverability – *published 2019*
- EN45556 Reused Components – *published 2019*
- EN45557 Recycled Materials – *published 2020*

- EN45558 Critical Raw Materials – *published 2019*
EN45558 may be directly applied.
- EN45559 Information – *published 2019*
EN45559 is intended as guidance but is applied in the rest of the EN4555X series to ensure consistency.
- TR45550 Terms and Definitions – *published 2020*

Ecodesign and Energy Labelling

IEC TC 111/WG23 - General methods for the assessment of repairability

- Under development: an **international standard on the ability to repair, reuse and upgrade energy-related products** (IEC 63683-2 ED1 - General methods for the assessment of product durability - Part 2: Ability to repair, reuse and upgrade)
- An **international version of “EN 45554:2020** - General methods for the assessment of the ability to repair, reuse and upgrade energy-related products”, with hopefully improvements on:
 - Parts pairing
 - Price of spare parts
 - Data deletion
 - New categories of fasteners

Ecodesign and Energy Labelling

Ecodesign and Energy Labelling Requirements for ICT products:

- Smartphones, other mobile phones, cordless phones and slate tablets
 - [Ecodesign Regulation](#) (2023) & [Energy Labelling Regulation](#) (2023)
- Computers
 - [Ecodesign Regulation](#) (2013 - under [revision](#) by Q3 2027) & Energy Labelling Regulation ([under development](#) by Q3 2027)
- Electronic displays
 - [Ecodesign Requirements](#) (2019 - under [revision](#) by Q3 2026) & [Energy Labelling Requirements](#) (under [revision](#) by Q3 2026)
- Servers and data storage products
 - [Ecodesign Requirements](#) (under [revision](#) by Q4 2026)
- Imaging equipment (including consumables)
 - Ecodesign Requirements (under [development](#) by Q3 2026)

ESPR [horizontal requirements on repairability \(by 2027\)](#) and [recycled content and recyclability \(by 2029\)](#) to cover other types of ICT products, such as handheld game consoles, smart watches, e-book readers, smart home devices...

Ecodesign and Energy Labelling

Servers and data storage products

Energy efficiency requirements:

- Minimum efficiency of the power supply units
- Minimum server efficiency in active state
- Maximum consumption in idle state
- Information on the product operating temperature



Resource efficiency requirements:

- Ease of disassembly to facilitate replacement and recycling of parts
- Availability of a functionality for secure data deletion
- Obligation to provide latest available version of firmware for at least 8 years

Ecodesign and Energy Labelling

Standards stemming from Servers and Data Storage Products Regulation:

- [ETSI EN 303 800-2](#) — Server and data storage product secure data deletion functionality (ITU-T L.ME_DD)
- [ETSI EN 303 800-3](#) — Server and data storage product availability of firmware and of security updates to firmware (ITU-T L.1080)
- [ETSI EN 303 800-5](#) — Server and data storage product disassembly and disassembly instruction (ITU-T L.ME_DIS)

Ecodesign and Energy Labelling

Smartphones, other mobile phones, cordless phones and slate tablets

- Consumers and independent repairers gain **access to spare parts and repair information for at least 7 years** after a smartphone or tablet stops being sold.
- Smartphones must **meet new durability standards**, including surviving at least 45 accidental drops and retaining a minimum of 80% battery capacity after 800 charge cycles — roughly four years of typical use.
- A new **repair index on energy labels**, giving clearer information about a device's repairability — a first at EU level.
- The price of spare parts is not properly addressed by the regulation, meaning **repairs could still remain unaffordable.**
- **Part pairing** — the practice by which manufacturers restrict who can perform certain repairs — is only partially tackled and is not outright banned.
- Manufacturers can **opt out of supplying spare batteries** directly to consumers, as long as they meet certain longevity and waterproofness requirements.

Ecodesign and Energy Labelling

Standards stemming from Smartphones, other mobile phones, cordless phones and slate tablets regulation (Standardisation Request M/608):

- ETSI EN 304 235 (DEN/EE-MICT7) — Physical dimensions of batteries of cordless phones
- ETSI EN 304 236 (DEN/EE-MICT8) — Preparation for reuse
- ETSI EN 304 237 (DEN/EE-MICT9) — Energy Efficiency Index (EEI)
- ETSI EN 304 238 (DEN/EE-MICT10) — Reliability
- CENELEC prEN 50776 — Recyclability of Smartphones (TC100X/WG3)
- CENELEC prEN 50777 — Recycled Content of Smartphones (TC100X/WG3)

EU Battery Regulation

- All new battery-containing products placed on the market after 18 February 2027 **will need to have replaceable batteries**, and in many cases users must be able to replace them themselves.
- Batteries must be **available as spare parts for 5 years** after the last unit is placed on the market.
- **Software must not be used to prevent the replacement of a portable battery** or its key components with a compatible alternative — limiting the practice known as "part-pairing."
- Replacement batteries must be sold at a **reasonable and non-discriminatory price**.
- Even for products exempted from user-replaceability requirements, batteries **must be replaceable by independent professional repairers**.
- Products used in wet conditions, and potentially wearables, **will be exempted** from the user-replaceable battery requirement.



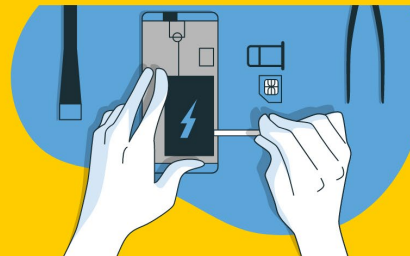
Directive on common rules promoting the repair of goods

- Not ecodesign but consumer rights legislation
- Only covers products that already have ecodesign repairability requirements
- Spare parts for these products have to be provided at a “reasonable price”, yet to be defined
- General ban part-pairing



RIGHT TO REPAIR

EU rules set to make repair more affordable for selected products, we push for broader right to repair



Deep dive into best practices: community repair



Mathew Lubari

Co-Founder & Executive Director
Community Creativity for
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Join our upcoming events

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