



ecos

**Boosting the uptake
of sustainable ICT products**

Meet the speakers



Marxine Waite

Moderator, ECOS Africa



Mathieu Rama

ECOS



Leandro Navarro

eReuse



Sergio Giménez Antón

eReuse

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.



Funded by
the European Union

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 **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!**

On the agenda today

- Introduction
- Sharing good practices: EU initiatives on the sustainability of ICT products
- Standards for ICT equipment and digitalisation
- Meaningful connectivity in Africa: The Hahatay - Senegal case



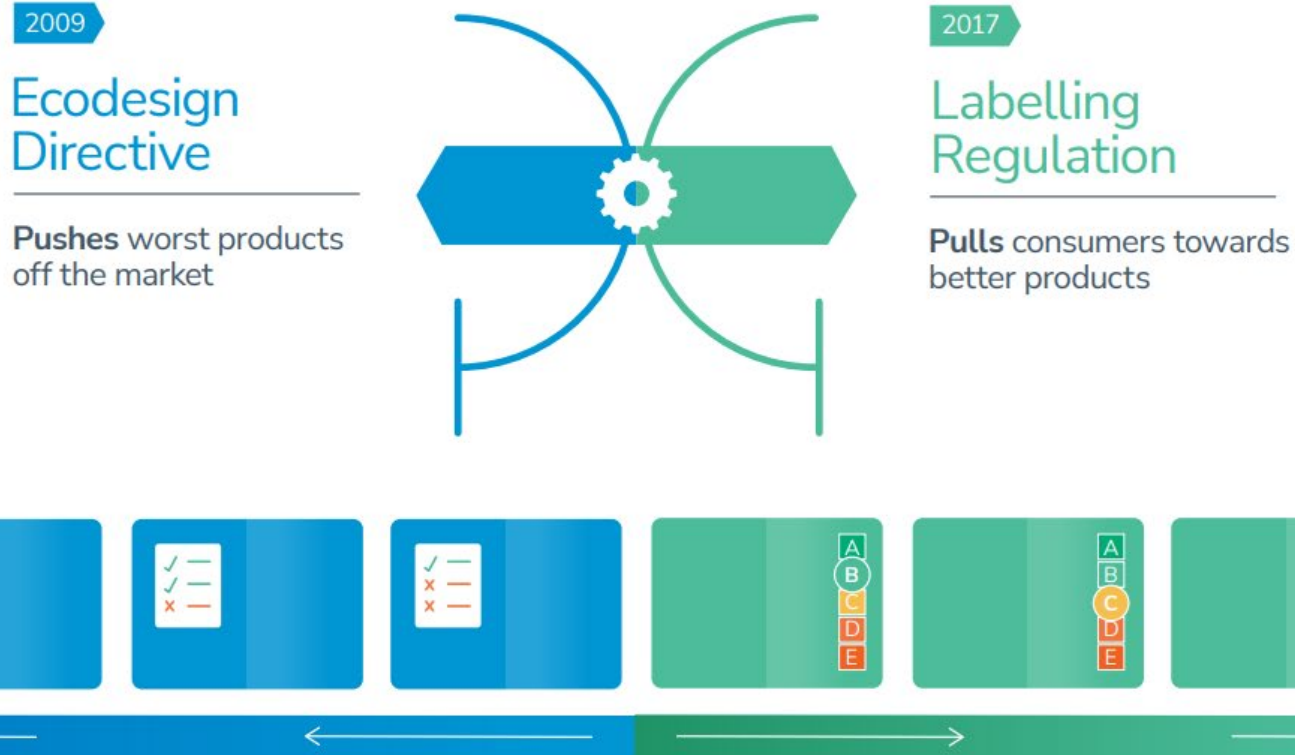
Sharing good practices: Boosting the uptake of sustainable ICT products



Mathieu Rama

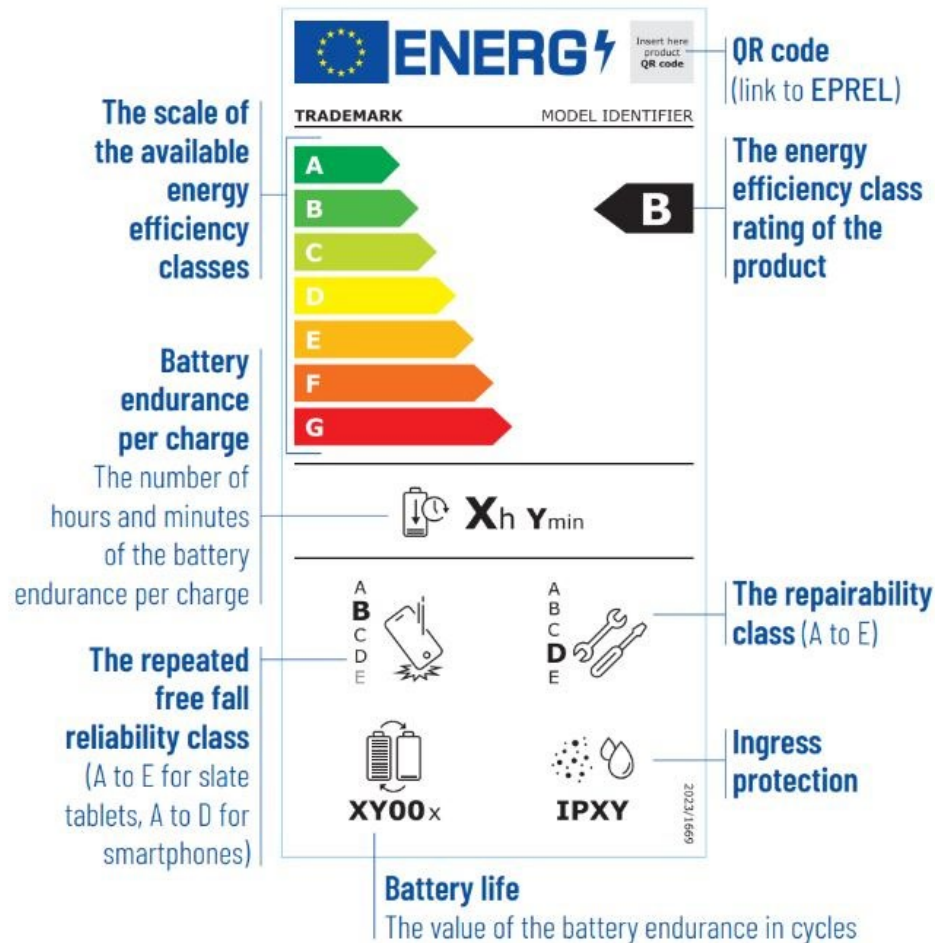
Senior Programme Manager
ECOS

Ecodesign and Energy Labelling



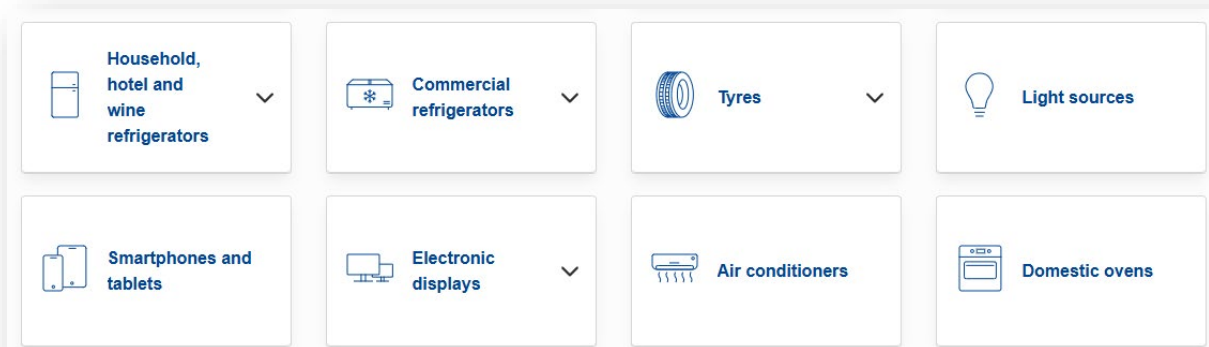
The **Ecodesign Directive** is currently replaced by the **Ecodesign for Sustainable Products Regulation**, following the same principle with a wider scope

Ecodesign and Energy Labelling



European Product Registry for Energy Labelling (EPREL)

- Products that are covered by **Energy Labelling regulations** (concerning ICT products, only [electronic displays](#), [smartphones and tablets](#) for now, but soon others, e.g. computers).
- Allows **Market Surveillance** Authorities to identify potentially non-compliant products.
- Allows consumers to easily identify **the most sustainable products**.



European Product Registry for Energy Labelling (EPREL)

Smartphones and tablets

REGULATION (EU) 2023/1669 with regard to energy labelling of smartphones and slate tablets

Search by

☐ Include models not placed on the market anymore ⓘ

Filter by

Device type

☒ Smartphone
☐ Tablet

Operating system

☐ Android
☐ iOS
☐ Other

Foldable

☐ Yes
☒ No

Ingress protection rating ⓘ

IP rating ≥

Battery endurance per cycle (hours) ⓘ

-

Battery user-replaceable ☐

Energy efficiency class ☐

Repeated free fall reliability ☐

View the models distribution by performance class ⓘ

Showing 1 - 3 of 3

Items per page

Sort by

BLU G75

Smartphone Android 

 Battery endurance per cycle 499h 59min
 Battery endurance in cycles 9 900
 Repeated free fall reliability class ABCDE
 Repairability class ABCDE
 Ingress protection rating IP68

DOOGEE V Max 2

Smartphone Android 

 Battery endurance per cycle 403h 10min
 Battery endurance in cycles 1 000
 Repeated free fall reliability class ABCDE
 Repairability class ABCDE
 Ingress protection rating IP68

Digital Product Passport in EU regulation

LAW	PRODUCTS	MANDATORY DPP	POSSIBLE INFORMATION
Batteries Regulation	Certain batteries	February 2027	Sustainability and circularity information, due diligence information
Ecodesign for Sustainable Products Regulation	Potentially all products except food, feed, medicinal products	Incrementally with adoption of sectoral delegated acts (first ones expected 2027, timeline for DPP adoption unknown)	Sustainability and circularity information
Critical Raw Materials Act	Permanent magnets in products	November 2028: add information to DPPs introduced by other acts, if they exist.	Chemicals presence and information on removal

Digital Product Passport in EU regulation

Products **in the scope of the Ecodesign for Sustainable Products Regulation** (including ICT products) will eventually have DPPs, potentially containing information about:

- ✓ product durability, reusability, upgradability and reparability
- ✓ presence of substances that inhibit circularity
- ✓ energy and resource efficiency
- ✓ recycled content
- ✓ remanufacturing and recycling
- ✓ carbon and environmental footprints



EU Initiatives on the sustainability of ICT products

Digital Product Passport in EU regulation

- Information requirements will be specified in **product-specific ecodesign regulations**
- Product design aspects: **mandatory**
- Product parameters: if appropriate



- Information on energy efficiency and reparability would be **mandatory**
- Information on guaranteed lifetime or technical lifetime will only be **added if appropriate**

EU Initiatives on the sustainability of ICT products

Digital Product Passport in EU regulation

- DPPs will be **introduced by default** if there are information requirements (Energy Label or other) in the product's regulation.
- Possible **exemptions:**
 - Horizontal ecodesign requirements
 - If standards are not ready
 - If there is an existing system (e.g. *EPREL*) covering the information. Possibility for coexistence!



(Voluntary) Green Public Procurement criteria on electronics

- [EU GPP Criteria for Computers, monitors, tablets and smartphones](#) (2021)
- [EU GPP Criteria for Data centres, server rooms and cloud services](#) (2020)
- [EU GPP criteria for Imaging Equipment, consumables, and print services](#) (2020)

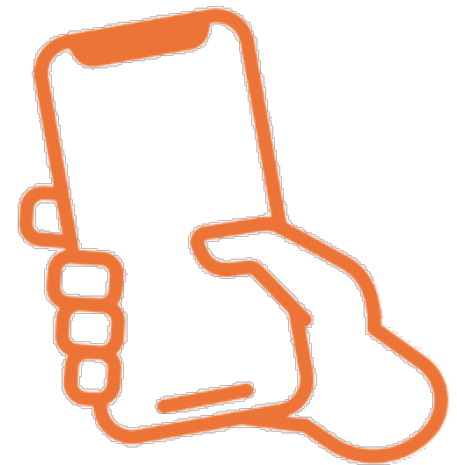


International initiatives on the sustainability of ICT products

Recommendation ITU-T L.1017 – Environmental performance scoring of smartphones

Provides a standardised method **to assess the environmental performance of smartphones** considering material efficiency and life cycle assessment (LCA) aspects. It evaluates:

- ✓ Durability
- ✓ Reparability, reusability and upgradeability
- ✓ Recyclability and recoverability
- ✓ Use of hazardous or restricted substances
- ✓ Use of recycled materials
- ✓ Packaging and accessories
- ✓ Environmental impacts



International initiatives on the sustainability of ICT products

EPEAT – Developed by the Global Electronics Council



Climate Change Mitigation

Reducing greenhouse gas (GHG) emission in manufacturing, the supply chain, and product use.



Sustainable Use of Resources

Designing products for longevity, reuse and recycling, and responsibly addressing packaging, water and waste.



Chemicals of Concern

Eliminating use of toxic chemicals in the product and manufacturing that are hazardous to human health and the environment.



Responsible Supply Chains

Responsible sourcing of materials, fair labor practices, and worker health and safety in the electronics supply chain.

ECOS contributed

International initiatives on the sustainability of ICT products

TCO Certified

Climate



IT products contribute to the climate crisis through emissions across their life cycle. Effective methods to reduce climate impact are already available.

Substances



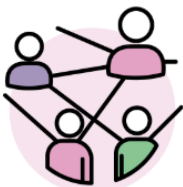
Many chemicals used in the IT industry have unknown risks. As legislation lags behind, substances need to be assessed before they are used.

Circularity



By using products longer and enabling the circulation of products and materials, we can reduce environmental impact and conserve natural resources.

Supply chain



Significant environmental and social risks occur in IT supply chains. Strict follow-up and accountability are needed to drive positive change.

Standards for ICT equipment and digitalisation

Meaningful Connectivity in Africa: the Hahatay (Senegal) case

Sergio Giménez Antón
Leandro Navarro

aucoop.upc.edu
eReuse.org

AUCCOOP

ereuse^e.org

Sergio Giménez Antón



- President of the AUCOOP association
- PhD candidate at UPC
- Contributor to eReuse software stack

Leandro Navarro



- Senior Professor, UPC
- Board Member, AUCOOP
- Co-Rapporteur of ITU-T Question 7/SG5 (2022-2024 period): standards on environmental sustainability, circular economy, and e-waste in ICT
- ETSI TC on Environmental Engineering (TC EE)
- Editor of
ITU-T L.1070 - ETSI TS 103 881,
ITU-T L.1071 - ETSI ES 204 082
- Co-founder of the eReuse.org initiative in 2015.

Projectes 2025-2026

- Nasco Feeding Minds, Ghana
- Protegeqy, Camerun
- Amandla Project, Sudafrica
- Sant Joan de Déu, Sierra Leona
- Namaqua Kalahari Children Hope, Namibia
- Sant Joan de Déu a Yassa, Douala, Camerun
- Alegria Gambo, Etiòpia

Projectes 2024



Location of collaborative projects



ereuse.org

Our mission is the transition to a collaborative and circular consumption of electronic devices:

- Bootstrap local and autonomous platforms for electronics reuse.
- Develop open-data and open-source tools and services.
- Ensure reusing and recycling, digital transparency and accountability.
- Members of the repair.eu campaign, presence in Spain, Argentina, Senegal.



RIGHT TO

REPAIR

Digitalization

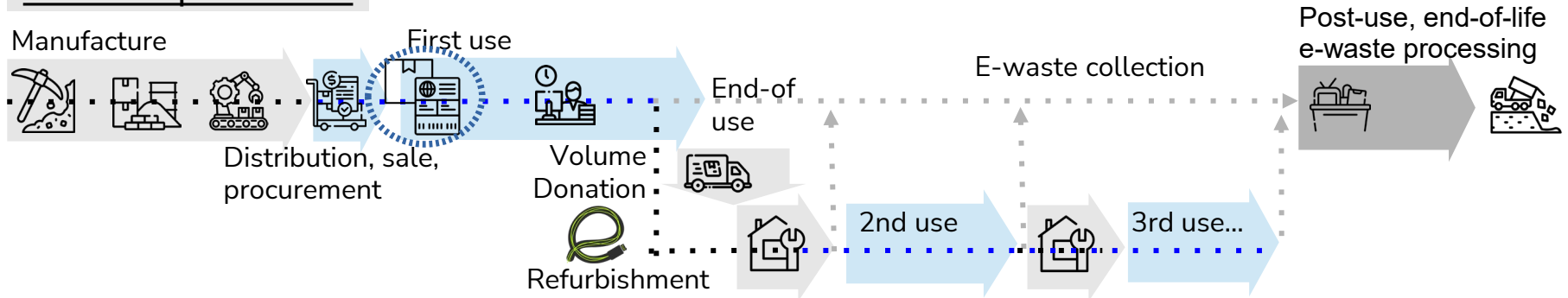
- Web: JSON { "serial": "ABC123", "status": "in use" }
- Decentralized Identifiers: *did:web:ereuse.org:device:ABC123*
- Verifiable credentials: *JSON + digital signature*
- UN Transparency Protocol: *"Laptop transferred: UPC → Hahatay"*
- DeviceHub, Workbench:
 - Open-source software for repairers, refurbishers + donors, beneficiaries.
 - *My inventory, laptop ABC123 with 1234 use hours.*

A plan to extend computer devices lifetime

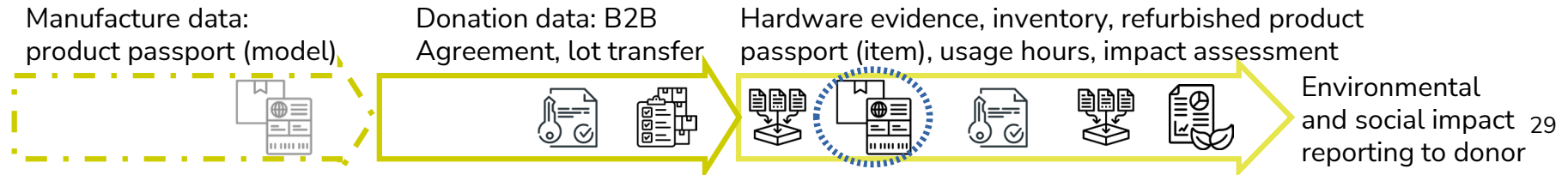
Lifecycle phases



Material processes



Digital data processing



Open-source software we develop

<https://github.com/ereuse/>

 **workbench-script** Public

 Shell  1  1

 **devicehub-django** Public

 Python  3  1

 **IdHub** Public

 Python  4

 **pyvckit** Public

 Python  2  1



eReuse tools for managing the circularity of computers

workbench-script: Boots on a device (USB, PXE), extracts hardware details and sends them to DeviceHub server

DeviceHub: Device Inventory System focused on reusing computer devices

IdHub: Identity Provider that manages Decentralized Identifiers and Verifiable Credentials



DeviceHub

- Run Workbench on a device for a hardware inspection, or take a picture, ...
- Device inventory: lifecycle
- Focus on processes:
 - Volume donation (B2B),
 - Repair/refurbishment (DPP),
 - Beneficiaries (B2C loan)
 - End-of-life: recycling and reporting sustainability impact to donors

The screenshot displays the DeviceHub web application interface. The header bar is teal with 'DEVICEHUB' on the left, 'EXAMPLE-ORG' in the center, and a user profile 'user@example.org' on the right. A left sidebar contains navigation links: 'Admin' (person icon), 'Devices' (laptop icon), 'Lots' (stack of papers icon), 'Inbox' (mail icon), 'Inbound' (arrow icon), 'Temporary' (clock icon), 'Outbound' (arrow icon), and 'Evidences' (document icon). The main content area is titled 'Lot donante-orgB' and includes a search bar 'Search your device'. Below the title, there are tabs for 'Devices', 'Properties', 'Subscriptions', 'Beneficiary', 'Participants', and 'Environmental Impact'. A search bar for the lot is present with the text 'Search devices within lot (append :field for filters)'. Below this, there's a section for 'donante-orgB open' with buttons for 'Change state', 'Assign to lot', 'Unassign lot', and 'Add beneficiary', along with an 'Export All' button. A table lists three devices with columns for Short ID, Current State, Type, Manufacturer, Model, CPU, and Evidence last updated. The footer shows a long alphanumeric string and a language selector set to 'english'.

Short ID	Current State	Type	Manufacturer	Model	Cpu	Evidence last updated
BC814A	DONATION	Laptop	Dell	Latitude E7240	Intel Core i7-4600U	2026-01-27 15:26
769620	DONATION	Laptop	Dell Inc.	Latitude E7240	Intel(R) Core(TM) i7-4600U CPU @ 2.10GHz	2026-01-27 15:26
50D703	REPAIR	Hp Probook 650 G1	Hewlett-Packard	Hp Probook 650 G1	Intel Core i5-4200m Cpu @ 2.50ghz	2026-01-27 15:26

DPP Standards

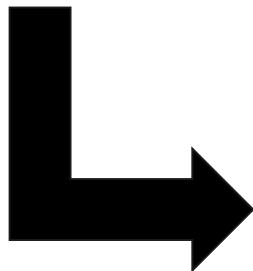
- [ITU-T L.1070](#) - ETSI TS 103 881: Global digital sustainable product passport opportunities to achieve a circular economy
- [ITU-T L.1071](#) - ETSI ES 204 082: A model for digital product passport information on sustainability and circularity
- [UN Transparency Protocol \(UNTP\) DPP](#)
- IETF/IRTF: [Operational Practices for Digital Autonomy and Meaningful Connectivity through Circular Management of User and Network Devices](#) (Internet-Draft)

Collaborative projects: who we are?

AUCCOOP

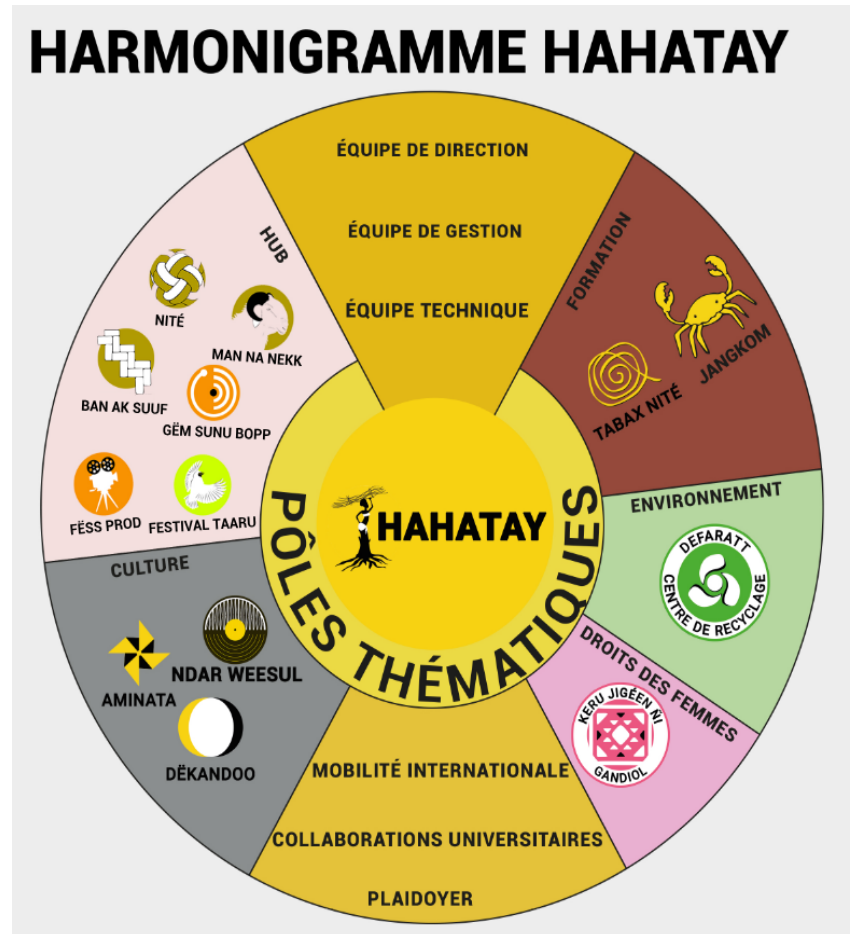


ereuse.org



<https://hahatay.network>

What is Hahatay?

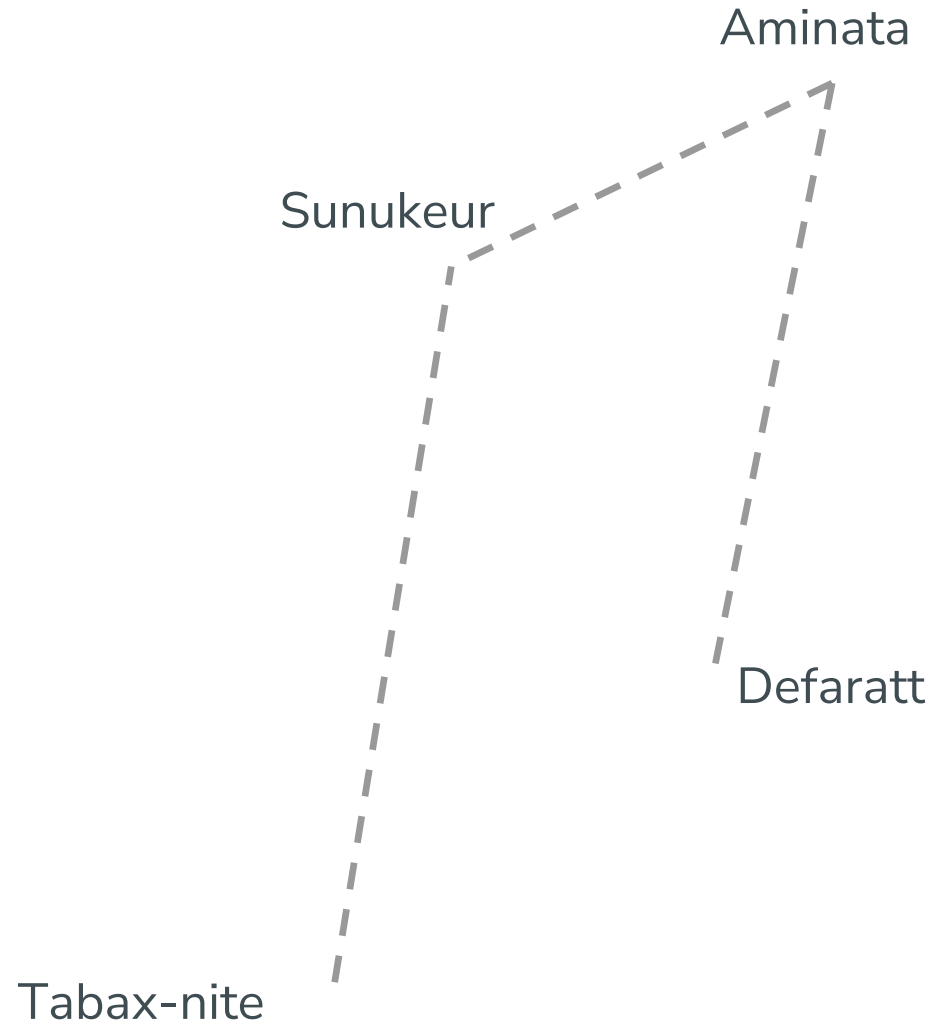
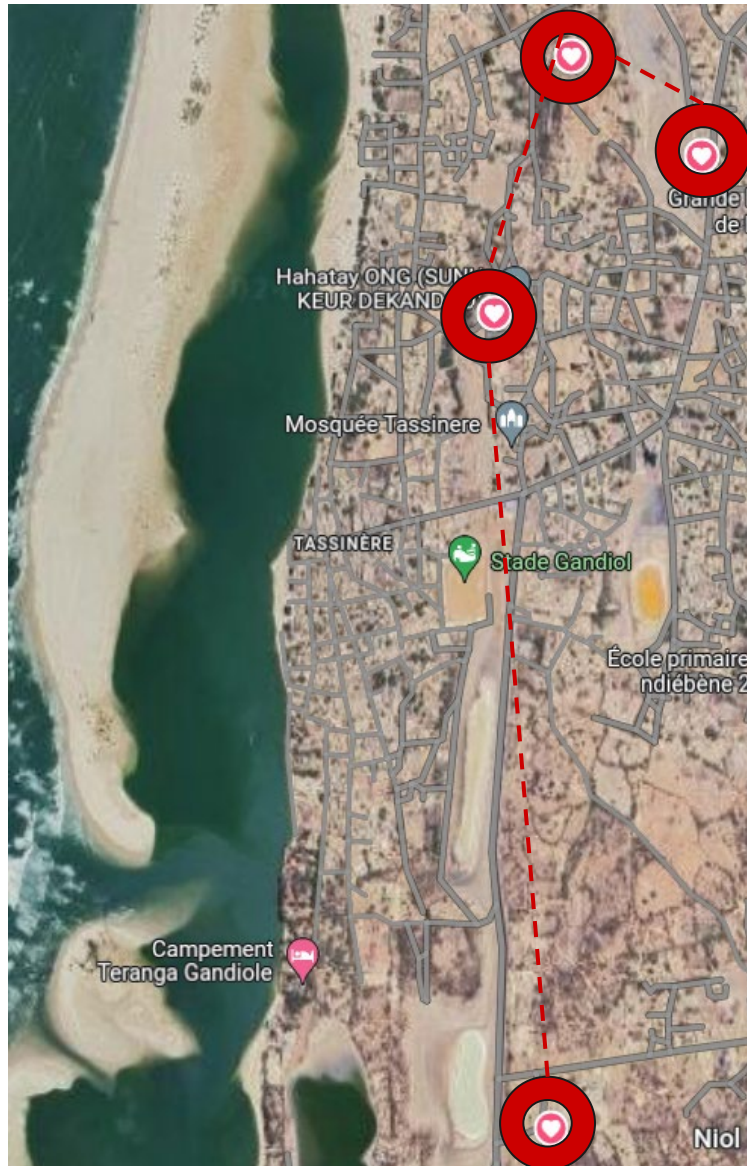


The hahatay.network project

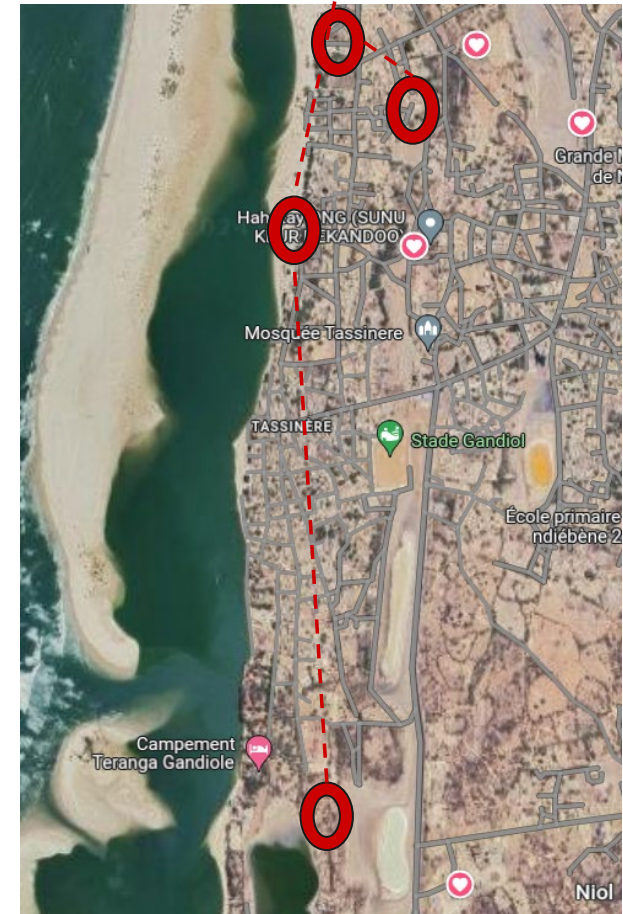
The project has two main objectives:

- Provide reliable Internet connectivity across the Hahatay and Gandiol communities.
- Equip volunteers and staff with ICT tools that support the day-to-day activities of the association.

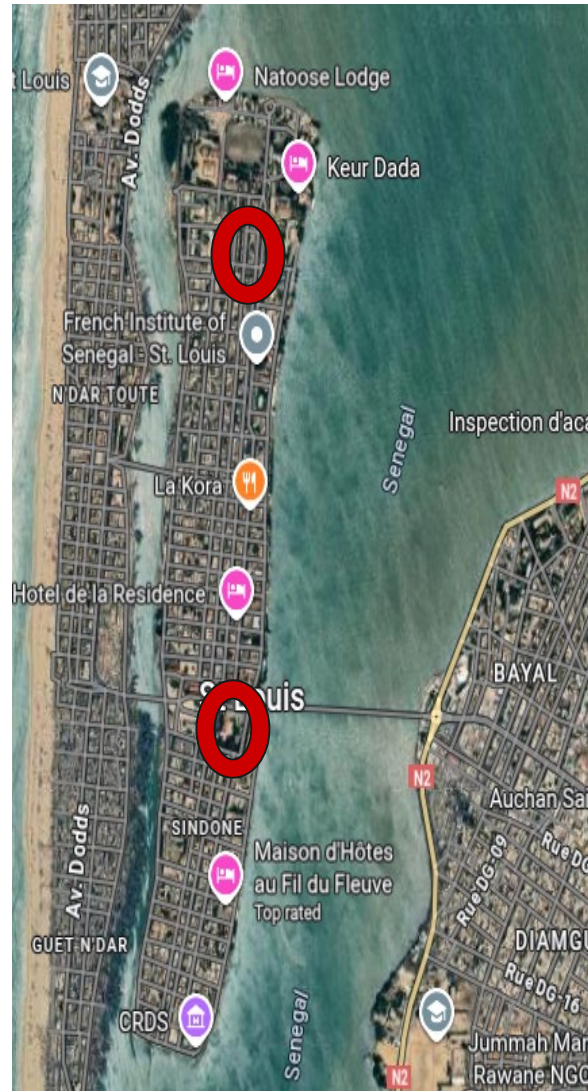
Infrastructure deployment: Gandiol



Infrastructure deployment: Gandiol



Infrastructure deployment: Saint Louis



Jangkom

Ndar-Weesul

Refurbished Equipment: community infrastructure



Labdoo Project

ereuse.org

What can be done?

Project Focus

Community radio



Resources

Available Infrastructure

- Facilities
- Network / Internet
- Training computer classroom
- Shared workspace

Technical Workshops

- Recycling
- Repair and maintenance

What can be done?

Project Focus

Audiovisual production



Resources

Available Infrastructure

- Facilities
- Network / Internet
- Training computer classroom
- Shared workspace

Technical Workshops

- Recycling
- Repair and maintenance

What can be done?

Project Focus

Small-scale plastics recycling enterprise

DEFARATT
CENTRE DE RECYCLAGE
RECYCLER AUJOURD'HUI
POUR PRÉSERVER DEMAIN

Une initiative locale à impact social et environnemental, portée par Hahatay à Ndikébène Gando.

AGIR LOCAL • PENSER CIRCULAIRE • CRÉER DE LA VALEUR • IMPACTER DEMAIN

DEFARATT est une unité de recyclage plastique qui collecte, trie, broie, lave et valorise les déchets plastiques pour les transformer en matière première secondaire, tout en sensibilisant et en impliquant les communautés pour un avenir durable.

NOS VALEURS

- ENGAGEMENT**: Agir avec passion pour un impact positif.
- RESPONSABILITÉ**: Assumer nos actions pour préserver les ressources.
- SOLIDARITÉ**: Travailler ensemble pour renforcer nos communautés.
- INNOVATION**: Innover pour améliorer en continu nos pratiques.
- TRANSPARENCE**: Agir avec intégrité et communiquer clairement.

NOTRE PROCESSUS

- COLLECTE**: Collecte des déchets plastiques dans la commune et les environs.
- TRI**: Tri manuel pour séparer les matières par type et par couleur.
- VALORISATION**: Broyage, lavage et transformation des plastiques en matière première secondaire de qualité.
- CONDITIONNEMENT**: Mise en bales et préparation pour la vente à d'autres acteurs industriels.

NOS ENJEUX

- Gestion durable des déchets plastiques
- Santé publique et environnement
- Autonomisation des femmes
- Développement économique local
- Sensibilisation et éducation environnementale

ACTEUR LOCAL D'ÉCONOMIE CIRCULAIRE AU SERVICE DU GANDO.

MATIÈRE RECYCLÉE, AVENIR VALORISÉ

Des plastiques collectés localement, transformés en matière première secondaire de qualité pour l'industrie.

NOTRE IMPACT

- Moins de déchets plastiques dans l'environnement
- Emplois locaux et autonomisation des femmes
- Protection des écosystèmes et de la santé
- Création de valeur et développement économique local

Resources

Available Infrastructure

- Facilities
- Network / Internet
- Training computer classroom
- Shared workspace

Technical Workshops

- Recycling
- Repair and maintenance

What can be done?

Project Focus

Entrepreneurship, co-creation and cultural training



Resources

Available Infrastructure

- Facilities
- Network / Internet
- Training computer classroom
- Shared workspace

Technical Workshops

- Recycling
- Repair and maintenance

Standards in this context

Turn local, artisanal practices into repeatable, verifiable processes that scale from workshop to market-ready service:

- **Formalize:** ITU-T L.1070/L.1071 & ETSI turn ad-hoc repair and refurbishment into documented, auditable workflows: market entry, use & reuse, e-waste.
- **Digital Product Passport** (DPP) & UNTP: a digital identity and history per device (provenance, repairs, usage hours, impact) building trust between providers, refurbishers and beneficiaries.
- **Quality and interoperability:** shared data models (DIDs, verifiable credentials) let independent actors and tools work together and produce high quality refurbished products.
- **Sustainability and accountability:** standardized impact reporting evidences CO₂ and e-waste avoided, supporting circular-economy claims and regulation (Ecodesign, right to repair, e-waste data).
- **Scaling up:** with common standards, isolated community initiatives become a connected, replicable network: from artisanal to systemic scale.

Thank you

Sergio Giménez Antón
Leandro Navarro

aucoop.upc.edu
eReuse.org

AUCCOOP

ereuse_e.org

Over to you!
Q&A



Save the date –
join us **in Nairobi!**



IN-PERSON
WORKSHOP –
24 SEPTEMBER!



ecOS

Boosting the uptake of sustainable ICT products

THANK YOU!