

Global standards for circular ICT, accelerating convergence trajectories towards net zero

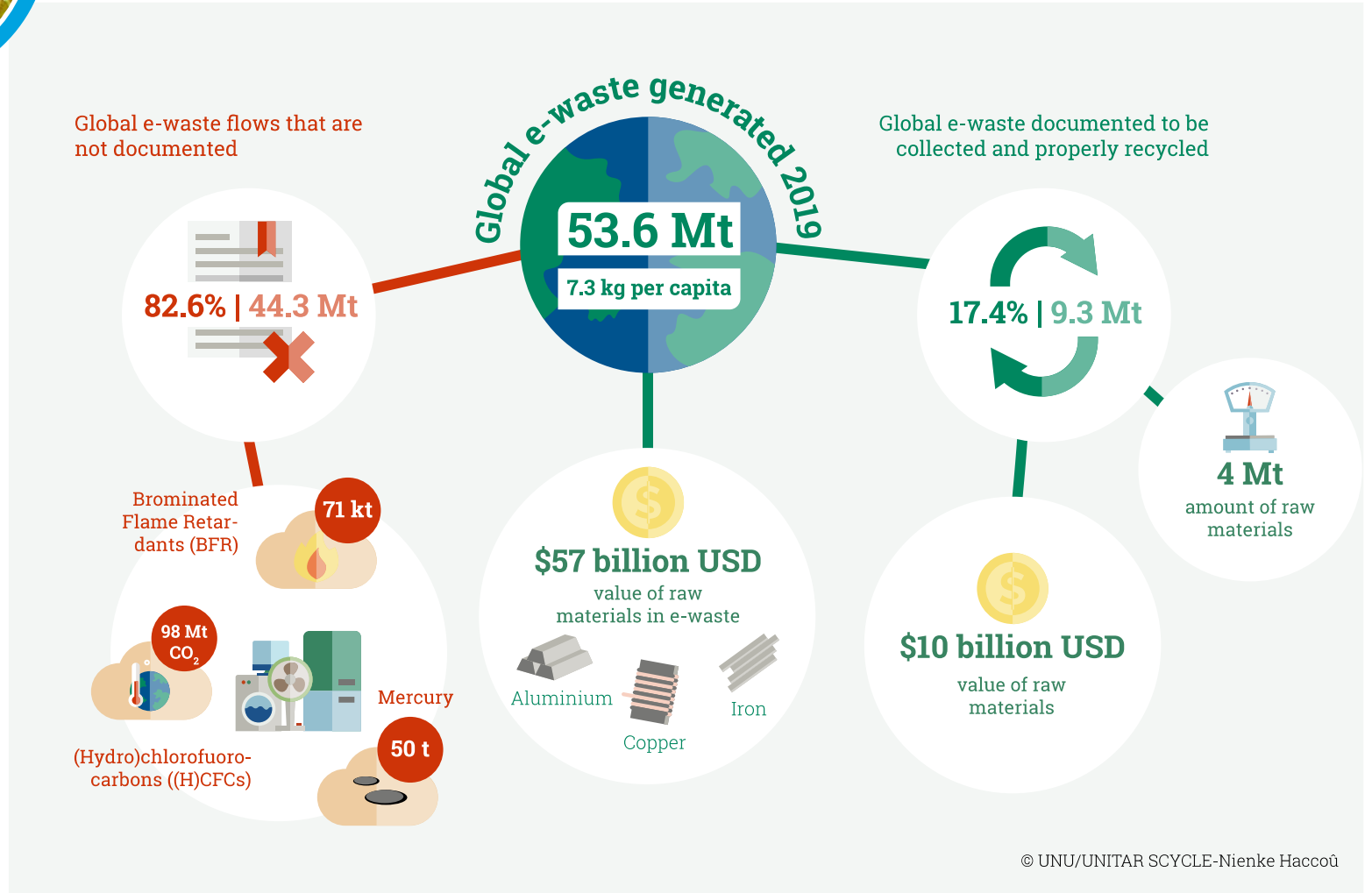
**Leandro Navarro, UPC
Co-rapporteur ITU-T Q7/SG5**



Importance of circular economy

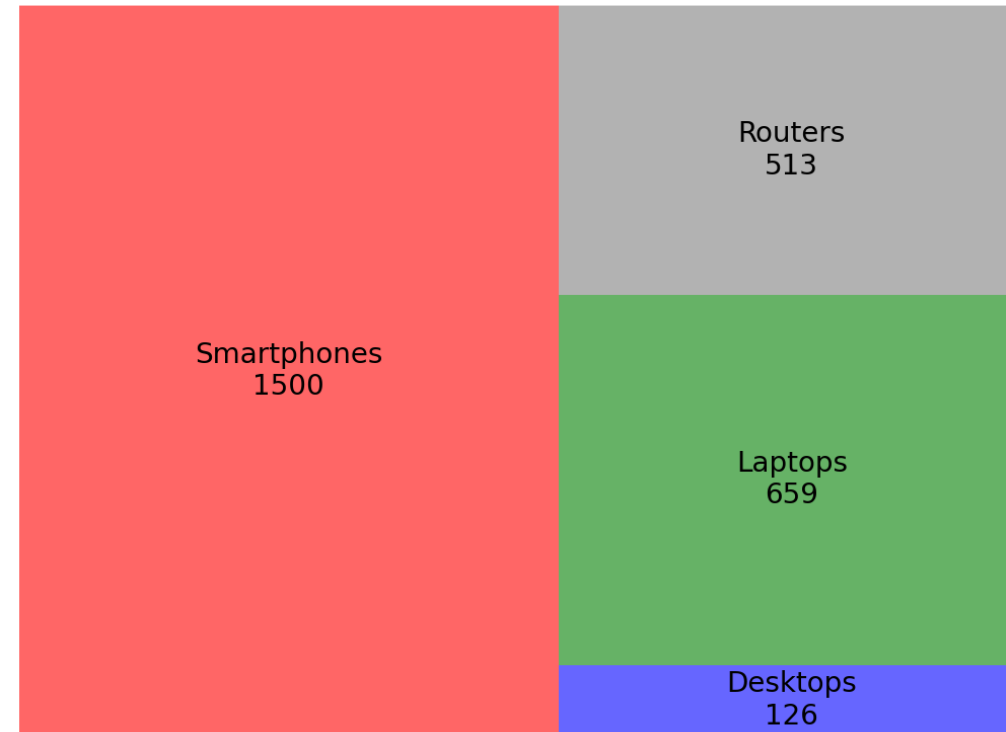


We produce every year as many e-devices as people alive!



ICT device units sold per year 2021

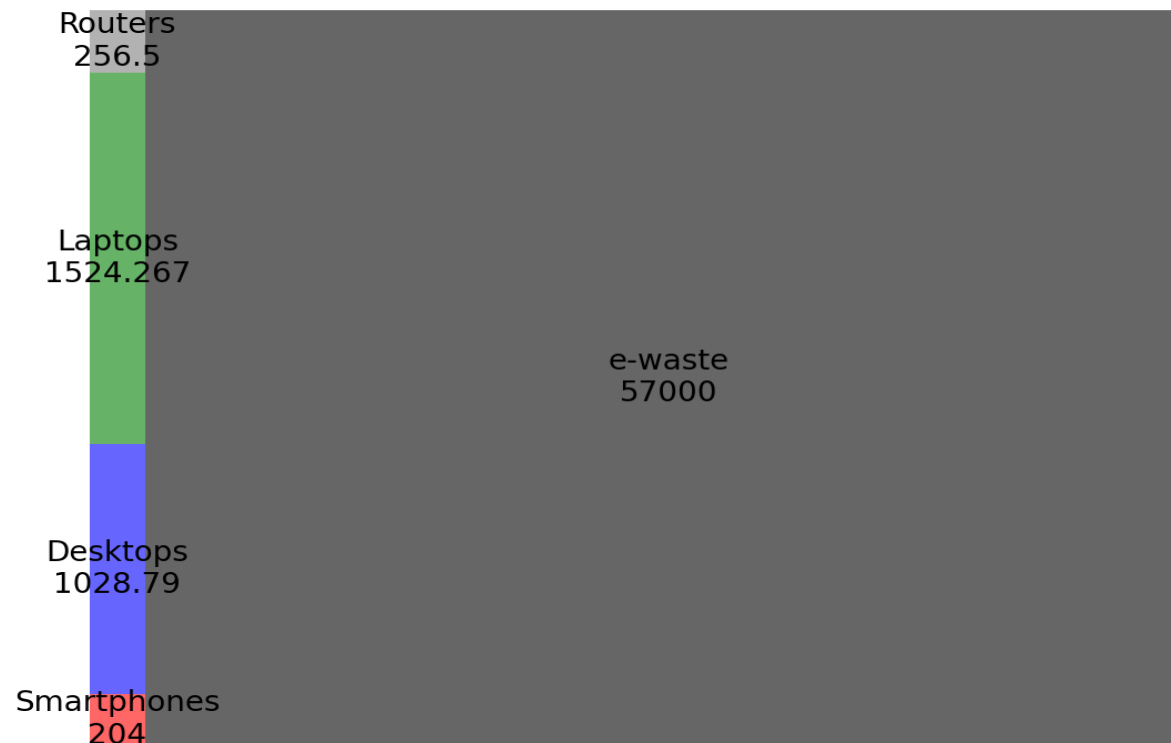
Millions of units



Own graph (Python treemap) Data from GSMA (smartphones), ITU-T L1.024

E-devices and e-waste weight 2021

Millions of Kg
(thousands of Tons)

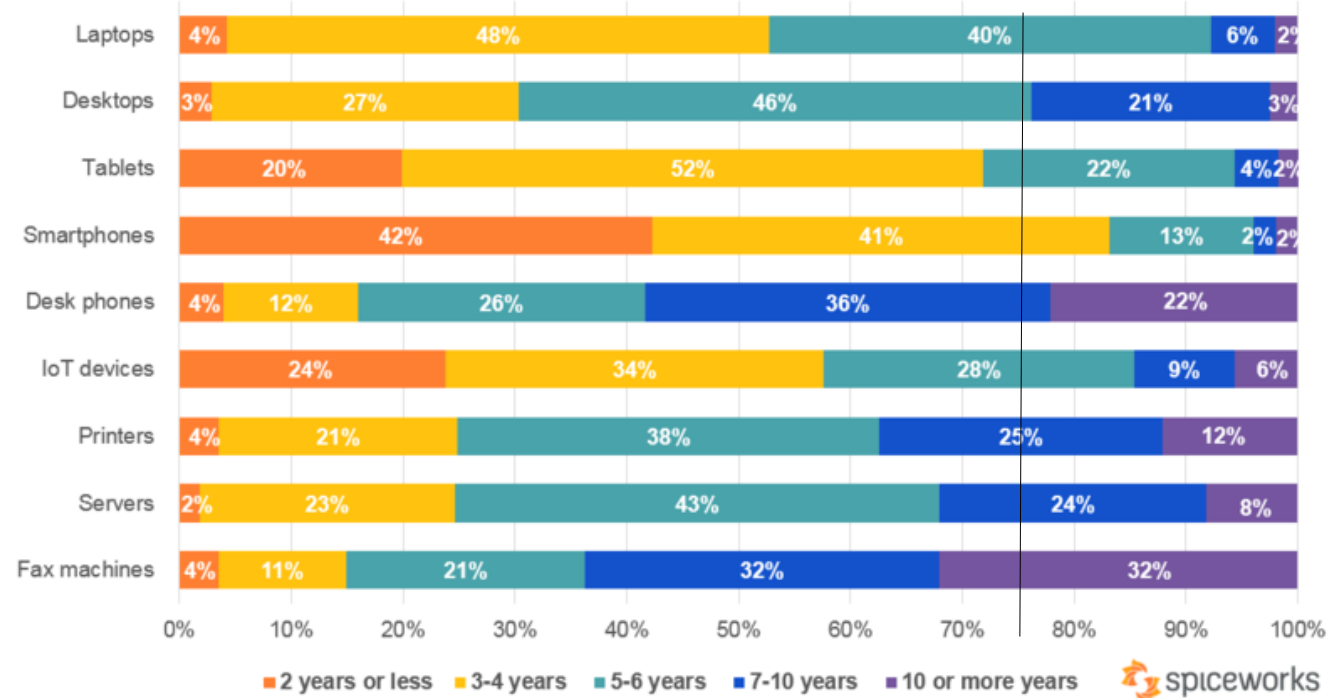


Own graph (Python treemap)
Data from GSMA (smartphones), ITU-T L1.024
Weight estimates of devices from Wolfram Alpha
[0.136, 8.165, 2.313, 0.5] and global e-waste monitor

Durability

Estimates 2021 Millions of devices

How Long Organizations Use Company-Owned Technologies Before Replacing/Decommissioning Them

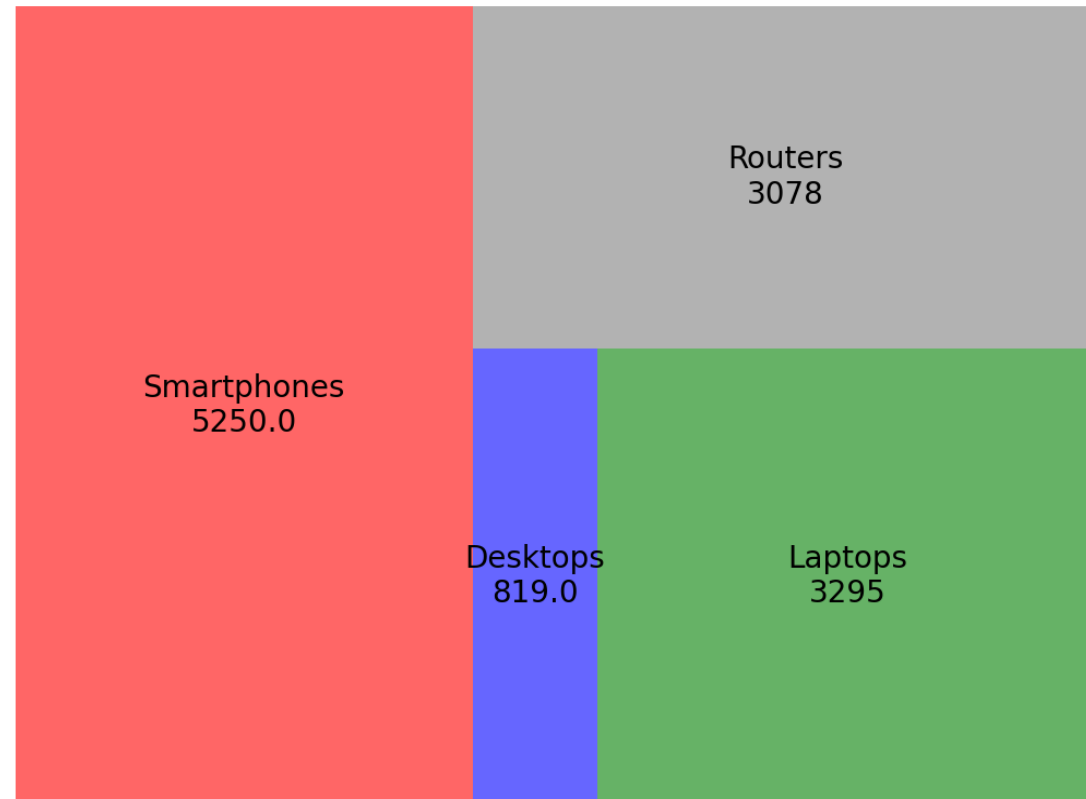


USA + Europe stats, 2018,

<https://community.spiceworks.com/blog/3103-data-snapshot-the-lifespan-of-computers-and-other-tech-in-the-workplace>

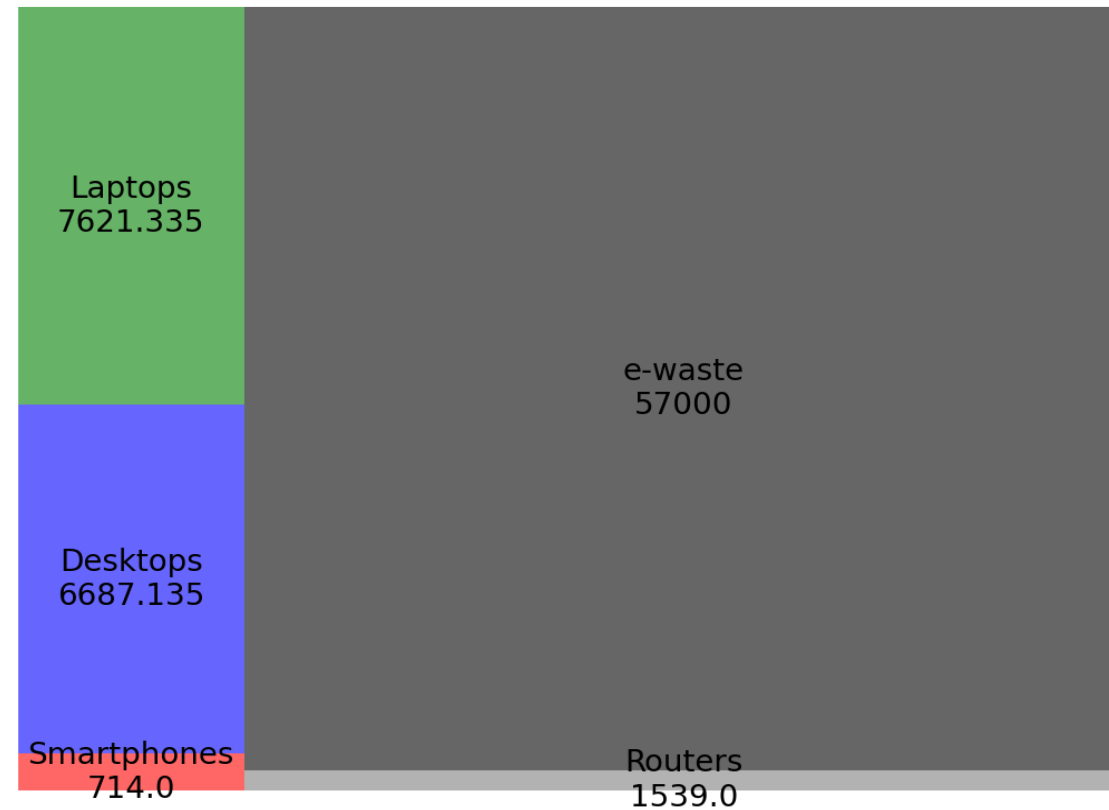
Active device units 2021

"Alive", built different years
Millions of devices



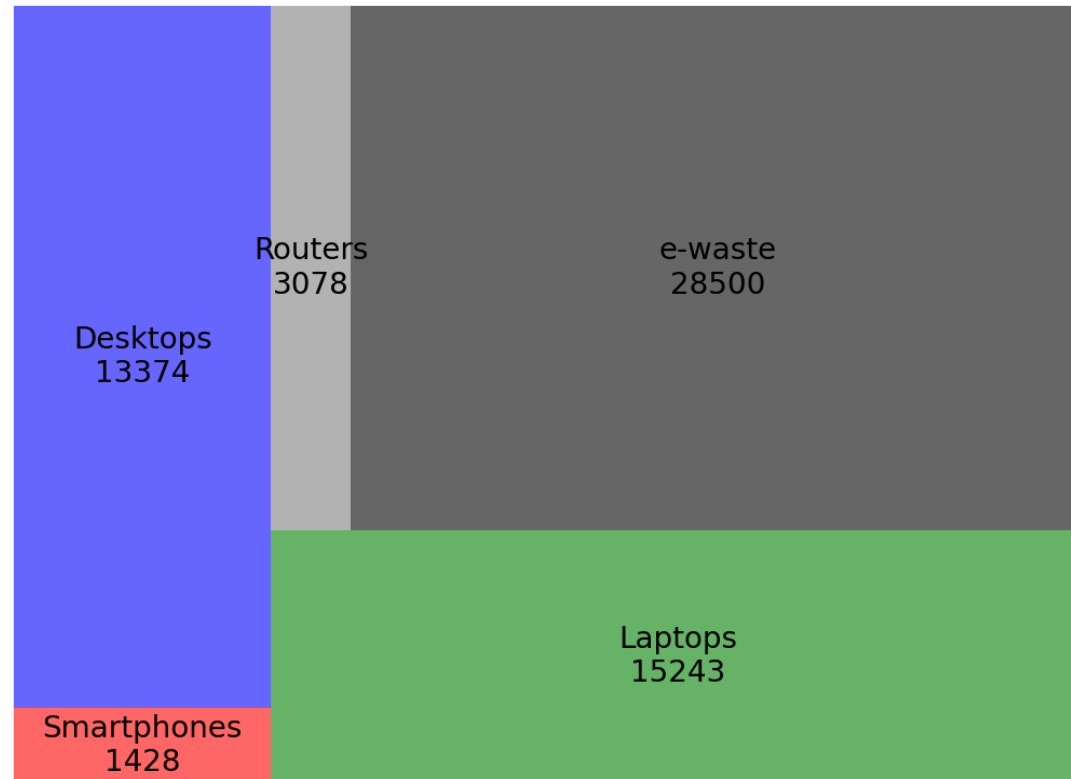
Active devices and e-waste weight 2021

Devices of all ages compared to e-waste in 2021 Millions of Kg



What if ...

2x more use
2x less e-waste?



**Ideally
circular:
zero waste!**

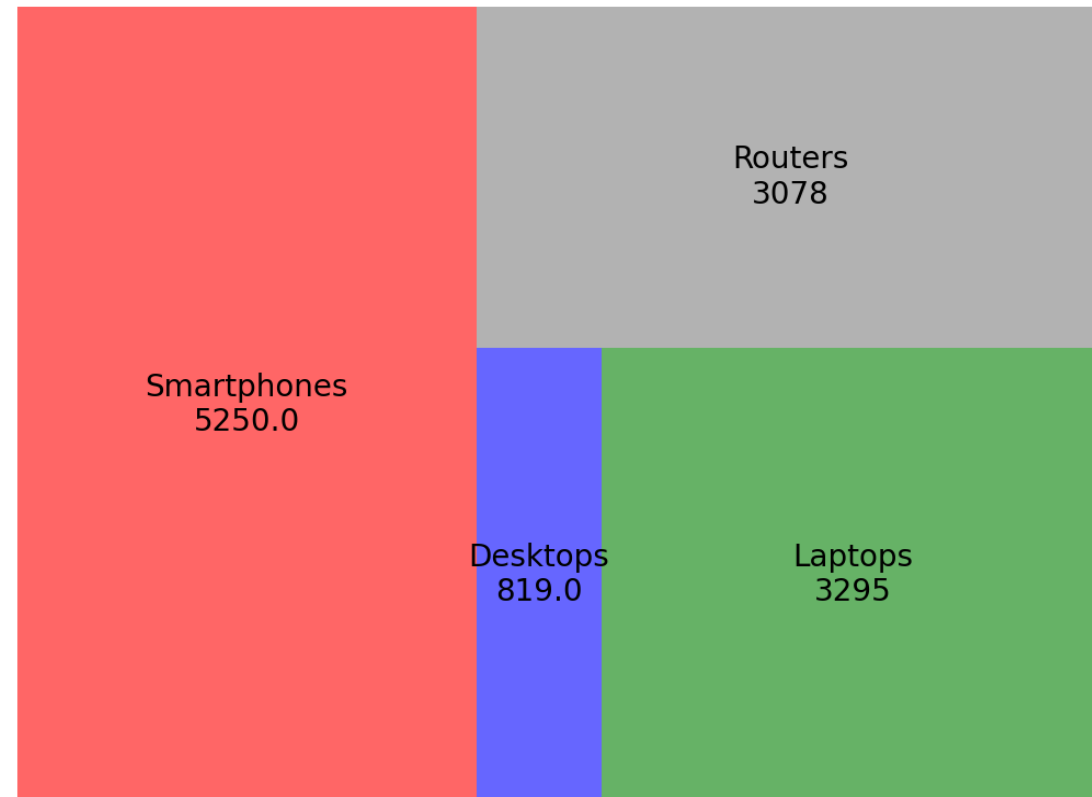
Goals



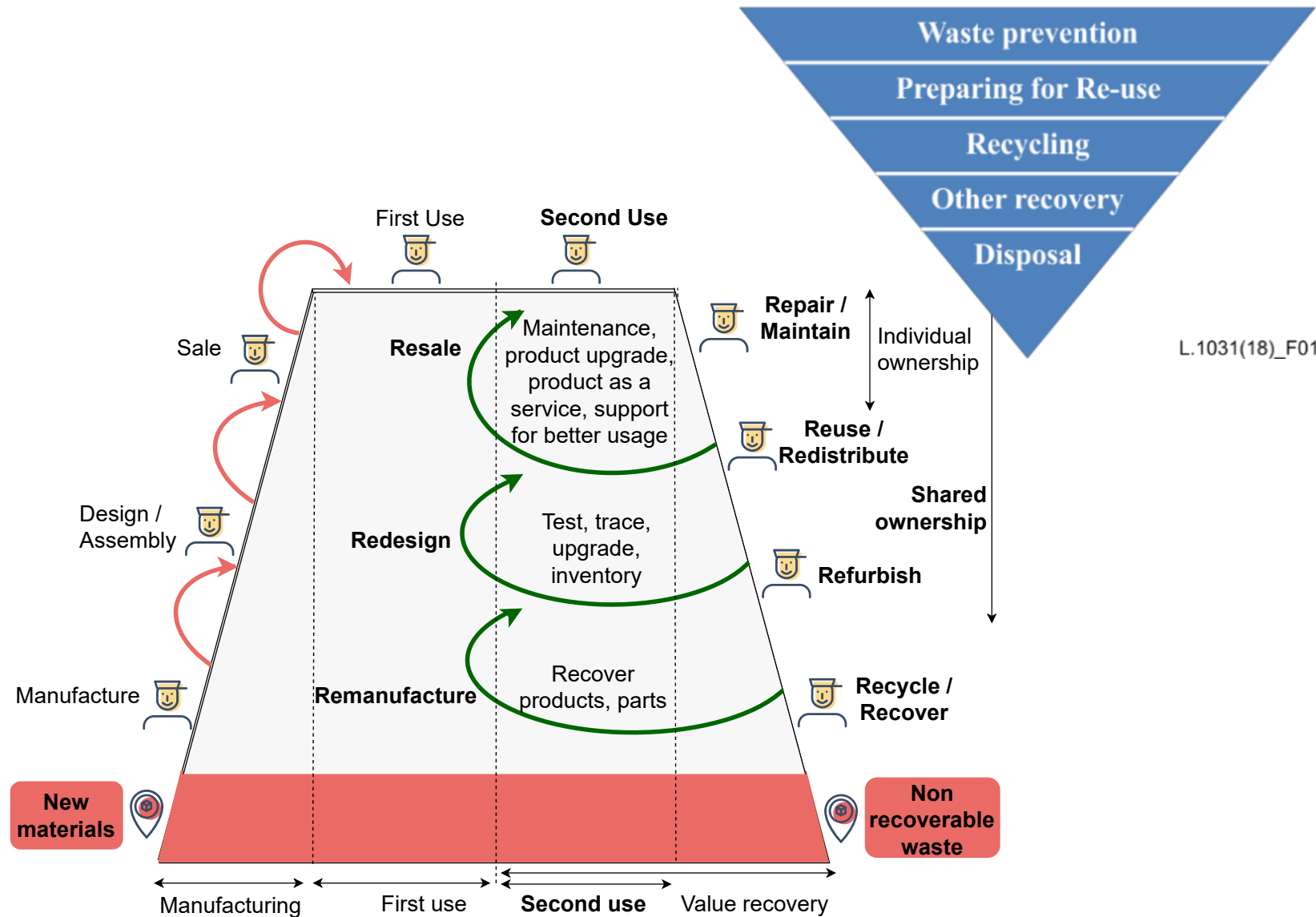
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**Ensure sustainable consumption
and production patterns**

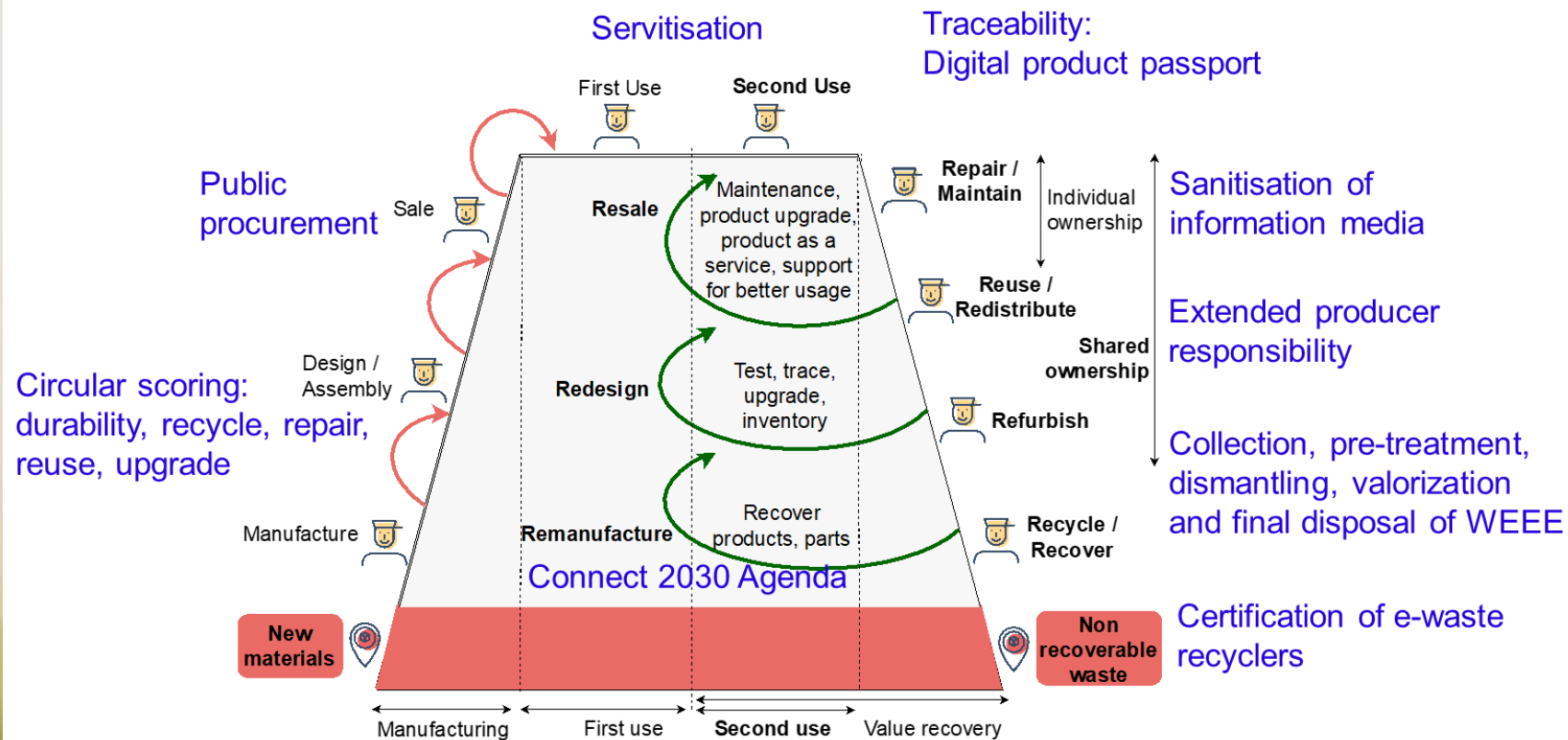
Keep the added value in products for as long as possible with zero waste



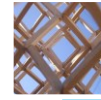
3R: reduce, reuse, recycle



3R: reduce, reuse, recycle



Example of standards supporting e-waste and circular economy



Frameworks and guidelines

- ITU-T L.1030 E-waste management framework for countries
- Summarizes the different steps that countries need to adopt in order to put in place an e-waste management system.



Reduction

- ITU-T L.1000 Universal power adapter and charger solution for mobile terminals and other handheld ICT devices
- Technical specifications for a universal charger compatible with a wide range of electronic devices



Take back systems

- ITU-T L.1021 Extended producer responsibility – Guidelines for sustainable e-waste management
- Describes and defines the role of EPR in dealing with e-waste.



Recycling

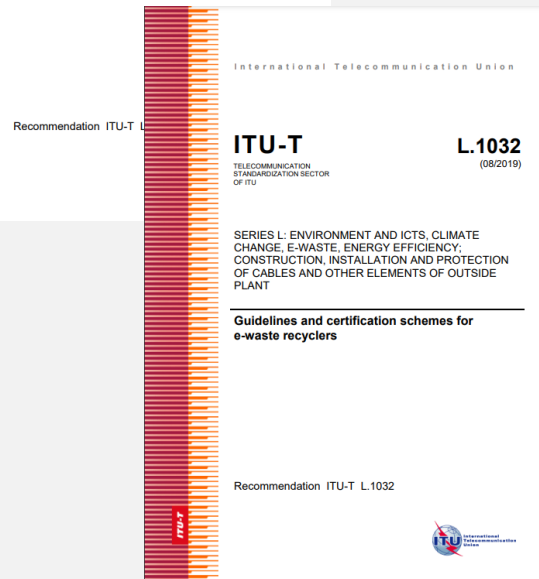
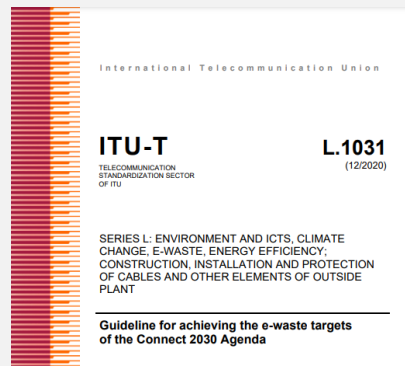
- ITU-T L.1100 Procedure for recycling rare metals in information and communication technology goods
- Basic guidelines regarding the importance of recycling rare metals and the procedures applied to preserve them.



Circular Economy

- ITU-T L. 1020 Circular Economy: Guide for Operators and Suppliers on approaches to migrate towards circular ICT goods and networks
- Provides guidance to operators and suppliers on how to improve circularity of products through supply chain actions.

Example of standards supporting countries



Step 1 Develop a comprehensive e-waste inventory

Step 2 Develop a sustainable e-waste management system

Step 3 Outline the requirements for successfully implementing e-waste programmes



GROWTH



INCLUSIVENESS



SUSTAINABILITY



INNOVATION

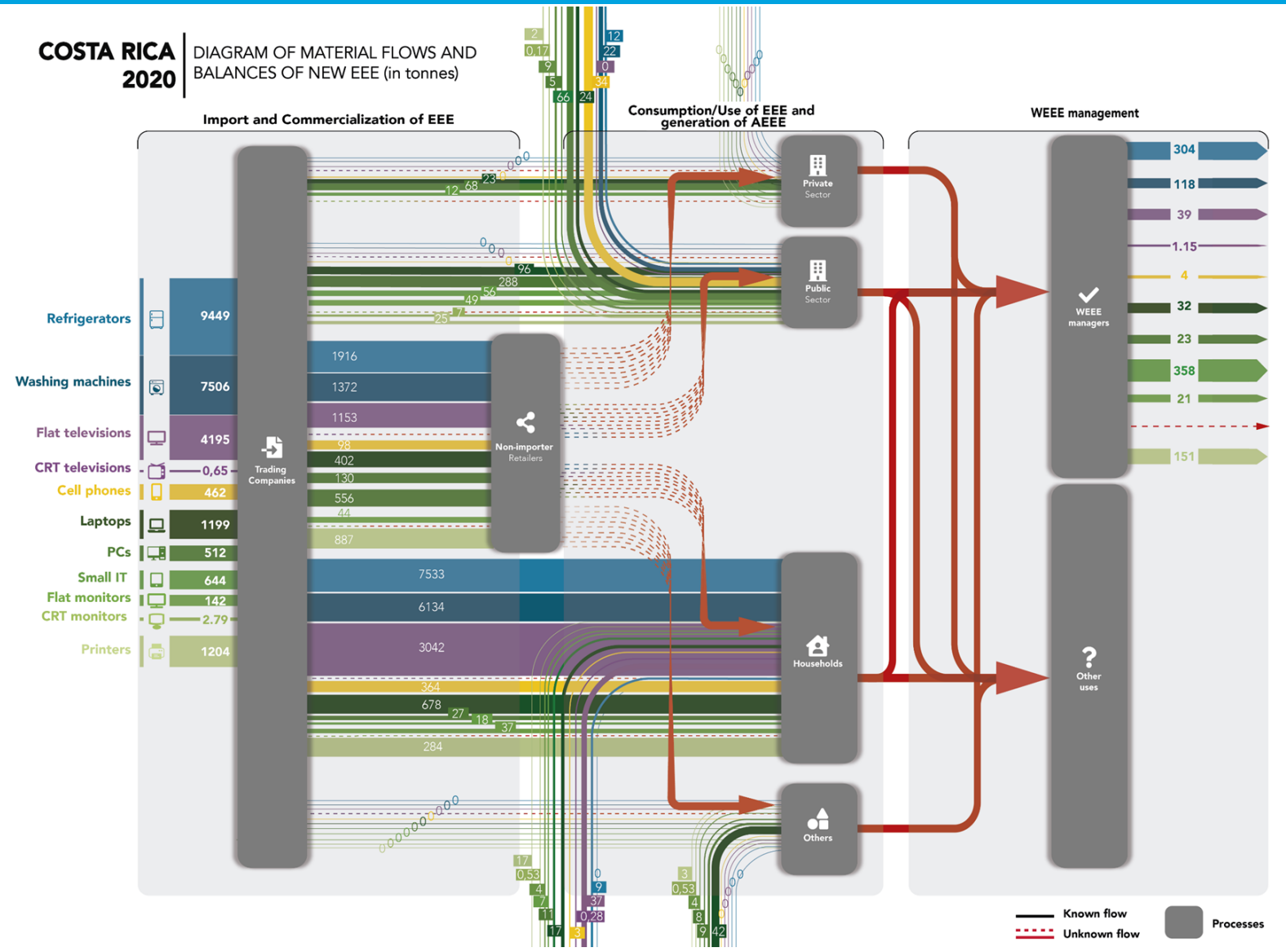


PARTNERSHIP

Scope of the implementation of ITU-T Recommendations in Costa Rica

COSTA RICA 2020

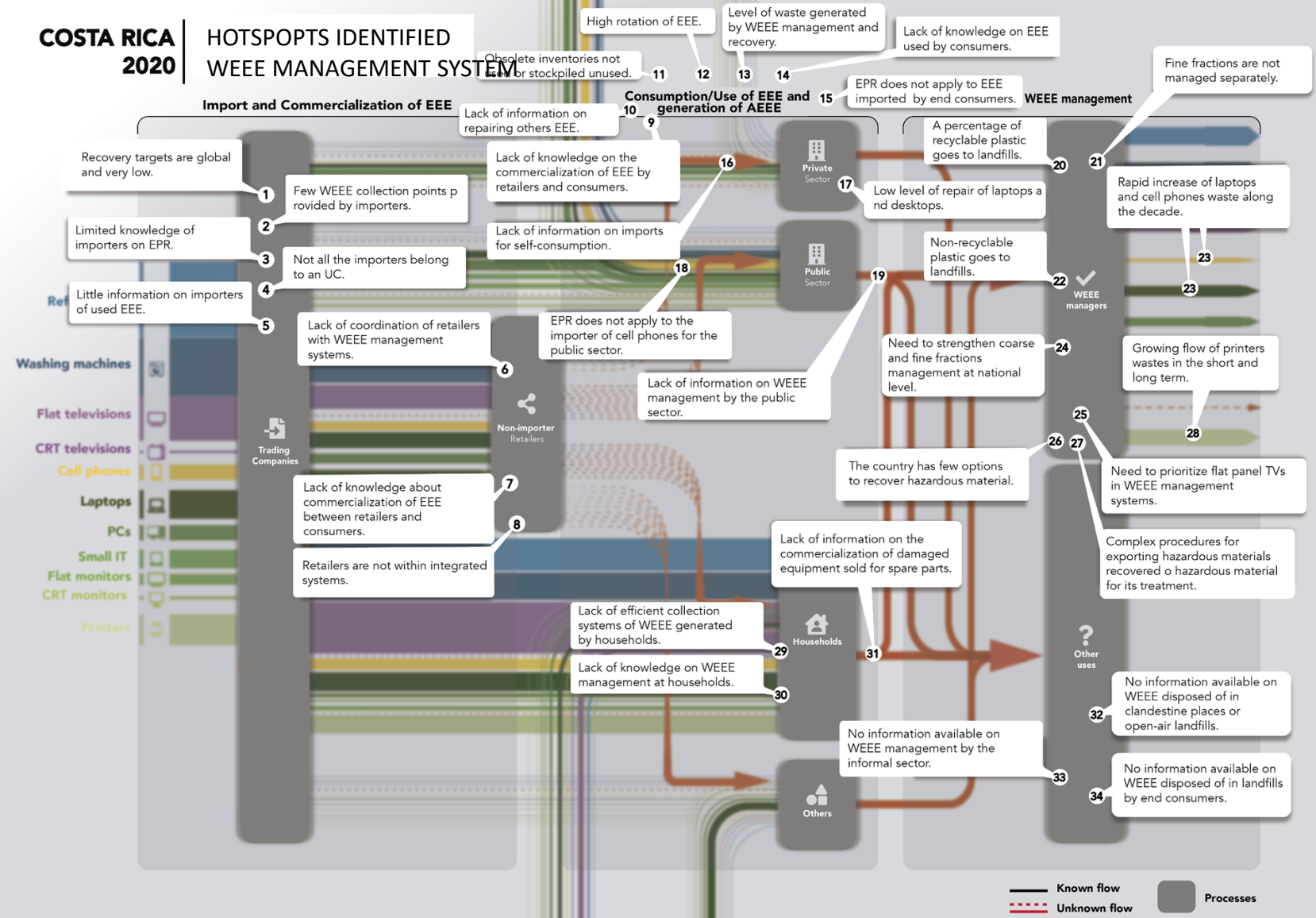
DIAGRAM OF MATERIAL FLOWS AND BALANCES OF NEW EEE (in tonnes)



Scope of the implementation of ITU-T Recommendations in Costa Rica

COSTA RICA 2020

HOTSPOTS IDENTIFIED WEEE MANAGEMENT SYSTEM



Thank you!

Questions? Interested in learning more?
Let us know!



Email

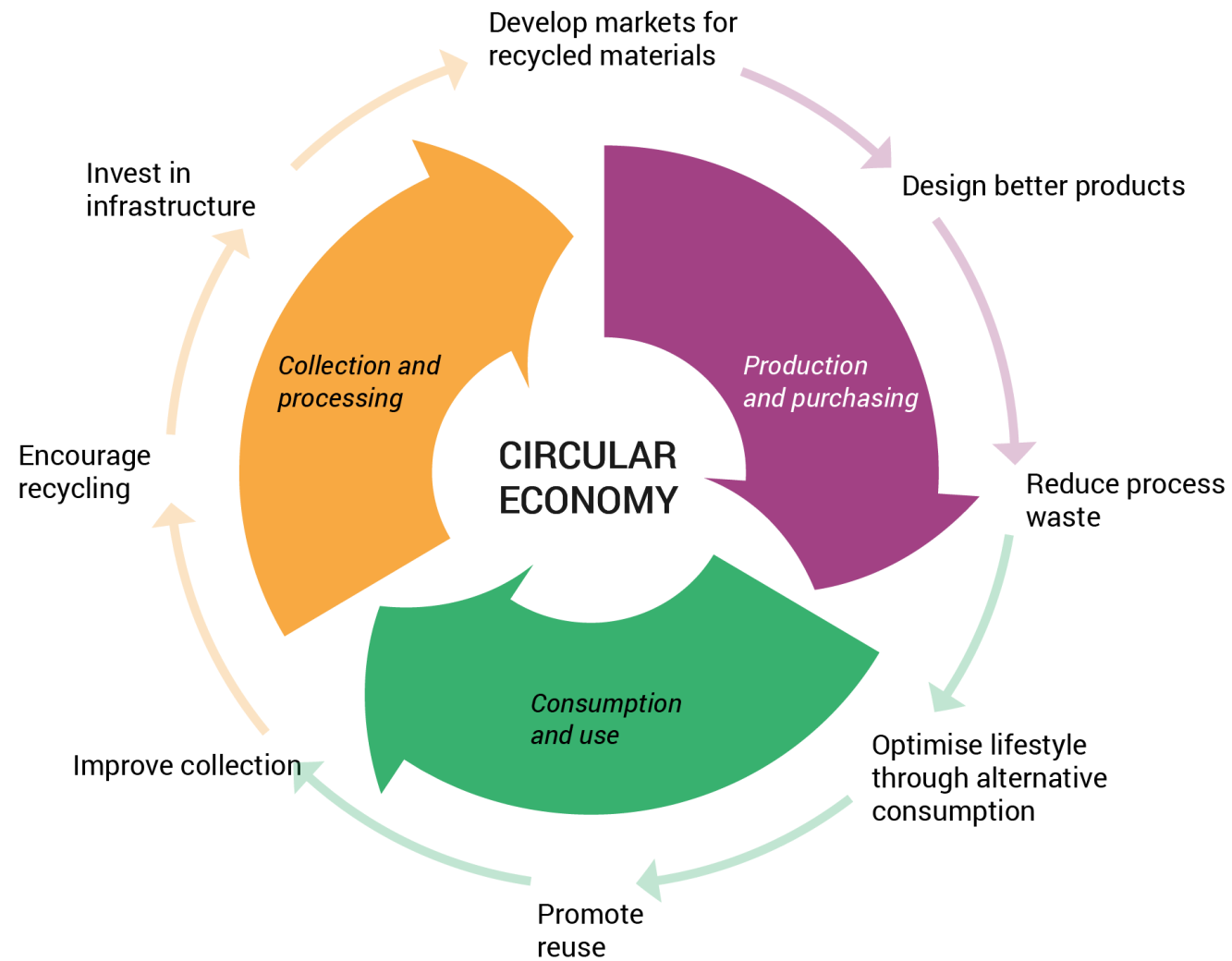
tsbsg5@itu.int



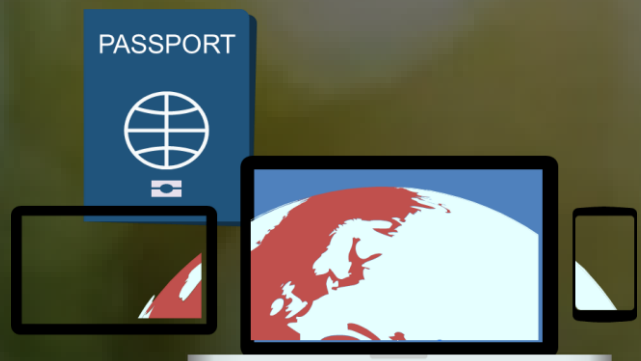
Website

[SG5: Environment, climate
change and circular economy](#)

Circular Economy



Global digital sustainable product passport to achieve a circular economy



- 1 Requirements of reporting key aspects related to circularity and transparency of an ICT or digital technology product in digital format.
- 2 Facilitate and automate analysis of different ICT products based on circularity aspects.
- 3 Facilitate preparation and reuse in the second-hand market and the reverse supply chain.
- 4 Help manufacturers, governments, users to implement voluntary reporting and monitoring mechanisms to assess these qualities

Examples of Approved Recommendations related to E-waste and Circular Economy

Work item	Subject / Title
L.1000	Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices
L.1001	<u>External universal power adapter solutions for stationary information and communication technology devices</u>
L.1002	<u>External universal power adapter solutions for portable information and communication technology devices</u>
L.1005	<u>Test suites for assessment of the universal charger solution</u>
L.1006	Test suites for assessment of the External universal power adapter solutions for stationary information and communication technology devices
L.1007	Test suites for assessment of the External universal power adapter solutions for portable information and communication technology devices
L.1010	<u>Green battery solutions for mobile phones and other hand-held information and communication technology devices</u>
L.1015	Criteria for evaluation of the environmental impact of mobile phones
L.1016	Method for Evaluation of the Environmental, Health and Safety Performance of True Wireless Stereo Headphones
L.1020	Circular Economy: Guide for Operators and Suppliers on approaches to migrate towards circular ICT goods and networks

Work item	Subject / Title
L.1021	Extended producer responsibility - Guidelines for sustainable e-waste management
L.1022	Circular Economy: Definitions and concepts for material efficiency for Information and Communication Technology
L.1023	<u>Assessment method for circular scoring</u>
L.1024	Effect for global ICT of the potential of selling services instead of equipment on the waste creation and environmental impacts
L.1030	E-waste management framework for countries
L.1031	Guideline on Implementing the E-waste Reduction Target of the Connect2020 Agenda
L.1032	Guidelines and certification schemes for e-waste recyclers
L.1033	Guidance for institutions of higher learning to contribute in the effective life cycle management of e-equipment and e-waste
L.1035	Sustainable Management of Batteries
L.1036	Scheduled waste management for base station (inclusive of e-waste)
L.1050	Methodology to identify key equipment for environmental impact and e- waste generation assessment of network architectures
L.1060	General principles for the green supply chain management of information and communication technology manufacturing industry
L.1100	<u>Procedure for recycling rare metals in information and communication technology goods</u>
L.1101	<u>Measurement methods to characterize rare metals in information and communication technology goods</u>