GovStack

Accelerating the digital transformation of government services

EPR Blueprint in Rwanda

ITU

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

digital impact alliance

Republic of Estonia
Ministry of Foreign Affairs

GovStack: Who we are

GovStack is a multistakeholder initiative, focused on accelerating e-government transformation worldwide, and drawing on expertise from contributors across private sector, civil society, and governments.

The initiative was founded by the **International Telecommunication Union (ITU), Estonia, Germany,** and the **Digital Impact Alliance at the United Nations Foundation** in 2020.

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Why do we need a global toolbox for digital government services?

Countries worldwide struggle with the digitization of their public services for several reasons

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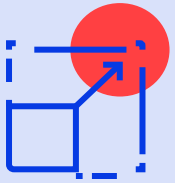
COORDINATION

Siloed investments and duplicative efforts by development partners promote fragmented digital governance and silos in partner countries.

Problems in coordination commonly occur in aligning ICT ministry work with that of other agencies.

RETURN ON INVESTMENT

Challenges in procuring and implementing affordable IT solutions persist, as do challenges in creating the necessary capital to invest in ICT infrastructure projects.



SCALING

Huge challenges exist in adapting and investing in projects at scale, particularly around the rollout of physical ICT infrastructure, the deployment and use of common data platforms.

What is our Vision?

Vision

We believe in the potential of digital technologies to support and improve the quality of our lives. We hope to **enable every citizen to exercise their right to government services** via accessible technologies.

Mission

GovStack is creating the **global toolbox for e-government**, uniting governments, civil society, and the private sector to connect, maintain, and share digital commons.

Value Proposition

GovStack accelerates the development of **sustainable, citizen-centric, and reusable digital** government services.

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What is GovStack offering to accelerate digital government services?

GovStack Offerings

GovSpecs

Building Blocks build the basis for scalable, interoperable digital services
Functional specifications for foundational building blocks

GovTest

A digital testing environment to learn, experiment, and prototype services
Sandbox for building blocks and create prototy pes for eGovernment services

GovLearn

Supporting countries in **using building blocks** in their digital strategies
Capacity building and training through workshops
Harmonize legal and **technical e-governance best practicies**

GovExchange

A platform to explore and compare products, view use cases, post or find RFPs.

GovStack Offerings - expanded

GovSpecs

GovTest

GovLearn

GovExchange

Country Engagement

Countries build their services based on Building Block specifications Countries may contribute to their development in working groups.

Countries identify and prioritize use cases which can then be demonstrated, tested and explored in sandboxes.

Countries benefit from capacity building (e-learning, implementation playbook, workshops) and exchange knowledge through Communities of Practice.

GovSpecs
Next generation e-government with *Building Blocks*

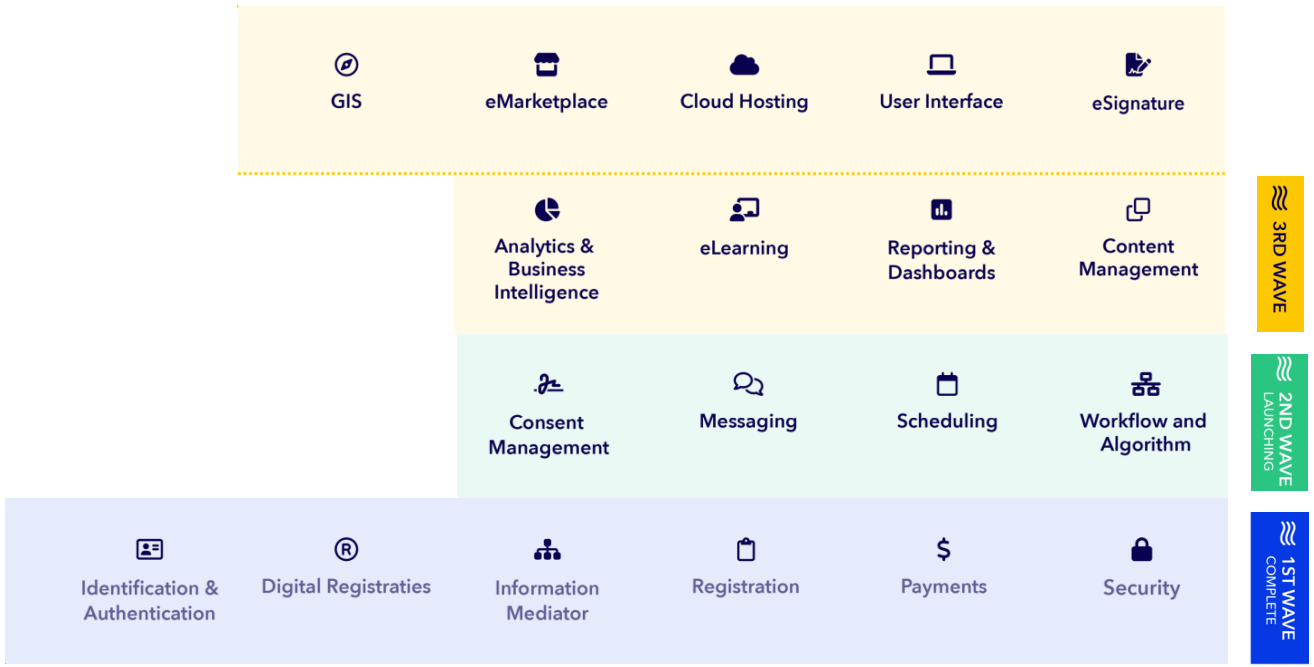
GovStack

What are Building Blocks?

Generically-defined software components that in combination provide key functionalities to facilitate generic workflows common across multiple sectors.

What are their characteristics?

- Reusable software components
- Open-source, commercial off-the-shelf (COTS), or freely available with open access to data
- Facilitate one or more generic workflows
- Applicable to use cases across multiple sectors
- Interoperable with other Building Blocks



Contributors (>120 individuals)

GovStack country engagements (selection)

Djibouti
(co-financed by the EU)

2 use cases selected: Construction Permits & eCabinet

Kenya
(co-financed by the EU)

Potential use cases identified: Integrated Case Management System & Diaspora Information Management System (DIMS)

Somalia
(co-financed by the EU)

2 use cases selected: High-school certificate verification & service catalog (Content Management System)

Rwanda

Extended Producer Responsibility (EPR) use case

Ukraine

Platform of Registries is tested against GovStack Specifications: It covers 70%.

Egypt

Use case identification in process and training on Building Blocks is in planning.

Togo

GovStack approach has been incorporated in their interoperability framework reference document.

Kazakhstan

Interest in sharing their DPGs like Smart Bridge. Their interoperability platform developed as part of the Kazakhstan Stack.

Moldova

Interested in replicating the Sandbox demo environment as part of their digitization plan to host FOD (Moldova Stack)

GovStack in Rwanda

Ambition Government of Rwanda:
Digitalize all government services till then end of 2024

Support by GIZ´s GovStack Team:

- **Operationalize** the implementation of four building blocks supporting local startups
- Build **capacity** to foster standardization in IT development
- **Implement** specific use cases as pilots for the GovStack implementation (e.g. support for EPR use case)

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GovStack support to responsible disposal & recycling e-waste

Every use case starts with: Understanding user needs

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Stakeholder consultation: May-July 2022

Outcome:

- ✓ Stakeholder mapping
- ✓ Regulatory framework in place
- ✓ Documenting a draft EPR procedure (steps & documents required to comply with ERP bylaws)

Key Stakeholders

Rwanda Development Board
Company registration

Rwanda Inspectorate, Competition and Consumer Protection Authority
Producer license, product registration, import permit

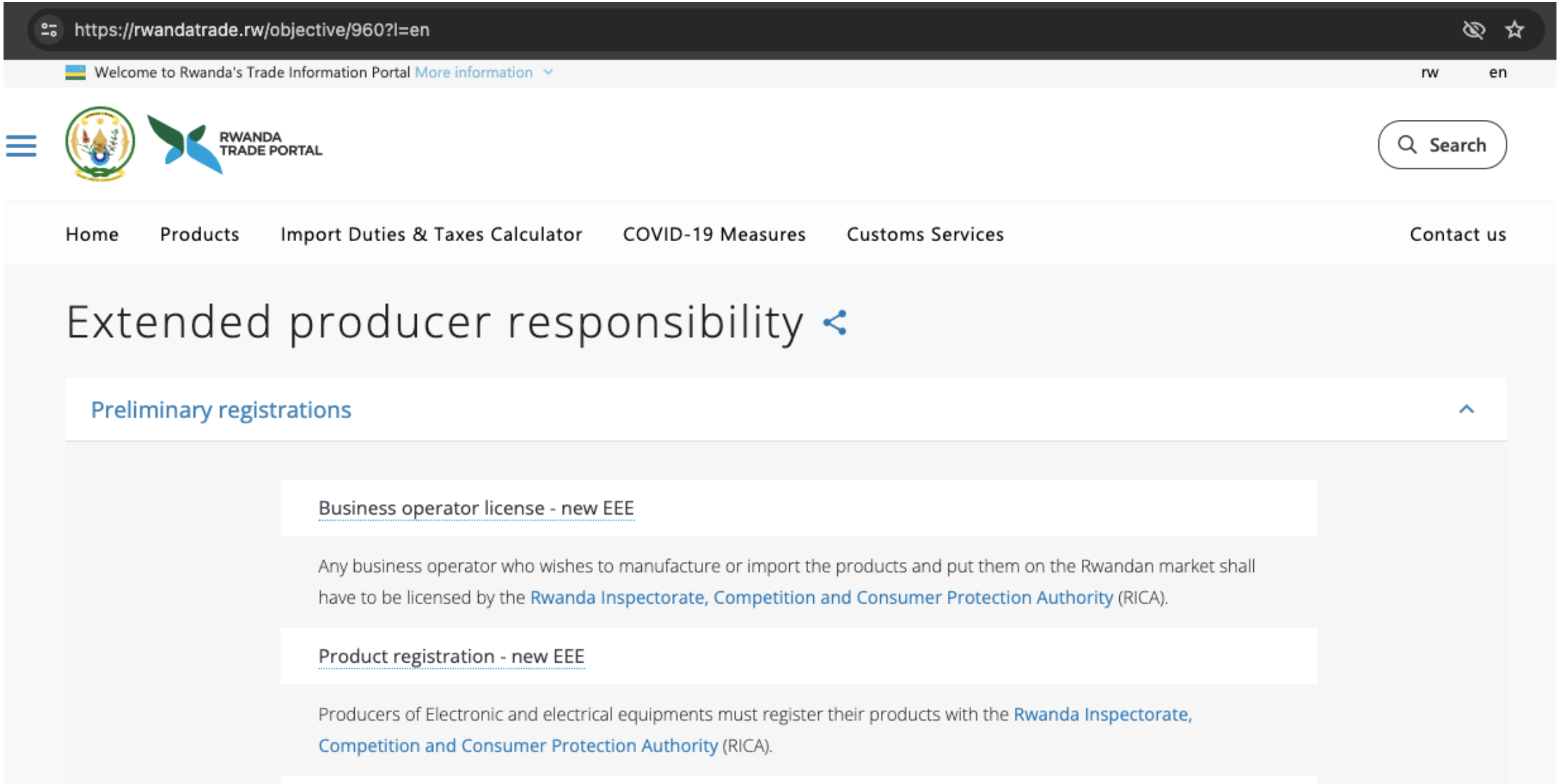
Rwanda Utilities Regulation Authority
PRO registration, Type approval

Rwanda Environmental Management Aauthority
Ozone Depleting Substances, Minimum Energy Performance Standards

Rwanda Revenue Authority (eTax)
clearance certificates

Private Sector Federation
EPR fee collection

Detailed documentation of the procedure to facilitate the initial "to-be" user journey analysis

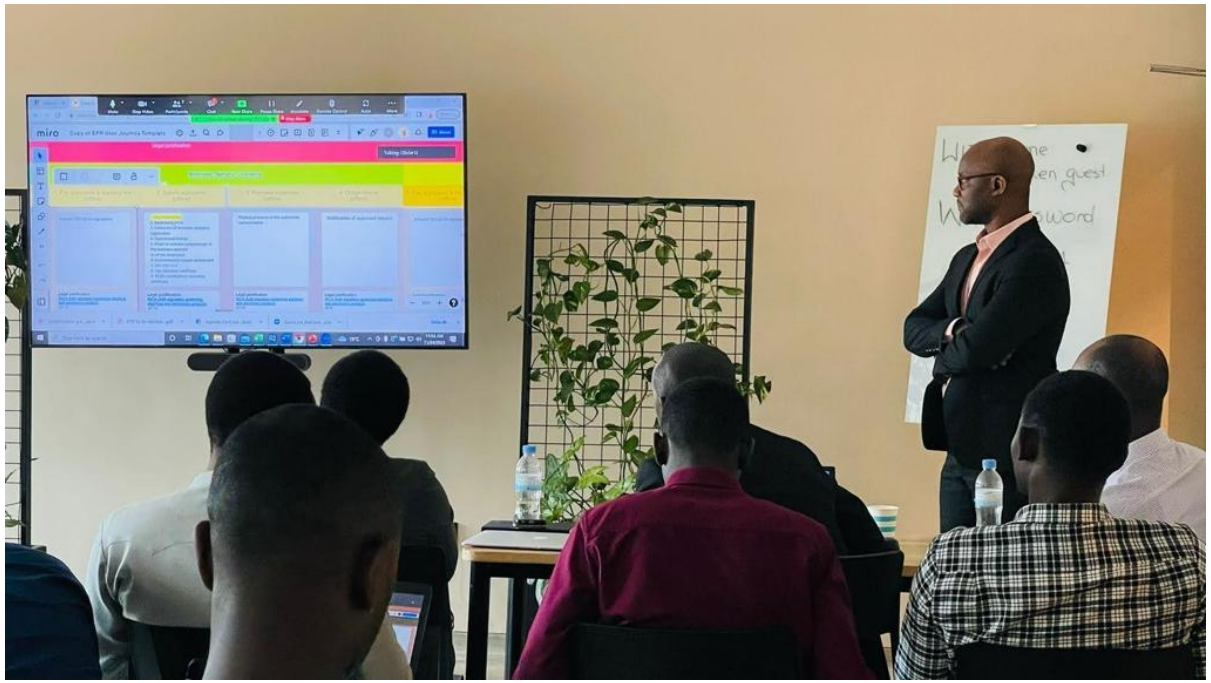


To-be user journey co-design: a collaborative approach with Gov representatives & producers

- ✓ Draft EPR procedure presented to stakeholders for feedback & to senior managers in November 2022

To-be user journey co-design

- ✓ 2 day co-design session for the "To-be" user journey
  - Public & private sector contribution
  - 3 user to-be journeys
    New producer
    Established producer operating in EEE
    Established producer changing activity to EEE



Considerations for the proposed "To-be" user journeys

Compliance is easy when the number of interactions and the **quantity of information required from the users is kept to the minimum.**

Why are procedures often complex for users?

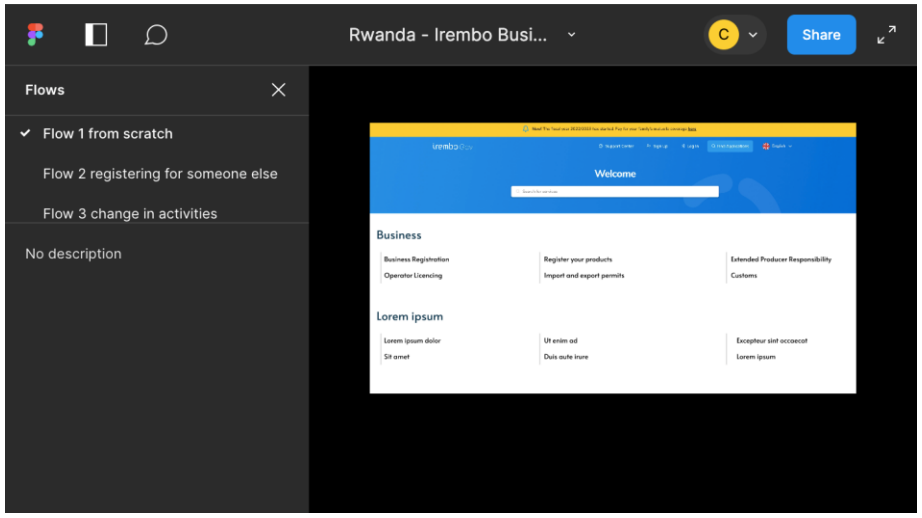
- dealing with multiple websites or public agents,
- multiples user interfaces and logins,
- filling multiple forms,
- provide multiple documents, and
- multiple payment gateways.

The fewer the contact points and the less information users must provide, **the simpler the user experience.**

EPR Degital service proposal

Proposal validated by RICA

Wireframes



Thank you!

Republic of Rwanda

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Implemented by giz

EPR Implementation Progress for Electronics

Charles Gahungu, General Manager of ICT Regulation
Rwanda Utilities Regulatory Authority.

Three Key Components

Legal

- Revision of the RURA Governing E-waste Management regulation.
- Input to the new RICA Governing Electrical and Electronic Products regulation.

Financial

- Identification of the appropriate EPR financing mechanism for this sector.
- Initial determination of the EPR fee based on the cost of e-waste management.

Administrative

- Consensus on roles and responsibilities of all stakeholders in the EPR system
- Digital service design and user journey for efficient producer registration.

Past Timeline

March 2022: Government Stakeholder Consultation Workshop.

July 2022: All Stakeholder Consultation Workshop.

November 2022: First High-Level Breakfast Meeting.

June 2023: RURA Technical Regulations Validation Workshop.

June 2023: RICA Technical Regulations Consultation Workshop.

August 2023: EPR Fee and Pricing Influence Meeting.

August 2023: Second High-Level Breakfast Meeting.

EPR Covered Products and Categories

1. Temperature exchange equipment:
more commonly referred to as cooling and freezing equipment. Typical equipment includes refrigerators, freezers, air conditioners, and heat pumps.

2. Screens and monitors:
typical equipment includes televisions, monitors, laptops, notebooks, and tablets.

3. Lamps:
typical equipment includes fluorescent lamps, high intensity discharge lamps, and LED lamps.

4. Large equipment:
typical equipment includes washing machines, clothes dryers, dishwashing machines, electric stoves, large printing machines, copying equipment, and photovoltaic panels.

5. Small equipment:
typical equipment includes vacuum cleaners, microwaves, ventilation equipment, toasters, electric kettles, electric shavers, scales, calculators, radio sets, video cameras, electrical and electronic toys, small electrical and electronic tools, small medical devices, small monitoring, and control instruments.

6. Small IT and Telecommunication equipment:
typical equipment includes mobile phones, Global Positioning System (GPS) devices, pocket calculators, routers, personal computers, printers, and telephones.

***Regulation No. XX of XX Governing E-waste Management in Rwanda-** Annex 1: Categories of Products **Regulation No. XX of XX Governing Electrical and Electronic Products in Rwanda-** Annex E2: List of EPR Regulated Products.

EPR for Electronics: Legal

Regulation No. XX of XX Governing E-waste Management in Rwanda

-> **Chapter IV on Powers and Obligations of Interested Parties**
Art.23 Producer.
Art.24 PRO.
Art.25 Consumer.
Art.26 Regulatory Authority.
Art.27 Retailer.

-> **Chapter V on Minimum Requirements for Extended Producer Responsibility**
Art.28 Design for recyclability, waste minimization, product composition etc.
Art.29 Responsibilities for finance, fee based on:

- Weight of products.
- Operational costs.
- Administrative costs.
- Communication and awareness costs.
- System surveillance costs.

EPR for Electronics: Legal

Regulation No. XX of XX Governing Electrical and Electronic Products in Rwanda

-> **Article 7 General Requirements for Products**
Comply with the EPR obligations in the country.

-> **Article 10 Licensing Application Dossier**
By applying for a business operator license, the operator will automatically be registered with the PRO as part of the EPR system.

-> **Article 11 Product Registration Application Dossier**
Labelling requirements for Annex F products will also include exhibiting of a unique
icon of the EPR system for electronics in Rwanda

-> **Article 47 Transition**
The transition period of two (2) years is aligned with the RURA regulation.

EPR for Electronics: Financial

Regulation No. XX of XX Governing E-waste Management in Rwanda

Art.29

The producer responsibility organisation that establishes and implements an extended producer responsibility scheme must, together with its members, determine the proposed extended producer responsibility fee and apply the extended producer fee proportionally to all members based on the identified EEE placed on the market.

-> Over **650** different types of EEE are in use in Rwanda.

-> Technical costs

“access to waste”, “collection”, transport”, “treatment”.

-> Framework costs

“enforcement”, “auditing”, “awareness”, “financial guarantees”, “R&D”.

EPR for Electronics: Administrative

Clear and concise roles and responsibilities of all stakeholders in "electronics" EPR and in the sound management of e-waste

- **RURA**

Waste management licenses, EPR system, PRO registration.

- **RICA**

EEE products, labelling, business operator licenses, EPR registration.

- **PSF**

Producer membership as PRO, organisation of producers, implement obligations.

- **Producers**

Register with EPR, assume organisational and financial obligations under PRO.

- **Waste Managers**

Licensed with regulator, reporting to regulator and PRO, e-waste management.

EPR for Electronics: Administrative

- Analysed import procedures for EEE and existing agreements between RRA and RURA.
- Assessed where EPR fee collection could take place in existing procedures with customs.
- Research into existing procedures looked to reduce duplication of effort for producers.

- Assessed the opportunities for producer registration and fee collection after customs
- Researched producer-led and hybrid models of EPR in terms of procedures for producers.
- Analysed the EPR model being developed in parallel for PET plastic by REMA and PSF.

Objective: **reduce, consolidate and digitalize procedures for EEE "producers" to boost environmental compliance and make enforcement easier, whilst avoiding inefficiencies.**

-> Sought guidance from RISA on platforms to use to digitalize producer registration.
-> Developed a "3-in-1" digital service design and user journey under GovStack.

Campaign and Competition to Boost Collection

- Communications campaign to boost the drop-off and collection of e-waste.
- Focussed on Kigali and Musanze.
- Raised awareness about the importance of returning old and end-of-life EEE.
- Ran a competition to "Drop Off and Win".
- Partnered with MTN Rwanda and Enviroserve for competition prizes.
- Issued press releases and engaged media agencies.
- Held radio talk shows on e-waste issues.

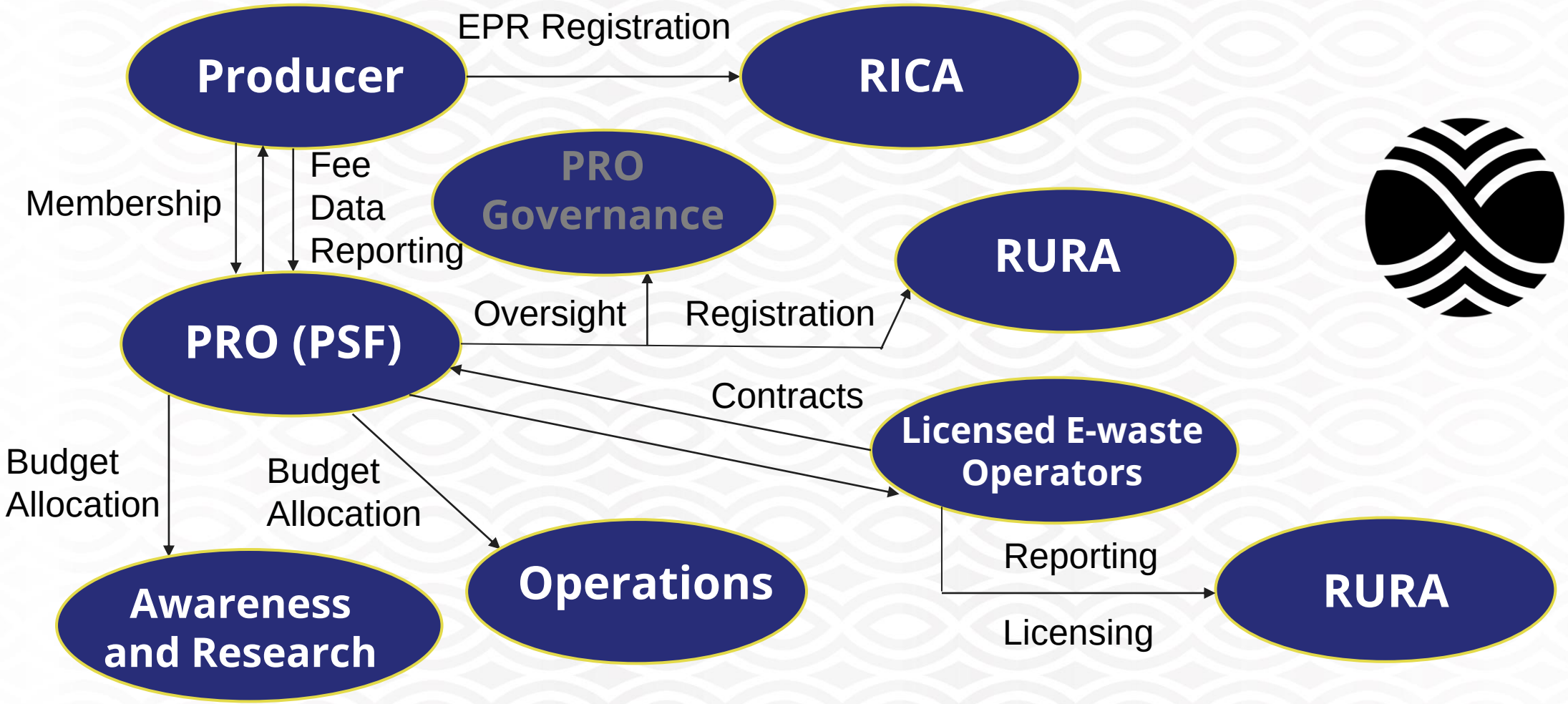
Producer Responsibility Organisation

Regulation No. XX of XX Governing E-waste Management in Rwanda

Article 24. Specific Obligations of the Producer Responsibility Organisation

- Comply with the targets in the regulation.
- Develop and maintain a system to collect the EPR fee from producers.
- Develop and maintain a register of its members.
- Contract for the collection and transport, dismantling and refurbishment and treatment with licensed service providers.
- Keep records of quantities along the value chain.
- Oversee the contracted service providers to fulfil contract obligations.
- Conduct communications and awareness raising activities to increase awareness about e-waste and to boost collection.
- Cooperate with different value chain stakeholders, including waste pickers and informal sectors.
- Implement transformation within those sectors with focus on women, youth and persons with disabilities.
- Produce quarterly and annual reports to the Regulatory Authority (RURA) and PRO governance board.

EPR Model for Electronics in Rwanda



Electronics EPR System Implementation

1) Issue RURA and RICA regulations.

2) Incorporate the PRO under PSF.

- Set basic / first organizational structure.
- Engage and onboard PRO members.
- Set budget, fee, lean operational frameworks and tools.
- Set governance frameworks (see previous slide).
- Gather information / confirm data to set / adopt collection targets, budget and EPR fee values.
- Register PRO with the Regulatory Authority.
- Identify the agency (see previous slide).
- Start lean operations.

3) Publish PRO-National EPR Implementation Guidelines for EEE .

4) Conduct a national awareness campaign with unique EPR branding.

5) Adopt a digital solution for RICA registration of business operator licensing (and EPR).

Future Timeline

Q1 2024: Issuance of RURA and RICA regulations.

Q2 2024: Issue National EPR Implementation Guidelines.

Q3 2024: Adopt a digital solution for RICA business operator licensing registration (and auto-EPR registration).

Q3 2024: Incorporate PRO as legal entity under PSF.

Q4 2024: Conduct national awareness campaign with unique EPR branding.

Q4 2024: Register PRO with RURA and begin registering EEE producers with RICA.

Q4 2024: Onboard registered EEE producers as new PRO members.

Thank you!

Charles Gahungu
General Manager of ICT Regulation
Rwanda Utilities Regulatory Authority

Republic of Rwanda

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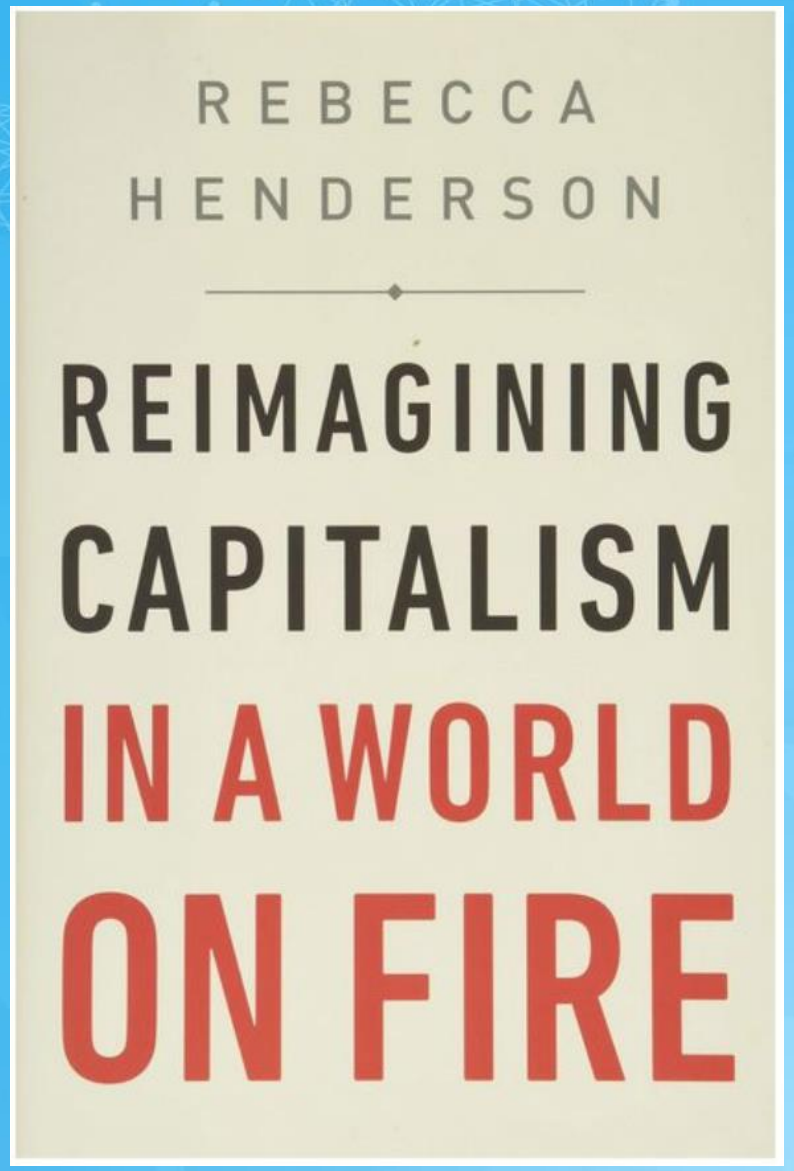
SWITCH to Circular Economy in East and Southern Africa (SWITCH-2-CE in ESA) program

By: ***Christiane Haziyo,*** *Delegation of the European Union to Zambia & COMESA*

Rwanda EPR Blueprint for Electronics Event, 07-08 Noveber 2023, in Kigali, RWANDA

Reimagining Capitalism, in a World on Fire



Rebecca Henderson is a Professor at the Harvard Business School's MBA programme

According to Rebecca, we need to have these critical conversations on:

1) Creating Shared Value;
2) Building the Purpose-Driven Organization;
3) Rewiring Finance;
4) Building Cooperation;
5) Rebuilding Our Institutions & Fixing Our Governments;

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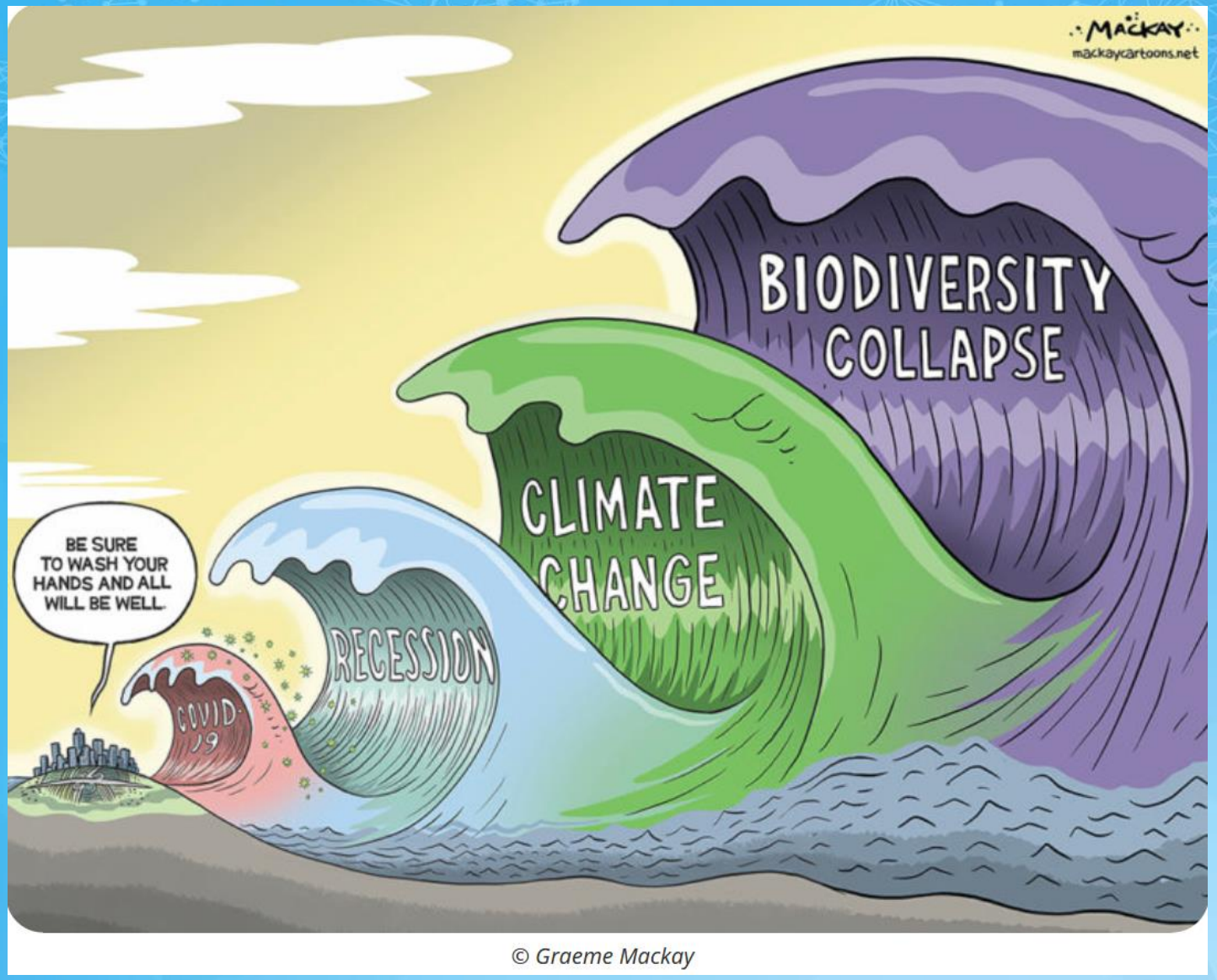
Global Challenges & Tsunamies



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Linear Economy Pathways…

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Why Circular Economy matters

Around **90 billion tons** of natural resources are extracted every year to support the global economy

Based on current trends, that number is expected to **more than double by 2050**

Currently, **only 9% of resources** find their way back into products after their first use

In **2019**, humans used nature's resource budget for the entire year by 29 July 2019, the **earliest overshoot** over the past 20 years

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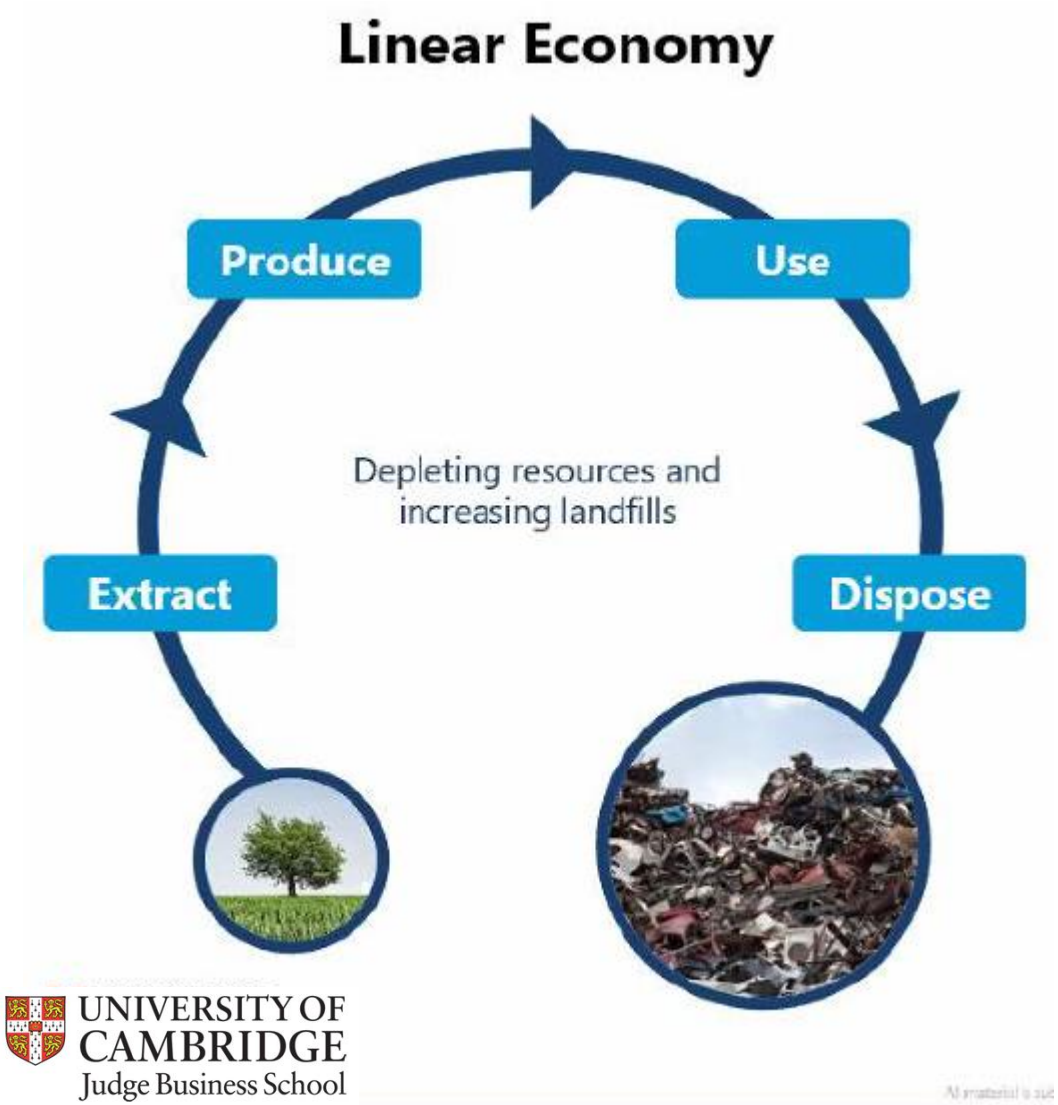
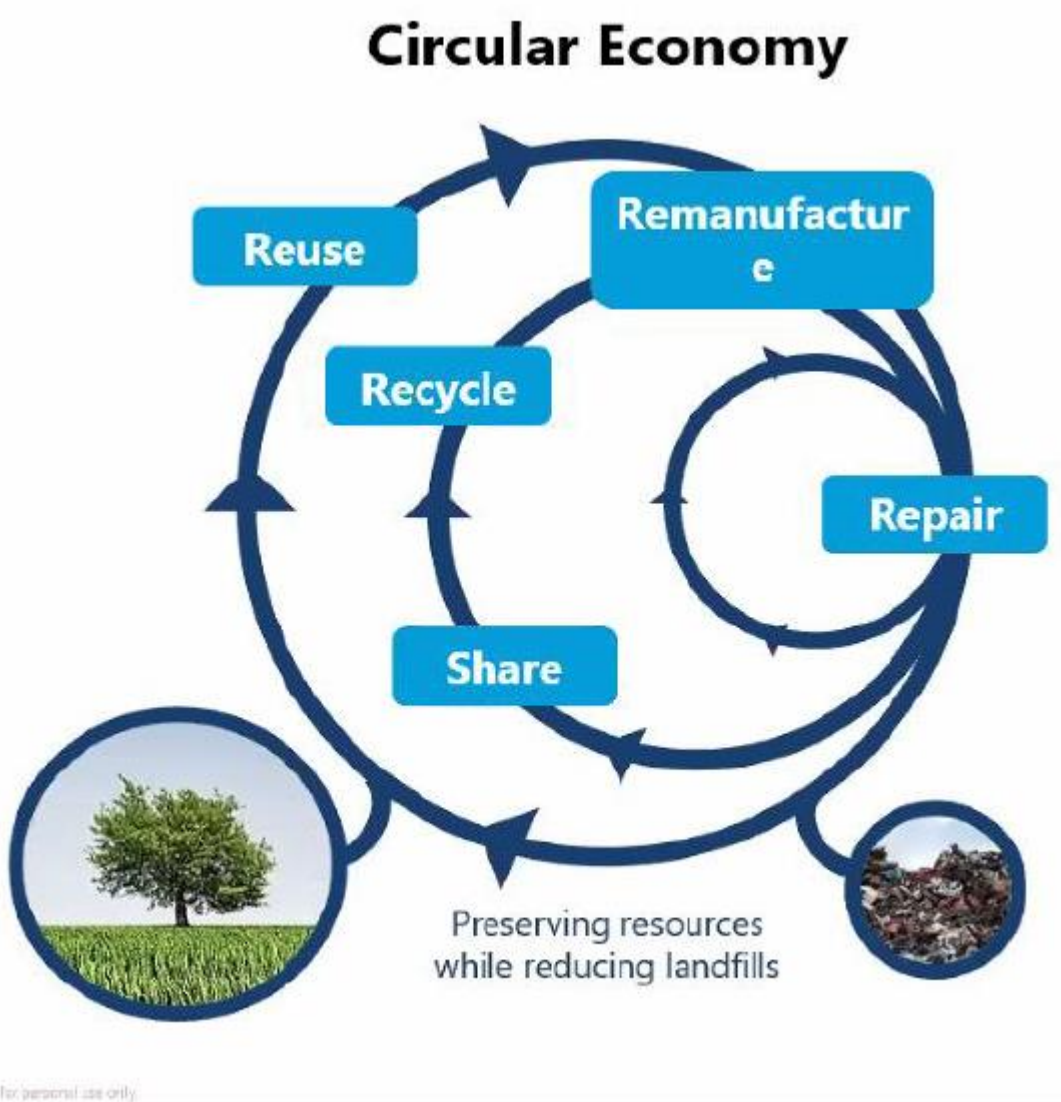
Judge Business School

European Commission

From Linear to Circular





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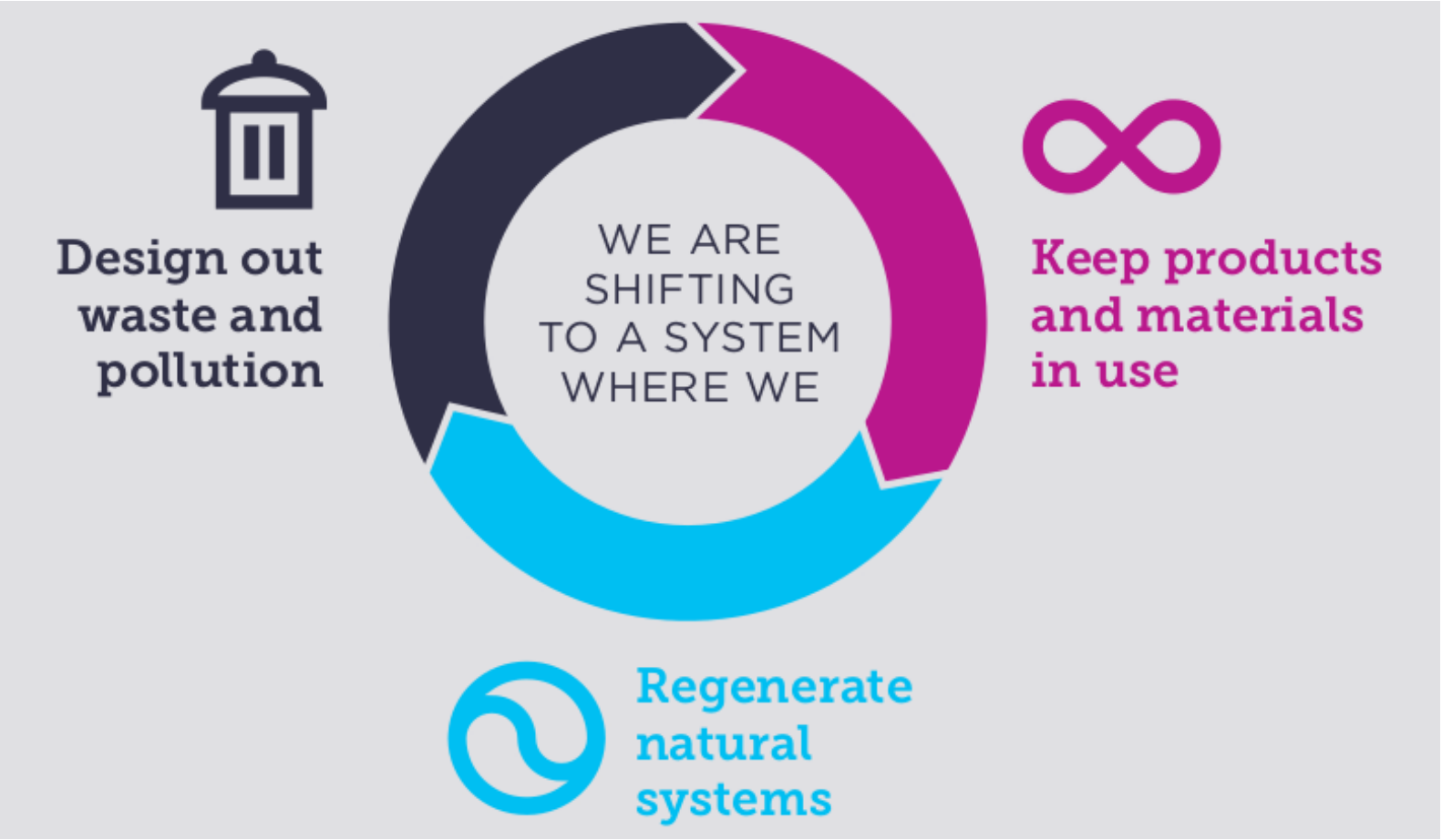
The three Principles of Circular Economy



ELLEN MACARTHUR FOUNDATION

European Commission

Five Big Bets for Circular Economy in Africa, April 2021

Thematic opportunity areas

1. Food systems;
2. **Packaging;**
3. Built environment;
4. **Electronics;**
5. Fashion and textiles;

Note: The European Commission (i.e. DG ENV) is a member of the ACEA, representing also EU MS.

European Commission

EU policies and strategies supporting Circular Economy

- **The European Green Deal,** i.e. the Circular Economy Action Plan;
- **Political priority "An Economy that works for the people";**
- **Sustainable Trade Agenda /** Communication of Trade Policy Review from 02/2021;
- **Directive on Single Use Plastic;**
- **Deforestation-Free Regulation;**
- **European Critical Raw Materials Act (16/03/2023);**
- **EU-Africa Global Gateway Investment Package /** European Fund for Sustainable Development Plus (EFSD+);
- **Etc.**

Why European Union supports Circular Economy in Africa

EU's Political Priorities (since 2019):

- **The European Green Deal;**
  - EU's growth strategy and pathway to climate neutrality by 2050;
  - Circular Economy Action Plan is integral part of European Green Deal;
- **An Economy that works for the people;**
- **Sustainable Trade;** …Launch of "Coalition of Trade Minister on Climate" on 19/01/2023 at WEF in Davos
- **International Partnerships**…

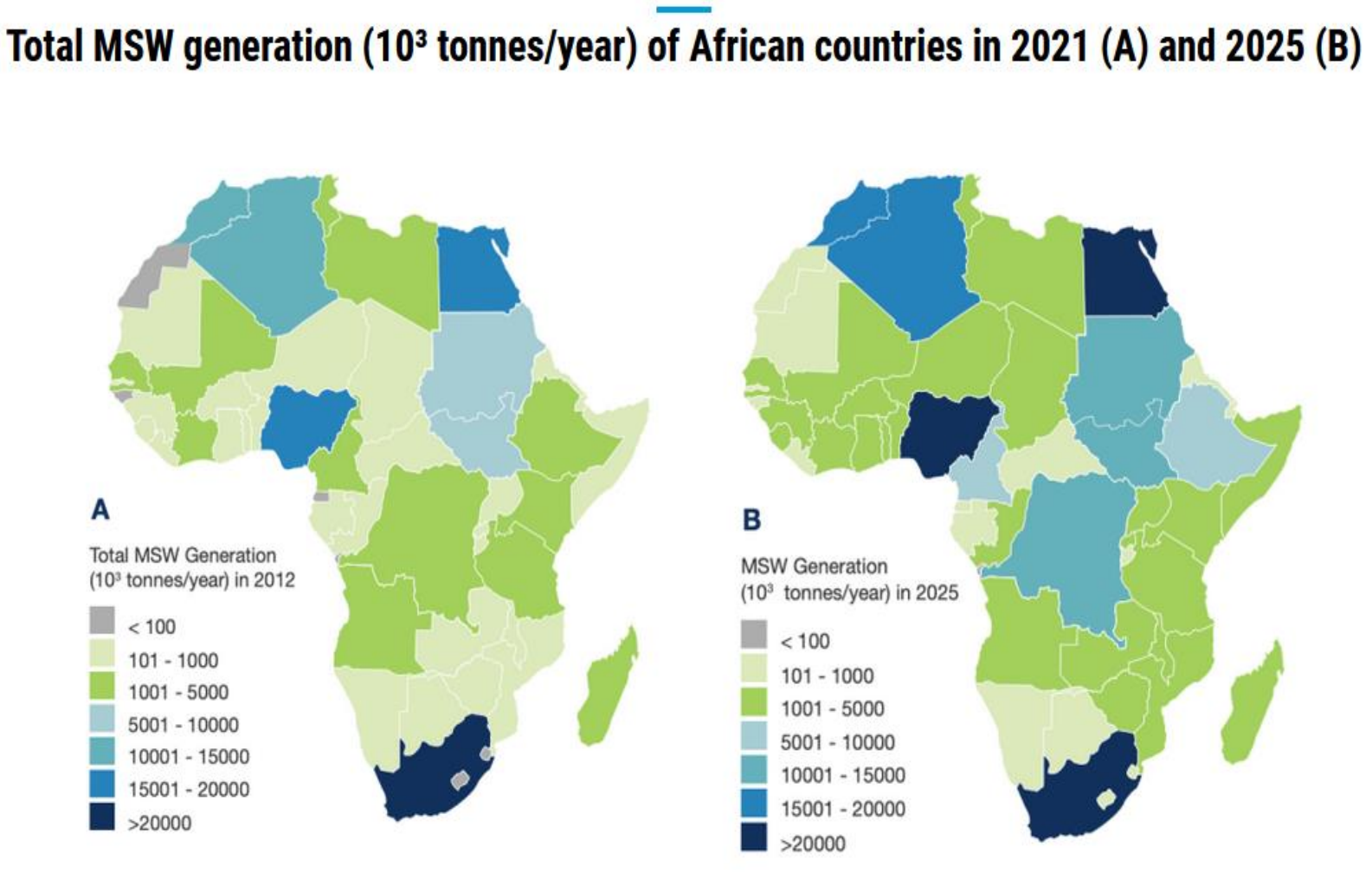
Global Alliance for Circular Economy and Resources Efficiency

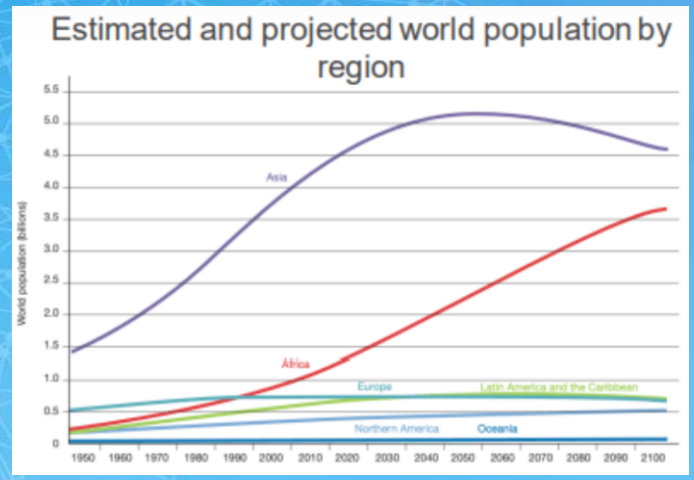
Launched by EU, together with UNEP and UNIDO, in February 2021

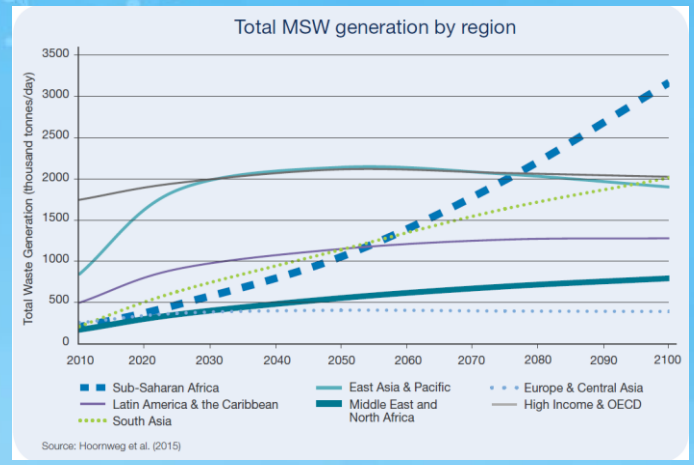
Commissioner for the Environment, Oceans and Fisheries, **Virginijus Sinkevičius**:

"*The transition to a resource-efficient, clean and circular economy is increasingly recognised as a must to address the ecological crises the world is confronted with. The circular economy offers opportunities for spurring innovation and making the transition more equitable by creating green jobs and lowering environmental impacts.*"

Municipal Solid Waste (MSW) Generation in Africa…







Source: UN Habitat & UNEP

UN-HABITAT

UN environment
United Nations Environment Programme

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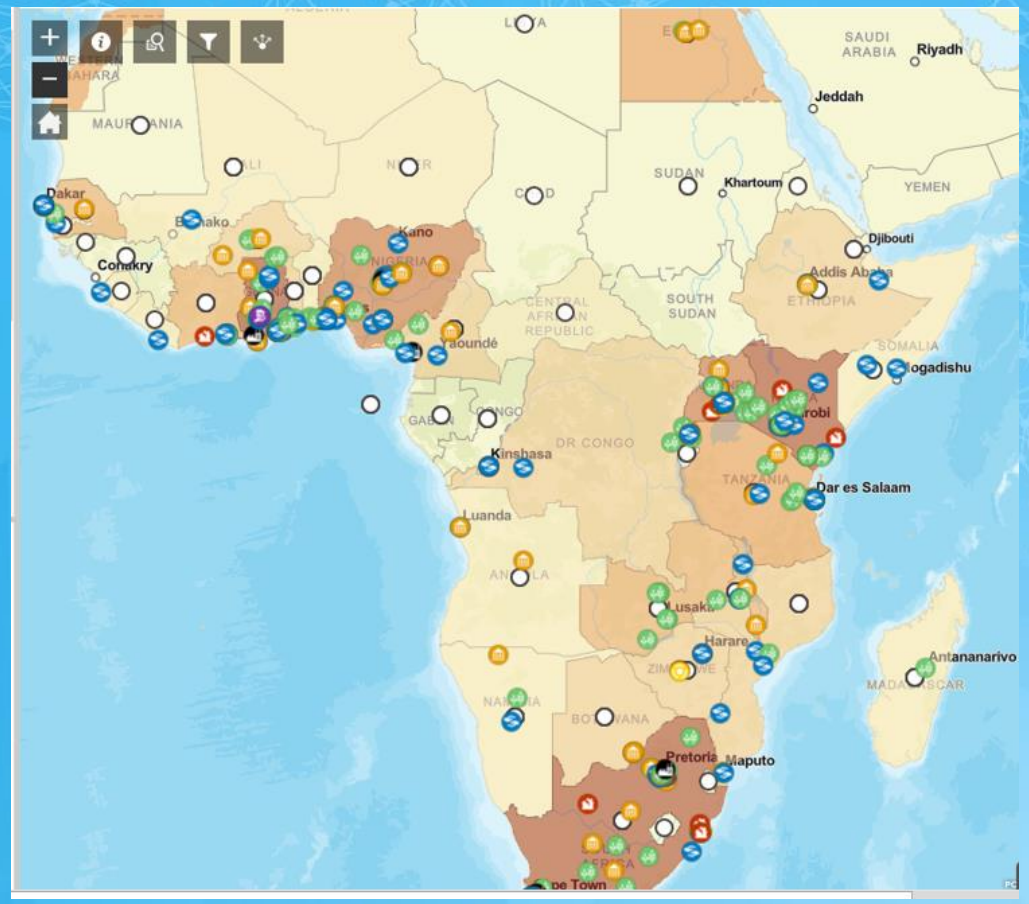
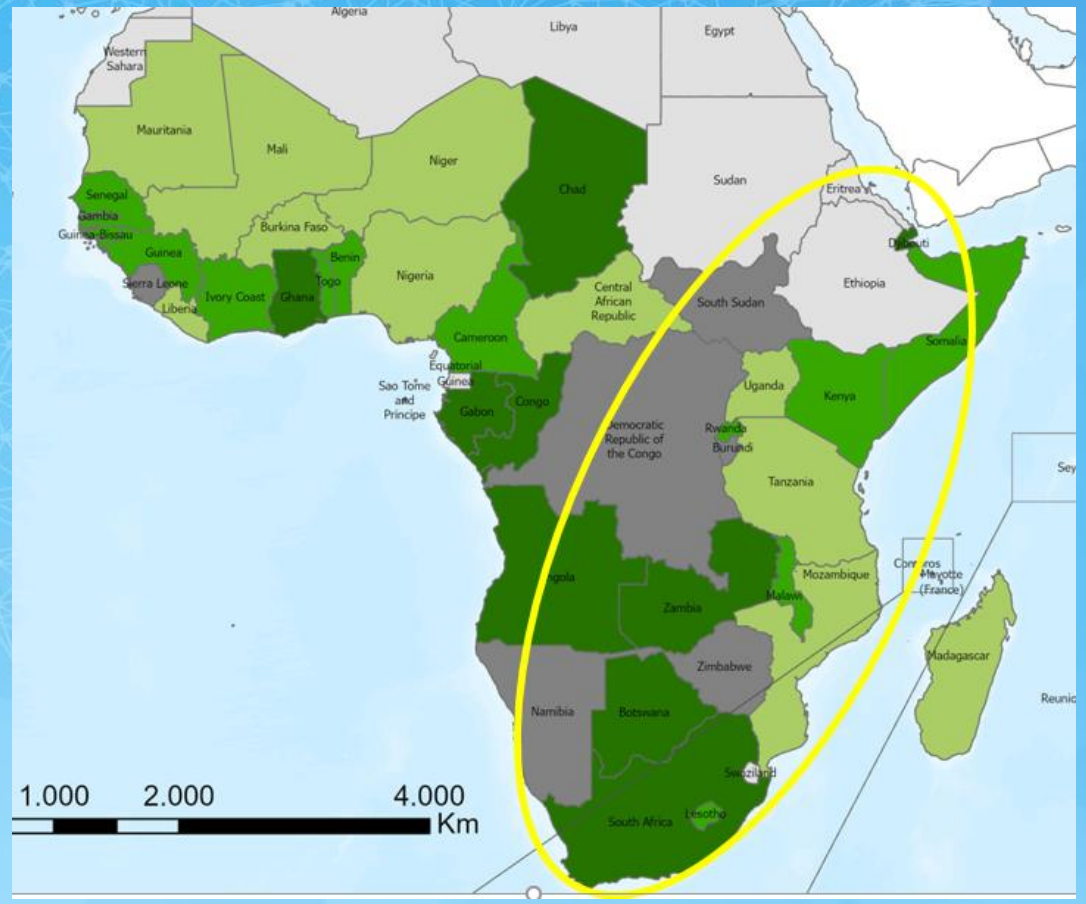
Why a focus on East & Southern Africa?





Promotion of **South-South Twinning & Peer-to-Peer Learning**

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Stakeholder consultations and co-creation…

European Union
EXTERNAL ACTION

Networking Opportunities and co-creation…

World Circular Economy Forum, from 06 to 08/12/2023 in Kigali, Rwanda

WORLD CIRCULAR ECONOMY FORUM 2022 AFRICA

European Union
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Three components of the regional CE programme…

1) Business Enabling Environment & Investment Climate

2) Human & Skills Development

3) Matching Grant Facility (MGF)
For Start-Ups, SMEs & Joint Ventures

Main principles:

- **South-South** Twinning & Peer-to-Peer Learning;
- **Green & Digital** Transformation

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Objectives and Programme Components

Overall Objective (impact): To promote sustainable growth and job creation in Africa

Specific Objective: To support the transition to Circular Economy in Eastern and Southern Africa

The Components in more detail…

Component **1: Awareness, national policies, business enabling environment, investment climate and policy dialogues on CE enhanced**

- Promote South-South Cooperation & Twinning, across countries within the ESA region;

Component **2: Human and skills in targeted PVCs improved**

- Peer-to-peer learning / South-South & North-South cooperation, including through e-learning platforms;

Component **3: Matching Grant Facility (MGF) for innovative start-ups & transformative SMEs;**

- Annual calls for sustainable and circular business plans, targeting PVCs across the region / separate lots for start-ups and SMEs / stimulate joint ventures through business consortia across borders;

European Commission

The Implementation

- **Improved access to information** in the ESA region;
- **Increased awareness and knowledge of circular economy principles**, with particular attention to gender sensitive approach;
- **Public capacities strengthened** for supporting circular economy models through extended producer responsibility (EPR) schemes across the region;
- **Topics related to circular economy are piloted** into the regional Higher Education and TVET system;
- **Improved availability of inclusive circular economy training modalities;**
- **Knowledge sharing, best practice learning materials;**
- **Increased availability of financial services;**
- **Increased availability of essential incubation and advisory services**

European Commission

EPR focus under the Programme

- **Policy practices for E-waste Management: Policy makers to formulate and strengthen E-waste management systems based on EPR.**
- **EPR initiatives need to be extended to countries, and accompanied by strengthened measures for enforcement: Support for the creation of Producer Responsibility Organizations (PROs) can play a key role.**
  - **Ex: *EPR scheme being implemented in South Africa since May 2011 applies to all companies importing or manufacturing plastic packaging for distribution.***
- **EPR can and must play a crucial role in supporting the transition from a throw-away culture to a circular and low-carbon economy: focus on improving the governance and efficiency of the schemes as well as aligning them with circular economy principles.**

Mobilizing additional Access to Finance for transforming SMEs

Global Gateway Europe – Africa Investment Package:

- Mobilize additional loans for SMEs through **Financial Instruments** under the **European Fund for Sustainable Development (EFSD+);**

- **Our potential partners:**
  - European Investment Bank (EIB);
  - European Finance and Development Institutions (EFDIs); etc.
  - African Development Bank (AfDB);

  …and local banks within the ESA region

Implementation & Budget

1) Implementation

- Direct Management through **Contribution Agreement** with one (max. two) pillar-assessed entity;
  - International organisations: Keen interest expressed by UNIDO, ITC and Trademark Africa;
  - EU MS agencies: Preferred option to turn action into a regional TEI. So far, general interest was expressed by BE and DE; hope to get Nordic particularly countries (e.g. FL, SE, DK, NL) engaged. Should this materialize, we would foresee implementation by consortium of pillar-assessed EU MS agencies, with one lead agency to be contracted.

- **Strategic partnerships with Circular Economy players** (think tanks, consulting firms, NGOs) from Africa and Europe; should be sub-contracted under specific components.

- **RECs**, i.e. COMESA, EAC, SADC (and AUC) and selected specialized agencies; would be involved within their political & sector mandates, maximizing use of their convening power.

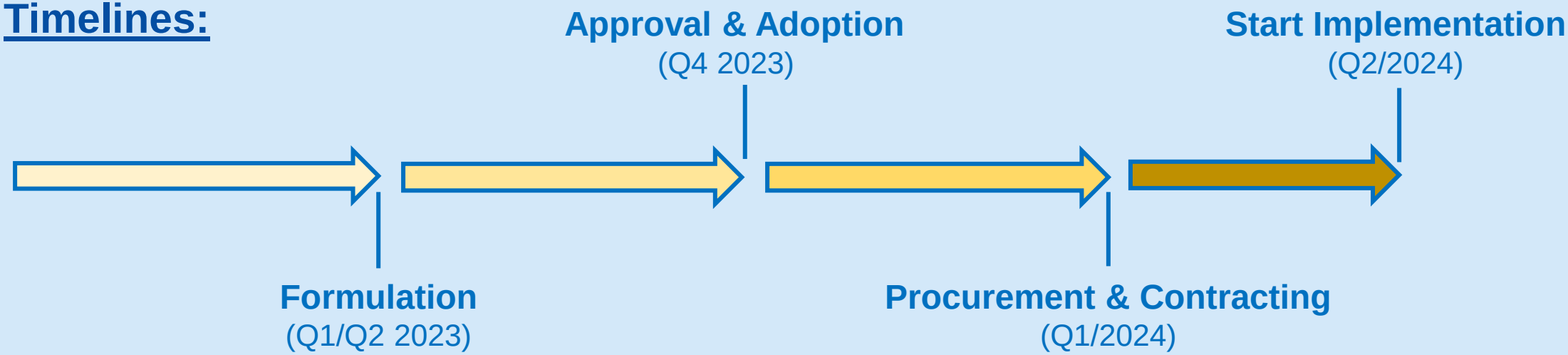
2) Budget

- EU NDICI funds under regional AAP 2023 for SSA: **EUR 40 million**;
- Hope to secure additional co-funding from EU MS: **EUR ??? Million**;

European Commission

Timelines / Contacts

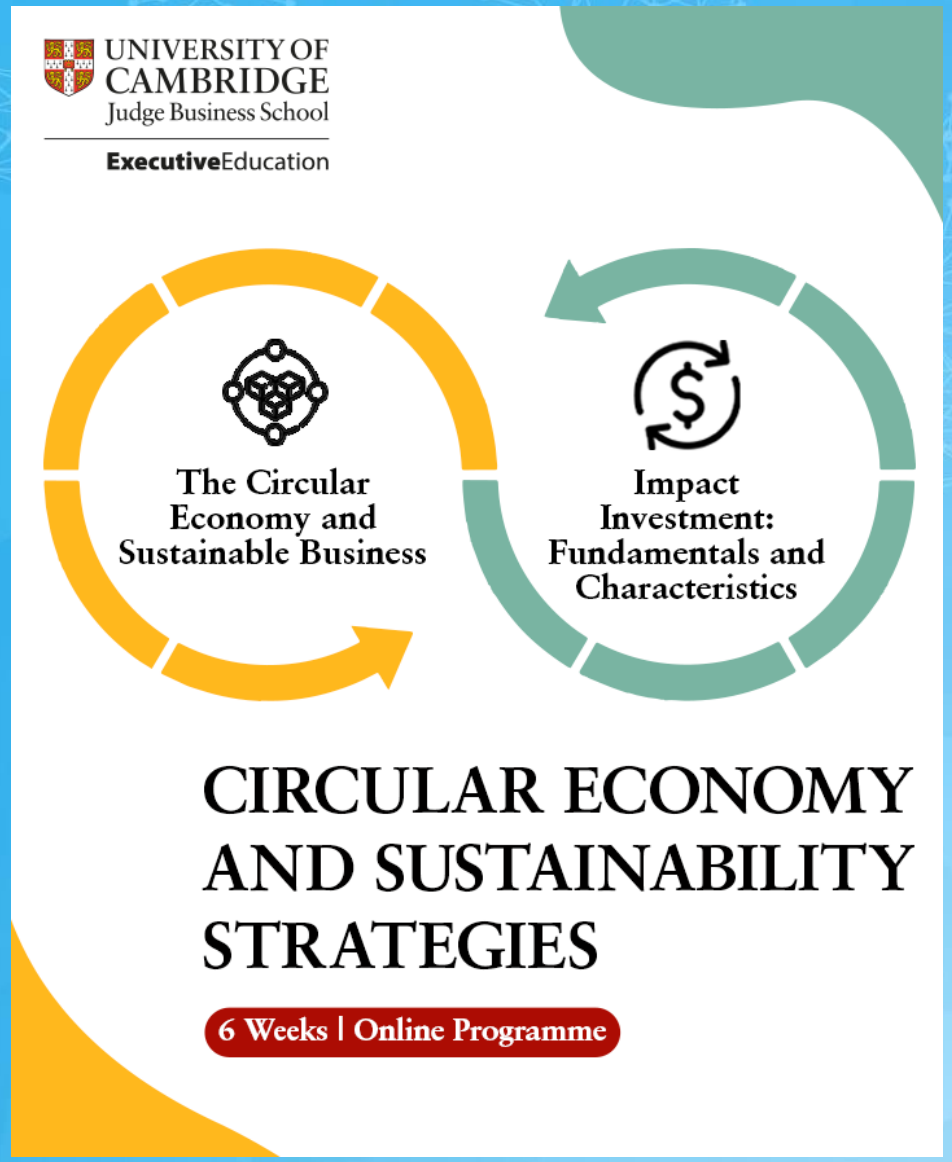
Timelines:



Contacts:

Matthias.Reusing@eeas.europa.eu
Christiane.Haziyo@eeas.europa.eu

E-Learning Opportunities…



European Union
EXTERNAL ACTION

WCEF 2023 in Helsinki & WCEF 2024 in Brussels

World Circular Economy Forum goes to Brussels in spring 2024

In spring 2024 WCEF, the leading circular economy event, will take place in Brussels, Belgium.

European Union
EXTERNAL ACTION

European Union
EXTERNAL ACTION

THANK YOU

European Union
EXTERNAL ACTION

Republic of Rwanda

ITU

GovStack

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by giz

Establishing a financing mechanism for the EPR system in Rwanda

Mariana Daykova,
Manager, dss+

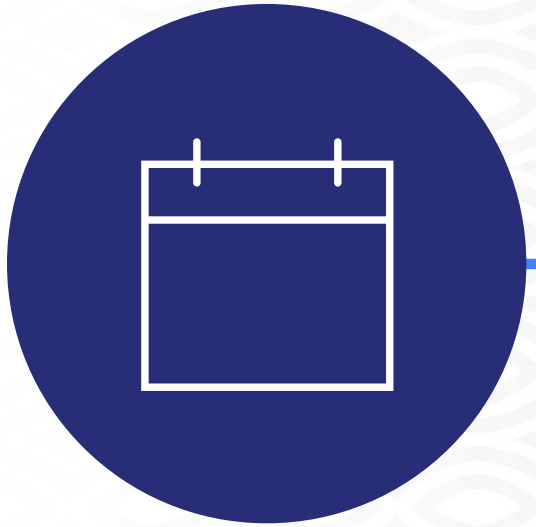
dss+
Protect. Transform. Sustain.

Importance of financing mechanisms for EPR systems

The financing mechanism in an e-waste management system is necessary for the continuous functioning of the entire system.

- E-management activities come at a cost that must be covered continuously from somewhere
- Placing a clear responsibility for financing (R in EPR) creates system clarity on who pays the bill
- The reverse supply chain needs a clear business case and market signal to continuously handle all e-waste

Past timeline in establishing financing mechanism for EPR in Rwanda



Q2 2022

Study on the financial mechanism for the Rwandan EPR system

Feb. 2023

RURA and RICA technical workshops include discussion on EPR fees

June. 2023

Private sector workshop on PRO basics, incl. budgeting

Aug. 2023

EPR Fee and pricing influence **high-level meeting**

Achievements to date in establishing financing mechanism for EPR in Rwanda

0. IS THERE political commitment, incl. for enforcement?

a. Yes

b. No

1. WHO is paying for e-waste management?

a. Tax-payers (residual, as long as legislation is being deployed)

b. Consumers (e.g. California, upon purchase product)

c. Waste holders (e.g. Japan, or non-household streams in EU)

d. Producers (financial Extended Producer Responsibility, 98% of policy bills…),

2. WHO is getting and using the payment, and for what?

a. State-controlled, monopolistic body

b. Joint Compliance Scheme to be set-up by Private sector/Producers (i.e., PRO)

3. HOW are fees collected (technicalities)?

a. When importing products

b. When waste is managed,…

4. HOW MUCH precisely?

Rwanda has now all the elements to kick-start the first fully formal system for e-waste management in East Africa, integrating policy with operations

Role of PRO in EPR financing

The PSF PRO's budget is…

- Made of the aggregated payments of EPR fees of its members (i.e., all EEE Producers in Rwanda)
- Used to carry activities to ensure members' compliance with EPR regulations
- Making sure the income from members covers the PRO costs of operation, establishing self-sustainable organization
- Reviewed and recalculated annually, to capture system learning and market changes.

PRO total costs

=

PRO total income needed from member fee payments

Costs that must be covered in the Rwandan EPR system

Other EPR stretch

Framework Costs

- R&D
- Financial Guarantees
- Awareness Raising
- Audit & Standards
- Enforcement

Usual EPR domain

Technical Costs

Access to Waste

Collection

Transport

Treatment

Each cost is linked to (originated by) activities performed by stakeholders

In certain cases treatment might generate revenues

First 3 activities usually represent NET costs

Technical/operational costs

+

Framework/overhead costs

=

PRO total income needed from member fee payments

=

PRO total (technical and framework) costs

Technical costs per e-waste stream – some take-aways for Rwanda

- In Rwanda, total technical costs are by far the biggest chunk (98%) of total costs.
- Access to waste costs in Rwanda:
  - Often vary significantly. For example, small electronics, such as smartphones, require significant awareness raising and incentives for consumers to hand them over once they are no longer in use.
  - They constitute 90% of total technical costs for screens and monitors and 98% for small IT equipment!
- The total technical costs are directly proportional to the collection targets. Therefore, these should be carefully reviewed, and fees updated, according to the adopted collection targets for the PRO.

Technical costs per e-waste stream in Rwanda

98% of total costs

Stream/category name	Access to Waste Cost (RWF/tons)	Collection Cost (RWF/tons)	Transport Cost (RWF/tons)	Treatment Cost (RWF/tons)	Total Technical Cost (RWF/tons)
Cooling and Freezing equipment	400,000	31,000	100,000	300,000	**831,000**
Screens and monitors	3,500,000	31,000	100,000	250,000	**3,881,000**
Lamps	(100,000)	31,000	100,000	470,000	**501,000**
Large household appliances	200,000	31,000	100,000	50,000	**381,000**
Small household appliances	200,000	31,000	100,000	50,000	**381,000**
Small IT and telecommunication equipment	8,000,000	31,000	100,000	10,000	**8,141,000**

Source: Enviro serve

Technical costs (per ton) tons to be treated

+

Framework/overhead costs

× weighting factor*

=

Total income needed from PRO member fee payments from the specific category/ stream to cover the costs associated with the stream

=

Total (technical and framework) costs for the e-waste stream

*Weighting factor can be market share (t of POM) or % of e-waste collected. etc. Here, it is the **market share**.

Total (technical and framework) costs for the specific e-waste stream

Mass (kg) of products from the stream that are put on the market (POM)

Fee (per kg) for the products in the stream

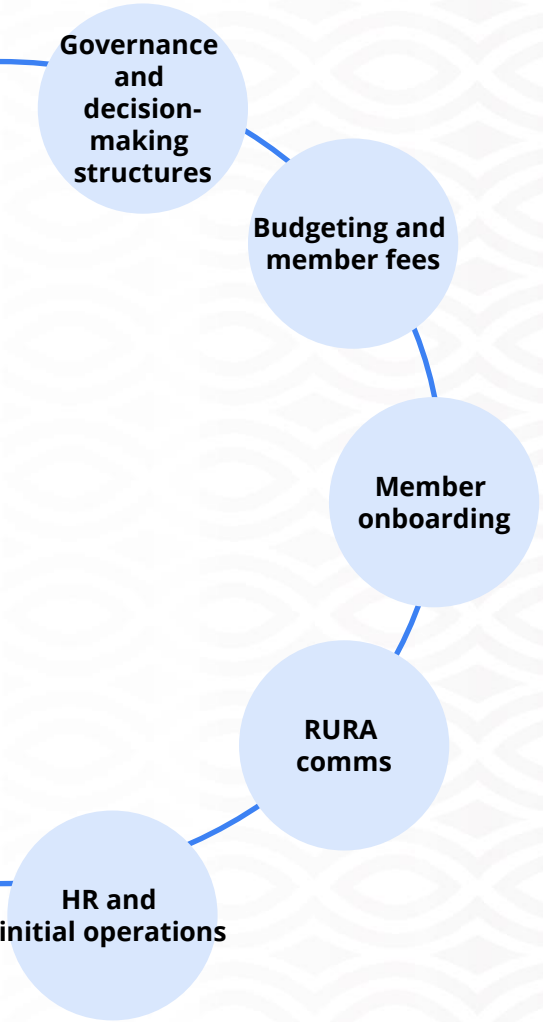
Fees – pre-estimates for Rwanda

Stream Name	Total Framework Cost (RWF)	Total Technical Cost (RWF)	Total Cost (RWF)	Number of tonnes PoM	FEE per kg (RWF)	FEE with SAFETY MARGIN (RWF)	FINAL FEE per kg (USD)	FINAL FEE per unit (USD)
Cooling and freezing equipment	RWF 16,020,258	RWF 167,802,826	**RWF 183,823,084**	1,010	RWF 182	RWF 200	USD 0.20	**USD 8.03**
Screens and Monitors	RWF 7,642,456	RWF 560,785,293	**RWF 568,427,749**	482	RWF 1,180	RWF 1,298	USD 1.27	**USD 8.30**
Lamps	RWF 5,378,951	RWF 8,491,885	**RWF 13,870,836**	339	RWF 41	RWF 45	USD 0.04	**USD 0.01**
Large household appliances	RWF 9,820,154	RWF 82,529,662	**RWF 92,349,816**	619	RWF 149	RWF 164	USD 0.16	**USD 3.56**
Small household appliances	RWF 58,758,207	RWF 564,354,834	**RWF 623,113,041**	3,703	RWF 168	RWF 185	USD 0.18	**USD 0.12**
Small IT and Telecommunication equipment	RWF 14,637,141	RWF 3,003,950,358	**RWF 3,018,587,499**	922	RWF 3,272	RWF 3,599	USD 3.53	**USD 0.54**

Cross-financing – pre-estimates for Rwanda

Stream Name	Cost based FEE per kg (USD)	Total Cost (USD)	Set FEE per kg (USD)	Total Cost Covered per stream (USD)	% Co-financing
Cooling and Freezing equipment	USD 0.20	USD 198,161	USD 0.50	USD 504,822	255%
Screens and Monitors	USD 1.27	USD 612,765	USD 1.20	USD 577,980	94%
Lamps	USD 0.04	USD 14,953	USD 0.50	USD 169,499	1134%
Large household appliances	USD 0.16	USD 99,553	USD 0.15	USD 92,834	93%
Small household appliances	USD 0.18	USD 671,716	USD 0.20	USD 740,623	110%
Small IT and Telecommunication equipment	USD 3.53	USD 3,254,037	USD 3.00	USD 2,767,428	85%
TOTAL	**USD 5.38**	**USD 4,851,185**	**USD 5.55**	**USD 4,853,186**	

Next steps



Priority activities for the PSF PRO development include:

- Develop PRO member fee model, based on first fee calculations.
- Adopt PRO work plan officially.
- Name PRO for communications purposes.
- Legally incorporate PRO, as entity under PSF, and develop its governance.
- Identify all EEE producers.
- Develop PRO membership (engagement) package.
- PSF staff onboarding internally (and in each region) using engagement package.
- Hold first General Assembly (minimum 30 committed members in attendance).
- Buffer phase HR position (General Operations Manager) resource mobilization.
- Create operational/budgeting tool for PRO.
- Develop PRO General Operating Procedures.
- Create regular communications channel between PSF and RURA.
- Once launch of regulations are done, raise awareness.
- Prepare national EPR implementation guidelines.

Thank you!

Mariana Daykova,
Manager, dss+

dss+
Protect. Transform. Sustain.

GovStack

GovStack

EPR Digital Service Design

ITU

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

RICA Rwanda Inspectorate, Competition and Consumer Protection Authority

digital impact alliance

Republic of Estonia Ministry of Foreign Affairs

Content

- Definitions
- EPR services users
- RICA's role in the EPR regulatory framework
- GovStack Use Case - Extended Producer Responsibility
  - Initial to-be user journey
  - To-be user journey (3 scenarios)
- High level architecture of the EPR service
- Wireframes

Definitions

Extended Producer Responsibility: the responsibility for the electrical and electronic equipment to be managed throughout its life cycle, including the post-industrial and post-consumer phases.

***New producer*:** any natural or legal person who is constituted as such to carry out actions as a producer of electrical and electronic equipment after the entry into force of the Regulation No. ……. Of …/…. / 2023 Governing E-Waste management in Rwanda.

***Established producer*:** any natural or legal person that is constituted as such to carry out actions as a producer of electrical and electronic equipment since before the entry into force of the Regulation No. ……. Of …/…. / 2023 Governing E-Waste management in Rwanda.

***Free-rider*:** any producer of electrical and electronic equipment who benefits from the actions or efforts of another producer, in relation to the framework of extended producer responsibility without fully complying with the obligations of the Regulation No. ……. Of …/…. / 2023 Governing E-Waste management in Rwanda.

Who are the users?

1. New producer

Media Shop ltd

- New smartphone plant
- Located in Kigali, Rwanda
- Smartphone manufacturer

Starts activities as a producer of electrical and electronic equipment after the entry into force of the Regulation No. ..... Of …/…. / 2023 Governing E-Waste management in Rwanda

2. Established producer

Kigali Electronics ltd

- 2 years of operations
- Located in Kigali, Rwanda
- Electronics importing company

Carry out activities as a producer of electrical and electronic equipment since before the entry into force of the Regulation No. ..... Of …/…. / 2023 Governing E-Waste management in Rwanda

3. Existing business: change in activities

Rwanda Denim ltd

- 5 years of operations.
- Located in Musanze, Rwanda
- Textile importing company

The board members of Kigali Inc. Have decided to change the main business activity to start importing electronics.

RICA's role in enabling compliance with the EPR regulatory framework

1. EEE producer licensing
   Legal justification: Art. 9&10 of the Regulation No. ..... of …/…. / 2023 Governing Electrical and Electronics Products

1. EEE product registration
   Legal justification: Art. 11 of the Regulation No. ..... of …/…. / 2023 Governing Electrical and Electronics Products

1. Import license for EEE

   Guidelines to be drafted

Initial 'to-be' USER JOURNEY

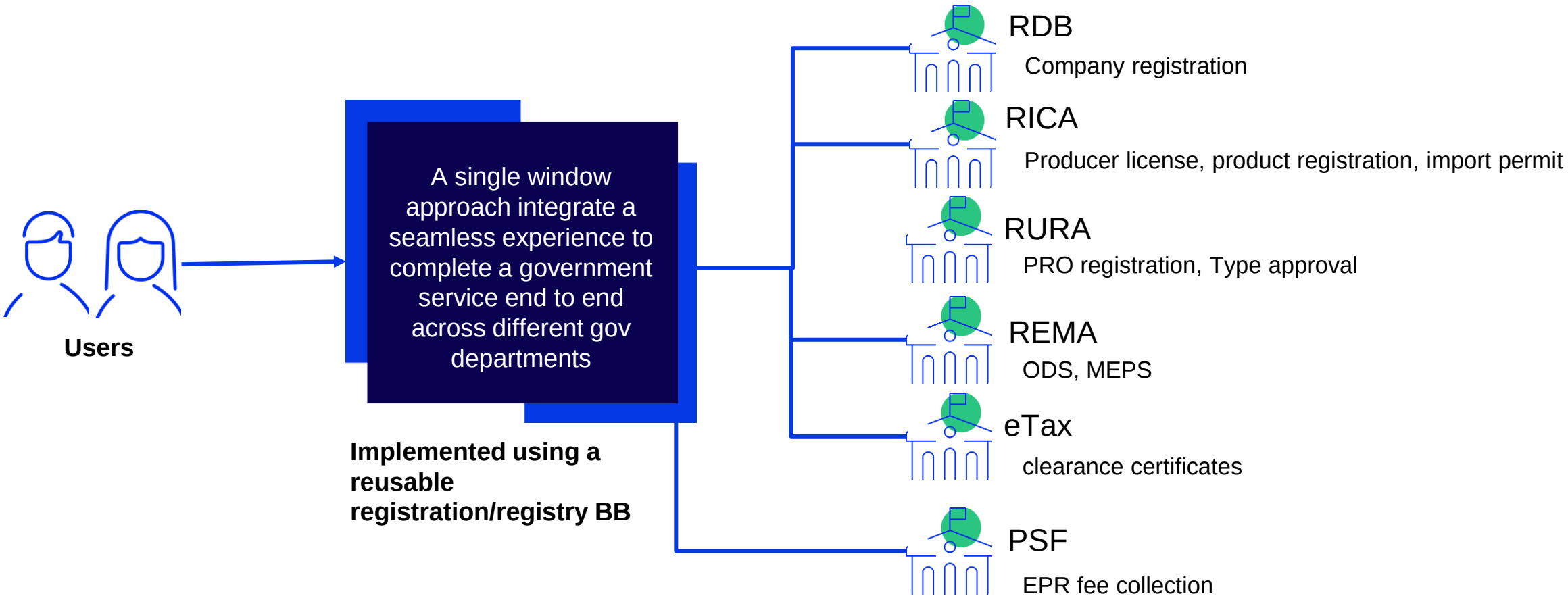
STAGE OF THE JOURNEY	BEFORE THE SERVICE	DURING THE SERVICE											AFTER THE SERVICE
	Landing siloed platforms	Company registration (RDB)	EIA (RURA) /(OSC)	Tax & SS clearance (RRA eTax)	*Producer license (RICA)*	*Product registration (RICA)*	*Type approval (RURA)*	*ODS (REMA)*	*MEPS (REMA)*	Import permit (RICA)	Pay EPR fee (PSF)	Authorization (RURA)	Customs clearance (RRA eSW)	Citizen satisfaction survey
POINT OF CONTACT	Social media	ORG portal	OSC portal	RRA eTax	RICA offline	RICA offline	RURA portal	REMA portal	REMA portal	RICA portal	PSF portal	RURA offline	RURA offline	Various
	Citizen to citizen													
	Mass media Newspaper,radio, tv, PSF													

SIMPLIFICATIONS

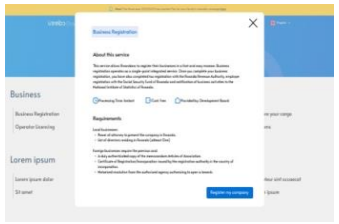
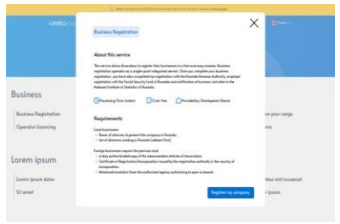
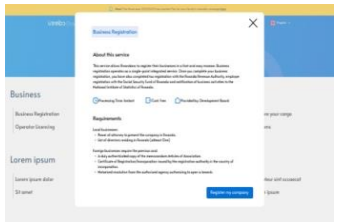
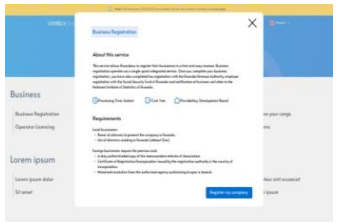
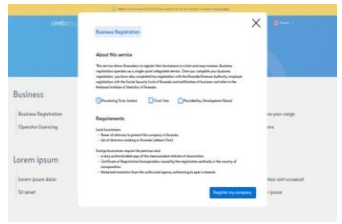
- 12 different procedures in total
- 7 can be applied online & 5 are in person
- 7 different portals, each with different logins & passwords

Detailed simplifications here

To address a silo approach we propose a single window end to end experience

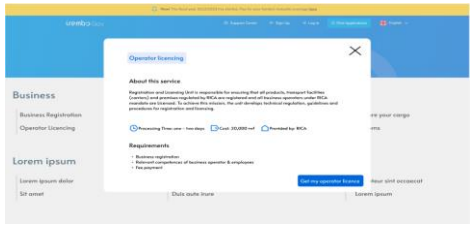
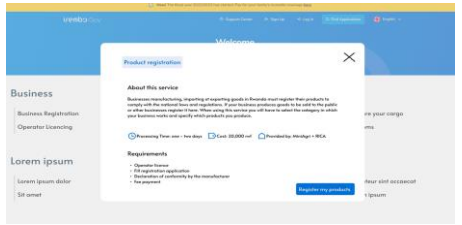
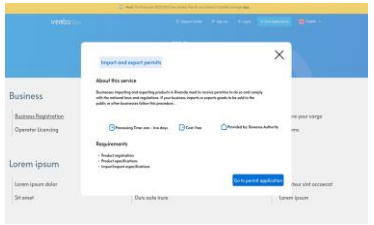
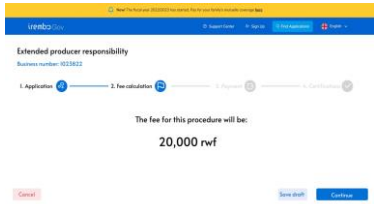


User journey 1: New producer dealing in electrical & electronic equipment

STAGE OF THE JOURNEY	BEFORE THE SERVICE	DURING THE SERVICE					AFTER THE SERVICE
	Landing Irembo / Business	Simultaneous application: Company registration, Producer license, Payment	Environmental Assessment	Simultaneous application: Product registration, Type approval, ODS & MEPS, Payments	Import permit	EPR fee payment	Citizen satisfaction survey
POINT OF CONTACT	Social media	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw
	Citizen to citizen						HOW WAS YOUR EXPERIENCE? 
	Mass media Newspapers, radio, tv, PSF						
SIMPLIFICATIONS		1. Notification to apply for Producer license when business activity is EEE import & manufacture - RICA 2. Tax & RSSB clearance: integration with eTax database 3. Payment through irembo 4. PRO is notified of a new producer on the market	Additional requirements for manufacturer: 1. if you already have a factory / warehouse: Need an Environmental audit certificate 2. If planning to build: Environmental Impact Assessment	Notifications per type of product: 1. Type approval for electronic comm items (RURA) 2. Ozone Depleting Substances (ODS) (REMA) 3. Minimum Energy Performance Standards (MEPS) (REMA) 4. Samples where applicable 5. Payment trough irembo	Only requirements: 1. Product code 2. Quantity Other requirements have been submitted at product registration	1. Instant payment alert in PSF system 2. PSF validates the payment for RURA to issue authorisation 3. RURA issues authorisation 4. Authorisation is reflected in customs eSW 5. Payment through irembo	Citizens satisfaction survey is a reusable forms/registry that must be incorporated in all services launch under the Irembo digital service standard

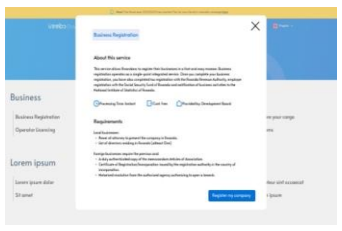
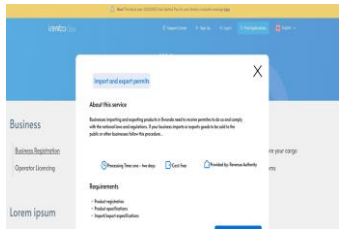
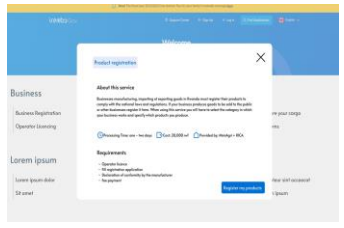
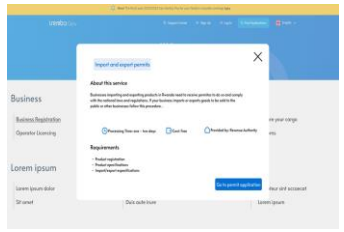
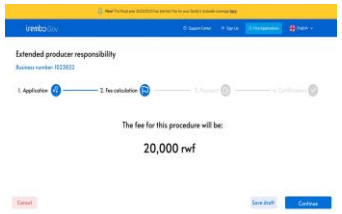
Detailed simplifications here

User journey 2: Established producer already dealing in electrical & electronic equipment

STAGE OF THE JOURNEY	BEFORE THE SERVICE	DURING THE SERVICE				AFTER THE SERVICE
	Landing Irembo / Business	Simultaneous application: Producer license, EA & payment	Simultaneous application: Product registration, Type approval, ODS & MEPS	Import permit	EPR fee payment	Citizen satisfaction survey
POINT OF CONTACT	Social media	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw
	Citizen to citizen					HOW WAS YOUR EXPERIENCE? 
	Mass media Newspapers, radio, tv, PSF					
SIMPLIFICATIONS		Additional requirements for manufacturer: 1. if you already have a factory / warehouse: Need an Environmental audit certificate 2. If planning to build: EIA 3. Tax & RSSB clearance: integration with eTax DB 4. Payment through irembo 5. PRO is notified of a new producer on the market	Notifications per type of product: 1. Type approval for electronic comm items (RURA) 2. Ozone Depleting Substances (ODS) (REMA) 3. Minimum Energy Performance Standards (MEPS) (REMA) 4. Samples where applicable 5. Payment trough irembo	Only requirements: 1. Product code 2. Quantity Other requirements have been submitted at product registration	1. Instant payment alert in PSF system 2. PSF validates the payment for RURA to issue authorisation 3. RURA issues authorisation 4. Authorisation is reflected in customs eSW 5. Payment through irembo	Citizens satisfaction survey is a reusable forms/registry that must be incorporated in all services launch under the Irembo digital service standard

Detailed simplifications here

User journey 3: Established producer changing activity to electrical & electronic equipment

STAGE OF THE JOURNEY	BEFORE THE SERVICE	DURING THE SERVICE					AFTER THE SERVICE
	Landing Irembo / Business	Simultaneous application: Change of business activity, Producer license, & Payment	Environmental Assessment	Simultaneous application: Product registration, Type approval, ODS & MEPS	Import permit	EPR fee payment	Citizen satisfaction survey
POINT OF CONTACT	Social media	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw	irembo.gov.rw
	Citizen to citizen						HOW WAS YOUR EXPERIENCE? 
	Mass media Newspapers, radio, tv, PSF						
SIMPLIFICATIONS		1. Notification to apply for Producer license when business activity is EEE import & manufacture - RICA 2. Tax & RSSB clearance: integration with eTax database 3. Payment through irembo 4. PRO is notified of a new producer on the market	Additional requirements for manufacturer: 1. if you already have a factory / warehouse: Need an Environmental audit certificate 2. If planning to build: Environmental Impact Assessment	Notifications per type of product: 1. Type approval for electronic comm items (RURA) 2. Ozone Depleting Substances (ODS) (REMA) 3. Minimum Energy Performance Standards (MEPS) (REMA) 4. Samples where applicable 5. Payment trough irembo	Only requirements: 1. Product code 2. Quantity Other requirements have been submitted at product registration	1. Instant payment alert in PSF system 2. PSF validates the payment for RURA to issue authorisation 3. RURA issues authorisation 4. Authorisation is reflected in customs eSW 5. Payment through irembo	Citizens satisfaction survey is a reusable forms/registry that must be incorporated in all services launch under the Irembo digital service standard

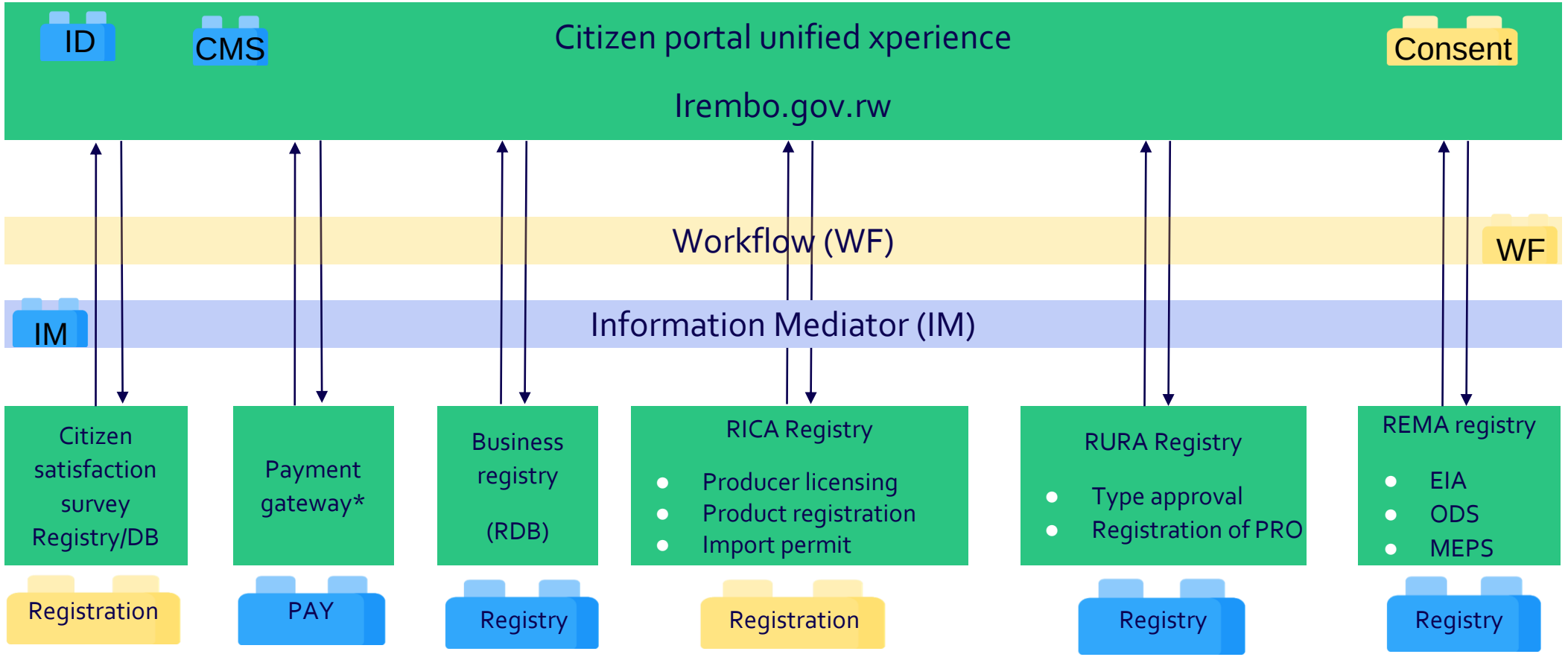
Detailed simplifications here

Benefits & key simplifications

- 3 in 1 registration:
  producer license, automatic producer PRO membership registration & product registration
  Benefits:
  - reduction in administrative cost burden for producer
  - reduction in transaction time
  - increased transparency and collaboration between agencies
  - improved enforcement of free-riders"

- Integration with other systems:
  - Registration of the PRO & type approval - RURA
  - Ozone depleting substances (ODS) - REMA
  - Minimum Energy Performance Standards (MEPS) - REMA
  - eTax - RRA
  - eSW - RRA
  - Environmental Impact Assessment - RDB / REMA

High level architecture of the EPR service



BB already in place, ID, Digital Signature, Payment, Registries, IM,

New BB - Registration RICA to accommodate more than agriculture products. EPR Product registration, producer license and import permits, WF, Satisfaction survey

*Note: One payment gateway, two different bank accounts - RICA (2 payments), Private Sector Federation (1)

Wireframes

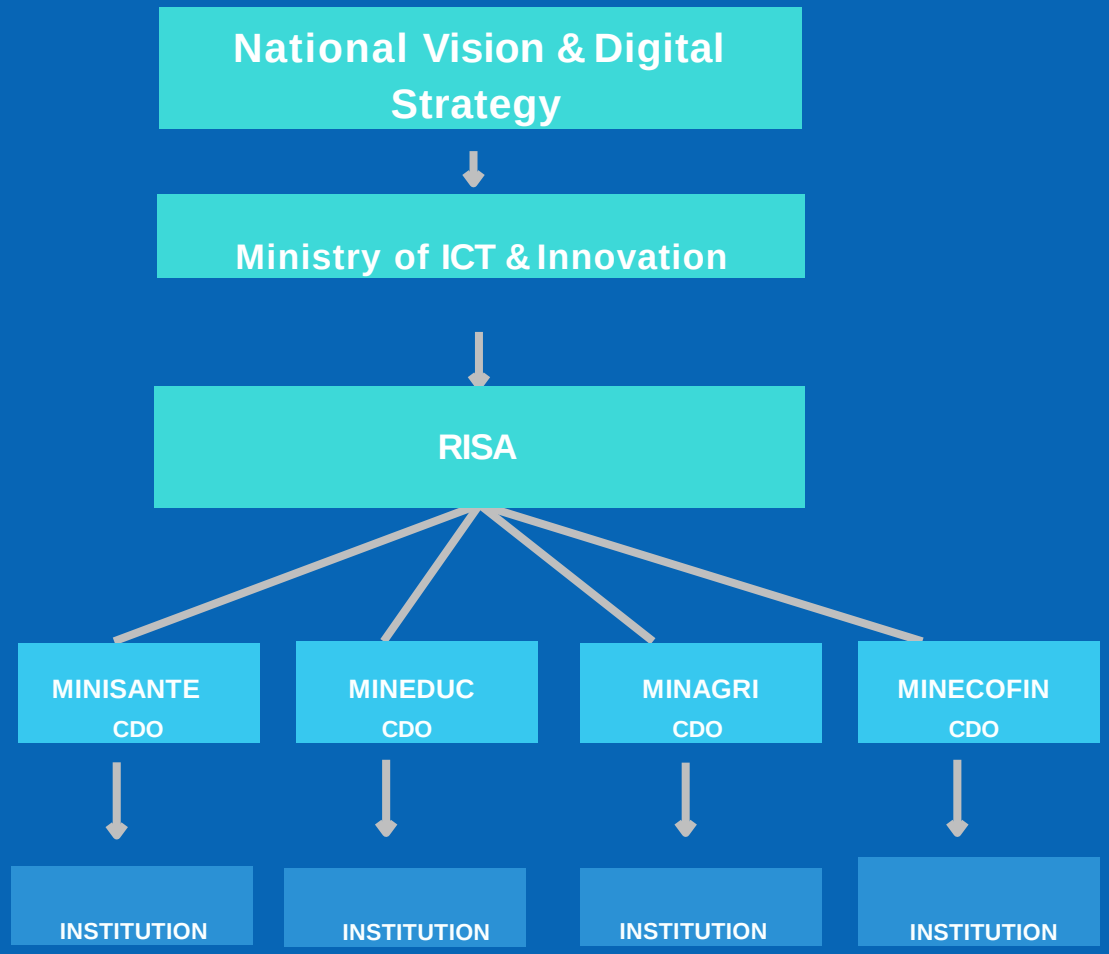
RISA
Rwanda Information Society Authority

RWANDA INFORMATION SOCIETY AUTHORITY

2022

Championing Digital Transformition

CONTENTS



GOVERNANCE & COORDINATION OF THE ICT SECTOR.

- **Promoting standardization.**
- **Achieving economies of scale.**
- **Consolidating and modernizing technology platforms.**
- **Accelerating the Government of Rwanda's digital transformation.**
- **Introduction of better citizen-oriented design principles.**
- **Stronger data strategy & governance.**

RISA DIVISIONS & WORK SEQUENCE

Innovation Division

Emerging Technologies

Software Solutions Division

Software &Applications Development

Infrastructure Ops & Support Division

Infrastructure Needs

Enterprise Architecture Division

EA Framework & systems integration

Digital Cluster Coordination Division

Policy, Strategy & Coordination

Public Key Infrastructure

Digital Signatures

RWANDA DIGITIZATION JOURNEY

OUR JOURNEY OF LEVERAGING TECHNOLOGY TO BECOME A KNOWLEDGE-BASED ECONOMY STARTED IN 2000

2000

NICI-I

Policy Development & Institutionalization

2006

NICI-II

Infrastructure Development

2011

NICI-III

Service Development & Digitization

2015-2020

Smart Rwanda Masterplan

Achieve a knowledge based economy

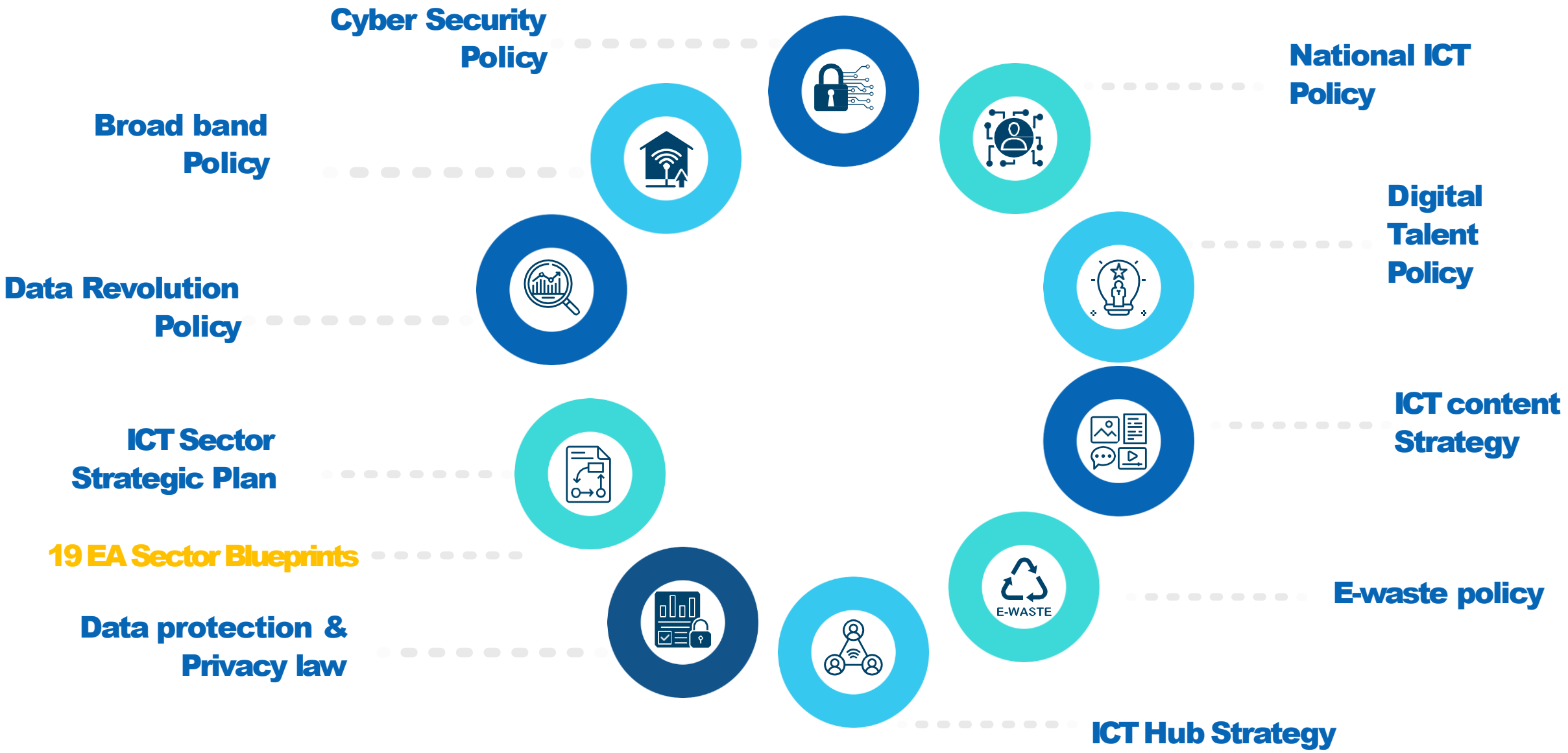
-

2017 –2024

NST1

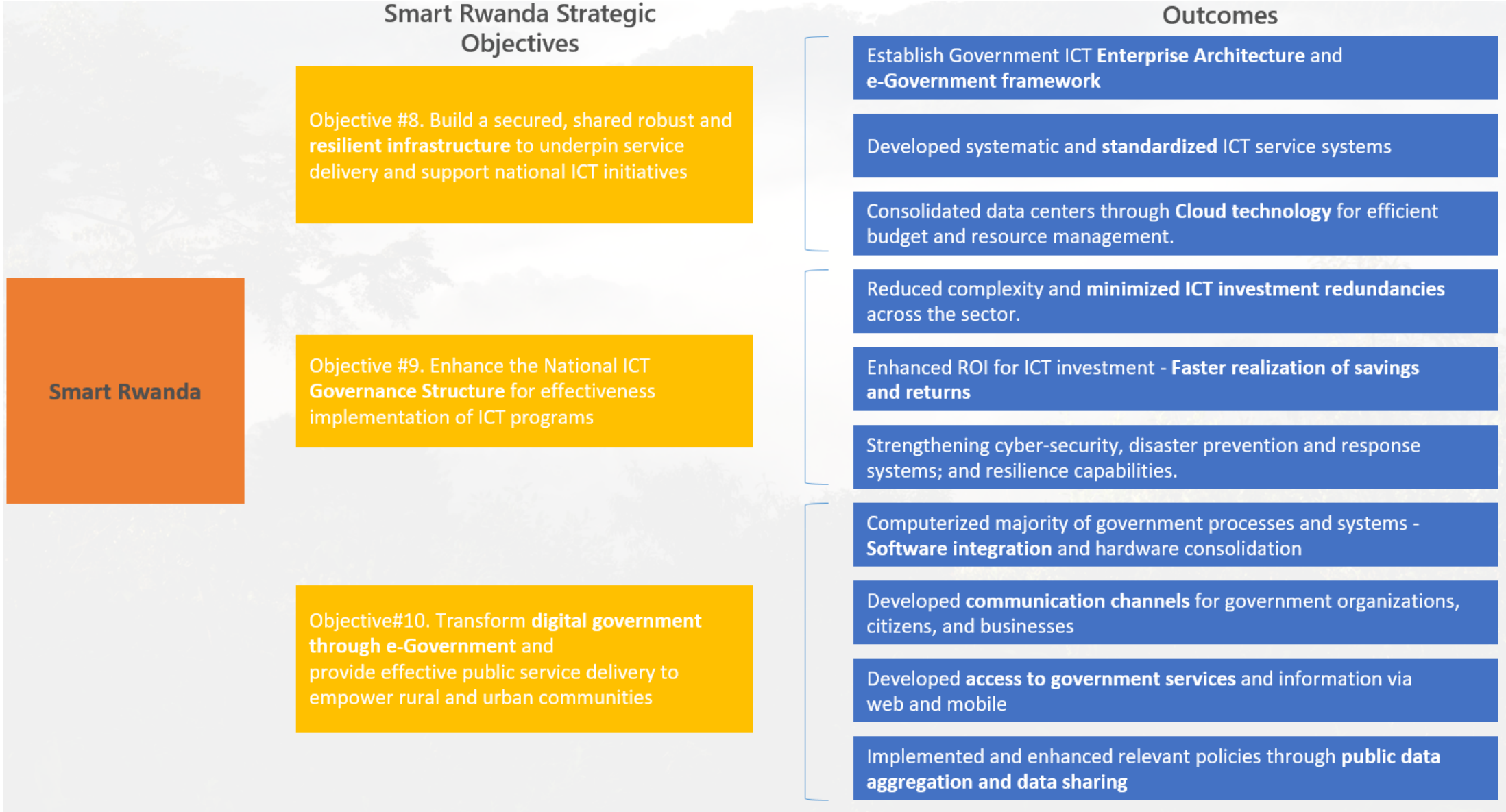
Accelerating digitization of the economy and public services

EXISTING POLICIES & STRATEGIES

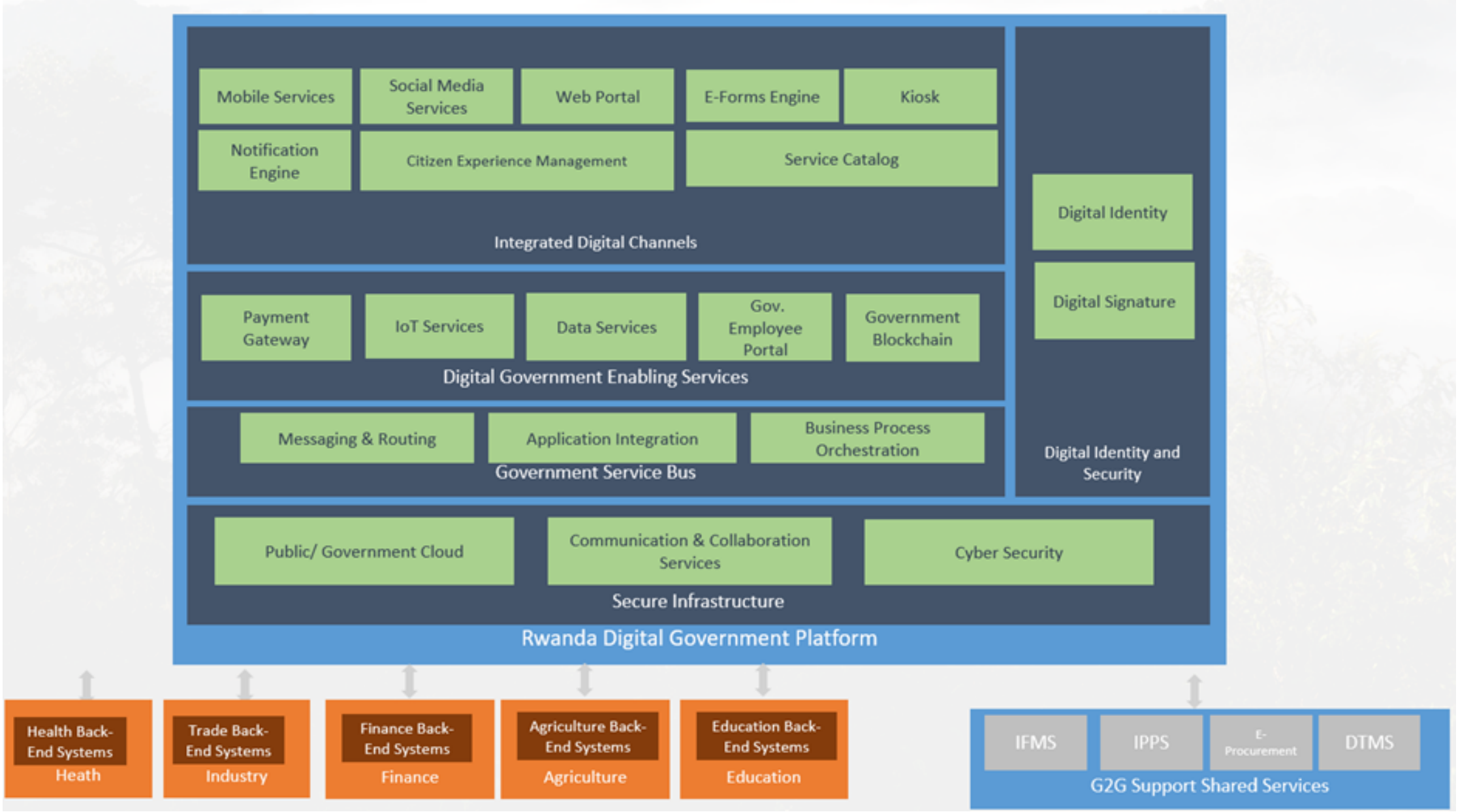


Digital Government Strategy

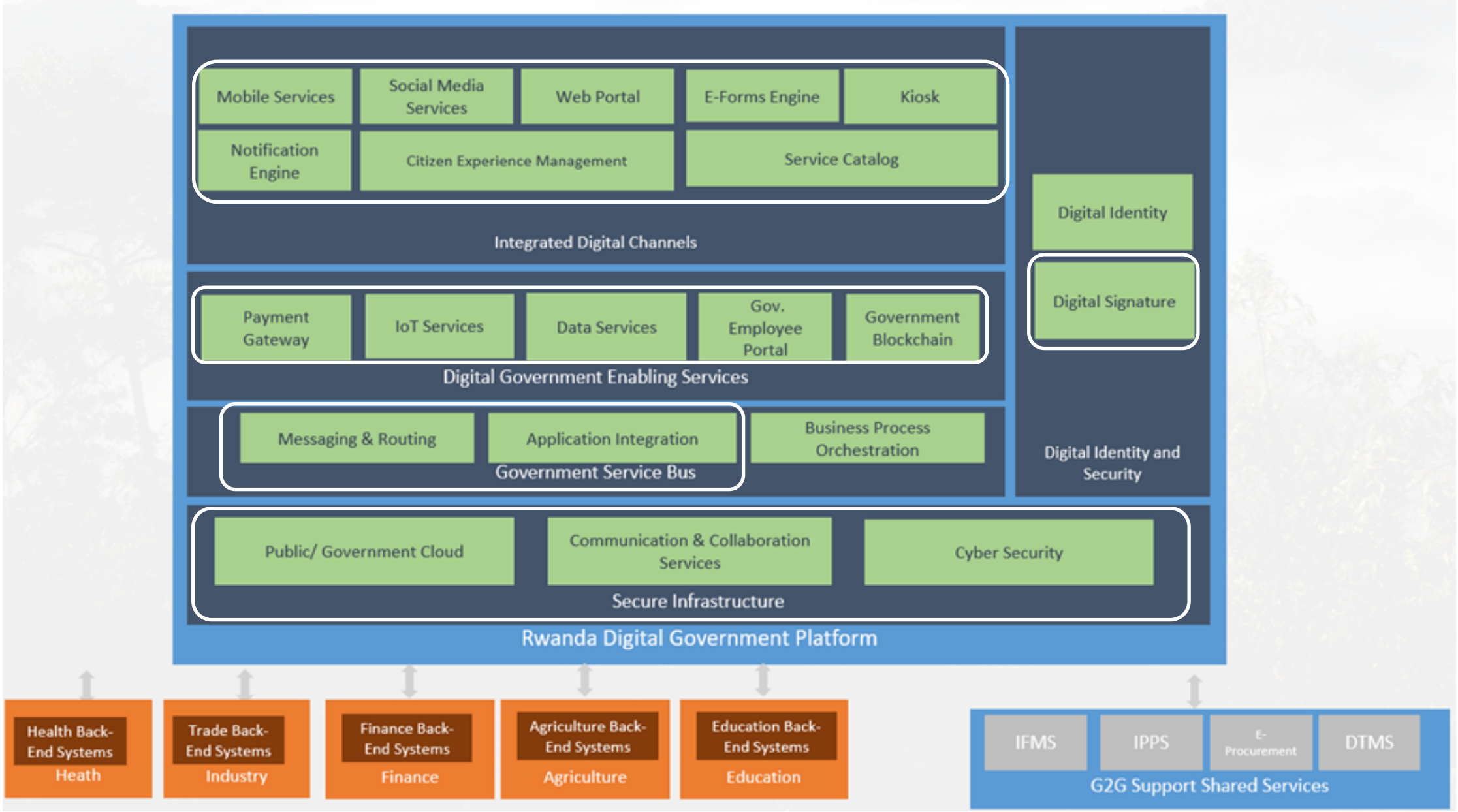
Smart Rwanda Objectives



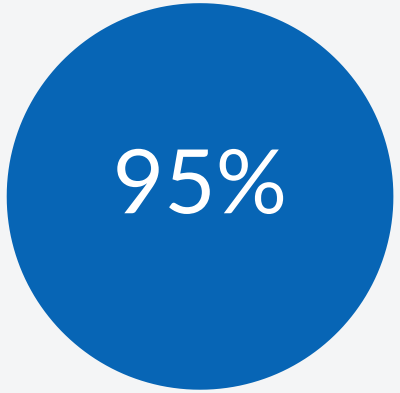
Digital Government Architecture



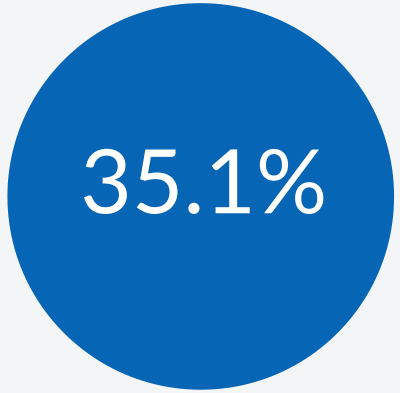
Digital Government Architecture (Current status)



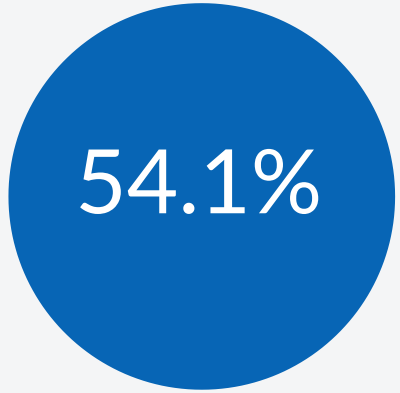
CURRENT STATUS



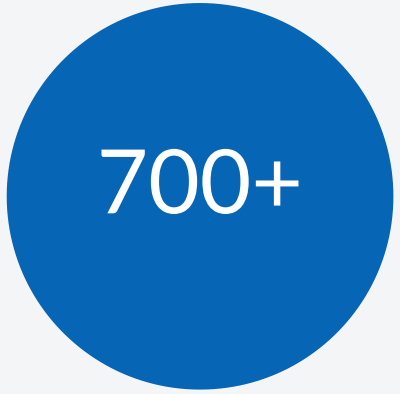
4g LTE network coverage



Digital literacy rate



Government services digitized



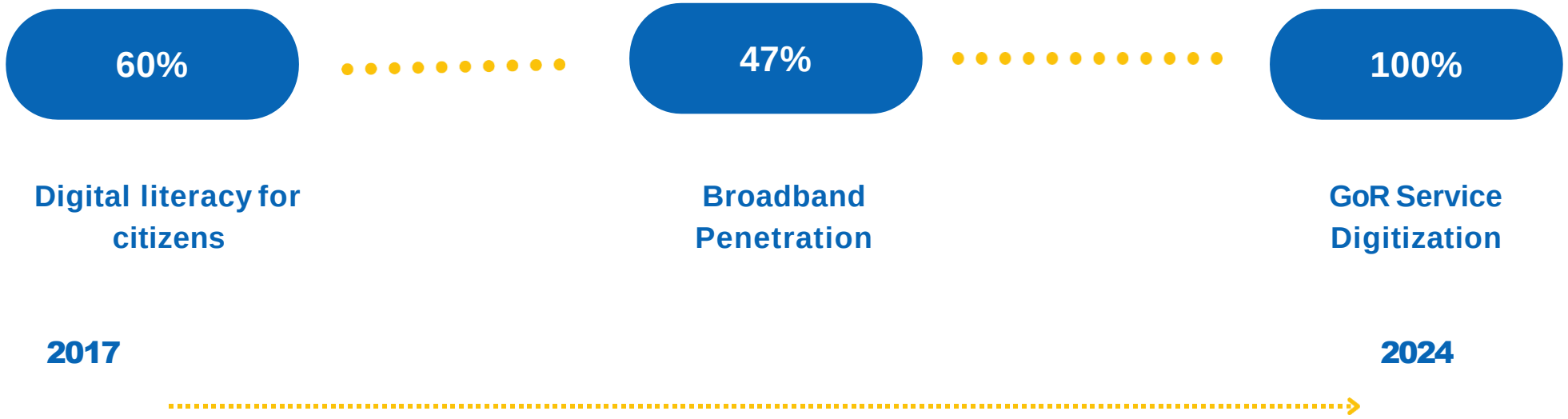
IT Startups

IT companies

Innovation Hubs

Future Maps

Actualization of the ICT Sector NST1 targets.



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OVERVIEW OF INTENDED RWANDA NATIONAL E-WASTE STRATEGY AND EPR LINKS

Richard NIYOMUGABO
Environmental Safeguards Specialist
Rwanda Information Society Authority

Strategy Background

1) Increased generation of e-waste needs a clear strategy and roadmap for sustainable management.
2) A requirement of the National Water and Sanitation Policy.
3) The strategy will stress importance of strengthening partnerships with key stakeholders for sustainable & effective waste management.
4) It calls for the establishment of a national e-waste collection and management framework.
5) The strategy shall ensure the continual improvement, monitoring, and sustainability of Rwanda’s national EPR-based e-waste management system.

Example Strategic Objectives

1) Data collection and target-setting.
2) Auditing, reporting, and enforcement.
3) Resource mobilization.
4) Outreach and lowering access to waste costs.
5) System efficiency and digital solutions.

National Strategy and EPR Links

Data Collection and Setting Targets

1) Producers will need to meet targets. There are links between data & targets and financial situation of the EPR system and the fees producers pay.
2) And there will be generation of data by EPR system (registration through RICA, producers reporting to PSF (PRO), and PRO registration with and reporting to RURA etc.
3) Mechanisms will be needed to collect and use data for enforcement and target-setting and improvement of the EPR system overtime.

Auditing, Reporting and Enforcement

1) The strategy shall provide a framework for auditing and tracking as well as reporting the implementation progress of the EPR system.
2) It will provide a place of the assessment of options for better enforcement of the system to improve compliance over time.
3) The strategy will also put in place measures to enhance the auditing and reporting procedures over time of the EPR system and the management of e-waste in Rwanda.

Resource Mobilization

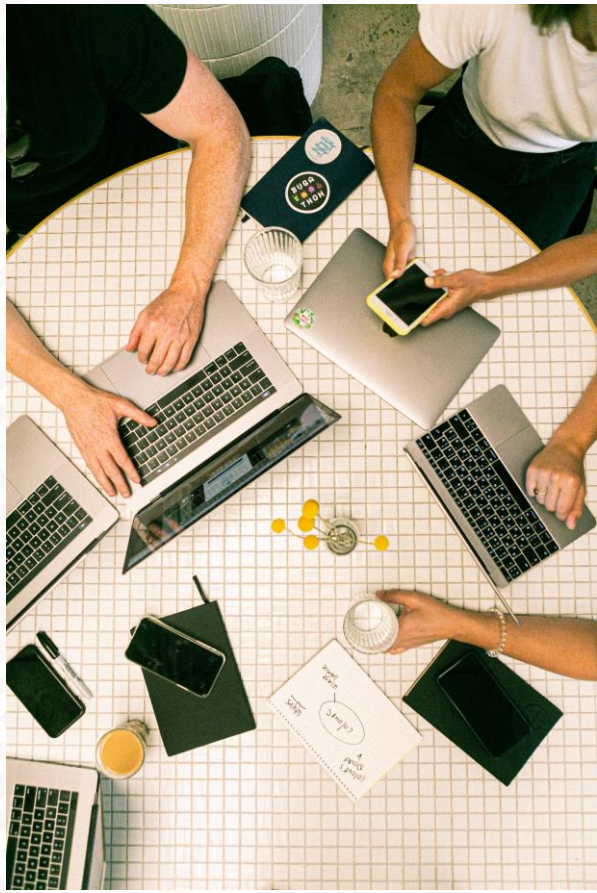
1) The EPR system will not generate revenue for infrastructure development.
2) But it will generate revenues for awareness raising to reduce access to waste costs and contracts with waste management companies.
3) The Strategy's resource mobilization plan will complement the EPR system by targeting infrastructure, digital solutions, and Government of Rwanda staff training (i.e., human and technical resources).

Outreach and Lowering Costs

1) Completing the EPR system by promoting open collaboration between retailers and producers.
2) Ensuring the responsibility is extended to all actors in the system (including Government of Rwanda entities, big companies and individuals).
3) Proving a framework for the review of the rules and procedures of the Government of Rwanda procurement and disposal of EEE to ensure what is discarded is captured in data towards targets.

System Efficiency and Digital Solutions

1) Providing a guiding framework (standard operating procedures) for the digital tools and solutions to be used as more actors are introduced to the e-waste management system.
2) Streamlining procedures in response to e-waste management and EPR-related regulation implementation and compliance.
3) And identifying new entry points for digitalizing and thus making the EPR system more efficient in the long-term.



Thank you!

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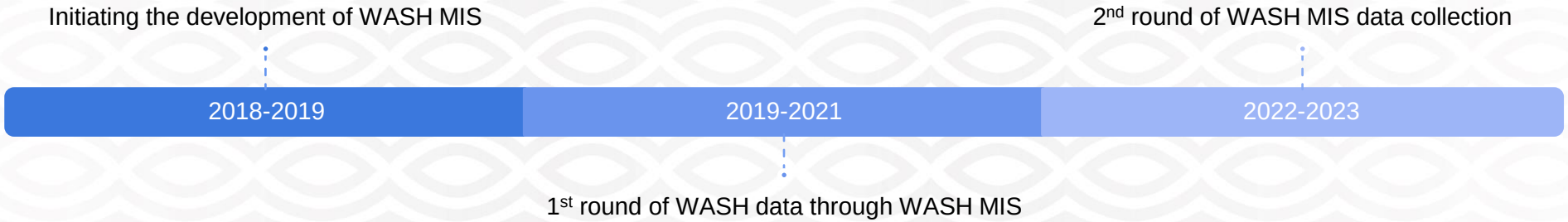
Water, Sanitation and Hygiene Management Information System (WASH MIS) Specialist

Current Status and Future Plans for Upgrade and Inclusion of E-waste Management

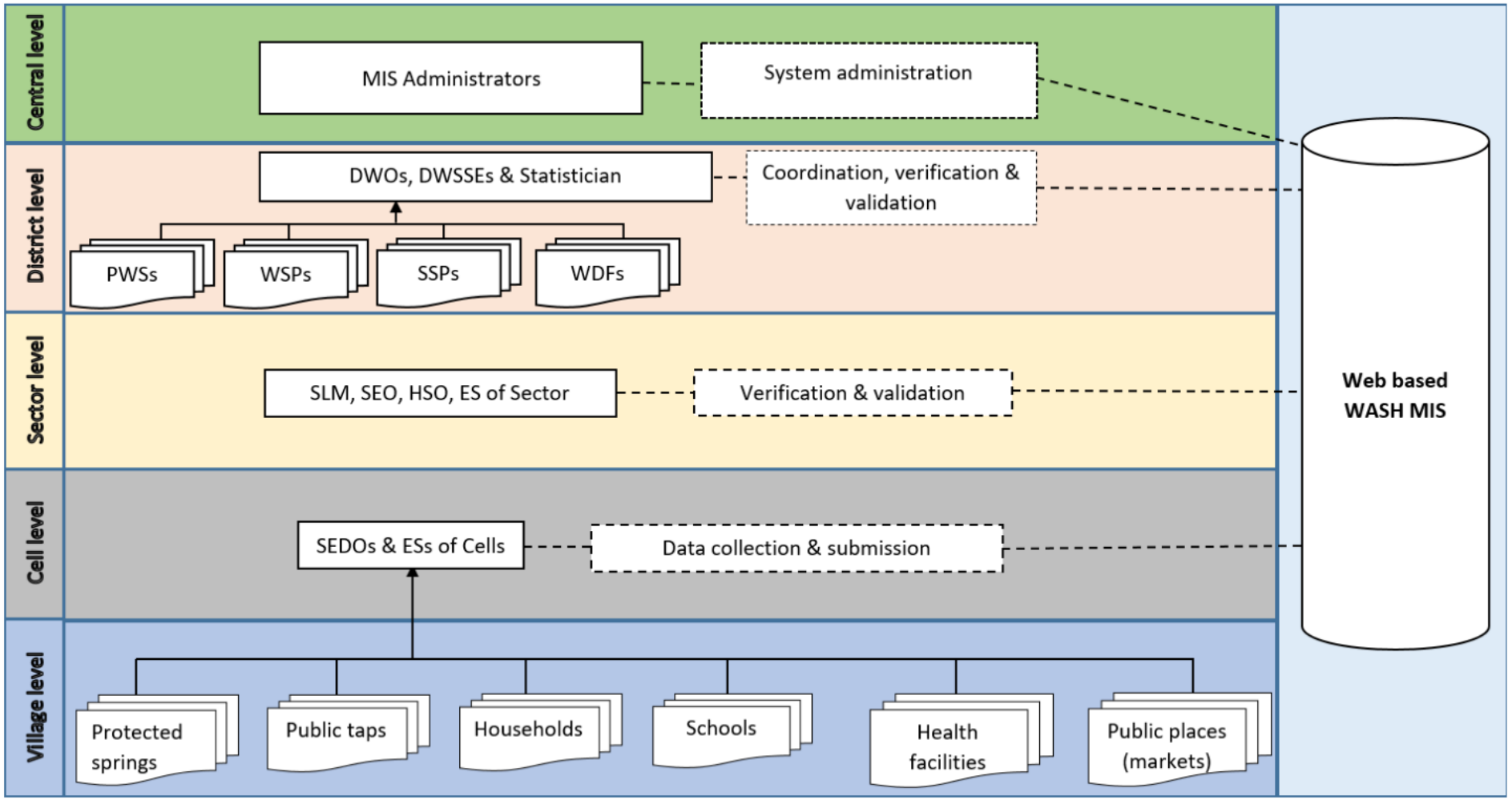
Fabrice Birasa

Background and Rationale

- The Government of Rwanda is committed to achieve universal access to basic water, hygiene and sanitation services by 2024.
- SDG-6 emphasizes achieving safely managed water and sanitation services by 2030.
- SDG-11.6 targets to reduce, by 2030, the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- There is demand for a Management Information System (MIS) for monitoring the process towards these goals and for the sake of harmonizing WASH data management by all the sector stakeholders.



Current Data Collection Flow



WASH Data Collection from Different Entities

Households	Schools	Health facilities	Public Water taps	Public places (Markets)

• Basic information:
  • HH head gender
  • Education
  • HH composition
• Access to water supply services
• Access to Sanitation services
• Access to Hygiene services
• Solid waste management
  • Solid waste sorting
  • Organic waste disposal
  • Non-organic waste disposal
	• School's General information
	  • School name and type
	  • Location
	  • Leadership and management
	• Access to Water Supply services
	• Access to Sanitation services
	• Access to Hygiene services
	• Solid Waste management
		• HF's General information
		  • HF's name and type
		  • Location
		  • Leadership and management
		• Access to Water Supply services
		• Access to Sanitation services
		• Access to Hygiene services
		• Waste management
			• Public tap's name, location and type
			• Functioning status
			• Number of HHs benefiting from PWT
			• Quality and quantity of water from PWT;
			• Water pricing;
			• Existence of Water user committees
			  • Gender balance
				• Market's General information
				  • Market's name and type
				  • Location
				  • Leadership and management
				• Access to Water Supply services
				• Access to Sanitation services
				• Access to Hygiene services
				• Solid Waste management

Which components of e-waste management are to be monitored in each of the above entities?

→

Which level of disaggregation is required for each entity?

→

What is the required time frequency for reporting?

Units of Data collection, Sample Size and Methodology

Units of data collection

WASH data is collected on :

- Households (2% of the total HHs but not less than 10 HHs)
- Schools (Pre-primary, primary, secondary, higher education)
- Health facilities (hospitals, health centers, health posts, etc.)
- Public Places (markets)
- Water supply systems:

✓ Piped water schemes (PWSs)
✓ Protected springs
✓ Boreholes

Sample size and methodology

Data are collected on:

Random samples of households (***2% of all HHs, with minimum of 10 HHs per each village stratified by Ubudehe categories***")

All schools, HFs, PPs, PWSs, boreholes, improved springs and public standpipes/taps

Data are collected by local government staff (**SEDOs/ES**), reported to district level **(DWOs, DWSSEs, DSs)** and Central level (MIS Managers).

WASH MIS Operationalization Cycle

Questionnaire on EEE

http://webcollect.mininfra.gov.rw/x/86FOt0X5

Questionnaire for Inventorization of Electronics/Electrical items and understanding behaviour

E-waste management general information

Name of the respondent (Title, Full name):

e.g: Mr. Jean De Dieu Mucyo

***Respondent's Phone number**

***Respondent's Email**

Respondent's province of residence

***Respondent's district of residence**

***Respondent's sector of residence**

***Do you have Electronic or electrical appliances in your home which are broken/damaged?**

- Yes
- No

***Do you have Electronic or electrical appliances in your home which are Not working but repairable?**

- Yes
- No

***Do you have Electronic or electrical appliances in your home which are working but not used?**

- Yes
- No

***Do you have Electronic or electrical appliances in your home which are In Working condition?**

- Yes
- No

In the last six months if you have bought new electronic/electrical appliances, what have you done with the old ones?

- Threw in dustbin
- Donated it
- Gave it family members/friends
- Kept in cupboard
- Sold it
- Gave to waste collector
- Sold it in exchange scheme
- Others

Next steps

1) Perform upgrades to the MIS.

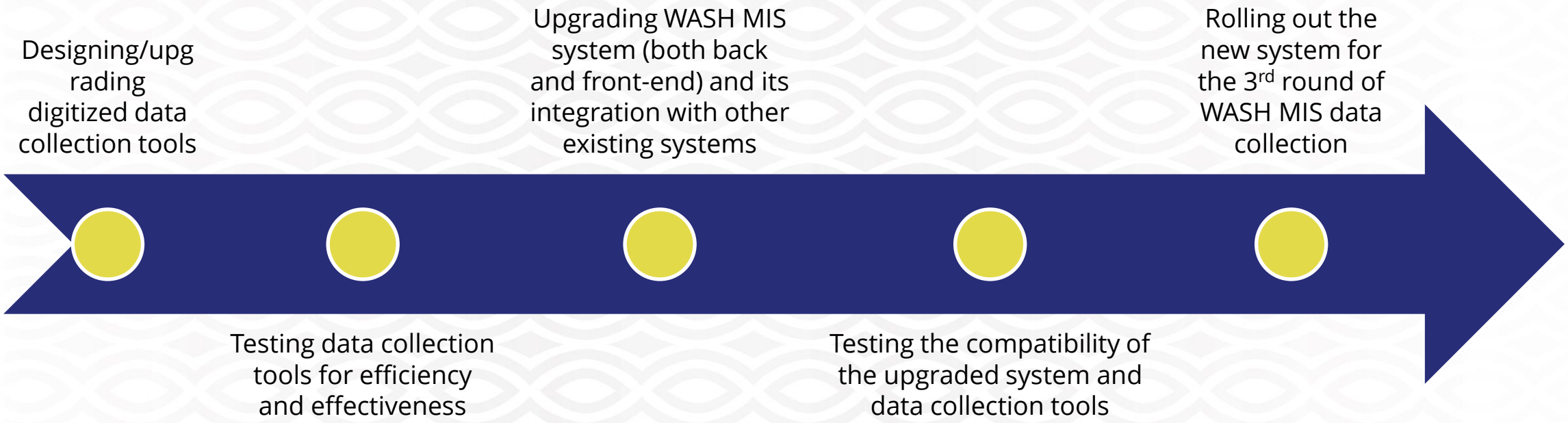
2) Train national and district level staff on the upgraded system.

3) Maintain the process of data collection annually.

4) Integrate key indicators in national reporting (through NISR reports/website).

5) Identify where to integrate data from the e-waste management system and EPR-generated data in the upgraded WASH MIS.

WASH MIS Upgrade and Operationalization Roadmap



Thank you!

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Wash MIS Specialist, Economist and Data Analyst

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