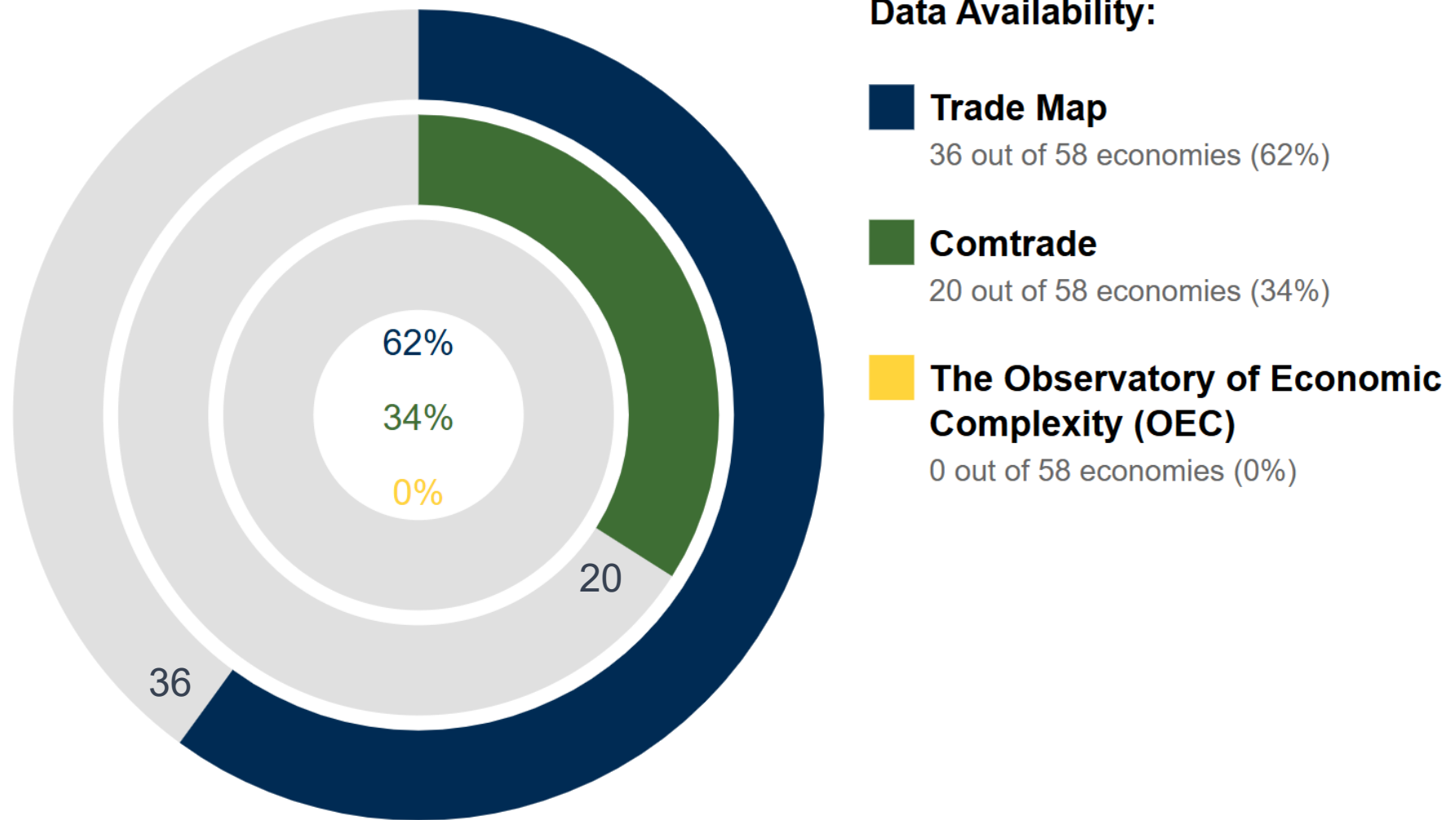# Automatic collection and processing of transactional data: a pilot in Africa

Presentation to the UNCEBTS 7th meeting

25 September 2024, Geneva

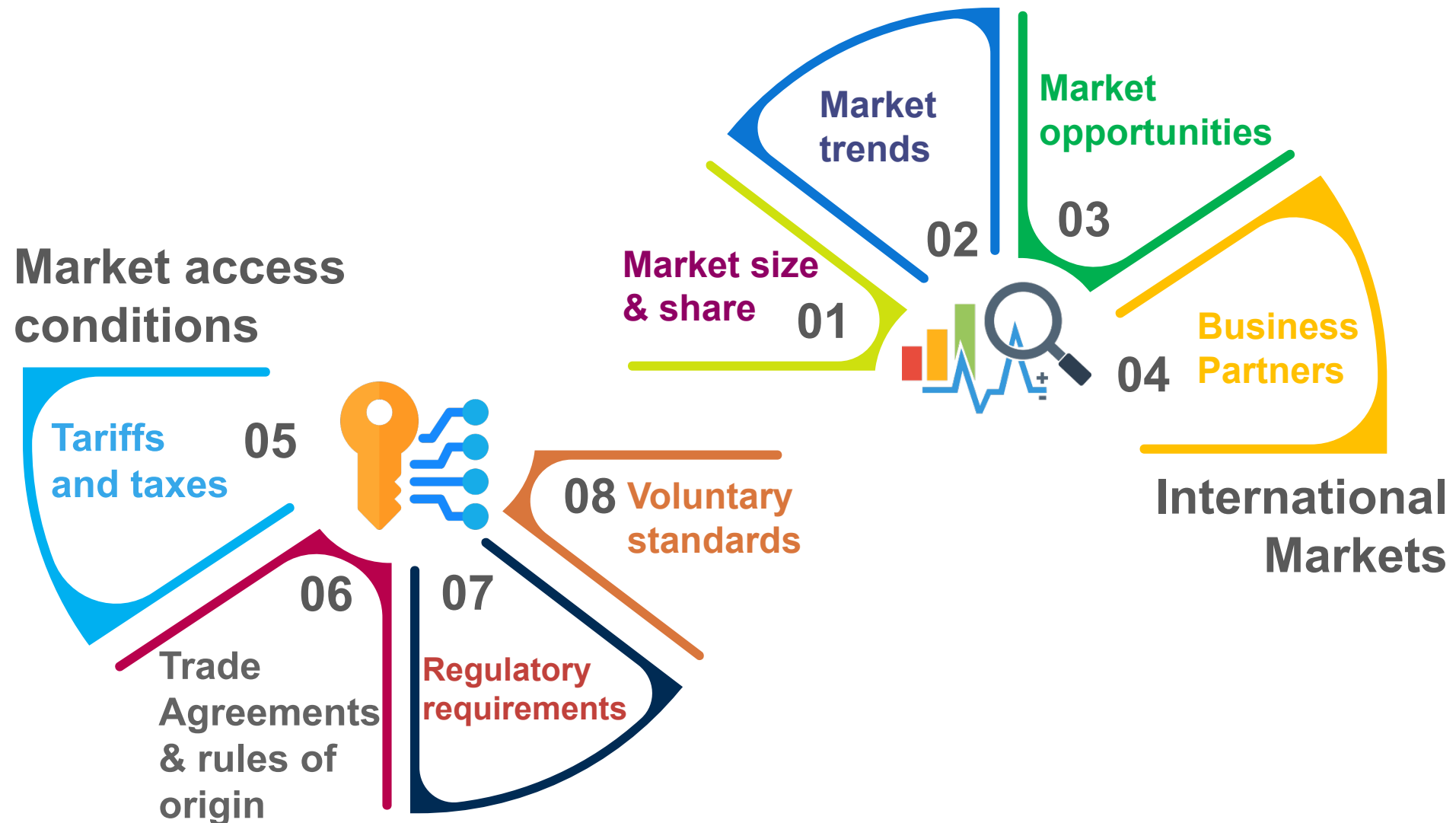# 2023 Snapshot of Trade Data Availability Across Africa

Data Availability:

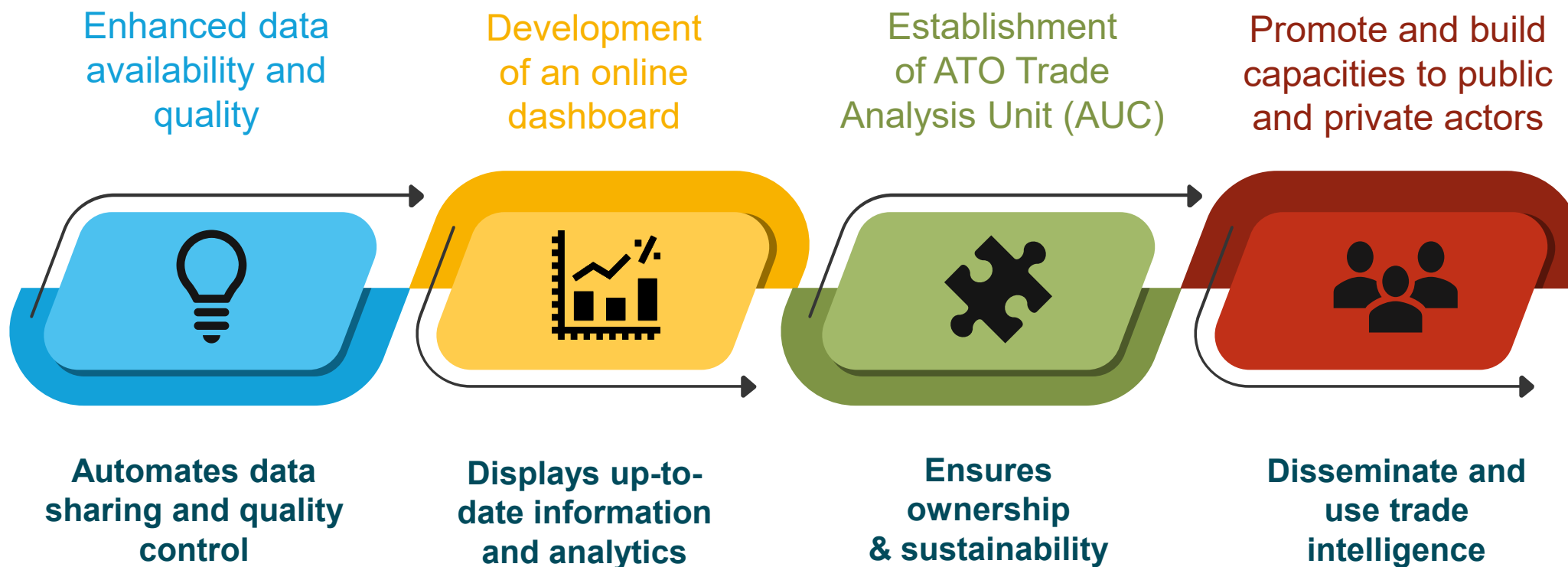■ **Trade Map**
36 out of 58 economies (62%)

■ **Comtrade**
20 out of 58 economies (34%)

■ **The Observatory of Economic Complexity (OEC)**
0 out of 58 economies (0%)

62%

34%

0%

20

36

The African Trade Observatory (ATO)
→ enhancing data to support business and policy decision

Reliable and up-to-date data

African Trade **Observatory**

→ ato.africa

Enable better business decision-making

Support policy design and trade monitoring

African Union

International Trade Centre

Funded by the European Union

The ATO provides timely and accurate information about international markets and access conditions

Market trends

Market opportunities

Market size & share

01

02

03

04

Business Partners

International Markets

Market access conditions

Tariffs and taxes 05

06

07

08 Voluntary standards

Regulatory requirements

Trade Agreements & rules of origin

The ATO project is built around 4 main pillars

Enhanced data availability and quality

Development of an online dashboard

Establishment of ATO Trade Analysis Unit (AUC)

Promote and build capacities to public and private actors

Automates data sharing and quality control

Displays up-to-date information and analytics

Ensures ownership & sustainability

Disseminate and use trade intelligence

2019 2020 2021 2022 2023 2024 2025 2026

Publicly Accessible Trade Statistics vs Transactional Data

	Publicly Accessible Trade Statistics		Transactional Data
	Extended lag between data collection and release	→	Automated data synchronization that facilitates industrialization – Centralized by ATO
	Monthly aggregated data, typically at HS6 level	→	Granular data with detailed attributes that allow harmonized checks and treatments across countries
	Scope often limited to trade values and volumes	→	Over 40 dimensions, incl. freight and insurance costs, utilization rate of preference, transport mode, trader type, border crossing time, etc.
	Focused on origin and destination markets	→	Provides information on origin, destination, customs offices, and channels
	Useful for assessing macro-level trade trends	→	Granularity facilitates in-depth analysis, the release of advanced trade related indicators for deeper insights
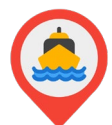
How ATO supports evidence-based decisions?
→ Automation of full data journey

1 **Data collection**

Collect Data from Different Sources
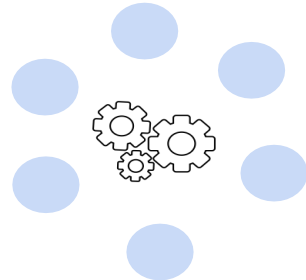
African Customs Data Hub

ATO Data Entry Tool (manual entry)

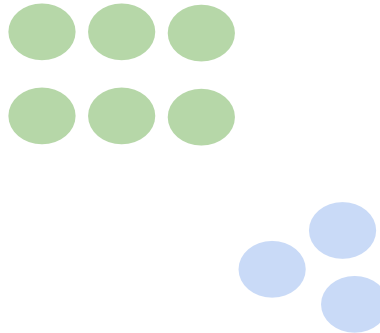Data sharing tool (ASYATO or AfTDI)

2 **Data processing**

Make data ready for analysis

Data Mapping
Data Harmonization

Understand patterns in the data

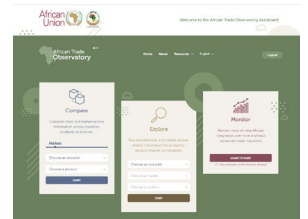**3** **Outputs generation**

Indicators generation

python™

Data quality reports

Processing of transaction data /tax schedules & indicator generation/update based on validation rules

4 **Data visualization**

Share insights

ATO Monitor Module

Inputs for analytical reports prepared by duly authorized users (e.g. African Union Commission, AfCFTA Sec., RECs, national institutions)

+ Complementary trade data (when necessary)

The data sharing application (AfTDI)

- Free installation in customs environment, no license needed.
- Automatically extracts and exports data to African Customs Data Hub daily, weekly, or bi-monthly
- Tansaction data to African Customs Data Hub
- Read-only access to customs database
- Flexible and secure architecture
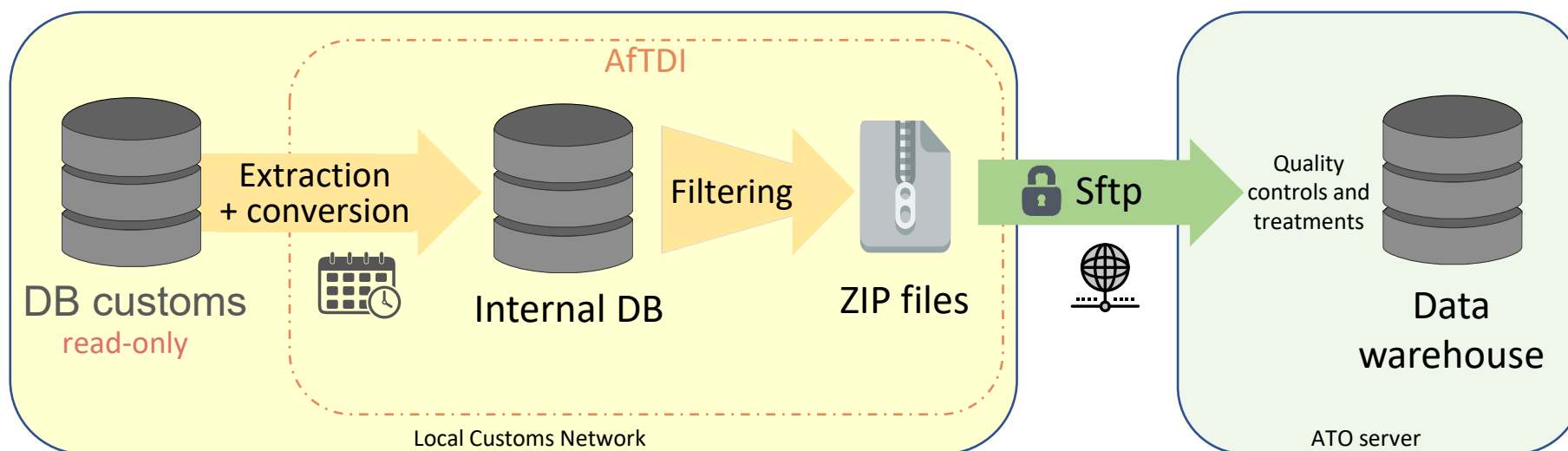
- For ASYCUDA World countries, a tailored extraction module (ASYATO) is available and has been developed by ASYCUDA team (Geneva)
- **The customs authority retains data ownership post-transfer**

Example for Madagascar
(March 2024 – 12,000 declarations)

1 **Data collection**

2 **Data processing**

3 **Outputs generation**

4 **Data visualization**

ASYCUDA-ATO Extraction Tool
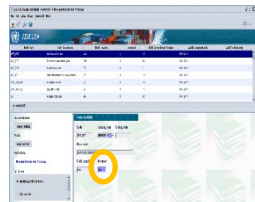
Data extraction 10th of each month

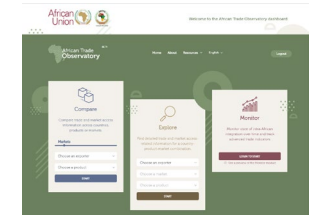**Data quality reports**

2 minutes

Indicators generation

2 minutes

3 minutes

Share insights

- Transportation Cost
- Tax Revenue
- Border Crossing Time
- Mode of Transportation
- Seasonality
- Utilization of preferences

Total processing time: 7 minutes

29 countries collaborate on customs data sharing

Key national partners:
- Ministry of Trade
- Customs
- National Statistical Offices

MANUAL (X18)

AUTOMATED (X 11)

* Automation in progress

Angola; Burundi; Cabo Verde; Cameroon; Comoros; Central Af. Rep; Congo Dem. Rep; Côte d'Ivoire; Egypt*; Ethiopia; Eswatini*; Gabon; Gambia; Ghana; Guinea; Guinea Bissau; Kenya; Liberia*; Libya; Madagascar; Malawi; Mauritania; Mozambique; Namibia*; Niger; Nigeria; Rwanda; Sao Tome & Principe; Senegal; Seychelles; Sierra Leone; Somalia; South Sudan; Tanzania; Togo; Tunisia; Uganda; Zambia; Zimbabwe

Transaction level data quality reports

ATO

A single entry-point to facilitate access to trade data

Free trade intelligence for businesses & BSOs
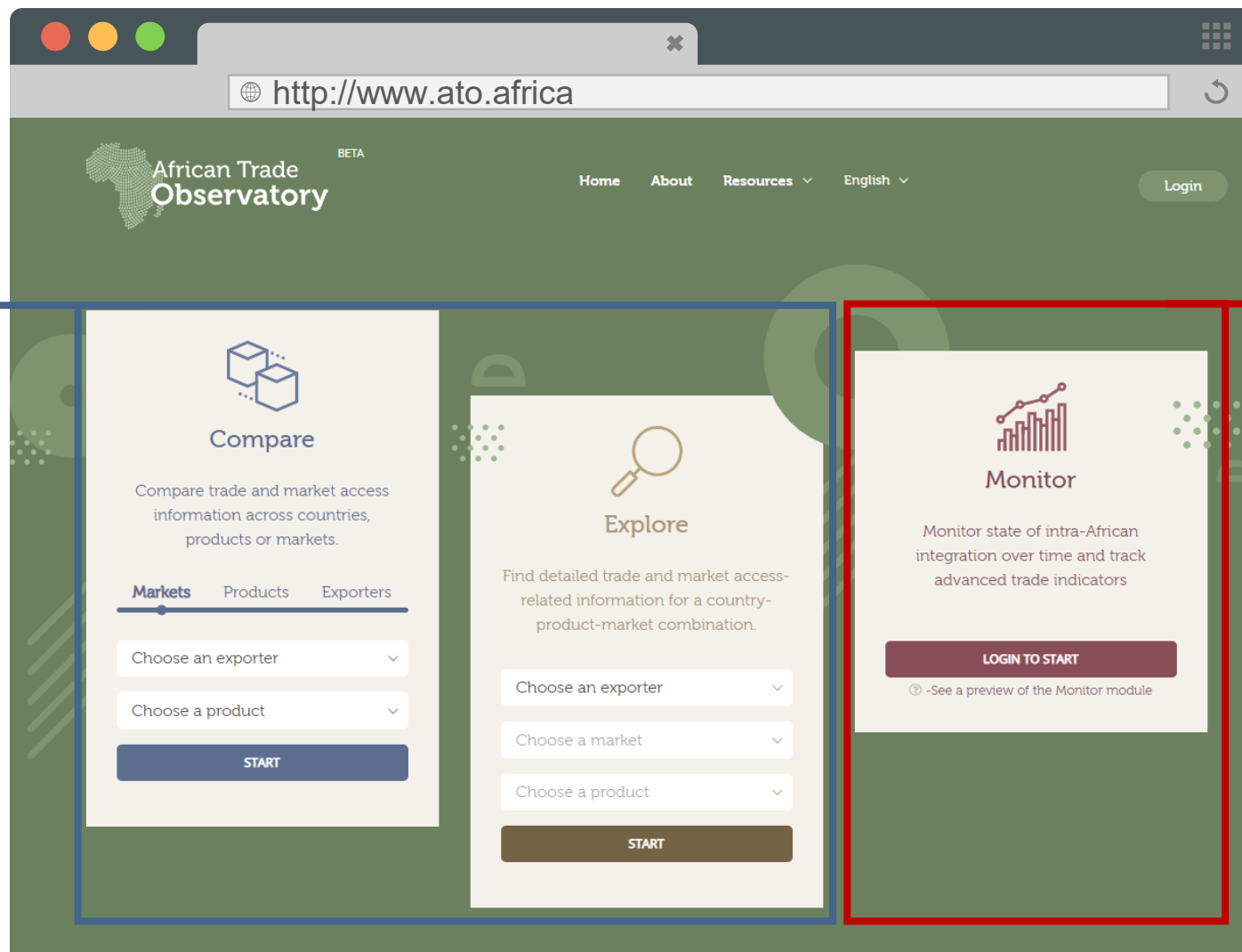
Trade analytics for government officials, policymakers and trade experts

Available in 6 AU languages

ATO for policymakers
→ Monitor national/regional policies

Policymakers can:

- ☐ **Track** the level of processing and end use of exports across markets to identify value chain activities across the continent

- ☐ **Monitor** to what extent national traders are benefitting from preferential trade instruments as well as tax revenues collected at the border across sectors

- ☐ **Get a deeper understanding** of national trade performance

- ☐ **Assess** the evolution of regional integration

Three main categories:

TRADE

14 indicators

MARKET ACCESS

3 indicators

BORDER PERFORMANCE

4 indicators

POLICY SIMULATIONS

ATO

ATO Monitor indicators

Category	Indicator	Status
Trade (14)	Trade balance	Available
	Trade openness	Available
	Distribution of trade	Available
	Level of processing	Available
	End use	Available
	Sources of trade growth	Available
	Product diversification	Available
	Market diversification	Available
	Export orientation	Available
	Market shares	Available
	Regional integration	Available
	Trade complementarity	Available
	Market penetration	Available
	Trade growth potential	Available
Border operation (4)	Border crossing time	Available
	Seasonality	Available
	Mode of transport	Available
	Tax and tariff revenue	Upcoming
Market Access (4)	Tariffs measures	Upcoming
	Tariff structure	Upcoming
	Utilization rate of preferences	Available
Policy Outlook	Trade simulation	Upcoming

# Monitor seasonal patterns in trade flows

Madagascar's number of export/import declarations (or customs transactions) per partner/

- Imports of manufactured goods experience consistent peaks in Q4, suggesting seasonal surges in demand and/or strategic stockpiling

# Optimise Logistics Planning by Tracking Border Crossing Time

- In May 2022, goods traded with the EAC through the Kitwe Port Office's red channel experienced a median crossing time of 4.6 days, the longest waiting time of the year.

- The *receipt-to-release* process takes the longest time, whereas the *registration-to-assessment* step is completed in less than 24 hours.
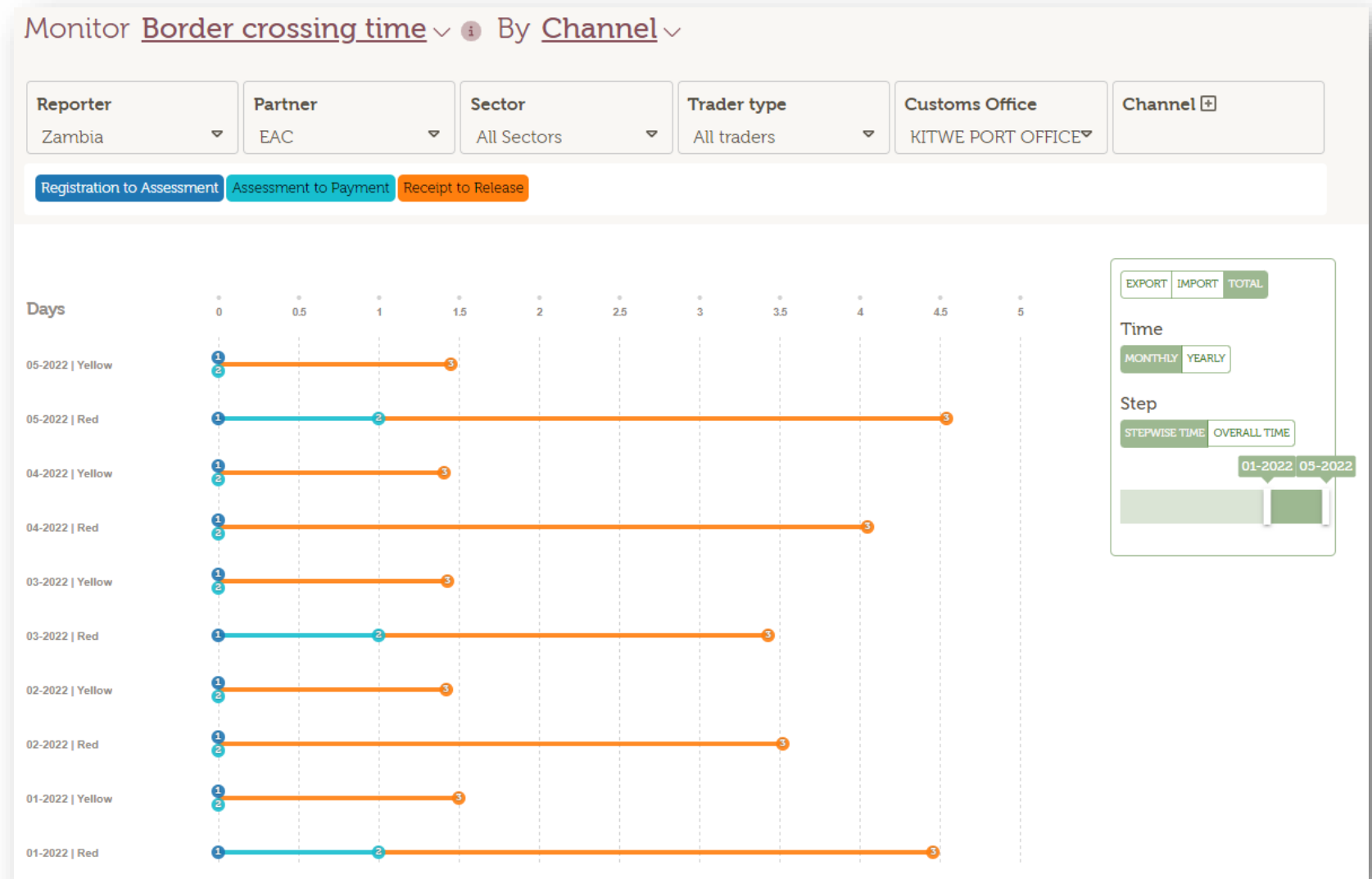
Monitor tariff liberalization per agreement

In January 2024, the uptake of COMESA preferential tariffs in Madagascar shows uneven distribution, with certain sectors gaining more.
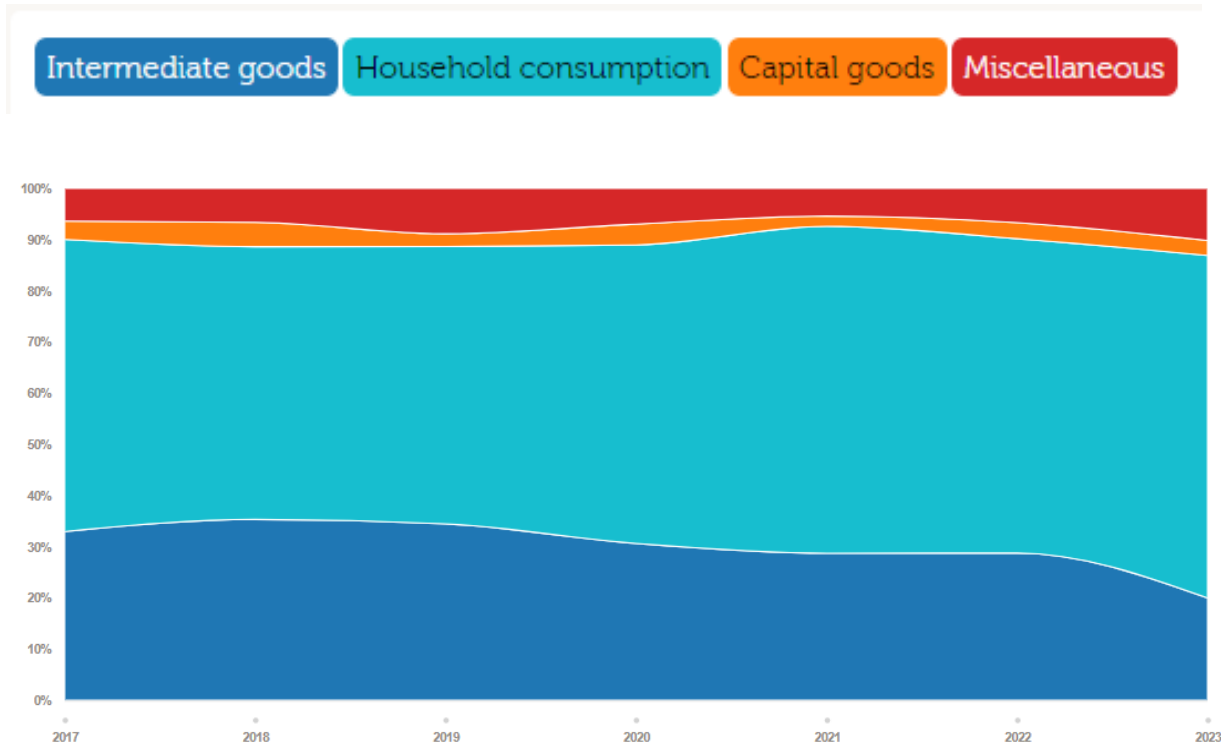
- Despite a significant 13% preferential margin, textile imports have not utilized tariff preferences

- Conversely, imports of chemicals consistently receive tariff preferences (100% utilization) and benefit from a preferential margin of 14%
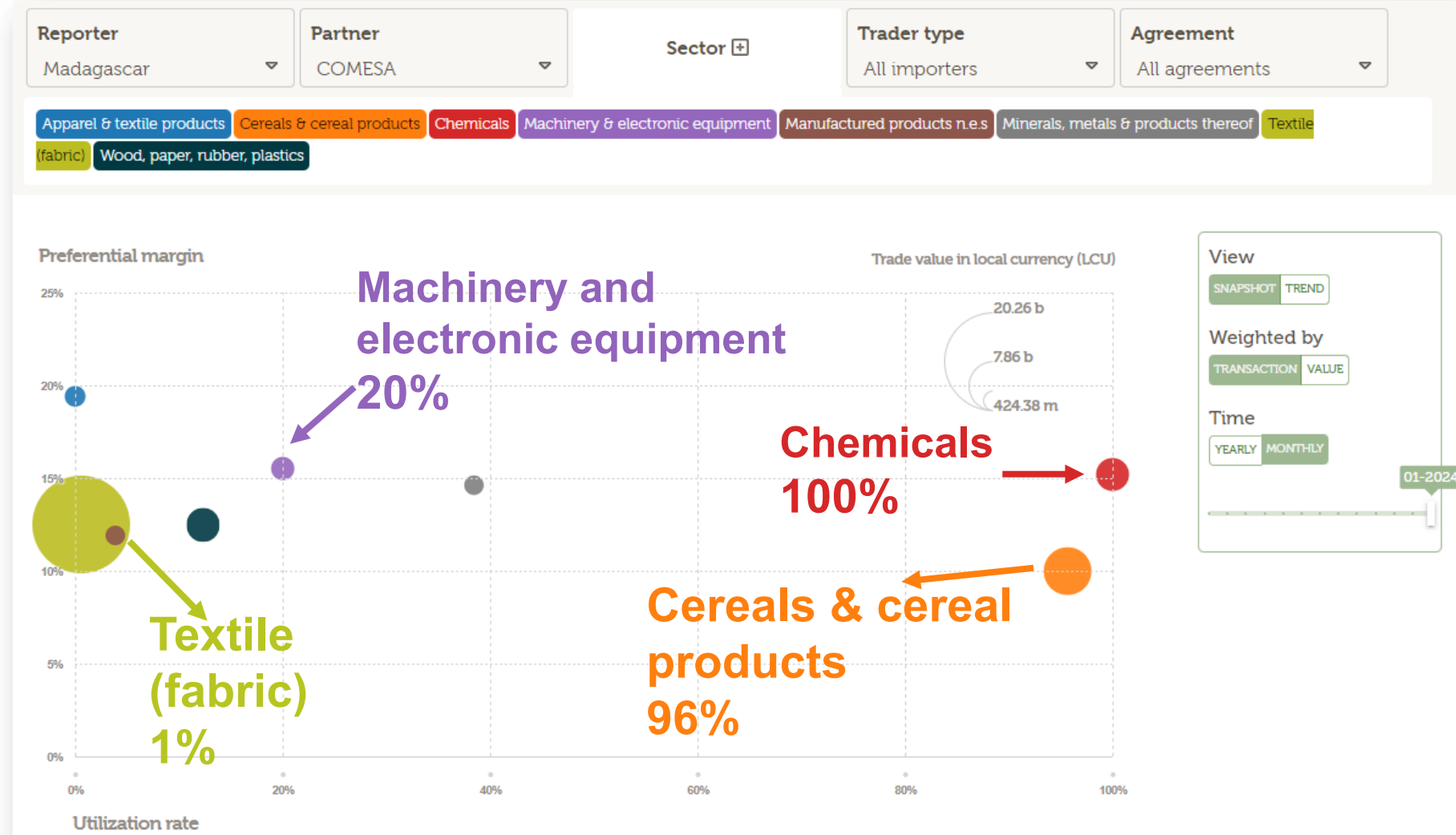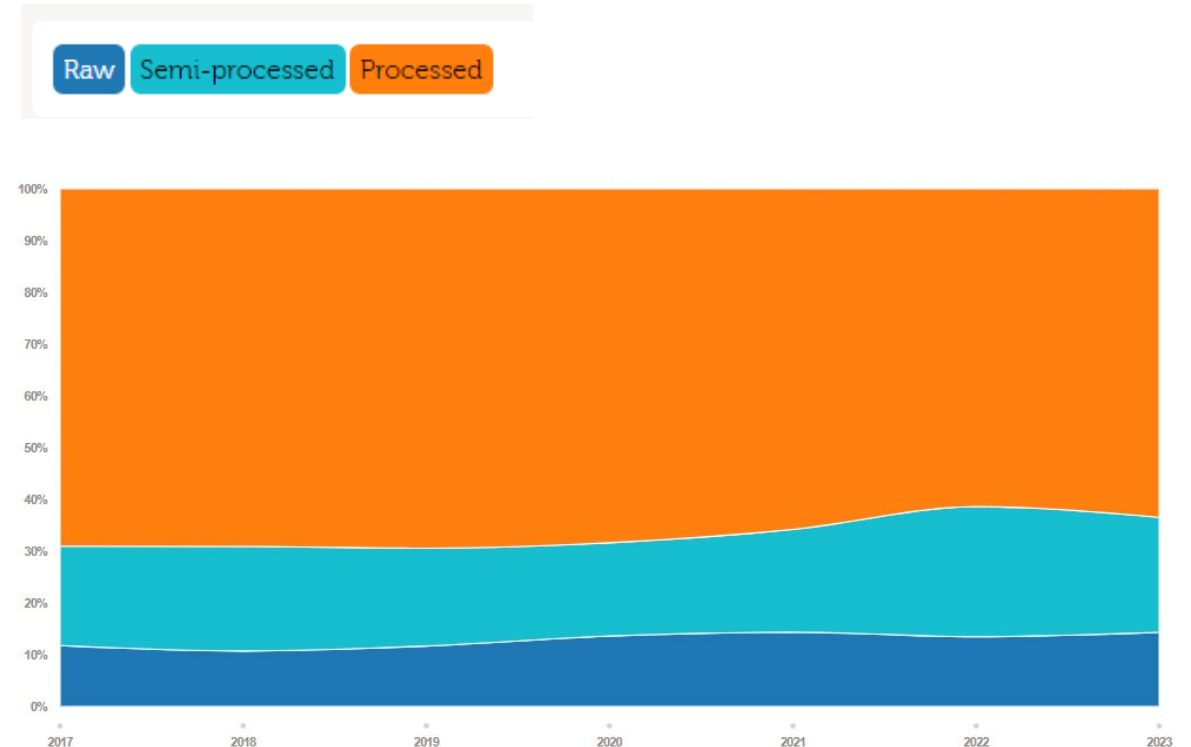
Monitor regional value chains using ITC Trade Data

Trade flows by:

End Use

Level of Processing

Way forward

➢ Enhancing the "customs data hub" (i.e. covering all African countries)

➢ Going deeper with industrialisation of processes for enhanced sustainability

➢ Integration of new data and features:
- RoO self-assessment tool
- Trade in services statistics
- Investment dashboard (in 3 countries)

➢ Capacity building programme for:
- AUC and RECs representatives
- Public and private sectors in countries

Thank you for your attention!

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ato@intracen.org