Rwanda Digital Health and Traceability Implementation
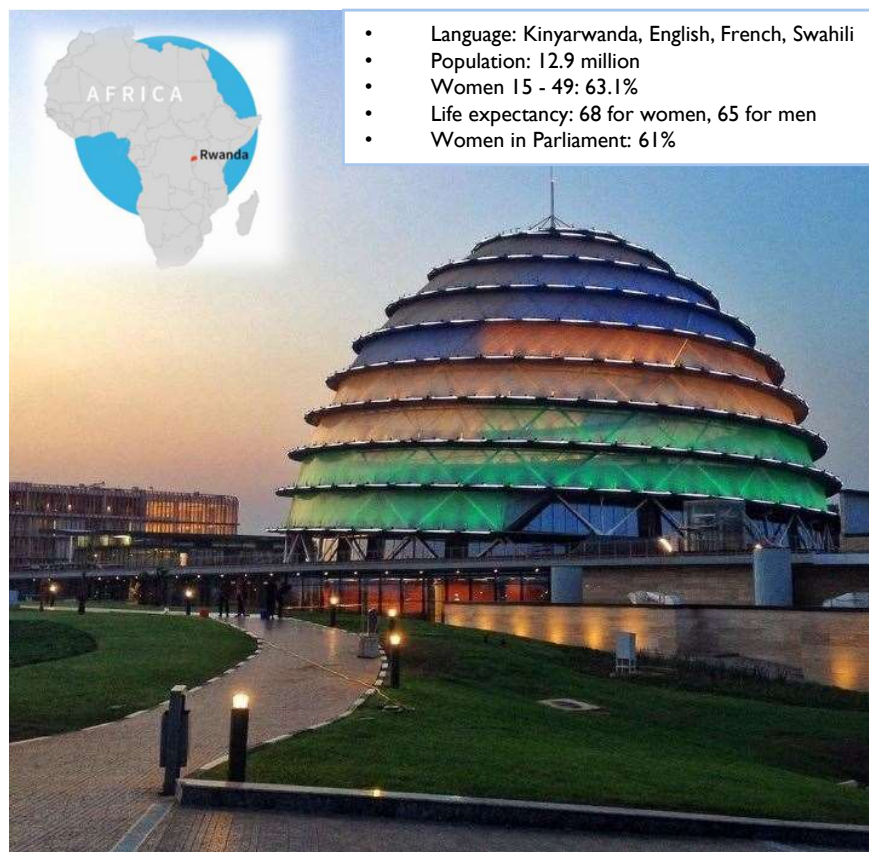
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Photo: Lan Andrian
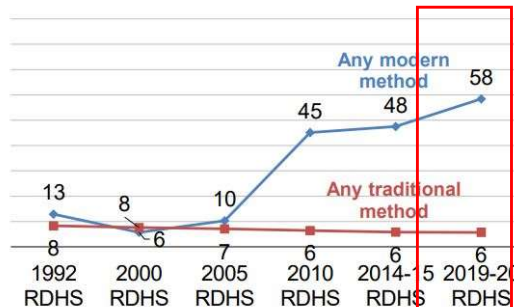
Family Planning in Rwanda
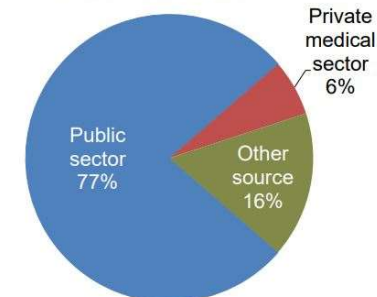

- Language: Kinyarwanda, English, French, Swahili
- Population: 12.9 million
- Women 15 - 49: 63.1%
- Life expectancy: 68 for women, 65 for men
- Women in Parliament: 61%

Percentage of currently married women currently using a contraceptive method

Any modern method: 13, 8, 10, 45, 48, 58 (1992, 2000, 2005, 2010, 2014-15, 2019-20)
Any traditional method: 8, 6, 7, 6, 6, 6

1992 RDHS	2000 RDHS	2005 RDHS	2010 RDHS	2014-15 RDHS	2019-20 RDHS

Percent distribution of current users of modern methods age 15-49 by most recent source of method

Public sector 77%
Private medical sector 6%
Other source 16%

Wanted births: The wanted fertility rate is 3.1, while the total fertility rate is 4.1. This suggests that Rwandan women are currently having, on average, one more child than they want.

https://dhsprogram.com/pubs/pdf/FR370/FR370.pdf

Rwanda Value Chain
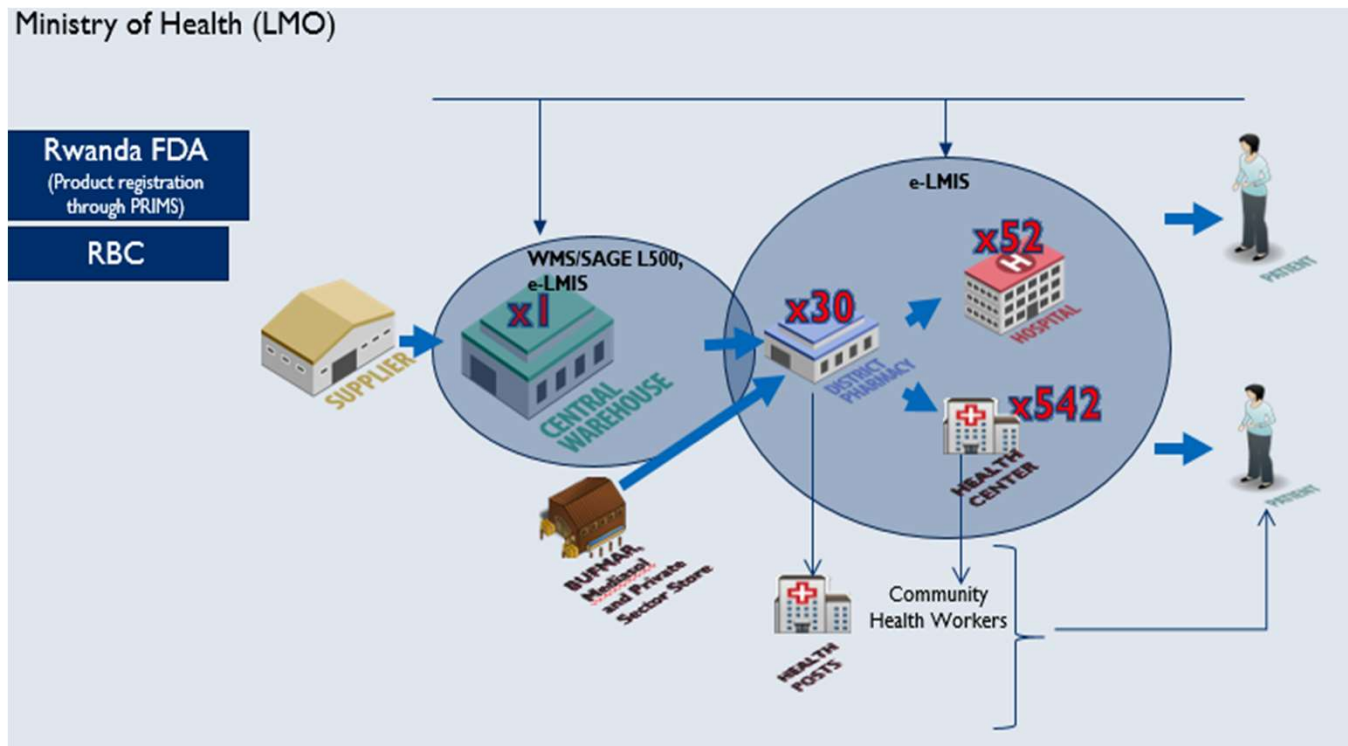
In Rwanda, family planning services are provided through eight national referral hospitals (including teaching hospitals), four provincial referral hospitals, 39 district hospitals, 542 health centers, 670 health posts, and 58,567 community health workers (CHWs) operating in 14,873 villages.
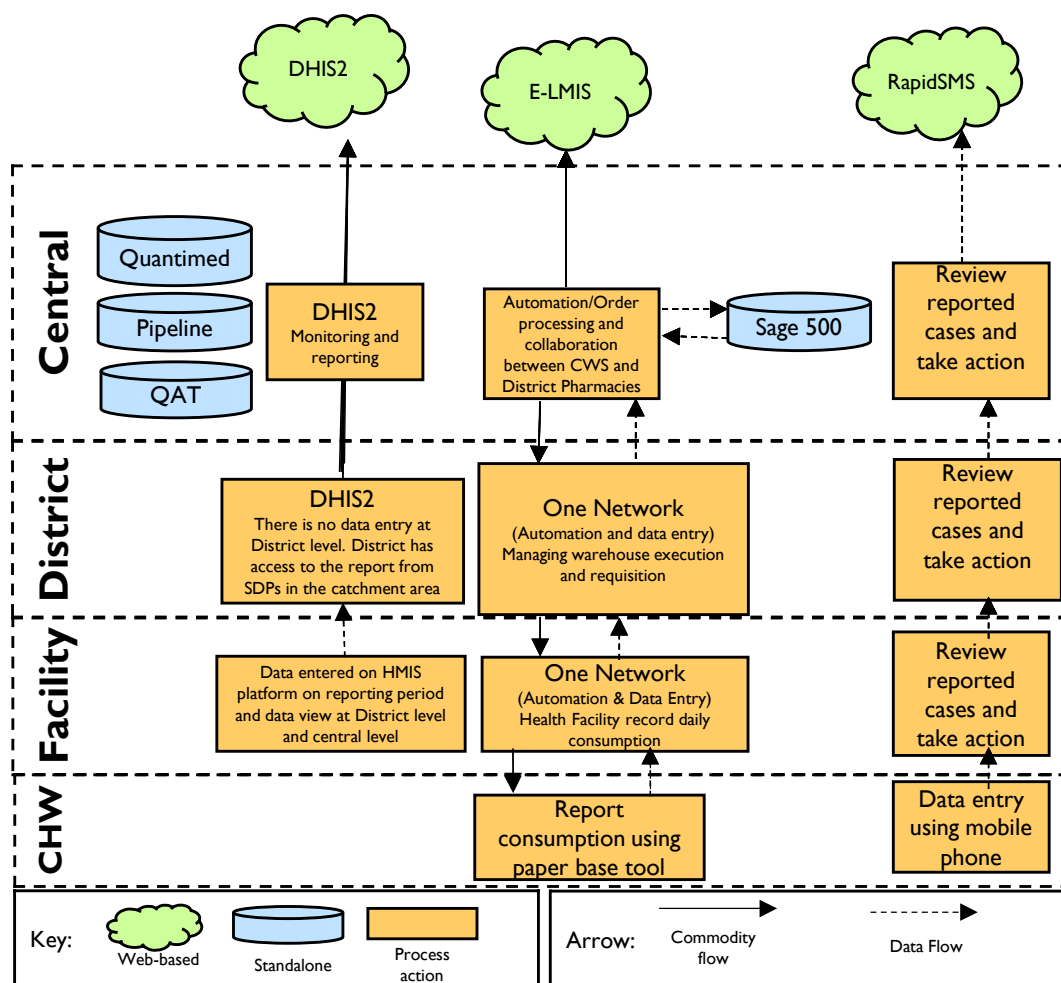
Rwanda Digital Health

Rwanda has made many gains in information communications technology (ICT) infrastructure over the past few years.

Interoperability
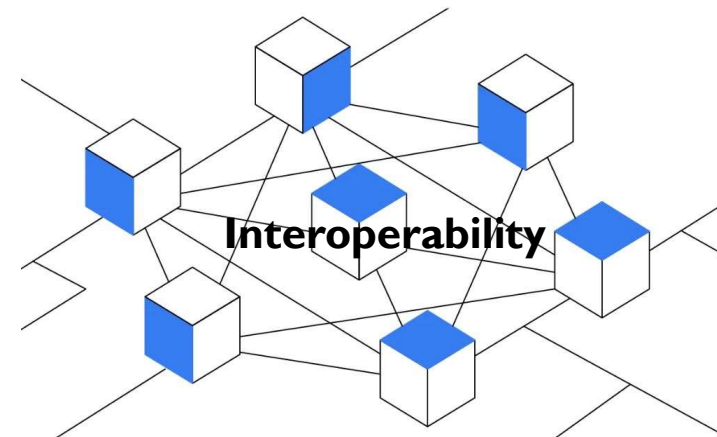
These include automation of systems that are utilized at many levels of the country's public health supply chain (WMS, e-LMIS, HIMS, RapidSMS, EMR) and incorporate an innovative mix of paper-based and technological solutions.

While these health information systems have improved in efficiency, there are still gaps to close in the supply chain that impact interoperability, data analytics, end-to-end data visibility, product verification, and traceability.

Rwanda's MIS Landscape

MIS Summary

System Name	Type	Notes
DHIS2	Health Management Information System (HMIS)	• Captures data on disease morbidity and mortality, maternal and child health services, service delivery, surveillance. • Data collection is conducted at the health facility level using a paper-based system and aggregated data for monthly reporting and entry done at health facility level, District and national level can review the aggregated data.
Pipeline	Supply Planning	Supply planning tool
Quantimed	Forecasting	Forecasting tool
Sage 500	Warehouse Management System (WMS)	Software managing the warehouse transactions for central medical store; integrated with e-LMIS for better collaboration with District pharmacy on order management. Order process is automated. Shares inventory status to e-LMIS user through integration.
One Network/eLMIS	eLMIS	Enterprise resource planning (ERP) tool; captures all inventory management (managing, requisition or order processing), warehouse execution at District pharmacy and health facility level, transportation of shipment, invoicing, and inventory management indicator reporting. Provides real time information and end to end visibility.
RAPIDSMS	Rapid SMS	Captures new cases in the community level on daily basis. The CHW are reporting using SMS through the phone and the report are accessed on web at central level.
QAT	QAT	Tool rolled out last year and not yet full utilized.

Journey To Today

- MoH in collaboration with USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project conducted a holistic supply chain information systems maturity assessment in 2019 using the Supply Chain Information System Maturity Model (SCISMM).

- The assessment found gaps and challenges with master data management, especially product master data management, which is foundational to supply chain information systems.

- This led to the planning, development, and implementation of National Product Catalog and its mobile application.

- The assessment also indicated a need for monitoring family planning shipments from different implementing partners. This led to the adoption of the Global Family Planning Visibility Analytics Network (VAN).

Rwanda Product Verification Architecture
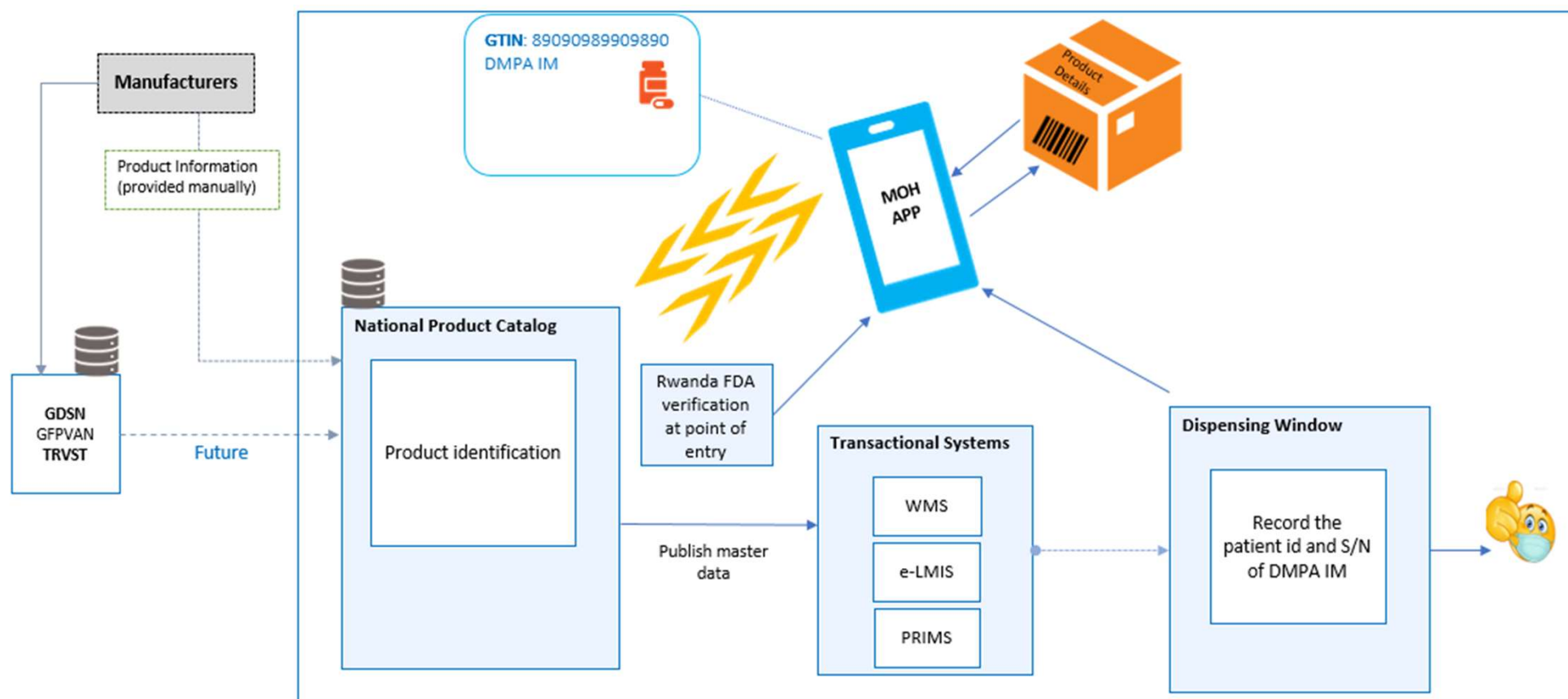
GFPVAN

True visibility into the FP supply chain requires linking global and country actors so all are able to access the same information, enabling more robust decision-making.

Countries can select from three membership options: Basic, Premium and Premium+. Rwanda has been on Basic membership since 2021 and will be upgrading to Premium membership next year.

Achievements

Data

1. More than 60 GTINs along with standardized data collected (only Family Planning)

2. GTINs mapped to national product identifiers

3. Data harmonization and cleaning processes established

4. NPC holds more than 3500 products (All health areas)

Technology

1. NPC system developed and rolled out, using open-source tool Product Catalog Management Tool (PCMT)

2. NPC mobile application for point of entry and dispense verification rolled out

3. QAT and GFPVAN implemented

4. eLMIS being enhanced to include RMS WMS functionalities
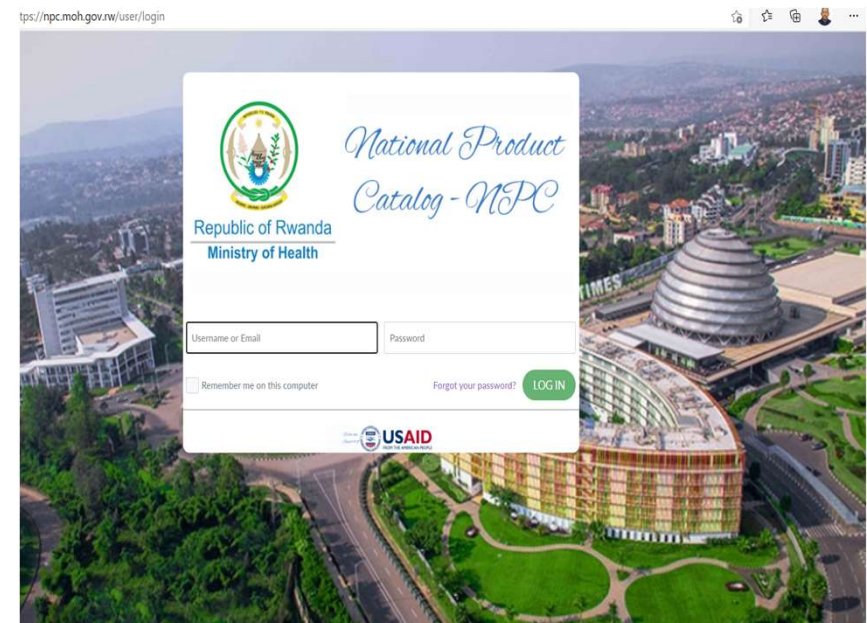
People and process

1. Comprehensive SOPs developed to standardize product master data management processes

2. Established master data guidelines and policies to ensure sustainable sourcing of standardized master data from manufacturers

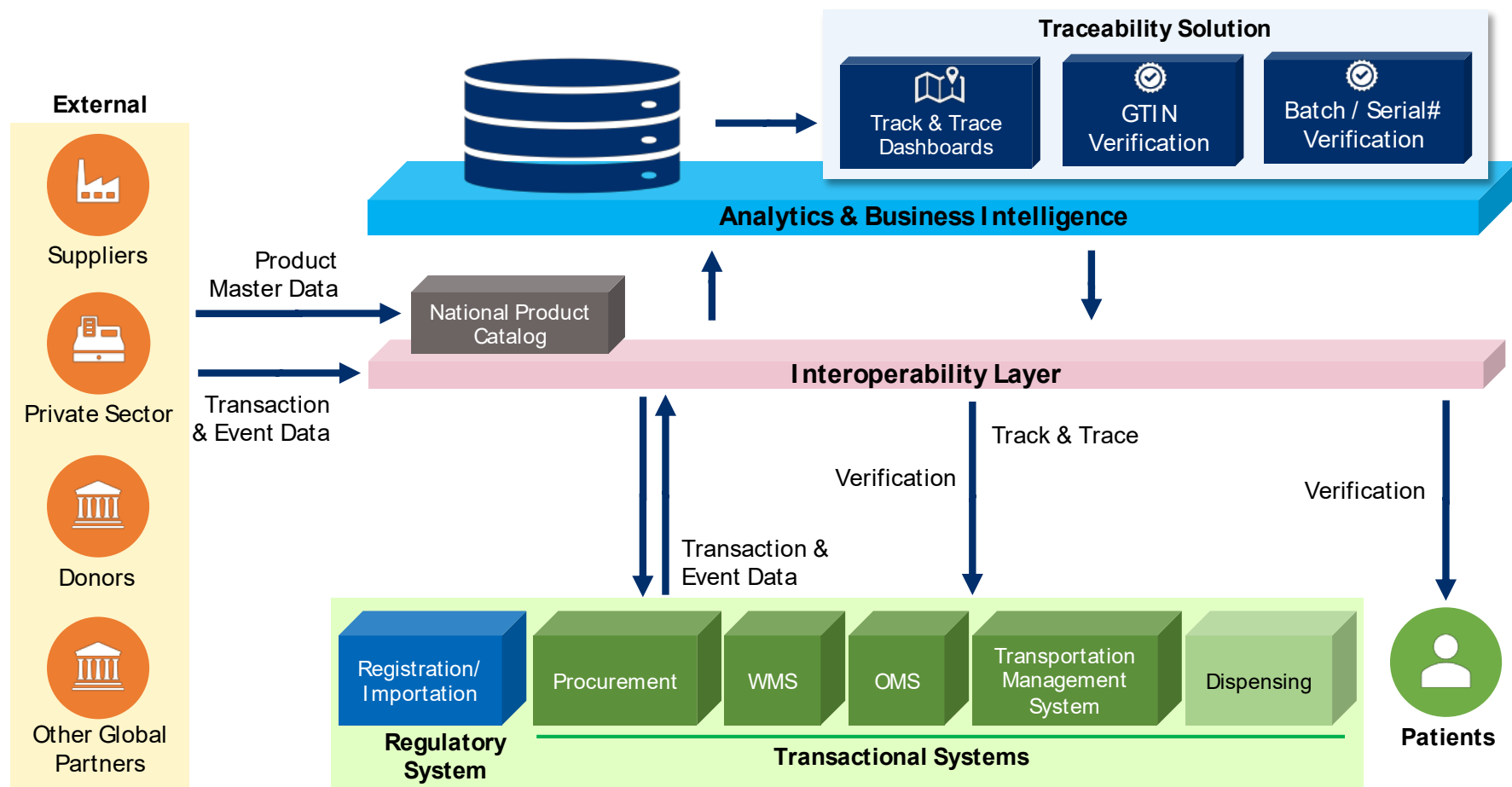3. GS1 compliance monitoring framework under development

Con't

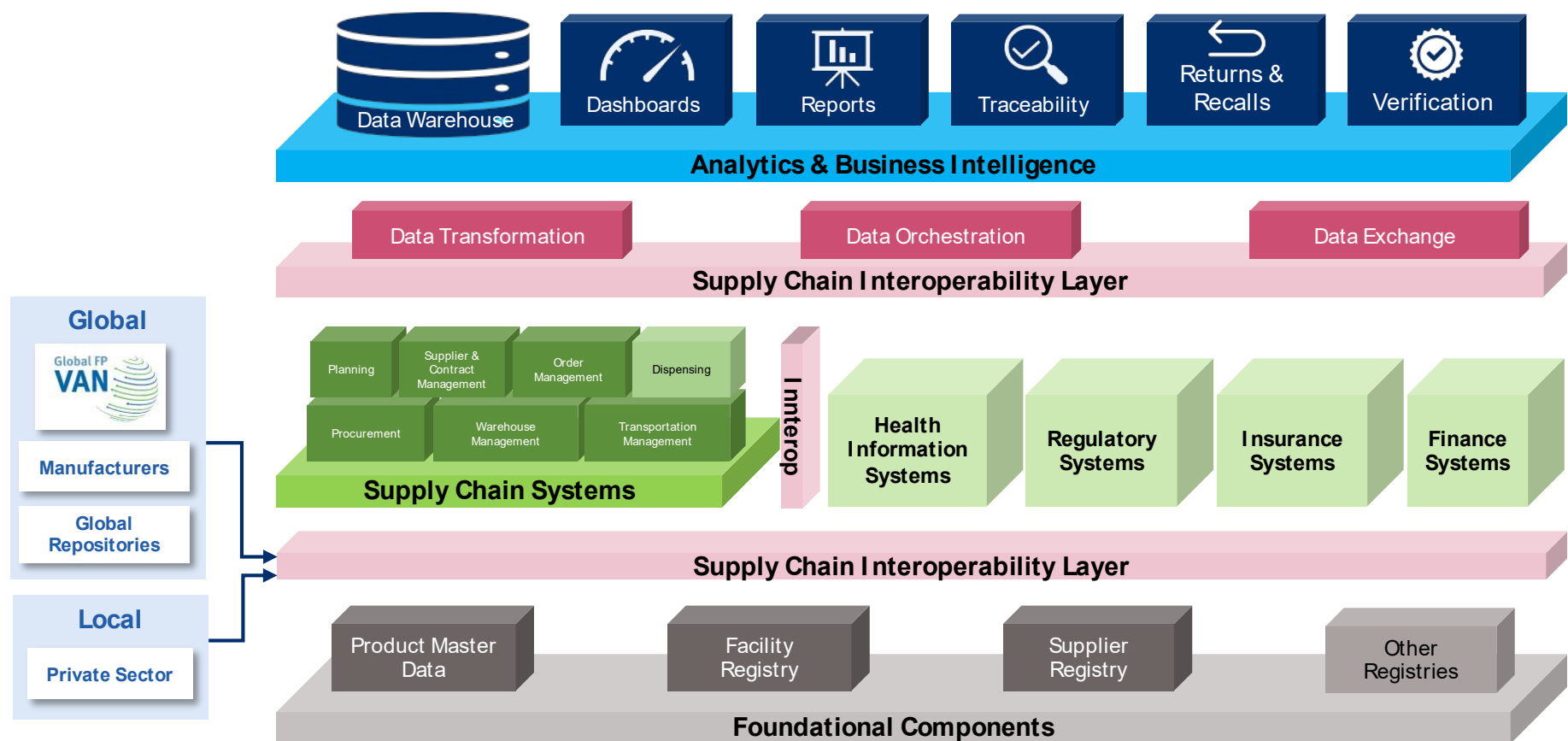A graphic showcasing how the Quantification Analytics Tool works
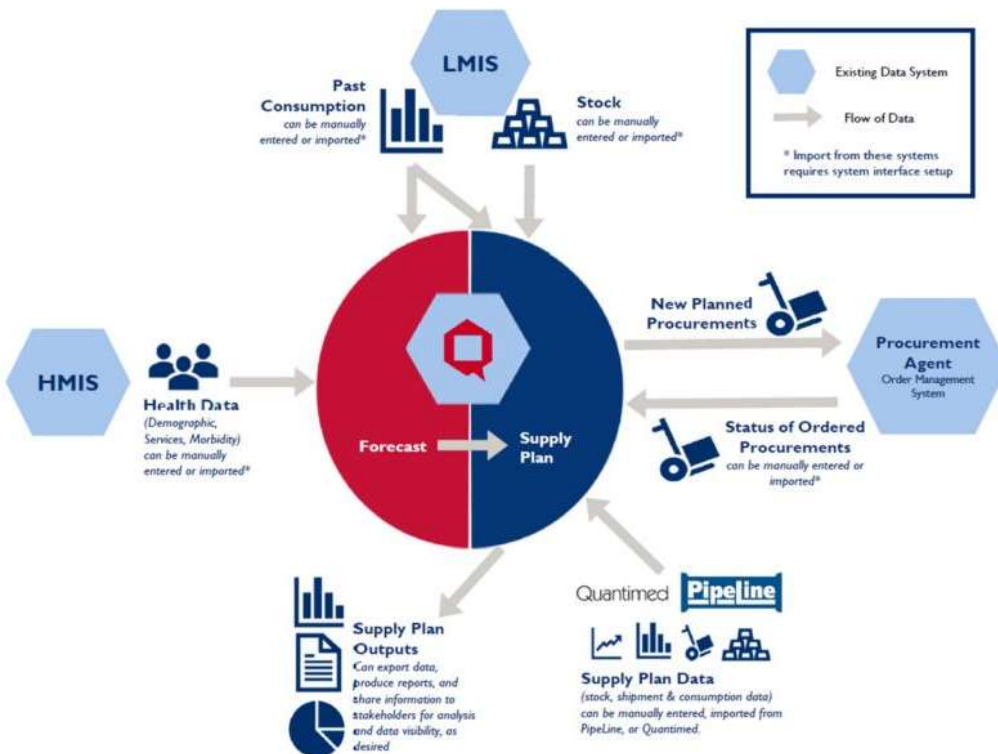
The landing page of the Rwanda National Product Catalog NPC

Architecture Proposed for Traceability

Digital Supply Chain Ecosystem Architecture

Analytics & Business Intelligence
- Data Warehouse
- Dashboards
- Reports
- Traceability
- Returns & Recalls
- Verification

Supply Chain Interoperability Layer
- Data Transformation
- Data Orchestration
- Data Exchange

Global
- Global FP VAN
- Manufacturers
- Global Repositories

Local
- Private Sector

Supply Chain Systems
- Planning
- Supplier & Contract Management
- Order Management
- Dispensing
- Procurement
- Warehouse Management
- Transportation Management

Innterop

- Health Information Systems
- Regulatory Systems
- Insurance Systems
- Finance Systems

Supply Chain Interoperability Layer

Foundational Components
- Product Master Data
- Facility Registry
- Supplier Registry
- Other Registries

Summary

- NPC is now single source of truth for all health commodities including contraceptives

- NPC mobile application is used to verify product GTIN at the point of entry and point of dispensing to ensure the commodity safety

- GFPVAN supports FP programming by providing E2E data visibility to inform decision making

THANK YOU !

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The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project is funded under USAID Contract No. AID-OAA-I-15-0004. GHSC-PSM connects technical solutions and proven commercial processes to promote efficient and cost-effective health supply chains worldwide. Our goal is to ensure uninterrupted supplies of health commodities to save lives and create a healthier future for all. The project purchases and delivers health commodities, offers comprehensive technical assistance to strengthen national supply chain systems, and provides global supply chain leadership. For more information, visit ghsupplychain.org.

The views expressed in this presentation do not necessarily reflect the views of USAID or the U.S. government.