



How serialisation will change our supply chains?

GS 1 Conference
Addis Ababa
May 9, 2018



customise • collaborate • compete

Patient safety through Serialisation and Authentication

Imperial Logistics move approximately **400 million patient-packs** of medicine annually, 90% of these throughout Africa

The counterfeit drug industry is estimated to be worth billions of dollars annually, and kill hundreds of thousands of patients per year – either from toxic ingredients or failed treatment of critical illness.

Fake, counterfeit and substandard medicines:

- **One in ten*** medical products circulating in lower & middle income countries is either substandard or falsified
- Estimated **72 000 to 169 000 children die*** each year worldwide from pneumonia due to substandard and falsified antibiotics
- Of the majority of substandard and falsified medicines, **42% stem from sub-Saharan Africa**, 21% from the Americas and 21% from the European region
- **100,000 deaths*** annually in Africa
- Call to action – heavily rely on the **leadership of the “Big 3”**

* Source:

<http://www.who.int/mediacentre/news/releases/2017/substandard-falsified-products/en/>

Footprint spanning 30 African and 20 European countries

Focused on specific industry verticals



Agriculture



Automotive



Consumer Packaged Goods



Healthcare



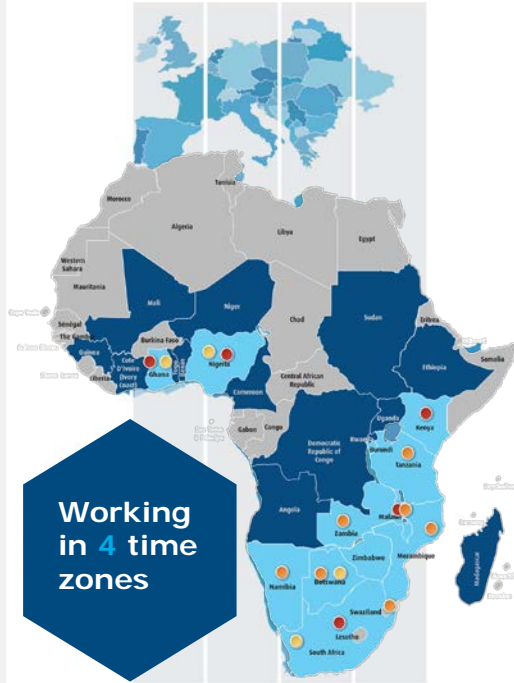
Machinery & Equipment



Chemicals & Energy



Manufacturing & Mining



- Imperial in-country operations
- Countries serviced by Partners
- Warehousing & Distribution
- Consumer Products Distributors
- Pharmaceutical Wholesale and Distributors

Capabilities



Transportation management



Distribution management



Synchronisation management



Warehousing management



International freight management

Solutions



Value-add logistics solutions



Route-to-Market solutions



Supply chain management solutions

customise • collaborate • compete

Imperial
logistics

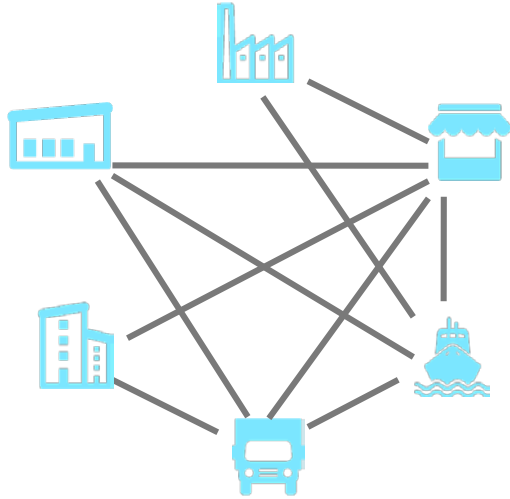
Key African Healthcare and International clients

A map of Africa is centered, surrounded by logos of various healthcare and international organizations. To the left of the map are logos for Gavi, Abt, BMGF, UNFPA, Ghana Government, MoH Rwanda, CMST, NDOH SOUTH AFRICA, PnP Pick n Pay, and Lenmed Health Group. To the right of the map are logos for The Global Fund, USAID, PEPFAR, The World Bank, WHO, and DFID. The map itself is filled with numerous pharmaceutical and healthcare company logos, including AstraZeneca, Mylan, esk, Janssen, adcock ingram, UNICHEM LABORATORIES LTD, ipha, Roche, sonke, SANOFI, Boehringer Ingelheim, VIV, VALEANT, BAUSCH+LOMB, MERCK, inova pharmaceuticals, MSD, GALDERMA, AMGEN, aspen, Dr.Reddy's, TEVA, emami, Biocon, Allergan, SANDOZ, SEKUNJALO, SUN PHARMACEUTICALS, Pfizer, and NOVARTIS.

A grid of logos for various international clients, including ADM, AGRAVIS TECHNIK, ArcelorMittal, Audi, BASF The Chemical Company, BAYER, BOSCH, CAT, CMA CGM, COGNING, EnBW, e-on, Ford, GM, HKM, HYDRO, KALI, KONE, LEAR CORPORATION, LEMKEN, LEONI, MERCEDES, METRO Group, Norkan Skog, Novelis, OCEAN, OCOIL, PORSCHE, raiion, SIEMENS, smart, SOLVAY, SSAB, steag, STORAENSO, SABIC, TENNECO, ThyssenKrupp, COOPER INTERNATIONAL, TRIMET, Valeo, VA TECH HYDRO, WATTENFALL, voestalpine, and VW.

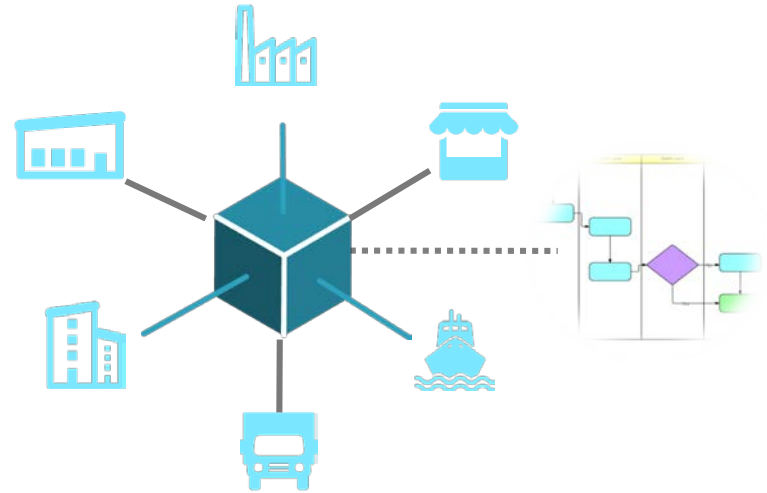
Supply Chain: Legacy vs. Networks/Blockchains

LEGACY APPROACH



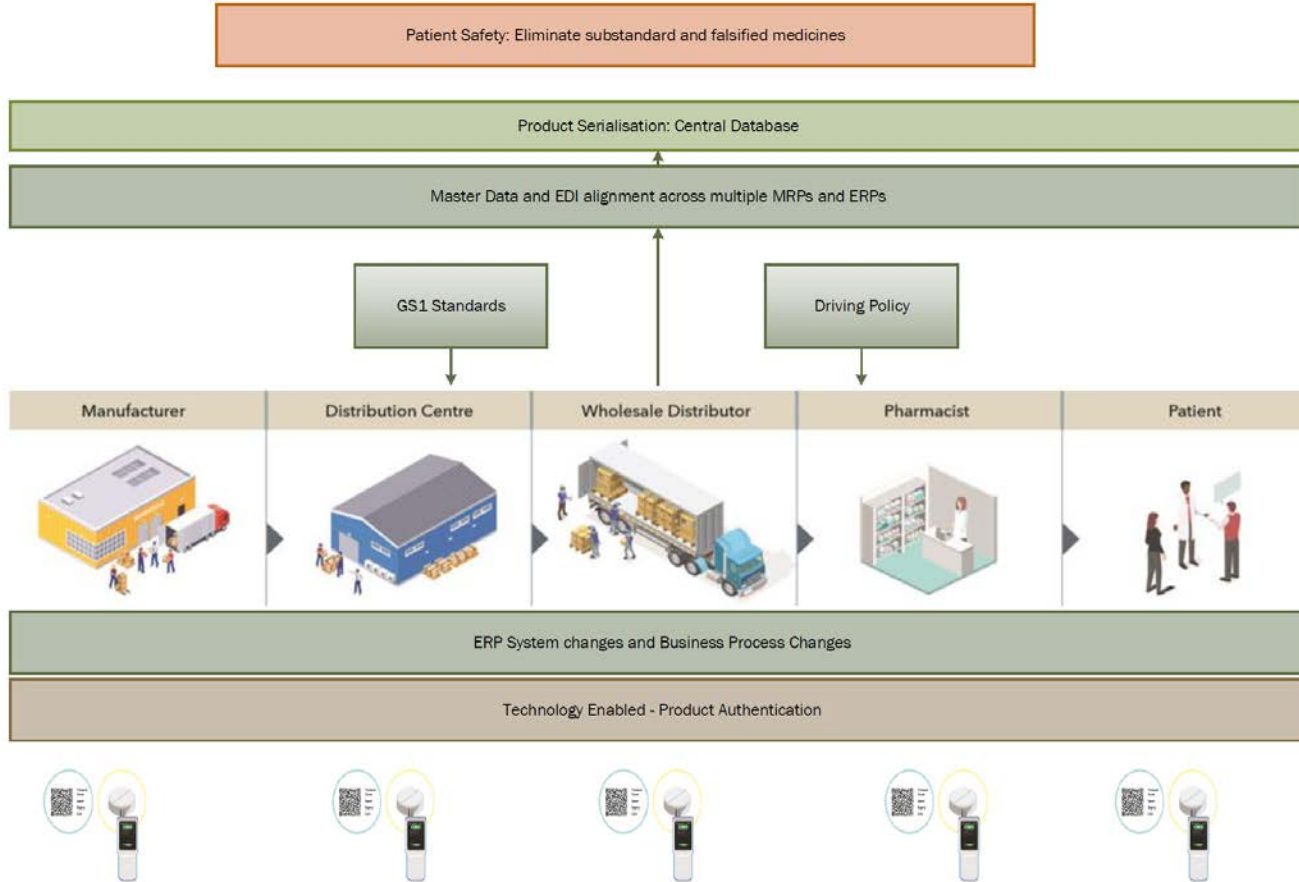
POINT-TO-POINT MESSAGING
(Inconsistent State, Not Real Time)

NETWORKS, BLOCKCHAINS

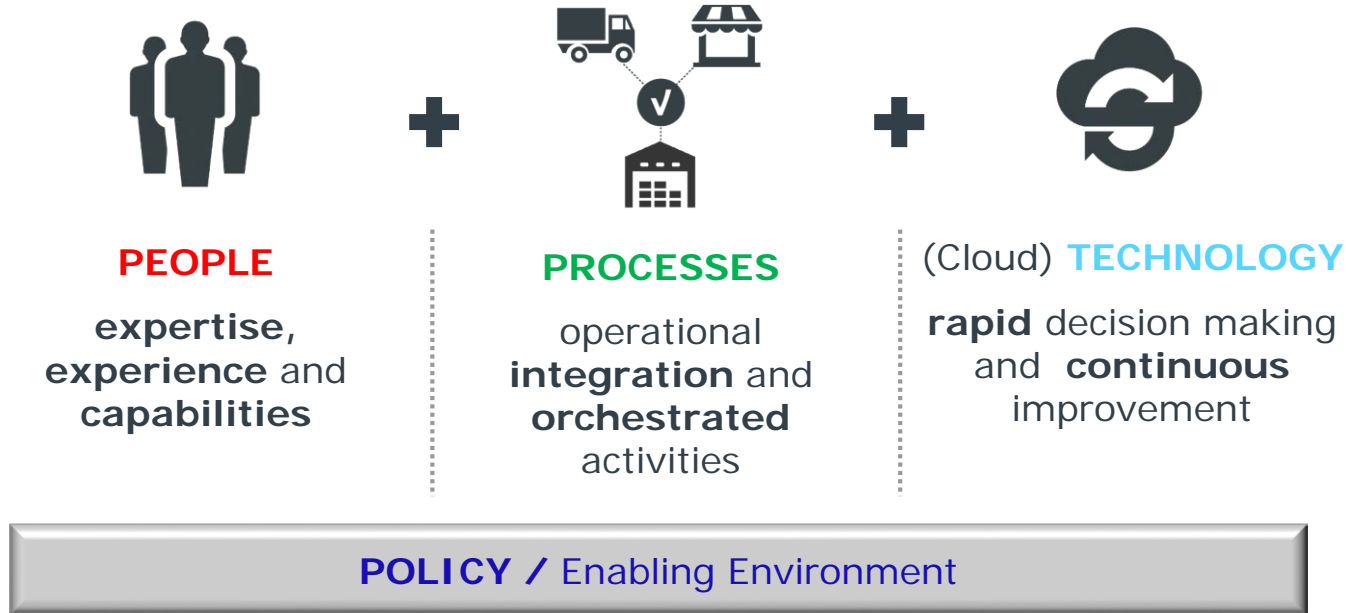


MULTI-PARTY, COORDINATED SHARED-STATE
(Single Version of the Truth, Real-time, New Business Models)

Managing the chain of custody



Visibility and Analytics Network (VAN)

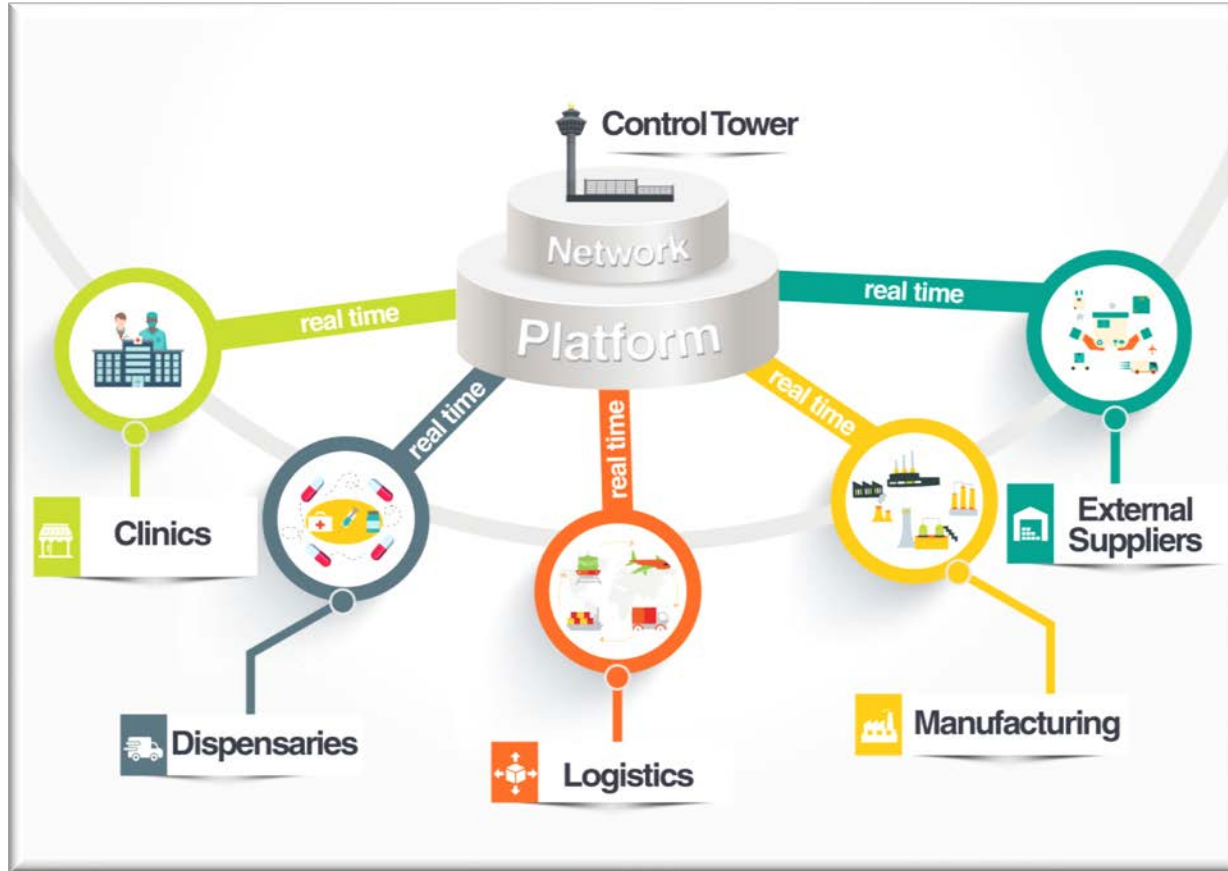


Collaboration across stakeholders to **achieve** common goals

customise • collaborate • compete

Imperial
logistics

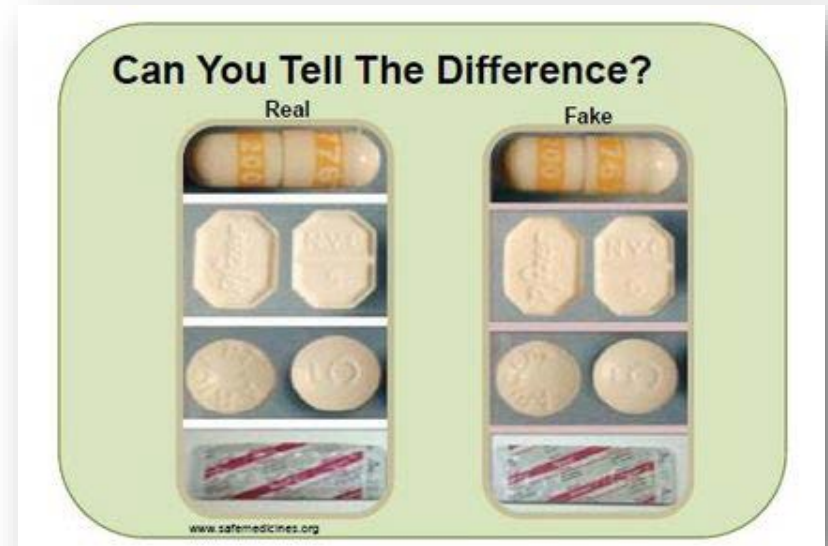
Control Tower manages Complexity and Quantity



Authentication: a response to Patient Safety

It's important to focus on all the elements of a healthy market; ours is a healthy supply chain

- Raman handheld can measure through blisters and bottles
- Identify non-authentic pharmaceuticals before they can enter the market
- Protect brand and patient confidence in healthcare products
- Reduce risk of liabilities
- Report to authorities – regulators, law enforcement



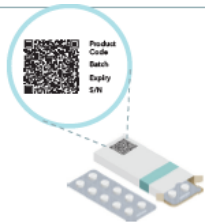
Transforming the Chain of Custody



Preventing entry of fake, counterfeit, and substandard products into the supply chain through:

Serialisation

- **GS1 Compliant** - fundamental of **roll-out and synchronisation**
- Coding system for **tracking and tracing** commodities
- Each component barcoded - 2D
- Product **recalls** from anywhere in the supply chain



Authentication

- Inspect a product **anywhere in the supply chain**
- Confirm **chemical identity**
- Spectrum scanning across dosage forms
- **Rapid, non-intrusive and non-destructive** process



Blockchain

- Secure records on the **distributed ledger**
- **Partitioning + Permissibility**
- Synchronized databases of relevant data to all stakeholders
- Only effective if adopted **industry-wide**, across all players



Imperial Logistics projects

Imperial Logistics – One Network – Blockchain

Operational Visibility

- Ability of operating sites to **receive, manage and dispatch** serialized goods.
- Will **launch in our South African** healthcare business
- **Future-proofed** for rapid roll out to our operations serving the Rest of Africa

Serialisation-as-a-Service

- **Provide patient-pack serialisation to product** in our custody as a service to our clients
- **Install printing line** within our South African healthcare business initially (in 2018)
- **Roll out across our African** businesses in due course

Above-market Visibility

- Due to the sophistication and scale of implementation, the **ability to manage serialisation data** is critical. Factors such as:
- **Machine-learning / artificial intelligence**
 - **Analyzing data** for rapid identify and mitigate issues

In Conclusion....

Imperial Logistics – One Network – Blockchain

- Key goal - **Patient Safety**
- Managing **Complexity and Quantity** through our digital platform
- **Partition and Permissibility** of relevant stakeholder data through synchronized database
- **Urgency** – let's not wait for legal compliance! Rely on **unity of "Big 3"**
- Three strategies:
 - **Operational visibility**
 - **Serialisation-as-a-service**
 - **Above-market visibility**



Thank you

www.imperiallogistics.com

customise • collaborate • compete

