Power of Blockchain: Solving Complex Business Problems

Nitin Singh, Pravin Lewis
Session ID 84432

About the Speakers

Pravin Lewis

Director, Business Transformation Services

Led large transformations at strategic customers across the globe. Deep solution and process expertise across supply chain disciplines ranging from planning, order management, manufacturing, logistics execution and distribution

Fun fact:

Long time Ballroom dancer (smooth and rhythm). Regularly participate at various competitions around the US

Nitin Singh

Enterprise Architect & Practice Lead-Innovations, Business Transformation Services

Enterprise architect and Practice Lead for Intelligent Enterprise Innovations at Business Transformation Services, Expert in planning & executing complex transformations and passionate about Innovations

Fun fact:

Loves to travel (completed 25+) & hopes to cover 50 countries before retirement

Take aways

- ❑ Discuss Relevance of Blockchain for Enterprises
- ❑ Understand Potential of Blockchain for business optimization
- ❑ Demonstrate blockchain use cases
- ❑ Listen to your needs!

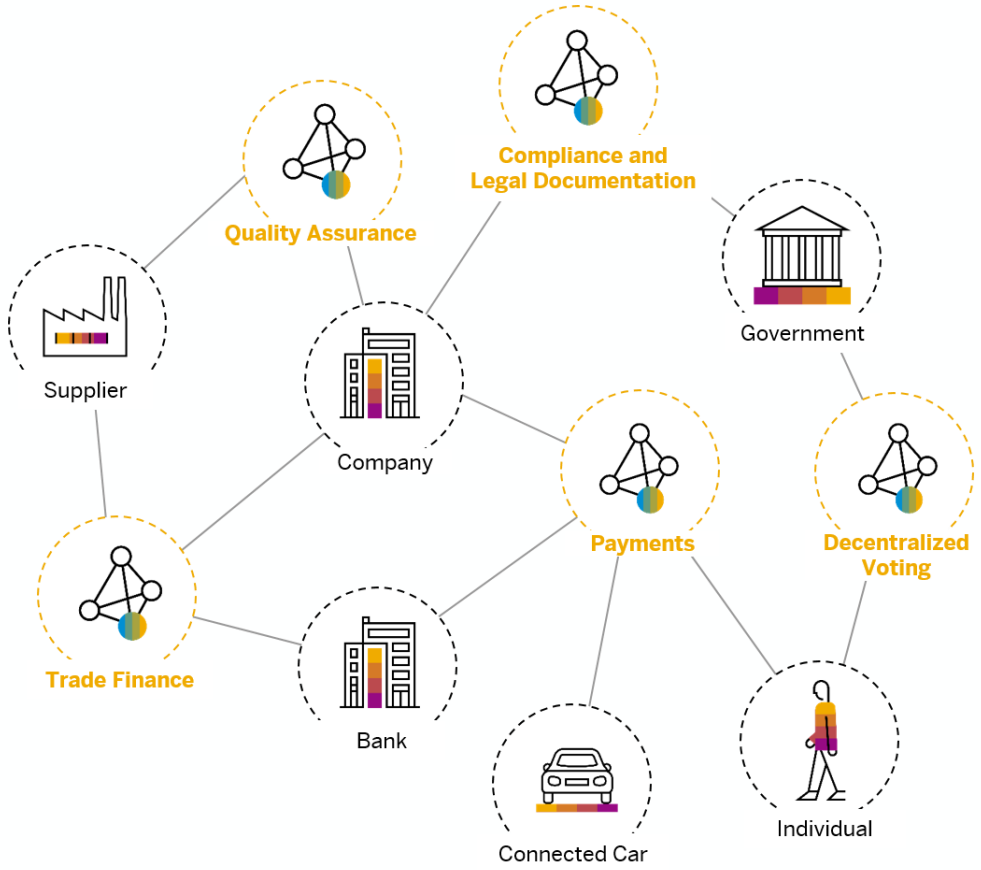
Agenda

- Enterprise Blockchain
- Blockchain use cases
- Retail Authenticity Demo
- Blockchain as an enabler for Business Model Innovations
- Business Model Impact: Retail Authenticity
- Example Blockchain use cases
  - Sellable Traceability
  - Farm to Consume
- Blockchain Trends
- Future of Blockchain- IoT-Blockchain Integrations
- Conclusion

Enterprise Blockchain

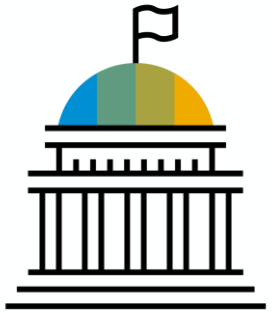
Blockchain is a new protocol for decentral ledgers in multi-party business processes.

- ✓ **Business network**
- ✓ **Decentral control**
- ✓ **Immutable audit log + some shared data**
- ✓ **Trust and Transparency**



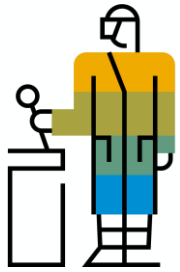
Blockchain Use Cases

Across different LoBs and Industries

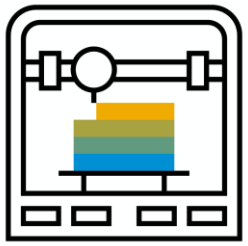


Secured Authorization Procedures in Public Sector

e-Bill of Lading



Asset Management (Digital Twin)



Distributed Manufacturing (3D-printing)

Trusted Digital Credentials

Secure Bidding in Procurement

Guarantee Network

Real-Time Payments

Drug Supply Chain Security

Disaster Operations

Retail Authenticity Demo

Business Model Impact :Retail Authenticity

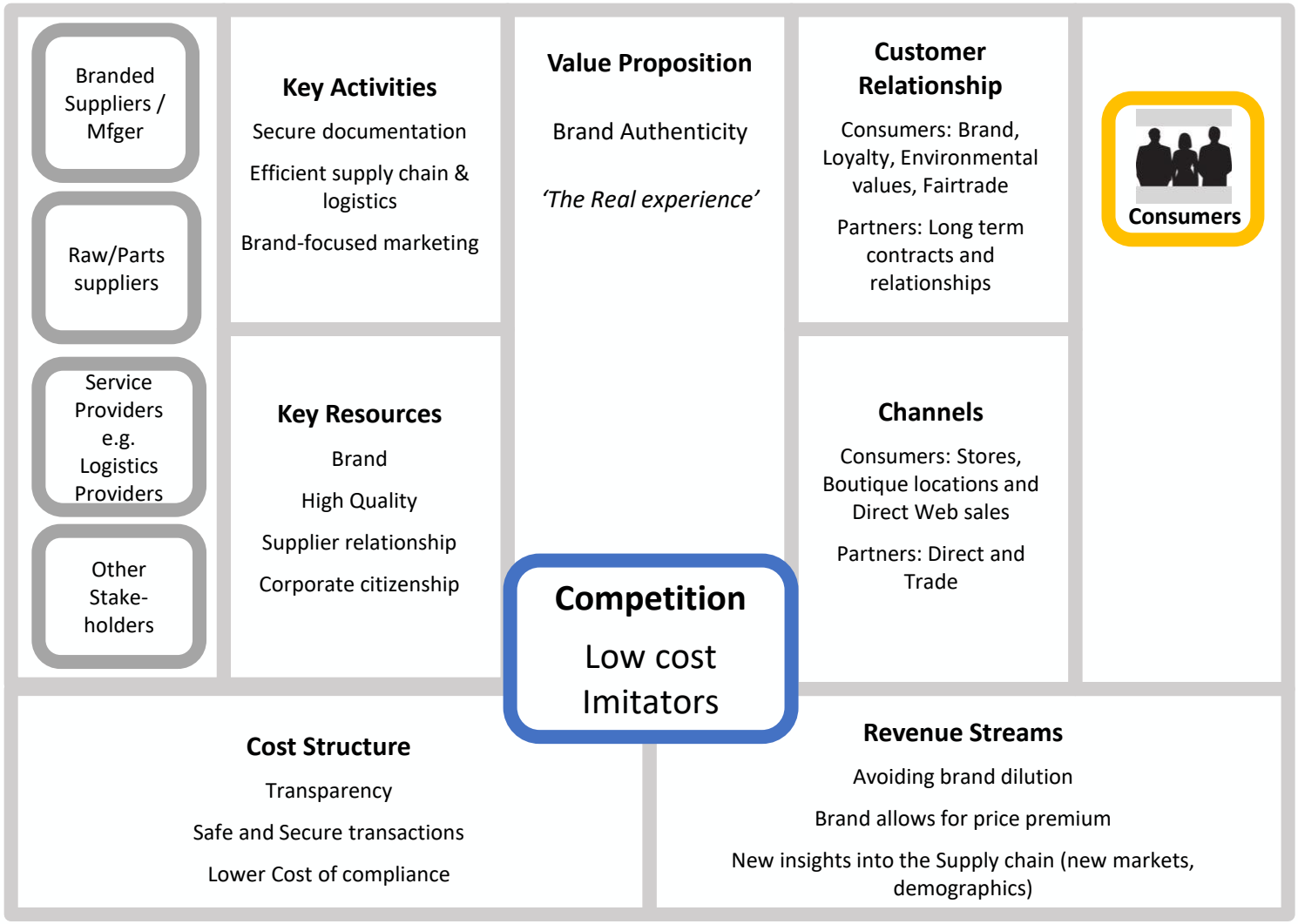
Changing the way we interact with our partners and customers!

Less cost in tracing a Supply Chain Issue

Lost Revenue

Legal Implications & Cost

Challenge - Brand Erosion



My Company | My Customers | My Partners | My Competition

Trusted relationships with customers and Partners on a digitized platform

Additional Digital Channel for Authentication

Trust ensures additional Brand Value and the revenue!

Identification & Verification of Sellable Returns

Purpose

Help secure the health of patients by fighting fraudulent activities

Legal requirement

Drug Supply Chain Security Act demands companies to both identify and verify sellable returns

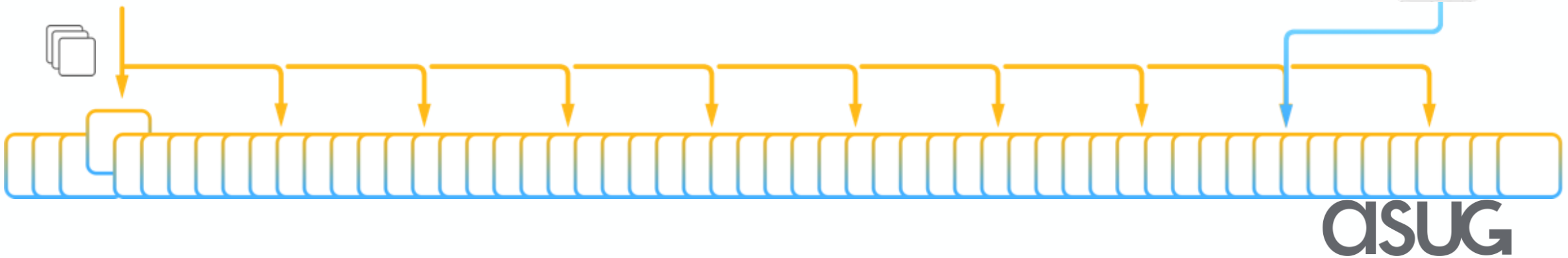
Business Challenge

2-3% of total sales are sellable returns (58.7 million units a year)

SAP Advanced Track & Trace for Pharmaceuticals

AmerisourceBergen · AMGEN · Boehringer Ingelheim · gsk · McKESSON · MERCK · novo nordisk

Scanning System



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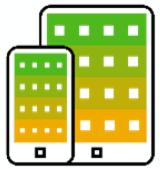
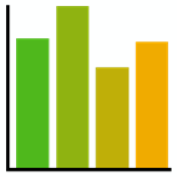
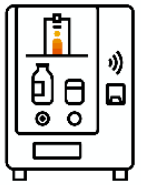
Farm to Consumer

End-to-end blockchain-based traceability solution for the agri-food

Farmer/ Raw Material Supplier	N-tiered Chain of Intermediaries	Consumer Products Company	Distribution	Retail	Consumer
					
Mobile and Web Apps to capture farm data Apps to promote and reward best farm practices	Analytics for monitoring and sharing supplier performance & rating Overview of supplier network across tiers by material	Track and Trace across global sourcing, production and fulfillment networks Complete provenance from raw material origin to finished product	Analytics as to fill levels and internal and external product distribution Monitoring fulfillment Condition monitoring during transit Smart vending machines	Mobile and Web Apps for Consumer and Community Information, for example: • Personalized shopping Apps • Brand promotions/ personalized couponing • Product verification/ authentication	

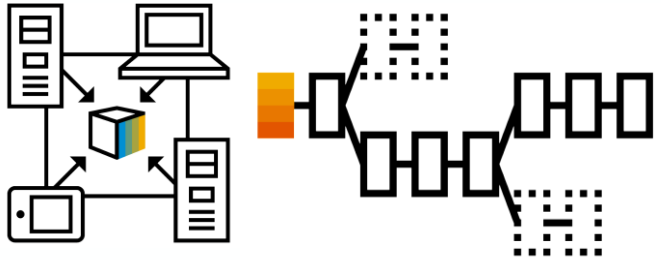
Trusted Sourcing

Assured Fulfillment and Product Integrity

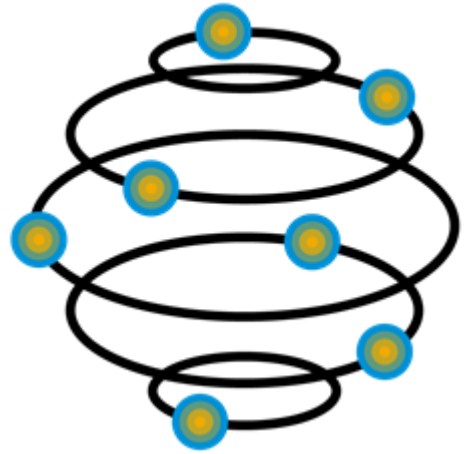
Transparency

Blockchain Trends

- Decentralized Apps (DApps):Applications that can interact with underlying blockchain! Focus on personalized Job to be done based on underlying chain of blocks
- Hybrid Blockchains
- Off chain calculations: Limit of number of transactions per second
- Authencity of a product: Food, Pharma, Retail, Art
- Supply Chain Traceability, Pharma, Food, Shipping, Transportation



Future Innovations: IOT- Blockchain integration



- Blockchain would transform the way in which enterprises interact with each other or with customers/ consumers for business operations
- IoT is a great enabler to provide real time data or insight which can lead to more efficient collaborative business processes
- Visualize a totally connected world with trust!
- *Use of blockchain technology to secure data and devices in the internet of things (IoT) doubled during 2018

*https://www.gemalto.com/press/Pages/Almost-half-of-companies-still-can-t-detect-IoT-device-breaches-reveals-Gemalto-study.aspx

Key challenges

- whether or not data is relevant/ trustworthy
- Whether or not data is secure

Blockchain can improve upon these aspects by enabling trust with IoT communications

- HDAC IoT Contract & M2M transaction platform based on blockchain
- Traceability applications can hugely benefit with this interaction

Conclusion

- Blockchain has the potential to solve some key business problems , however select the use cases wisely- its not a panacea for all ills!
- Technology will mature immensely in the year ahead! Ideate today to understand what can it do for you!
- It’s a key focus area for SAP and you will see continuous innovations in coming months , please do leverage them!

Thank you

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Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

http://info.asug.com/2019-ac-slides

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Q&A

For questions after this session, contact us at

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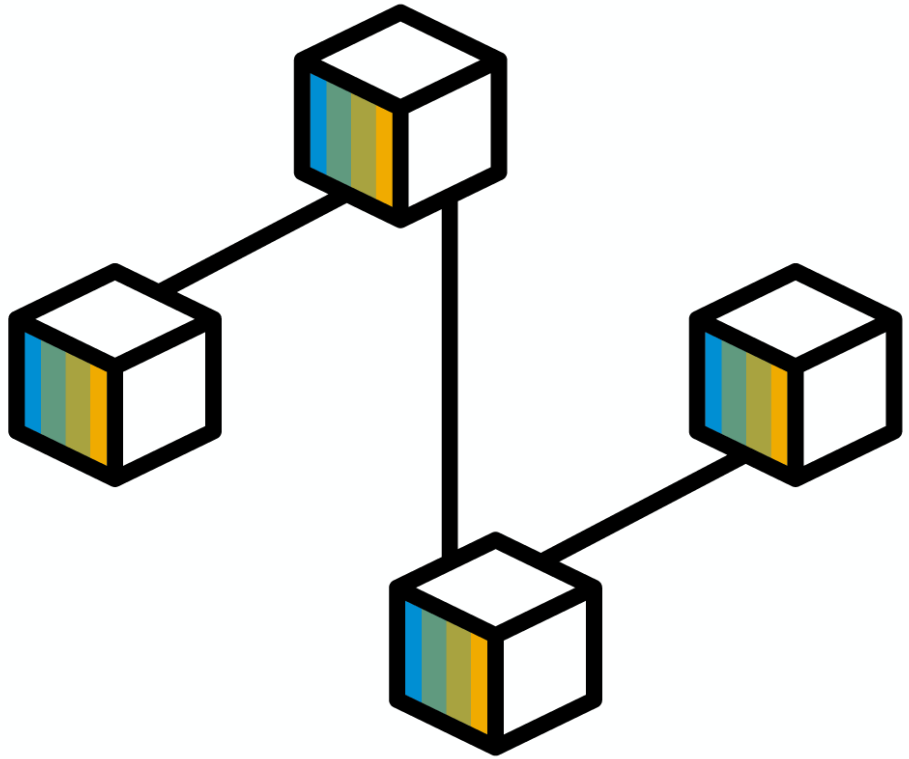
Appendix (Extra Optional slides)

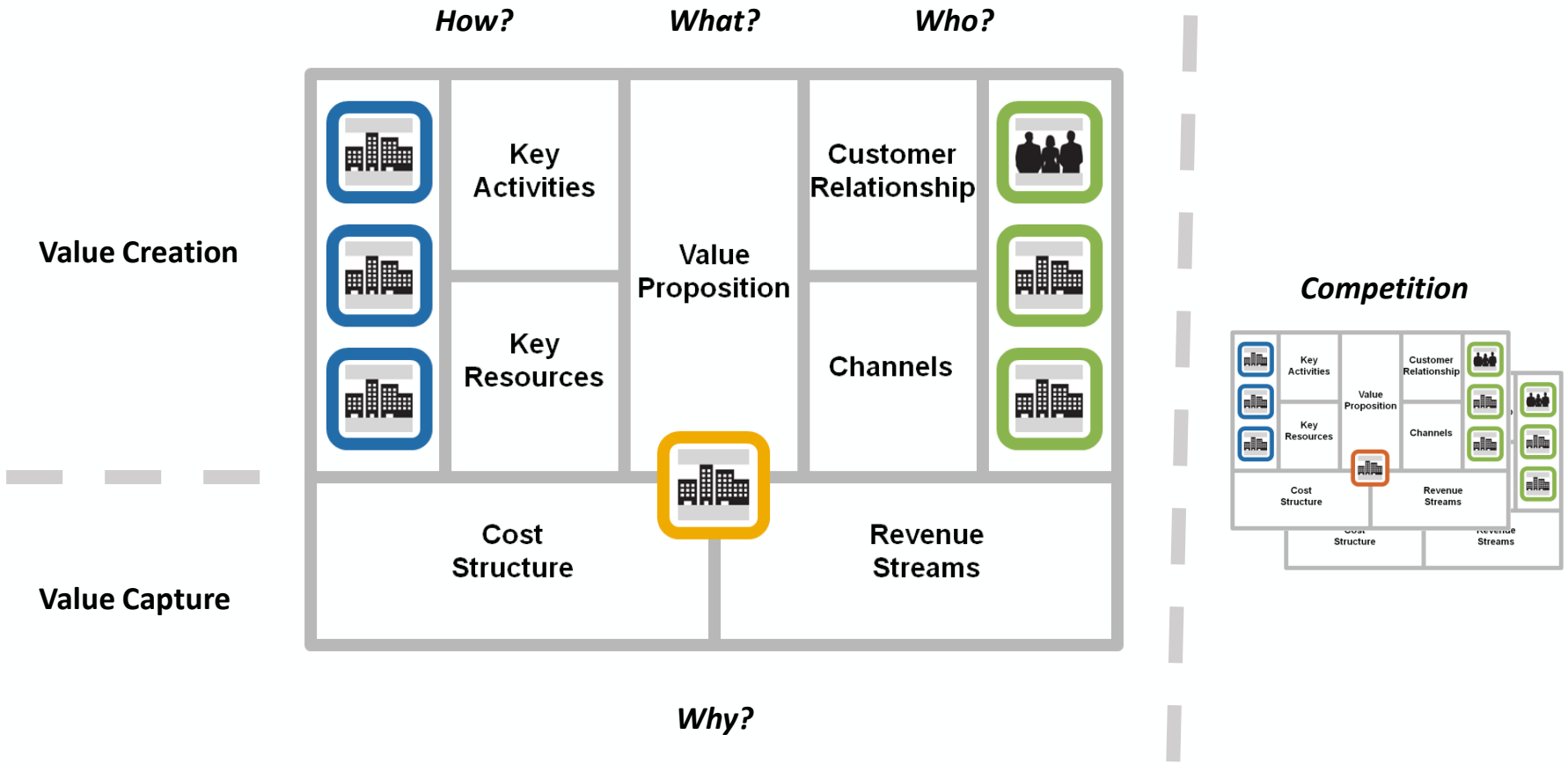
What is Blockchain?

- **Composition of Existing Technologies**
  - Decentralized peer-to-peer technology
  - Private / Public key cryptography + hashing algorithms
  - Consensus algorithm
- **Shared Information Storage**
  - Distributed
  - Transparent
  - Immutable



Cryptographically Linked Blocks

Blockchain as an enabler for Business Model Innovation



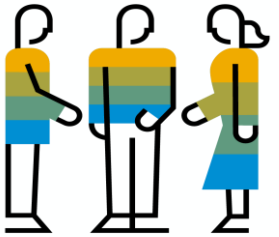
DESIGNED BY: Business Model Foundry AG
The makers of Business Model Generation and Strategyzer

My Company My Customers My Partners My Competition

Example Business problems blockchain can potentially solve

- Sellable traceability is a legal requirements impacting about 2 % of total volume
- Counterfeit products exist the supply chain resulting into lost revenue
- Pharma products authenticity: Adverse impact to individual health and brand erosion
- Inefficient communications with the supply chain participants
- Lack of trust & transparency on multi party transactions

Data Integrity

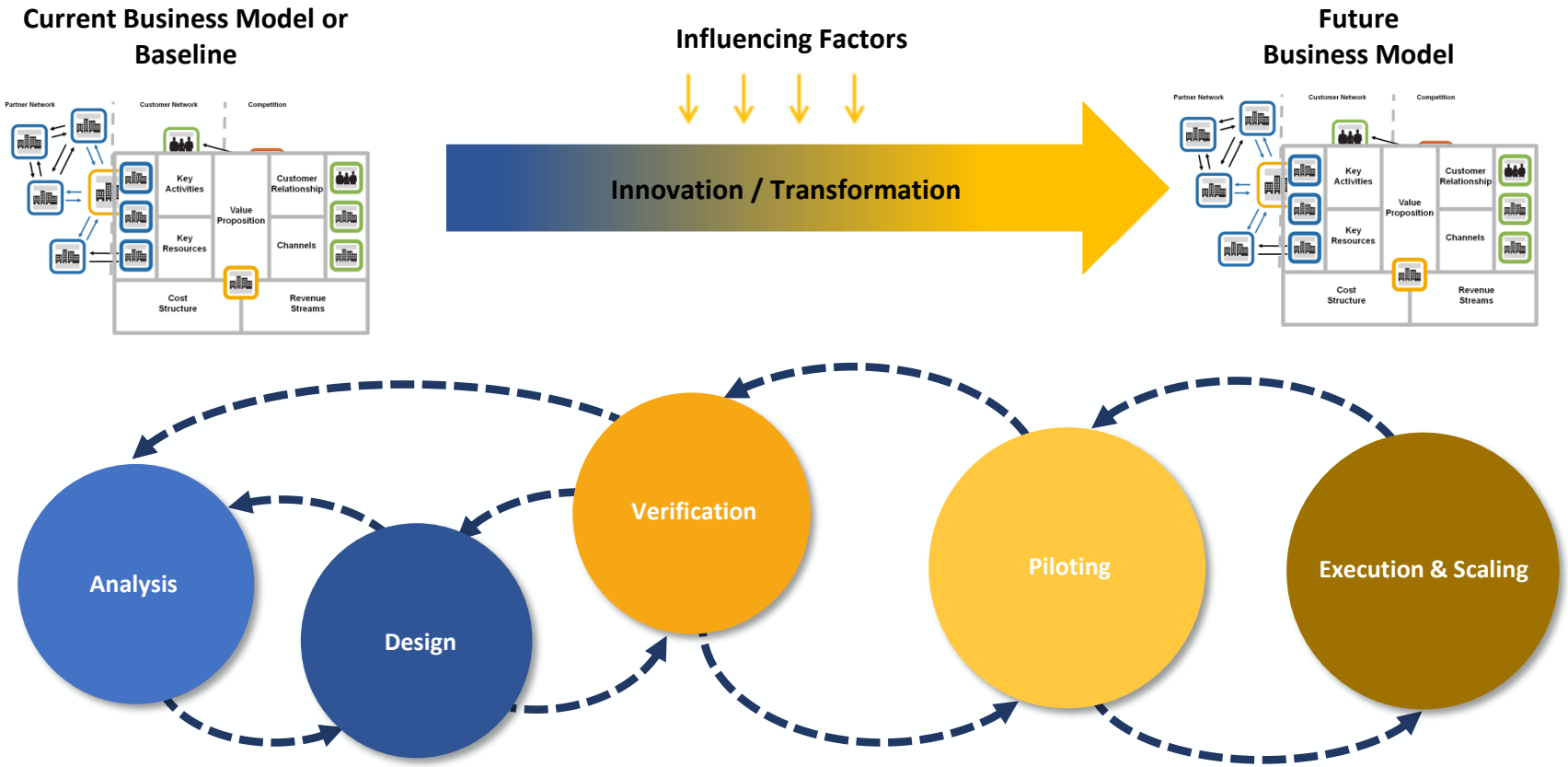


Multi-Party Collaboration

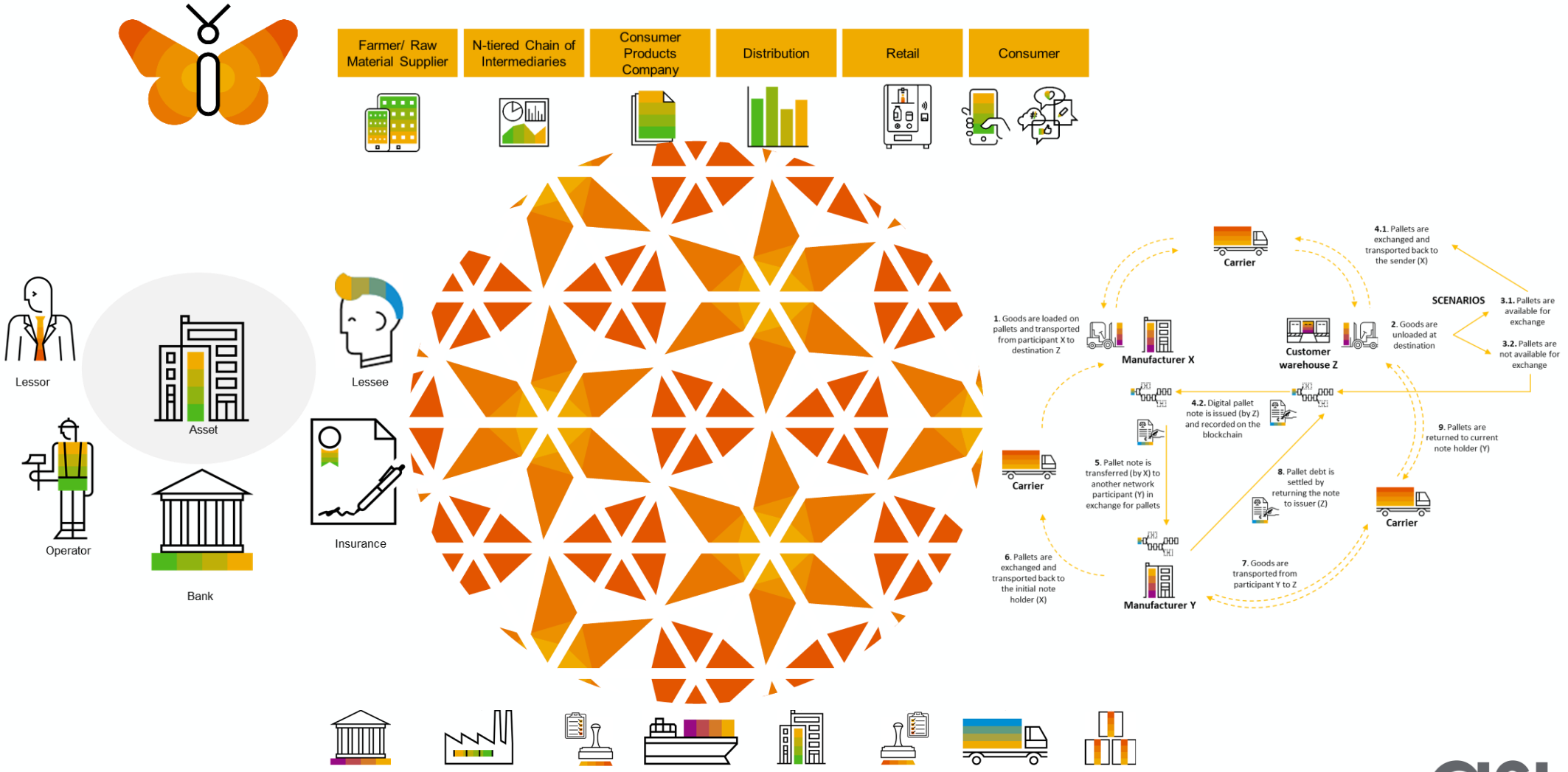
Digital Assets

Business Model Development & Innovation

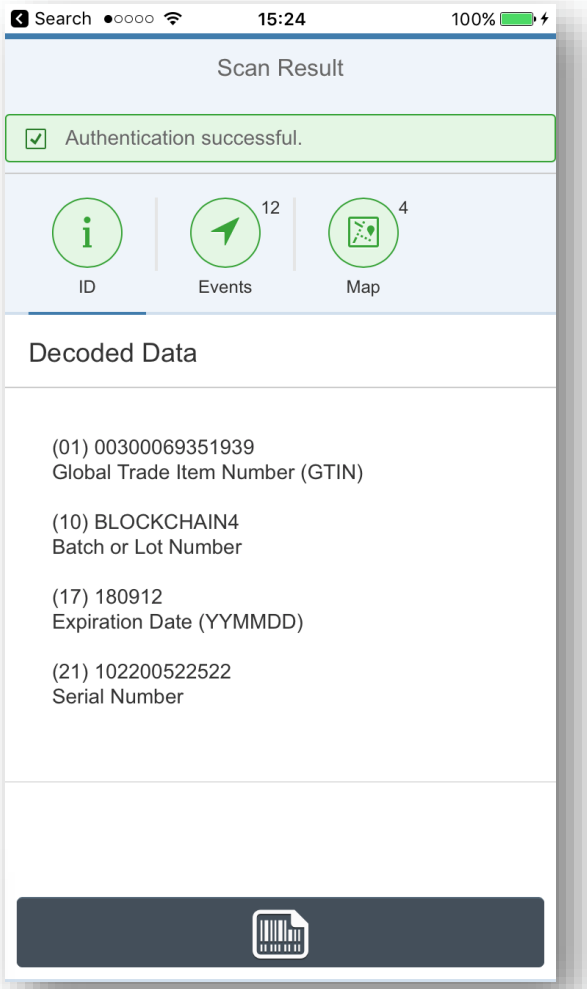
An iterative process resulting in a suitable business model adding economic value to the company.

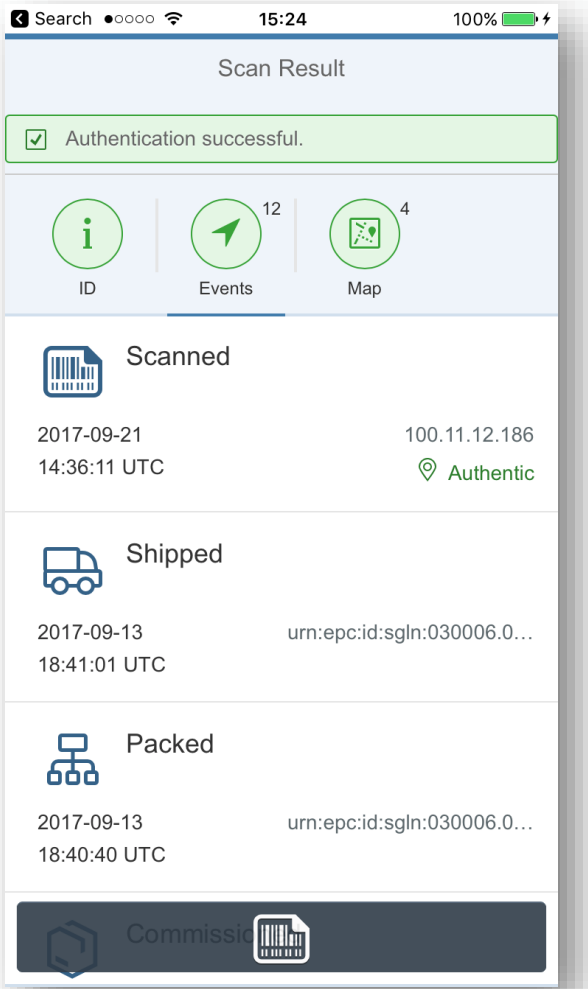


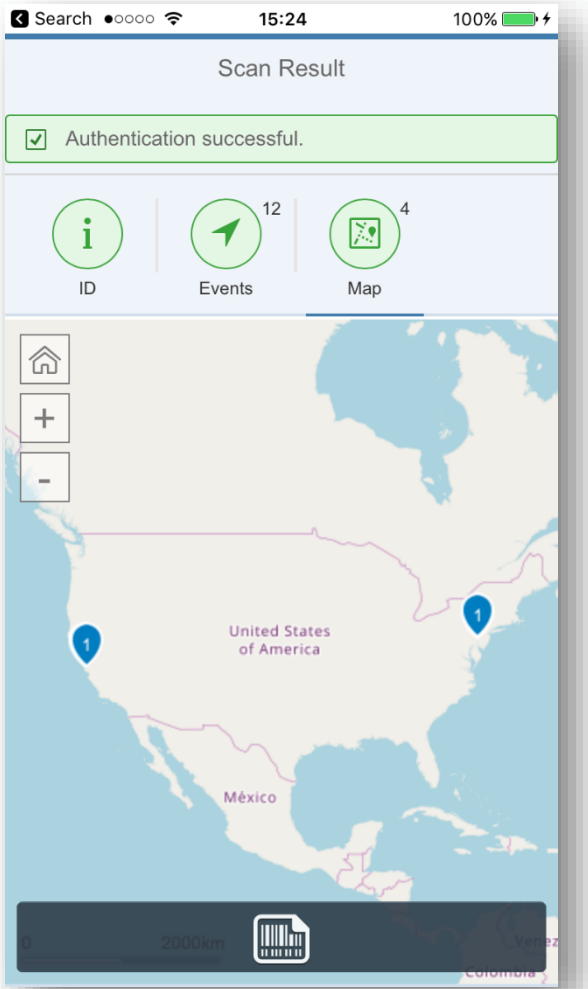
Programmable Economy: Blockchain Powered Network of Networks



Supply Chain Provenance: POC application example







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