

Blockchain + RFID = Total Product Lifecycle Management

RAIN RFID Alliance Meeting

Seattle WA

July 20 1017

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Overview

- What is product lifecycle management?
- What is blockchain?
- What role can RFID play?
- How can product lifecycle management and other sustainability initiatives create new pathways to profitability for your business?

Product Lifecycle Management

Knowing what goes into products, where it comes from, how it is performing during use and how it is managed at end of useful life:

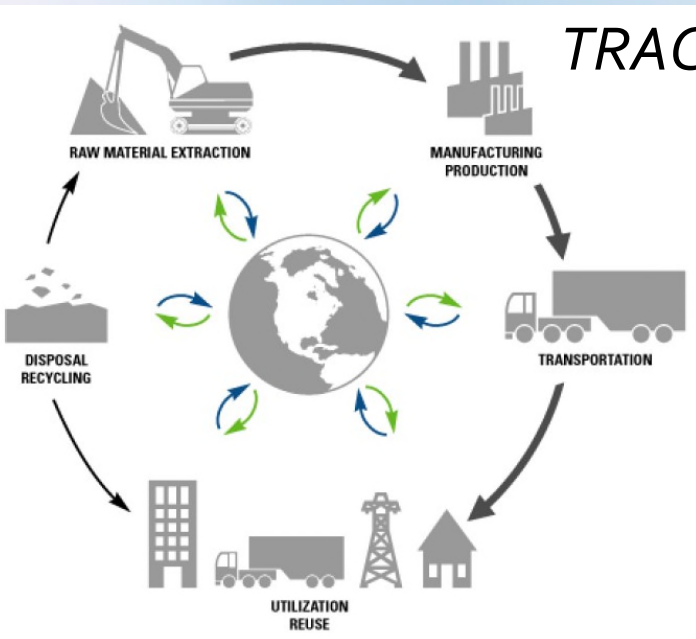
PROVENANCE →

TRACK →

TRACE/PERFORMANCE →

RECALLS →

RECYCLING



IBM Think Academy

Blockchain: How it Works



Blockchain Basics

- Distributed ledger that validates secure transactions with unprecedented transparency and accountability
- Immutable data – Once created can not be changed
- No middle person or organization – “peer to peer”
- Can be private w/restricted membership like an intranet or public like internet
- Members of supply chain are required to validate movement of goods/transactions on blockchain
 - Motivated by contact and maintaining high value by validating provenance
- Entire chain is continually updated (i.e. Google docs.)

Blockchain and Product Lifecycle Management

Blockchain can be leveraged at all stages of a product's lifecycle:

1. Supply chain
2. Manufacturing
3. Product life
4. End of product life

Blockchain and Product Lifecycle Management

1. Supply Chain

- Auto-ID identifies transactions at each node
- Blockchain inexpensively and securely validates transactions
- Visibility authenticates ethical product claims
 - Ethical diamonds
 - Sustainably harvested fish
 - Electronics (conflict minerals upstream, downstream recycling)
 - Sustainable apparel
 - Forests and agriculture - -

Blockchain and Product Lifecycle Management

2. Manufacturing

- Validate certificates for parts & materials from suppliers
 - RoHS compliance
 - Product certification conformance (i.e.: EPEAT, HIGG Index)

3. Product life

- Simplifies updates to repair and maintenance manuals
 - Ensures security of sensitive equipment manuals (i.e.: defense)
 - Supports extension of product life
 - Efficiency of operation (energy use)

Blockchain and Product Lifecycle Management

4. End of life – Downstream supply chain

Increasingly, manufacturers are responsible for final recovery of products (voluntary/regulatory)

- Electronics (batteries, fluorescent lamps, computers, consumer electronics, et. al.)
- Tires, mattresses, carpeting
- Packaging
- Pharmaceuticals
- Chemicals/hazardous products
- When good intentions become brand risk
 - Dell



Who is using blockchain for supply chain accountability?

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Blockchain in Retail



BY FRED SEARLE

Thursday 29th June 2017, 10:27 London



Walmart calls for blockchain collaboration


US retail giant urges fresh produce sector to come together and build transparency into supply chain using 'blockchain' technology

- Farm-to-fork tracking (safety, sustainability)
- Accountability, responsibility in supply chains
- Reduced, avoided costs – Food safety



Blockchain in Electronics

How The Blockchain Will Revolutionize The Consumer Electronics Industry

 **Dr Tamer Sameeh** Published on © June 19, 2017 at 11:24 BST

- Tamperproof record of manufacturing, maintenance and handling
- Anti-counterfeiting
- Conflict minerals
- Promoting responsible consumption – validating product certifications

Blockchain in Food Supply

Counting Chickens: Can Blockchain Restore Trust in China's Food Supply?

Jun 26, 2017 at 12:03 by Noelle Acheson

- Tracking provenance, enhancing supply chain transparency
 - 70% of Chinese have food safety concerns, above unemployment, healthcare, worker conditions
 - USDA is considering allowing import of domestic chicken from China - - Chinese produce imports are increasing
 - Validating fisheries is the fastest growing use of blockchain for food supply chains

Blockchain in Pharma

HEALTH IT, PHARMA

How two California startups are preparing pharma companies for blockchain

By ANDREW ZALESKI

- Drug Supply Chain Security Act compliance (2023)
 - Requires serial no. supply chain tracking
- Link Lab and Chronicled joined forces to track pharmaceutical supply chains
 - Piloting in 2017 w/members of each node of supply chain:
 - Manufacturers, wholesalers, distributors, hospitals, pharmacies

Leading Open Source Blockchains: Blockchain as a Service (BaaS)

- Ethereum Blockchain
 - Microsoft and ConsenSys
- Hyperledger Project
 - Linux Foundation
- Rubix
 - Deloitte
- Dragonchain
 - Disney
- OpenChain, MultiChain, Eris, Ripple, more...

Consider Partnerships

PROVENANCE

HOW IT WORKS ▼

CASE STUDIES

TECHNOLOGY

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NEWS

GET STARTED

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Every product has a story

We enable great businesses to build trust in their goods and supply chain.

Provenance powered data helps shoppers choose your product.

Enter your email...

START FOR FREE

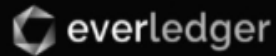
[Find out more](#)

Working with
200+ food and
drink retailers
and producers.
Also apparel,
cotton, coffee...

■ Made in Murrumbateman, Australia by Four Winds Vineyard

Empowering the whole supply chain

Partnerships

[What We Do](#)[Our Journey](#)[Our Technology](#)[Press Coverage](#)

Welcome to the digital vault of the future.

Everledger is a global startup that uses the best of emerging technology including blockchain, smart contracts and machine vision to assist in the reduction of risk and fraud for banks, insurers and open marketplaces.

[FIND OUT MORE](#)

Product Lifecycle Management = New RFID Business Opportunities

- Help current customers leverage RFID data for:
 - Certifications conformance
 - Global Reporting Initiative (GRI) for sustainability reporting
 - Almost 11,000 enterprises reporting *and need data*
 - Annual reduction in waste, energy use, carbon footprint, supply chain accountability and more

New RFID Business Opportunities

- Virtually *every* key RFID target vertical has a large professional sustainability organization
 - Supply chain
 - Manufacturing
 - Retail
 - Healthcare
 - Electronics/IT Asset Management
 - Many more...

Your systems produce the data they need!

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Not so sure?

- Microsoft and sustainability
- In 2005, the 150 largest companies in the world has Sustainability Officers at VP level or higher
- By 2010 69% of Fortune 1000 companies had sustainability executives
- 80% of top executives at [Sustainability]Global 100 firms, receive higher bonuses if the company meets sustainability targets*

Wrap up and...

first question?



Contact

LAUREN ROMAN

Marketing Strategist*

LRoman@TransparentPlanetLLC.com
www.TransparentPlanetLLC.com

1 + 973-224-7632

*See reverse

