Simplified logistics, supply chain tracking, transparent provenance, and ownership of objects with unique blockchain based identity protocol.

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What are Blockchain’s Strengths & Characteristics?

- Borderless
- Neutral
- Censorship resistant
- Open
- Re-establishes trust in intermediaries
- Immutability
- Security
- Anonymity
- Transparency
- Disintermediation
- Validation / Authentication
Growth Increasing of Alternative Blockchain Applications

The beginning & growth of IoT+blockchain related projects.

But things are just getting started...

Fintech blockchain is already very saturated and reaching peak hype. But blockchain applications for new sectors (including IoT) are just now coming online.

90 Percent Of Top Executives Expect Blockchain To Transform Markets In Five Years
February, 2017 / Deloitte

9 in 10 government executives plan to invest in blockchain solutions by next year
February, 2017 / IBM

$60 Bln Alipay to Adopt Blockchain Looking to Serve 2 Billion Users
January, 2017 / CoinTelegraph

Wal-Mart Readies Blockchain Pilot for Tracking U.S Produce
December, 2016 / WSJ

IBM Tests Blockchain for Supply Chain With India’s Mahindra Group
November, 2016 / CoinDesk

IBM Invests $200 Million in Blockchain-Powered IoT
October, 2016 / CoinDesk

Blockchain to Drive Wanxiang’s $30 Billion Smart Cities Initiative
September, 2016 / CoinDesk

Smart Dubai Director Sees Blockchain as Key to Connected Cities
May, 2016 / CoinDesk

Chain of Things Established
January, 2016 / Hong Kong

Slock.it Runs First Blockchain+IoT Hackathon
November, 2015 / London

Source: Google Trends, 2017
Supply Chains: The Problems

- Comprehensive supply chain tracking, transparency, ownership
- Multiple parties that do not trust each other
- Disruption of paper, creation of smart, digitized custody of title (Smart Bills of Lading)
- Clean reporting of object provenance, carbon footprint, environmental efficiency
- Secure, identified, interoperable devices
- Initial platform for Vendor Rating; other reputation based identity applications
Possible Blockchain Solutions?

1. Track everything with BILLIONS of sensors
2. Simplified tracking based on ‘Smart Bucket’ zones
Smart Buckets Powered by **Blockpass Identity Network**

Chain of Things is helping to develop Blockpass: a **blockchain identity protocol for the internet of everything**.

Blockpass acts as the secure conduit between **human, company, object, and device identities**.

This will enable the development of highly efficient new applications that rely on a trusted connection between parties that may not know or trust each other.
Shipping Stack Identity Profiles

Blockpass is a blockchain identity protocol for the internet of everything.

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This will enable the development of highly efficient new applications that rely on a trusted connection between human, company and device identities.
What is a Smart Bucket?

A Smart Bucket is a physical ‘zone’ in which simple objects in transit are currently inside of - such as a factory, pallet, container, truck, ship, etc.

Sensors on each Smart Bucket report the ongoing environmental status of that respective stage in the supply chain; location, temperature, humidity, light, acceleration, etc.
How does it work?

A ‘dumb’ object’s blockchain based identity adopts the detailed environmental status of the current Smart Bucket that it is contained within.

This forms a ‘paired’ identity in which the dumb object reflects the detailed live sensor data of the current Smart Bucket host.
Dumb Object Journey

‘Dumb’ objects are checked in and out of Smart Buckets as they travel along the various stages of their logistical journey.

The paired metadata is recorded to a blockchain and keeps a decentralized and immutable log of an object’s transit history and treatment.
Smart Bucket Process

1. Object
   - Object tagged & registered with unique QR or NFC identifier.

2. Smart Bucket
   - The object is checked into a Smart Bucket and begins to reflect the live metadata of that Smart Bucket.

3. Transmission
   - Live Smart Bucket sensor data collected and transmitted.

4. Blockchain Record
   - The Smart Bucket data, and corresponding object ID data, is recorded to a private blockchain channel.

5. Smart Bucket Metadata Record
   - Smart Bucket Metadata shows the current environmental details (location, temperature, light, etc.) of the Smart Bucket.

6. Live Object Metadata
   - Object will adopt and display via dashboard metadata of the Smart Bucket it is currently checked in with.

7. Smart Bill of Lading
   - Smart Bill of Lading monitors object metadata for environmental changes that violate contract.

8. Notifications
   - Parties have permissioned access to view dashboard of the object’s current state and will be notified if object conditions deviate from contract.

- Seller
- Carrier
- Buyer
- Bank (seller)
- Bank (buyer)
- Insurance

Object ID Tag

Smart Bucket (Container)

Smart Bucket Sensor

Smart Bucket ‘Zone’

Paired Identity

Smart Bill of Lading

Identity of Involved Parties
Live Smart Bucket data is permissioned to the identities of all parties involved in the object’s existence and journey.

Any violations of the Smart Bill of Lading are flagged by the Smart Bucket’s environmental sensors and relayed to all parties for review and correction.
Key Benefits of the Smart Bucket Model

- Comprehensive supply chain tracking, transparency, ownership
- Clean and efficient reporting of product provenance
- Secure, identified, and interoperable objects and Smart Buckets
- Initial platform for Vendor Rating and other reputation based applications
- Greater efficiency and loss prevention due to increased frictionless transparency
Next Steps

● Potential Shipping Identity Network (IDN)
  ○ Objects
  ○ Devices
  ○ Companies
  ○ Humans
● Live Blockpass PoC with industry partners
● Development of scalable Blockpass solution
Thank You!

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Chainofthings.com
Blockpass.org