IoT, RAIN and Chains

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IoT, RAIN and Chains
External Forces

Do more.
Think differently.
Speed up.
Expand interoperability.
New stakeholders have arrived
Reduce costs.
Create experiences.
Sell more stuff.
Transparency.
Speed.
Trust.
Identification.
Data.
Events.
Interoperability.
Identification.
Data.
Events.
Interoperability.
Physical

Digital
Physical identification

Digital identification

https://data.gs1.org/gtin/95070000009060/
Physical identification

Digital identification
Physical identification

Digital identification
Physical identification

Digital identification
Identification.
Data.
Events.
Interoperability.
Physical product

Digital twin
Physical product

Digital twin

300 dpi
Identification.
Data.
Events.
Interoperability.
Physical tracking

Event data sharing
One-up
One-down

Was it sustainably sourced?

Was it sold legally?

Where is my shipment?

End-to-end visibility
Expanding our systems
From codes/tags to registries
Manual business processes

Decentralised blockchains
Separating content from its exchange

```
{ "gtin": "00614141003211", "productName": "Girls Fast Runner", "brandName": "Fast Runner", "sizeDimension": "33", "colourDescription": "Purple", "priceCurrency": "USD", "price": "75.00", }
```
Enterprise Blockchain ledger
- Access and permission control layers
- Pointers to off-chain data and hashes of off-chain data
- Some relevant pieces of data needed for validation and business processes and smart contracts
- Identifiers based on GS1 keys (party, location, things, etc) – likely obfuscated
- Data stored in accordance with GS1 standard data structures

Off-chain resources
- Access and permission control layers
- Event, transaction and master data stored in accordance with GS1 standard data structures (such as EPCIS Event Data Repositories)
- Identifiers based on GS1 keys (party, location, things, etc)
- Other data resources that may be needed (documents, images, files, etc)
Internet of Things

Virtual reality

Is my bear authentic?
Consumer IoT

Many objects, smart devices, machines, consumers, patients, and services being increasingly connected to solve problems in new and more effective ways.
What we need from things/devices

• Who
• What
• How

Is my bear authentic?
Fundamentals...not yet figured...

- Trusted Identity
- Messaging
- Authentication
- Data Model
A Bag’s Life: Post-Purchase

C-IoT Components

**Identify**
GS1 Identification Numbers

**Capture**
GS1 Data Carriers

**Share**
GS1 Data Exchange
A Bag’s Life: On the Road

C-IoT Components

Identify
GS1 Identification Numbers

Capture
GS1 Data Carriers

Share
GS1 Data Exchange

Link suitcase’s EPC-enabled RFID tag to flight and airline app
Hand over suitcase without waiting
Destination verified and suitcase sorted
Receive alert that suitcase is on carousel

Departing Flights

Return departure: Alert! Suitcase is delayed
Schedule next day delivery/location choice
Track progress
Delivery and authentication
Transparency.
Speed.

Trust.
Reduce costs.
Create experiences.
Sell more stuff.
Physical  Digital