



IoT, RAIN and Chains

Robert Beideman
SVP – Solutions and Innovation, GS1



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



<https://data.gs1.org/gtin/9507000009060/>

Digital identification

Physical identification



<https://data.gs1.org/gtin/9507000009060/>

Digital identification

Physical identification



Digital identification

Physical
identification



Digital
identification

Physical
identification



Digital
identification

Identification.

Data.

Events.

Interoperability.



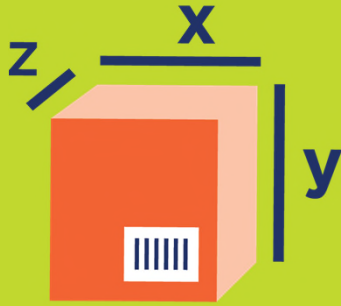


Physical product



Digital twin

Physical product



Digital twin

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?

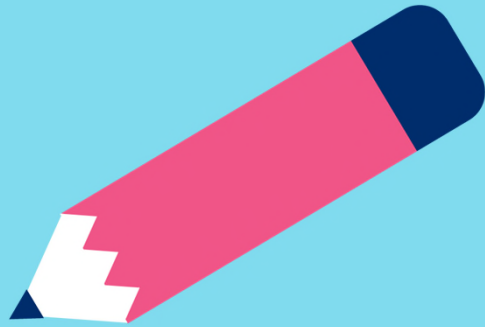
End-to-end
visibility

Expanding our systems

From codes/tags to registries



Manual business processes

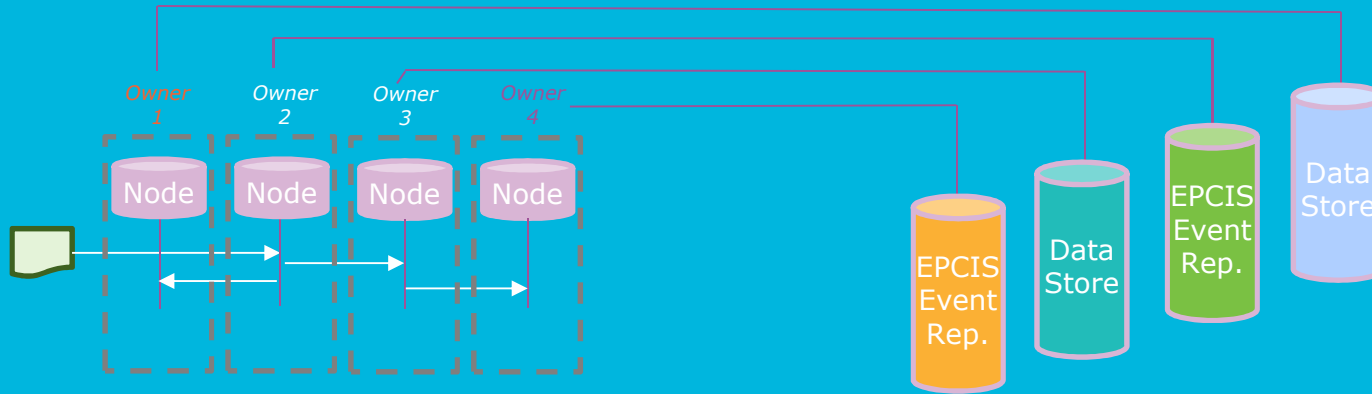


Decentralised blockchains

Separating content from it's exchange

```
"gtin": "00614141003211",  
"productName": "Girls Fast Runner",  
"brandName": "Fast Runner",  
"sizeDimension": "33",  
"colourDescription": "Purple",  
"priceCurrency": "USD",  
"price": "75.00",
```

Blockchains & data stores



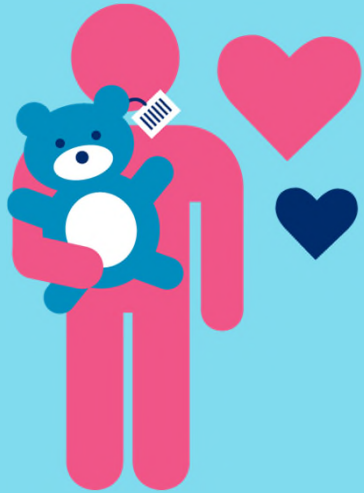
Enterprise Blockchain ledger

- 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



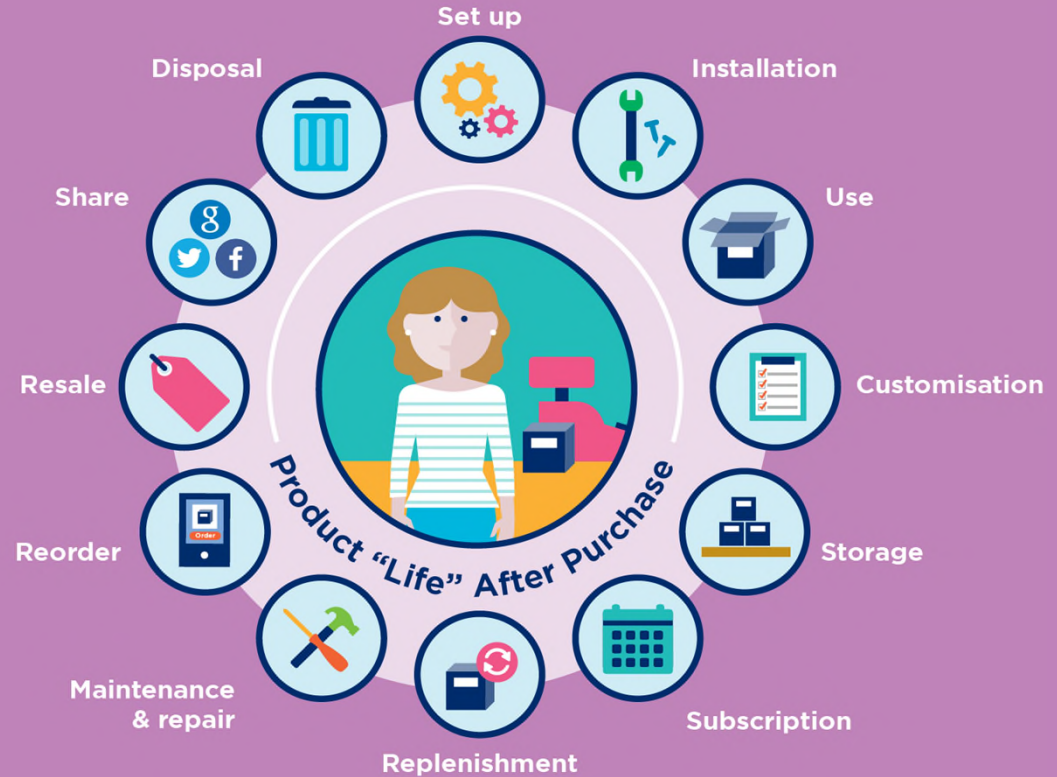
Virtual
reality

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

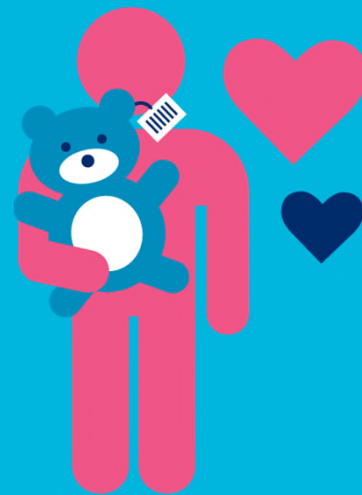
- Who
- What
- How

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

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GS1 Identification Numbers

Capture
GS1 Data Carriers

Share
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