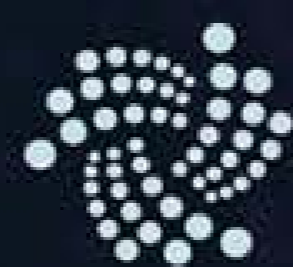
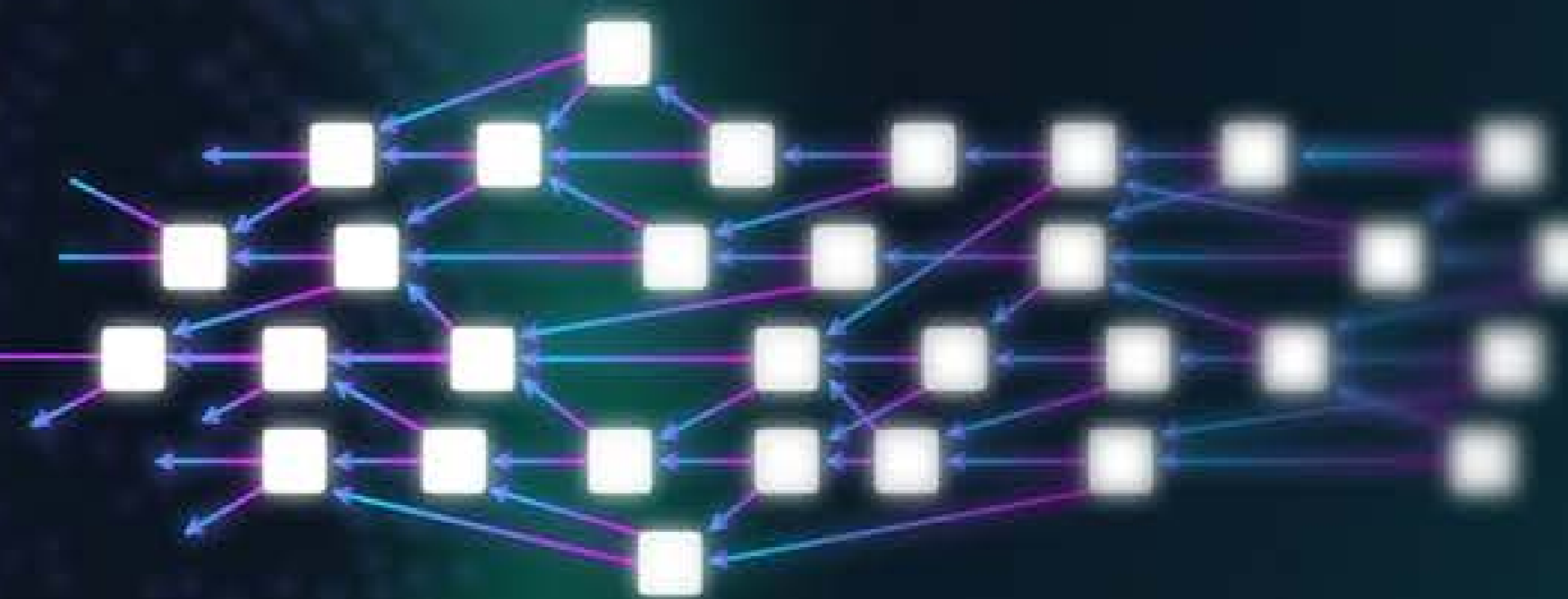


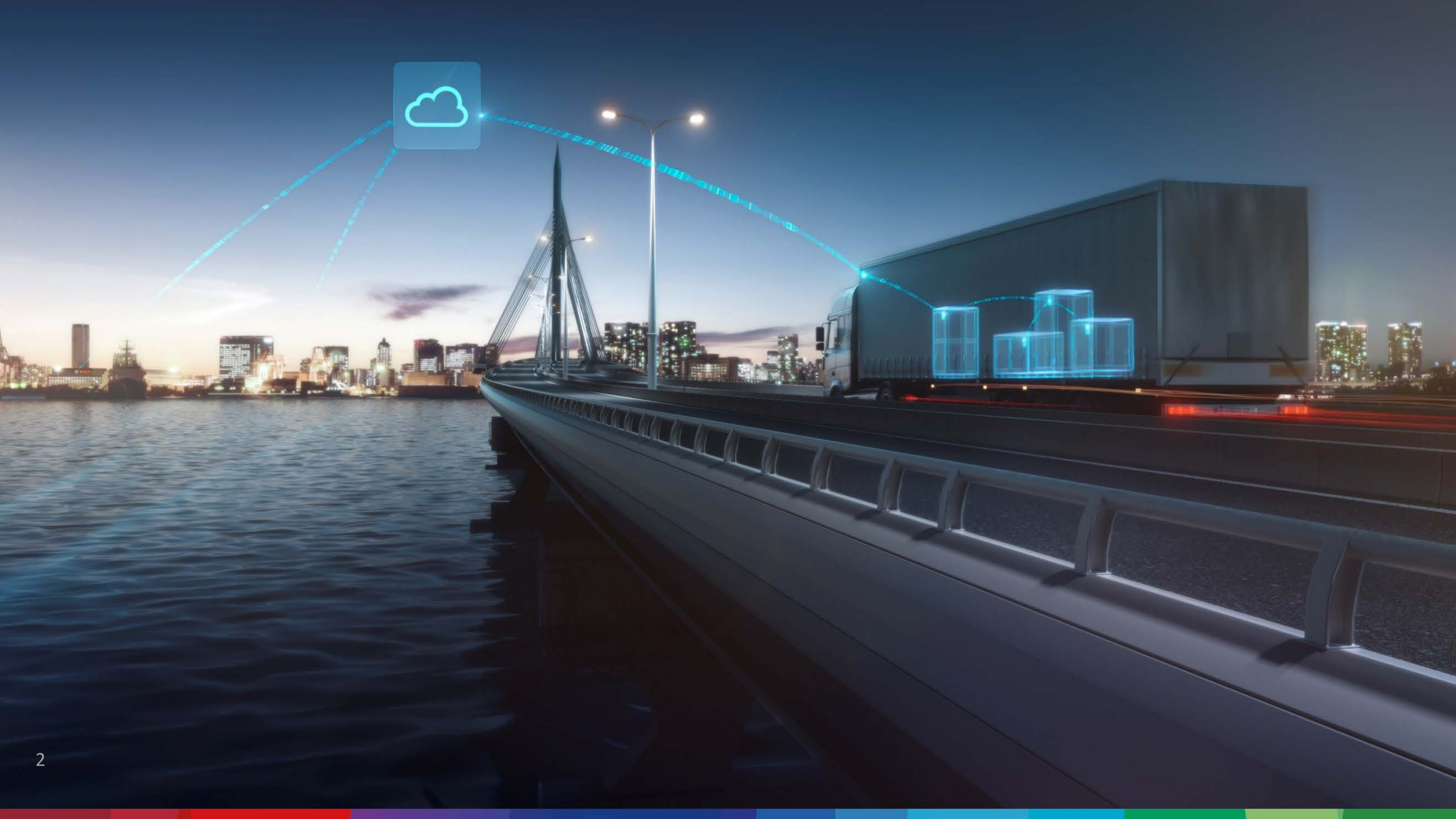
BEYOND THE
BLOCKCHAIN



IOTA



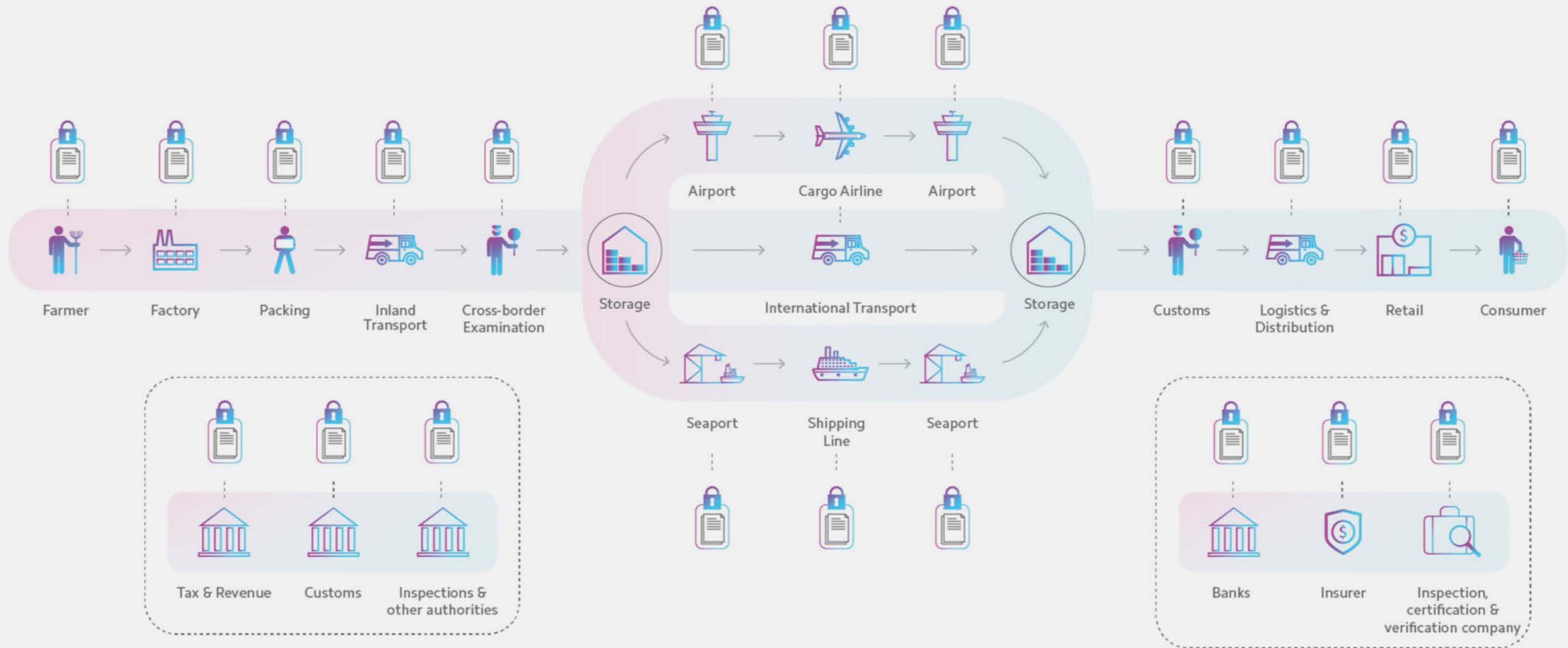
Data Integrity for IOT



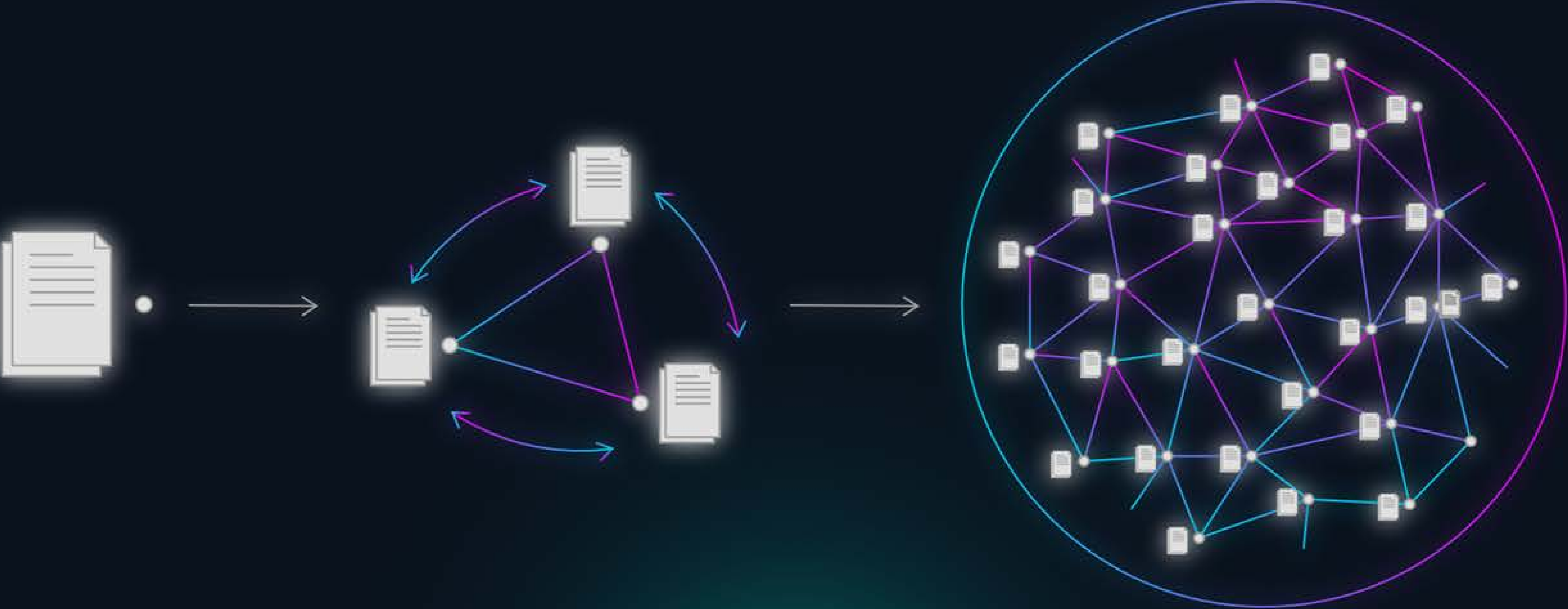
missing puzzle in a globe

THE ANSWER:
DISTRIBUTED LEDGERS

HIGHLY SEGMENTED AND UNDER-UTILIZED DATA

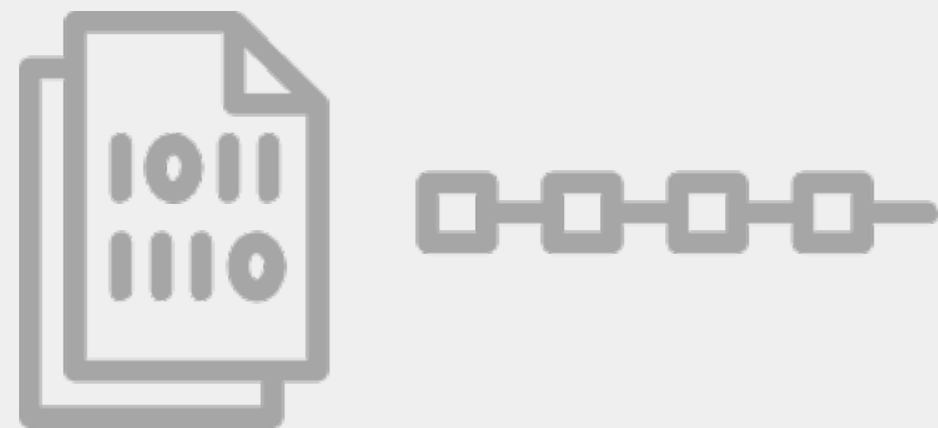


What are Distributed Ledgers?



Enabling Features

Digitize



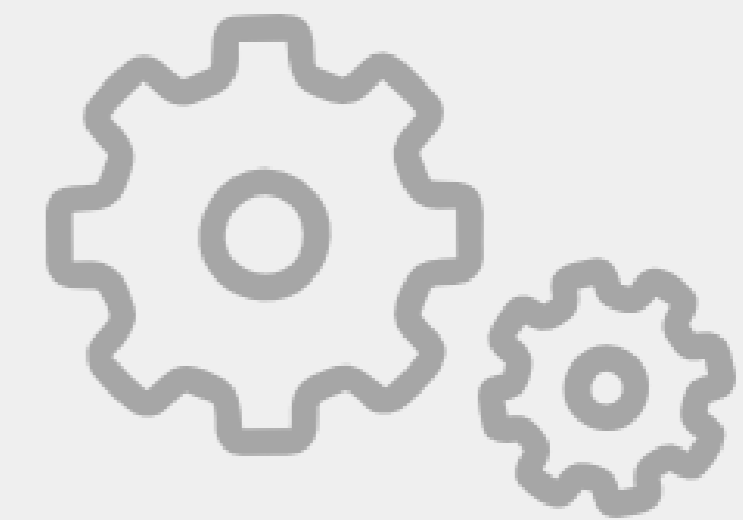
Trade- and other related documents are **digitized** and cryptographically secured.

Collect Data



IoT the entire supply-chain. All data and interactions are fed securely into the **Ledger**. Giving us full chain of custody.

Automate & Simplify



Through **Smart Contracts** we can automate old processes and enable new ones.

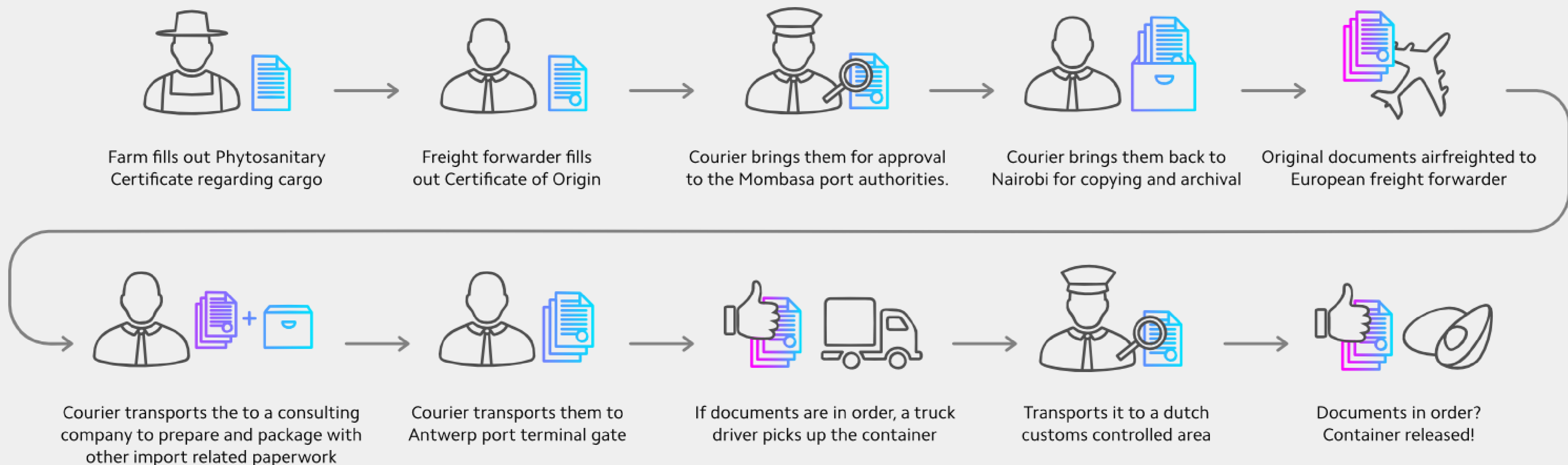
Creation of new Trust

- Encrypted Datasets **shared** amongst all parties
- **Every party** can verify the datasets of other participants in the network
- **Tampered** datasets are **excluded**
- An immutable **single source of truth** is established



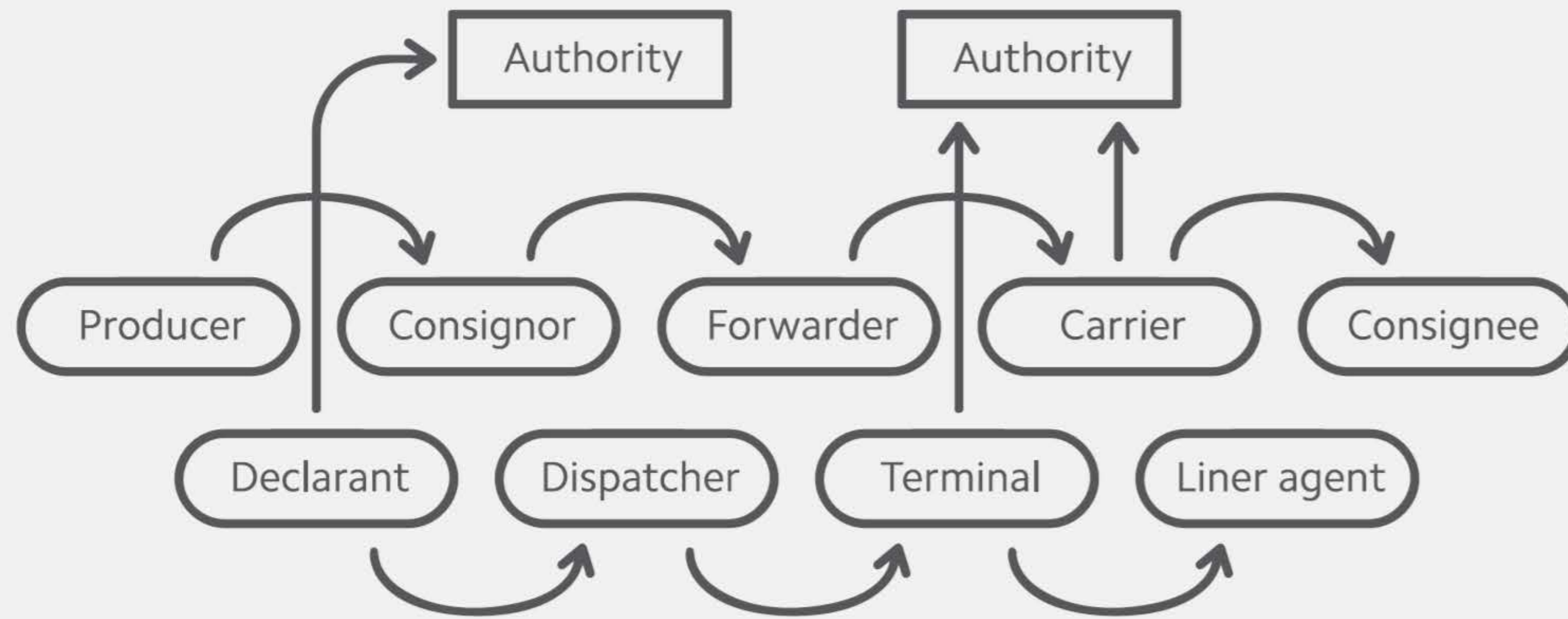
From Kenya to Europe, the travel of documents looks like this

The administrative cost is **comparable**
to the cost of the **physical transport**



Transporting avocados from Nairobi to Rotterdam involves **30 actors** and **200 information exchanges**

Peer-to-peer communication creates black boxes and mistakes as data is re-keyed into systems

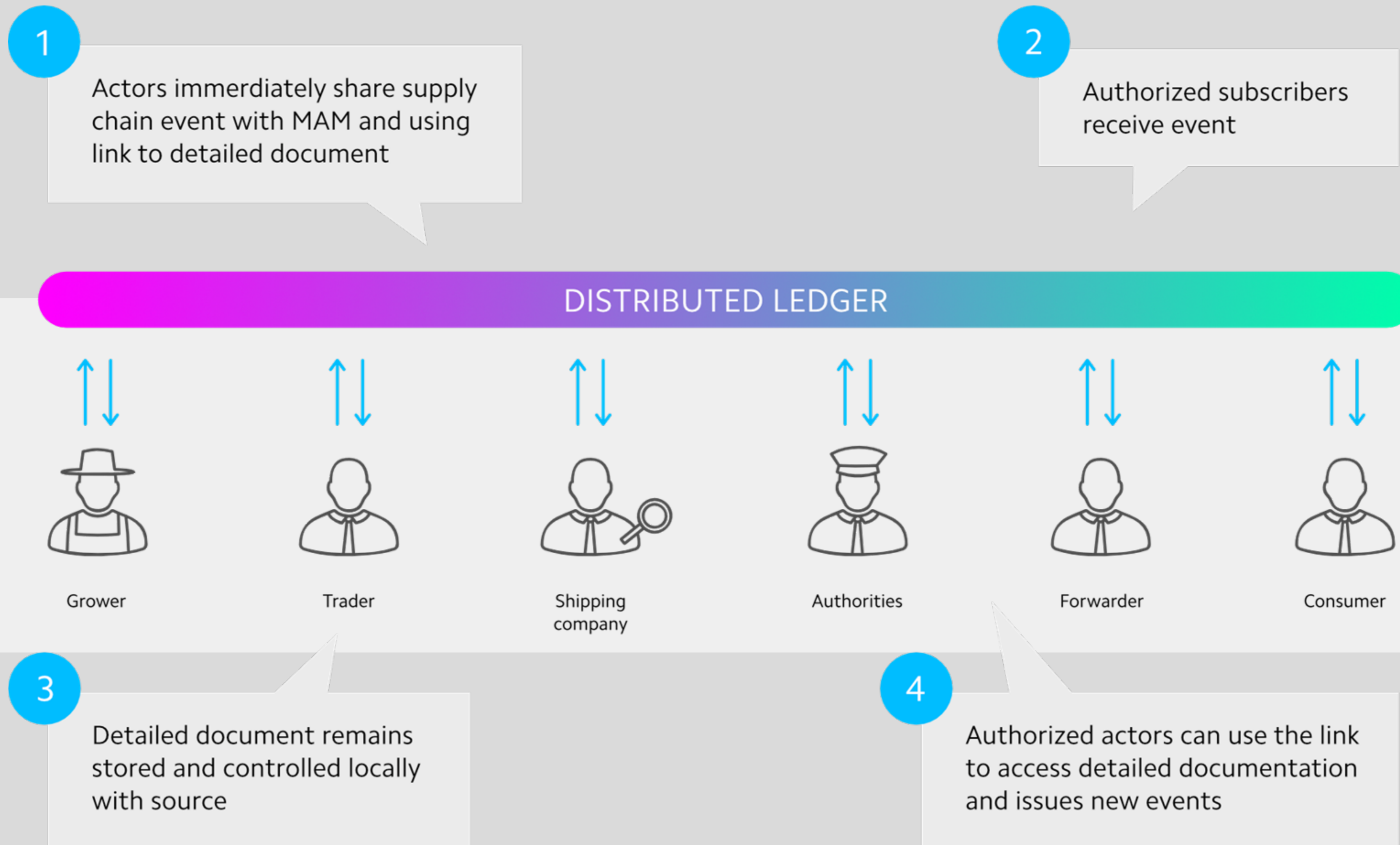


TODAY

Peer-to-peer communications

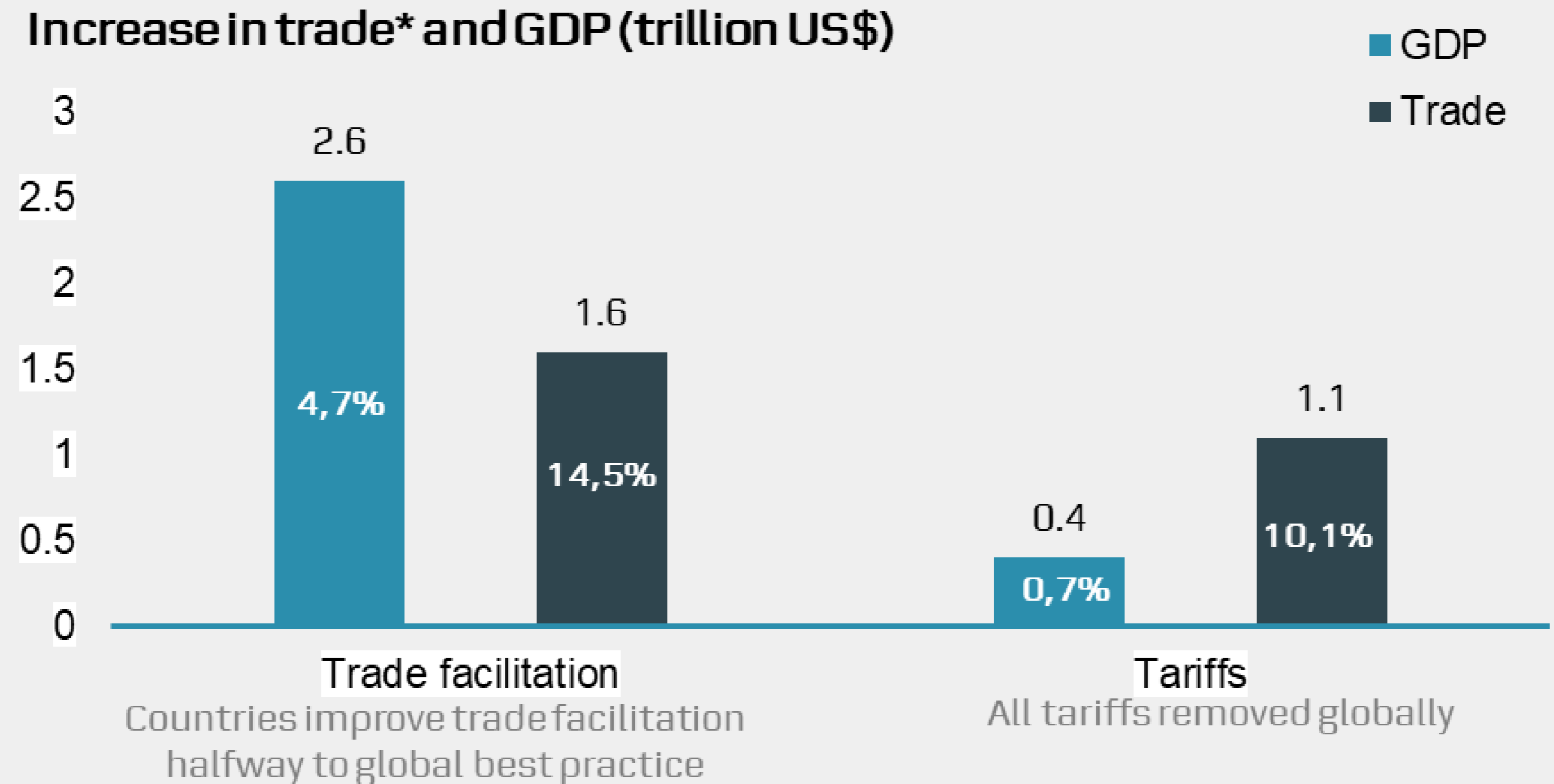
Today supply chains are driven by actors pushing information to the next actor and requesting updates and status on events such as: are the container stuffed? Is the tax paid? Are the goods inspected? Is the certificate approved? Emails, phone calls and uncertainty are the daily details of moving goods. Information being delivered peer-to-peer and retyped into new systems with loss of data integrity and authenticity.

With DLT solution it will look like this



The size of the opportunity (administrative burdens)

The WTO Trade Facility Agreement is estimated to increase global GDP with 5%!



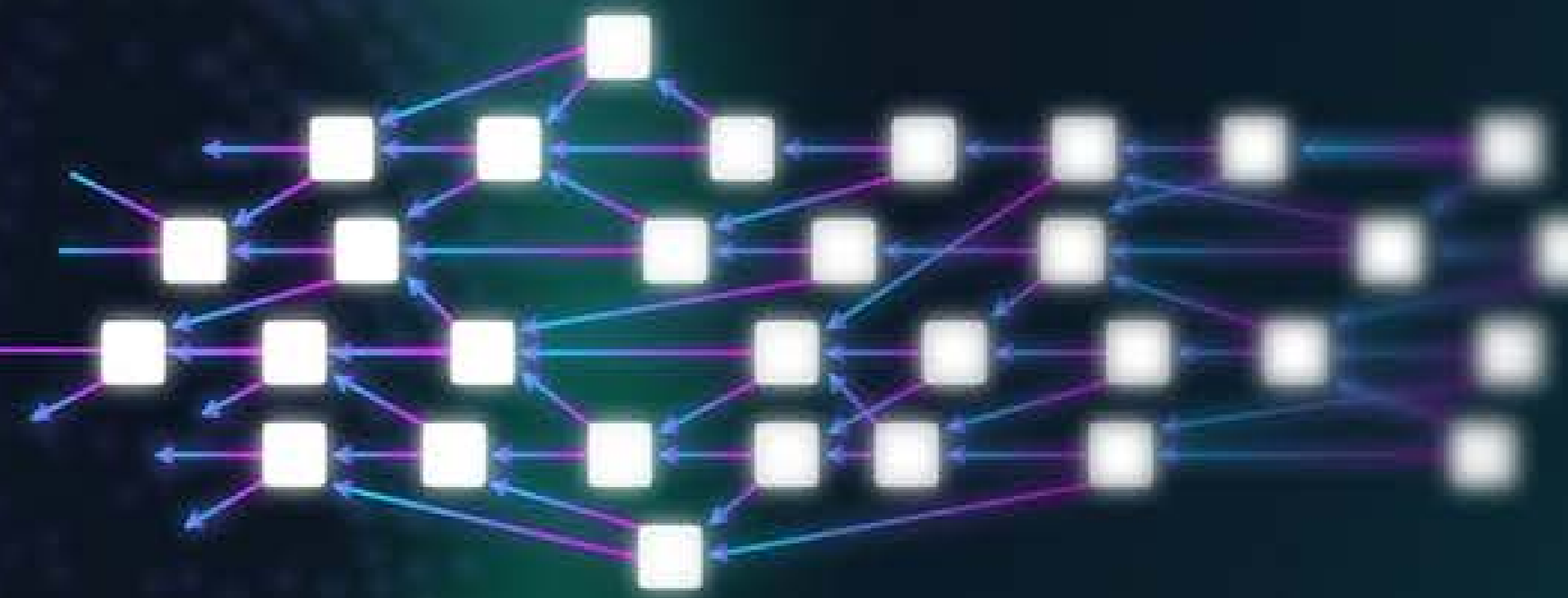
**The GDP effect of reducing supply chain barriers
is much higher than for tariffs**

*Based on export value; includes only the effect of 'Border Administration' and 'Telecommunication and Transport Infrastructure'

BEYOND THE BLOCKCHAIN

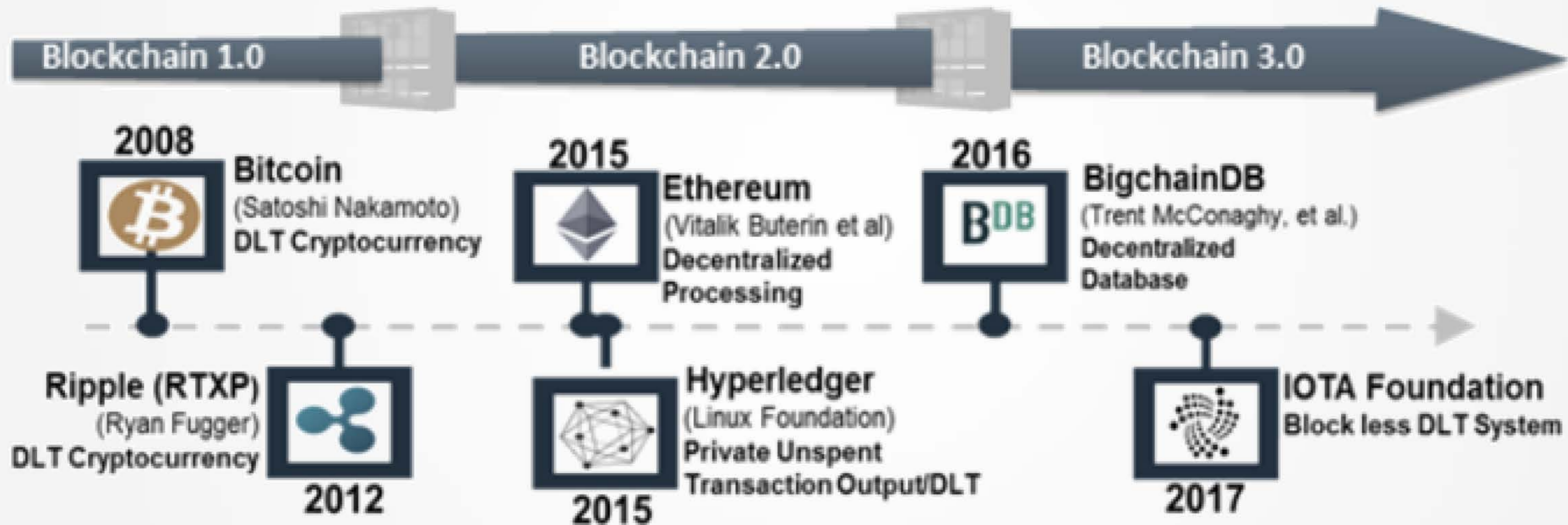


IOTA

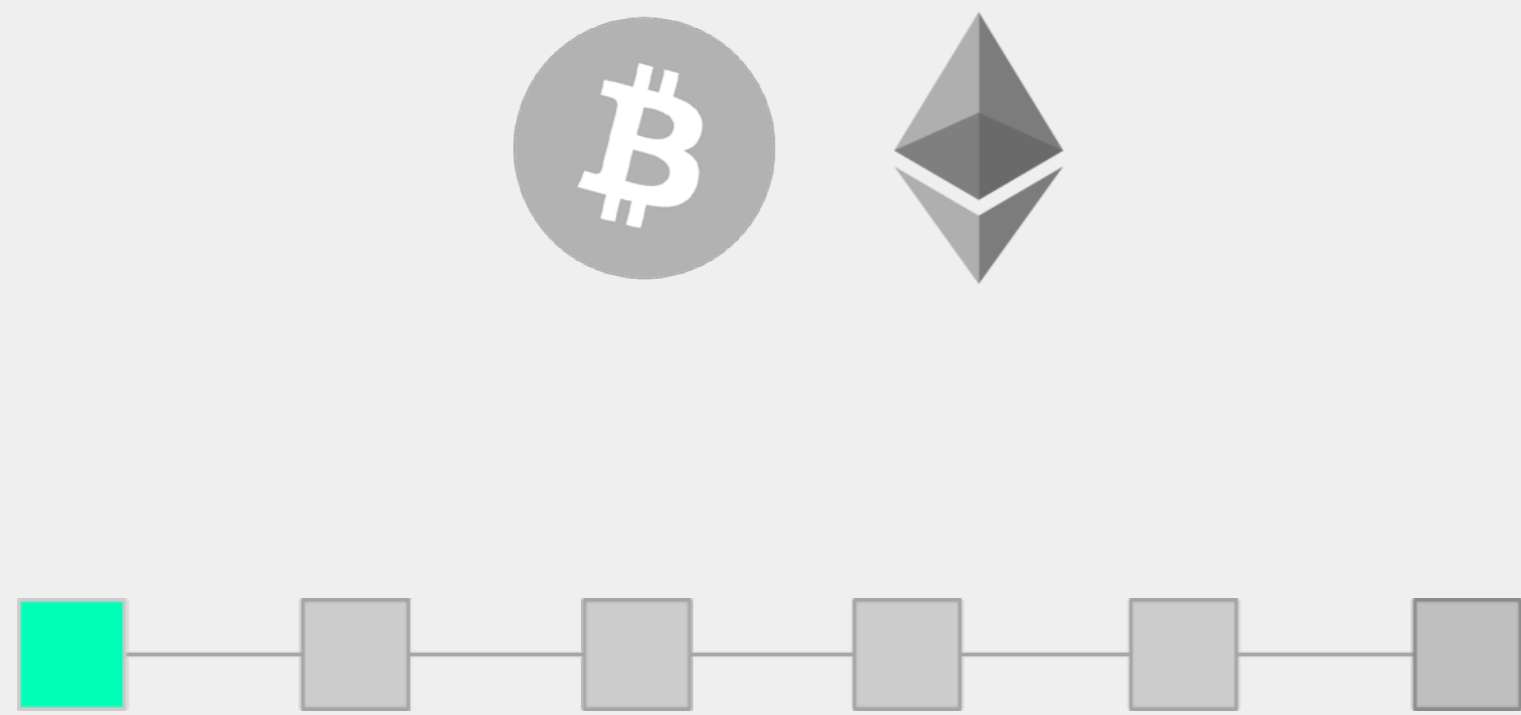


A Distributed Ledger beyond Blockchain

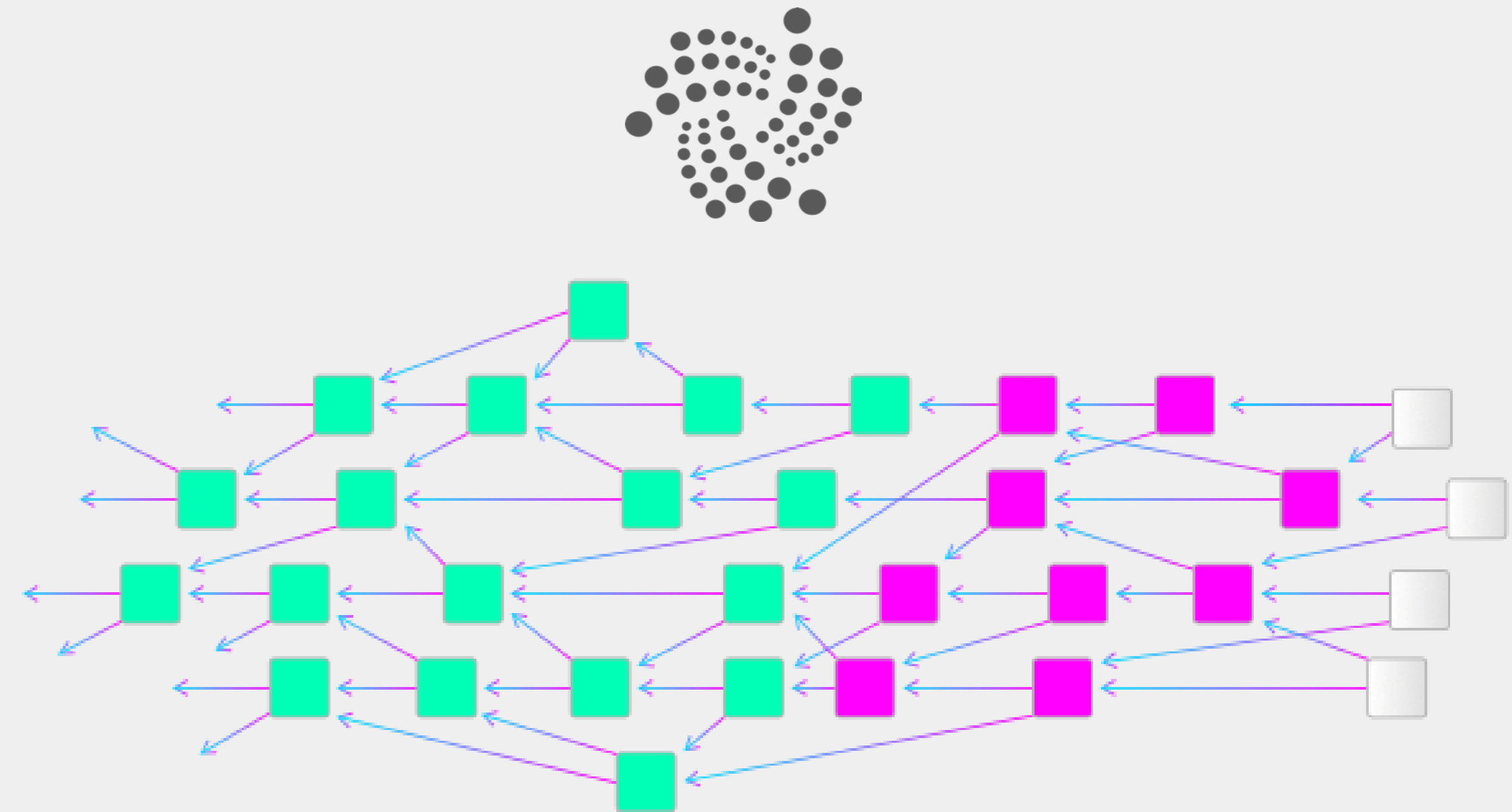
Opensource, faster, no zero fees, fit for the IoT



Blockchain vs. Tangle

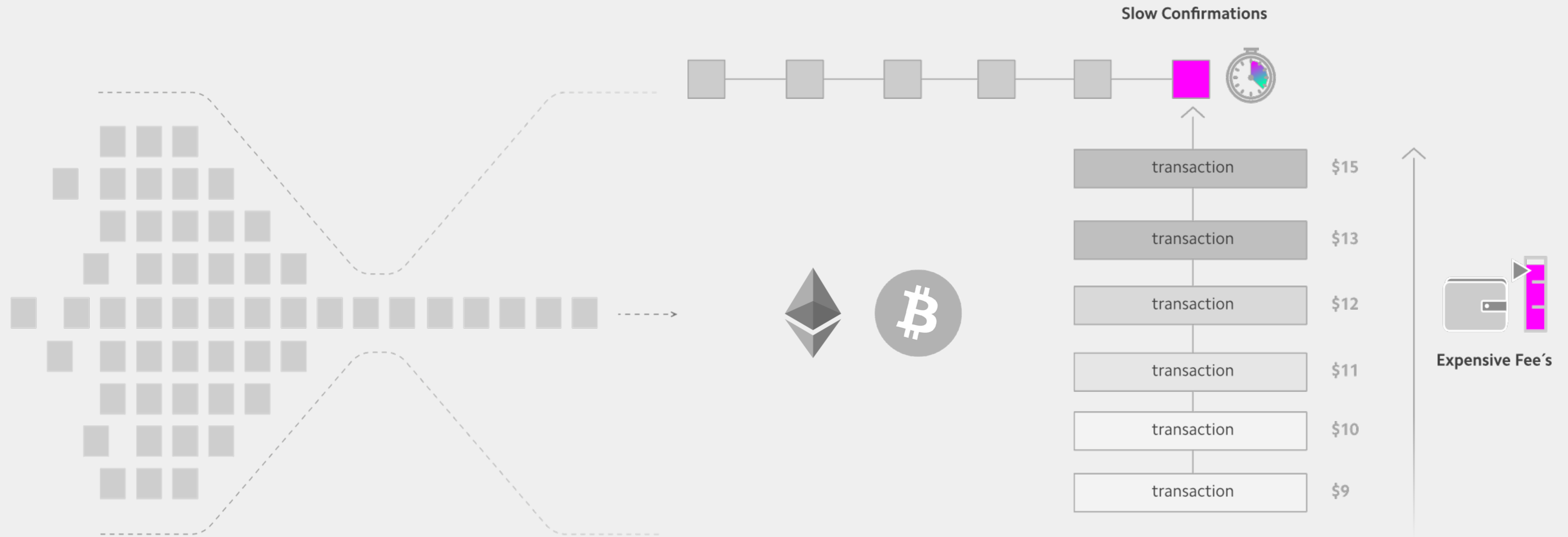


Blockchain



Tangle
(DAG / Directed Acyclic Graph)

The Blockchain Bottleneck



Economics 101: The Scarcity Principle: the price for a scarce good will always rise until equilibrium is reached

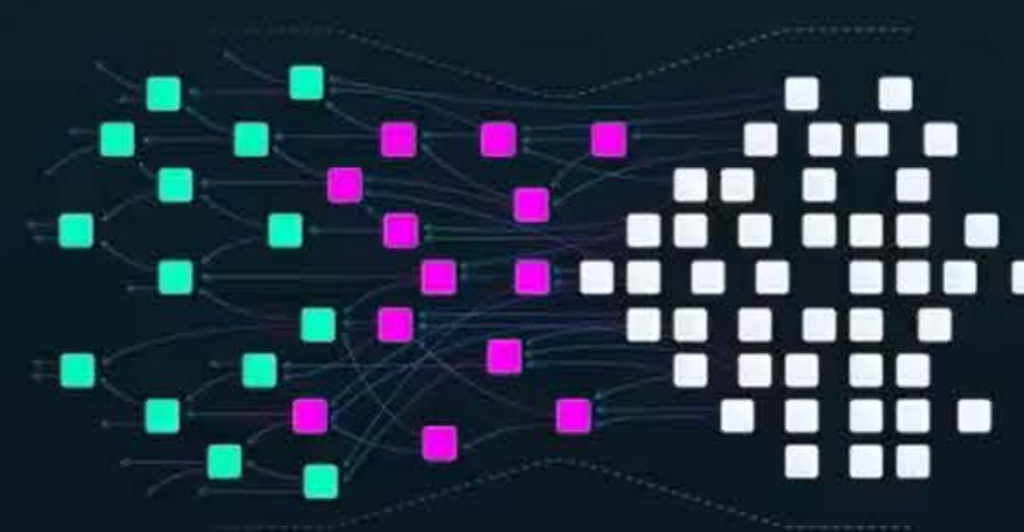
Blockchain vs. Tangle

Scalability

The Tangle Scales



More activity
=
More validation





 **bitcoin**

Bitcoin max. 3-7 tps


ethereum

Ethereum max. 20 tps

DASH

Dash max. 28 tps



Litecoin max. 56 tps



IOTA has already been successfully tested at 500 tps

Scalable to infinity with more users / devices

TOKEN/COINS

MAXIMUM TRANSACTIONS PER SECOND

Solutions for IoT will need key features



Scalable



Lightweight



*Value transfer
without any fees*



*Secure data
transfer*



Jens Munch

Global Trade & Supply Chains | Jens@iota.org

