



Blockchain, the internet of value exchange

ECO Kompetenzgruppe
Blockchain
February 9, 2017

Quasar enables payments between devices



The Quasar ledger



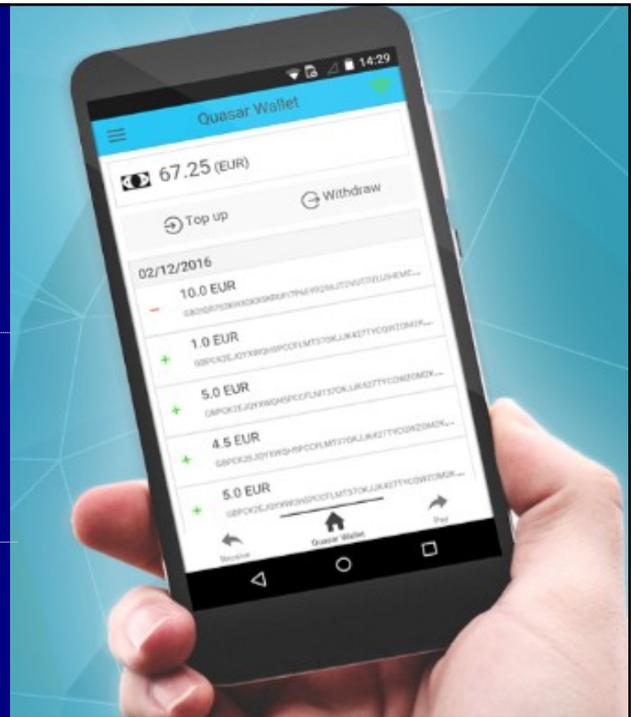
... is a blockchain technology based infrastructure for instant payments between enterprises, consumers and the IoT



... has different types of wallets to comply with regulation and respect user privacy



... includes a connector between the traditional bank account and a digital cash wallet



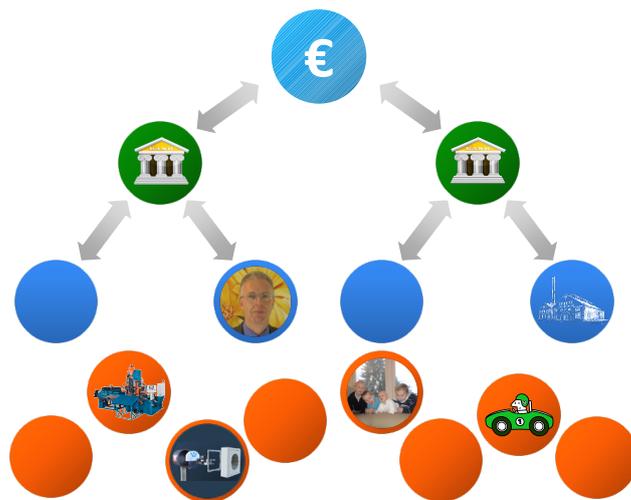
How economy comes into the IoT

Issuing authority

Consortium wallets (banks)

Consumers & enterprises

Unbanked & devices

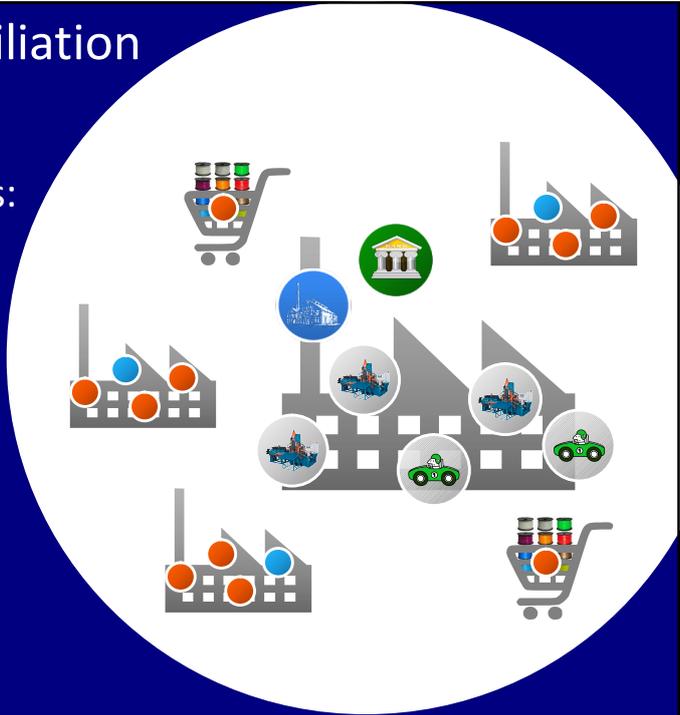


Identified owner

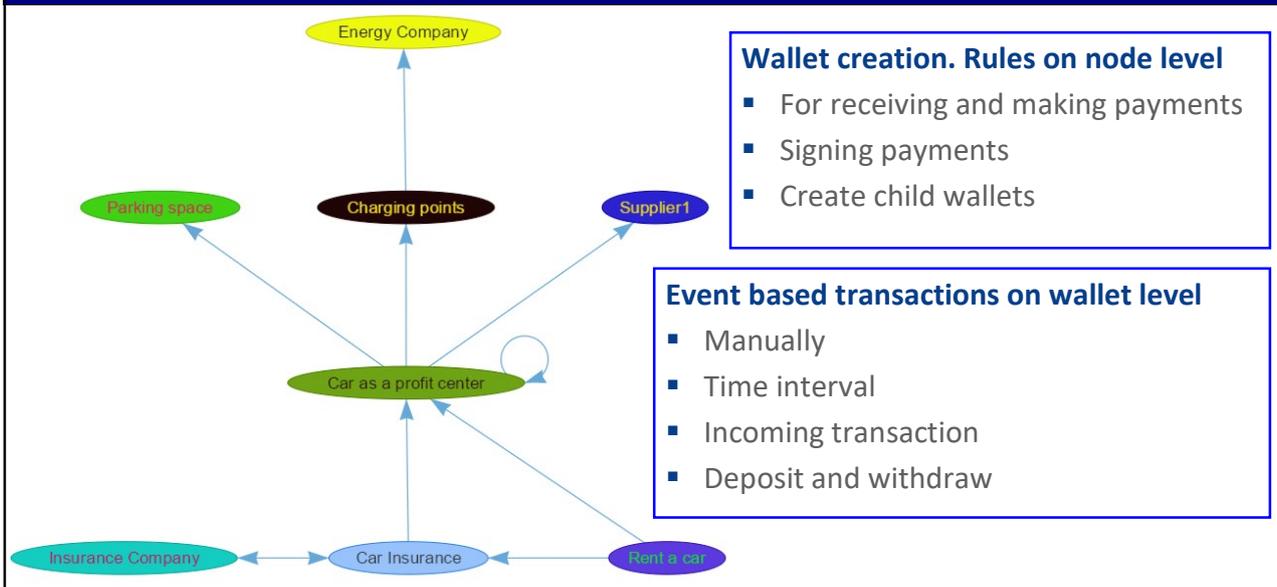
Without permission

Wallets form a new reconciliation eco system

- Wallets can create other wallets:
Virtual Private Payment Network
- Every device becomes a “profit center”
- An audit is a view on the Quasar ledger
- Automatic real time clearing and settlement

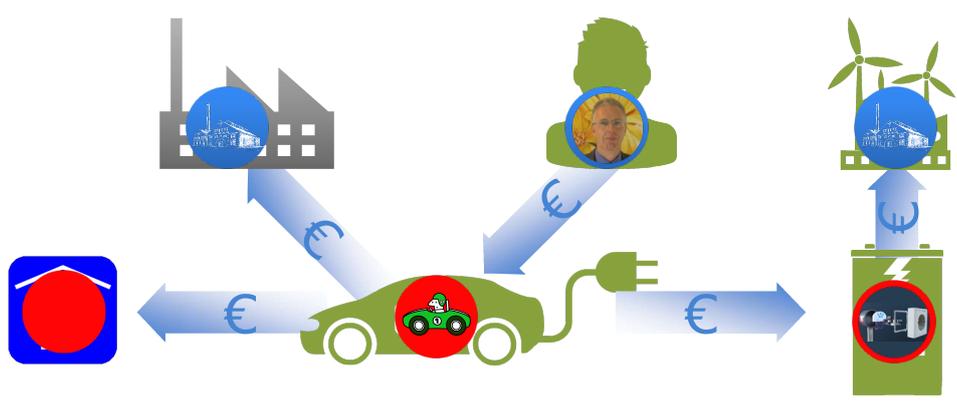


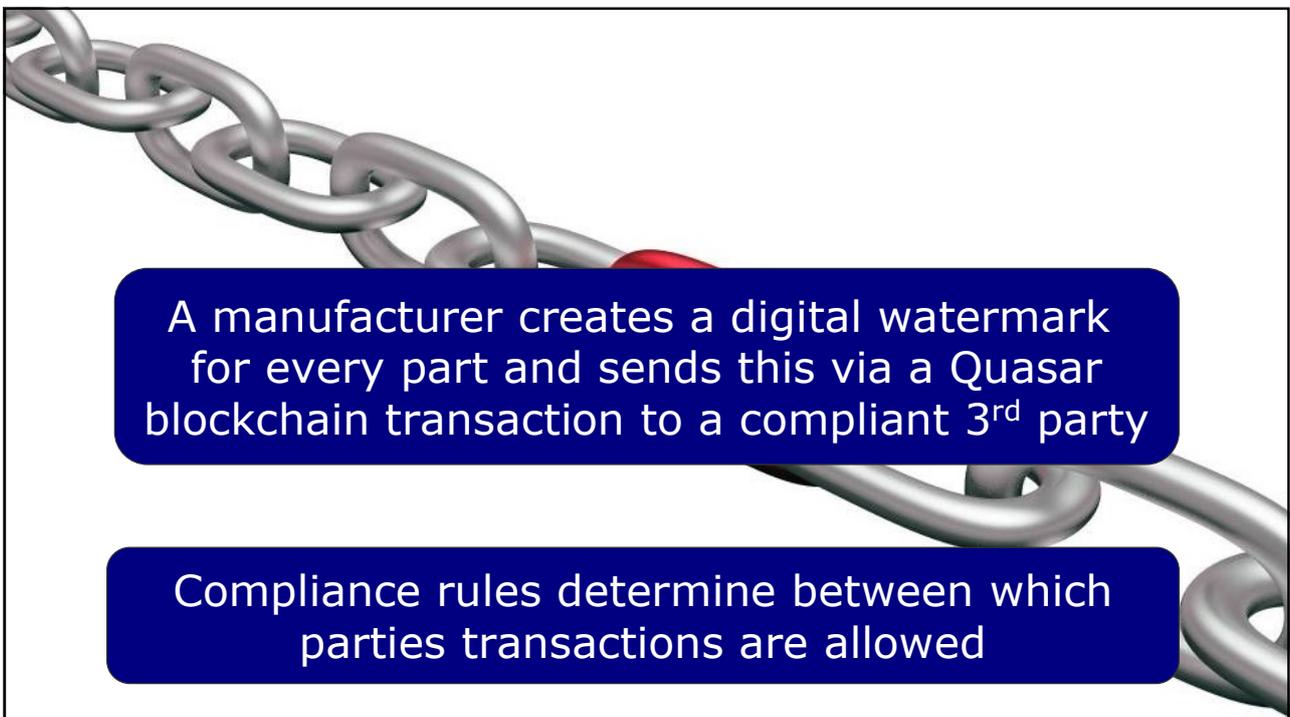
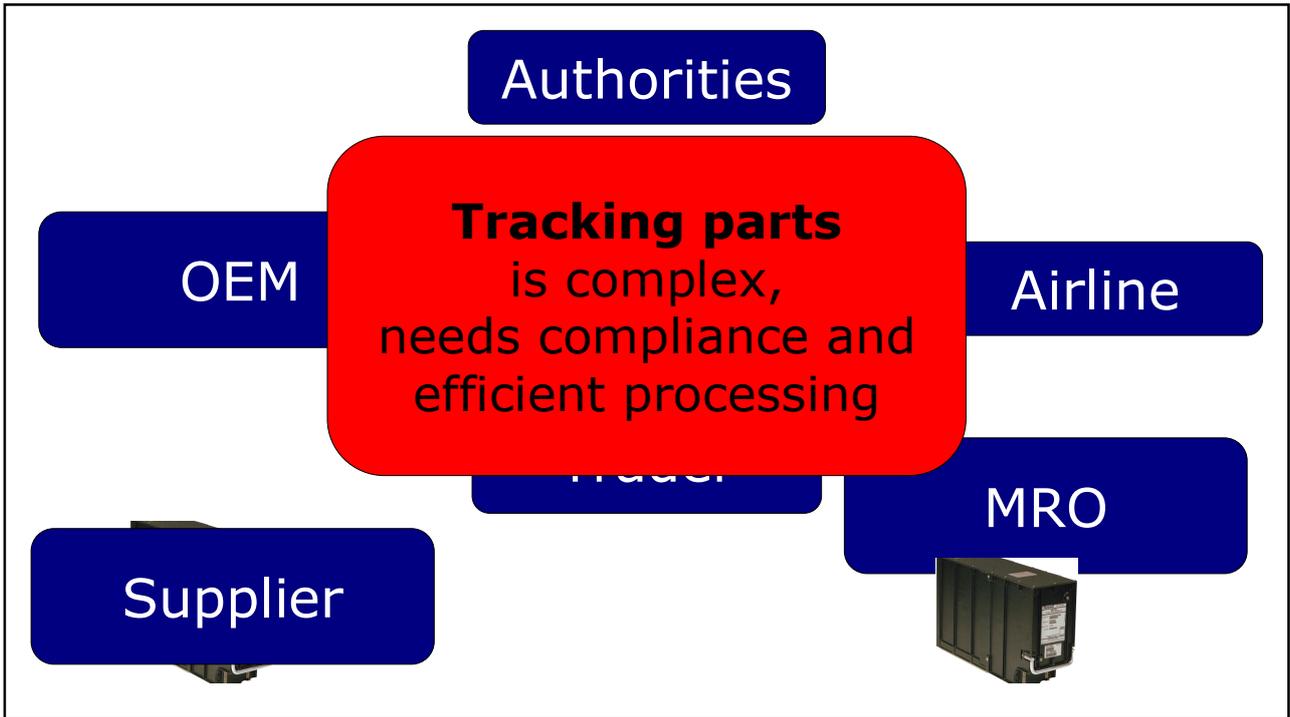
Virtual Private Payment Network



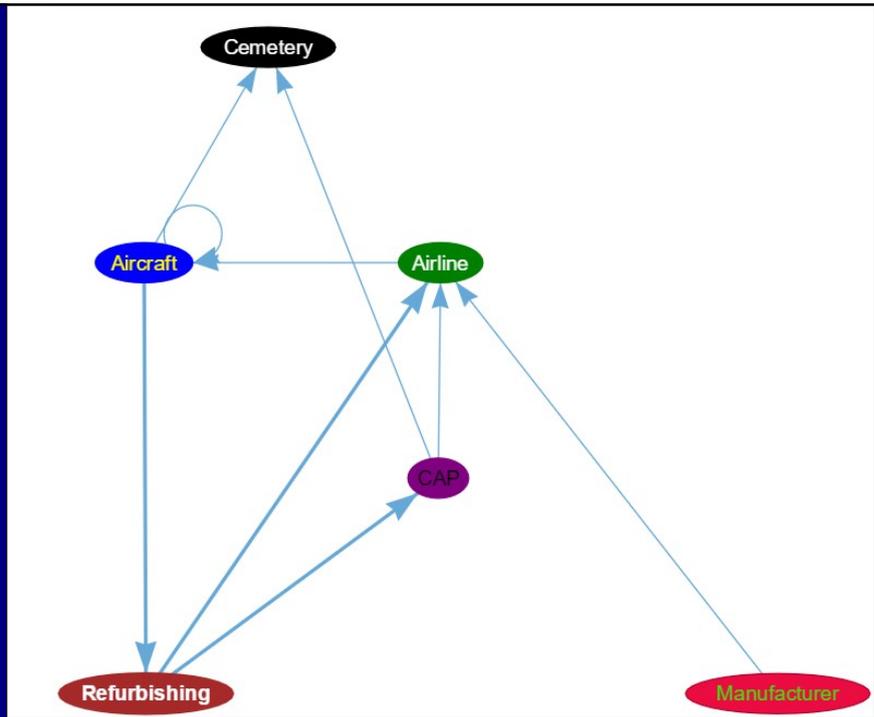
The car
as a profit center

... and the role of the gateway:
Provide infrastructure and
Identity as a Service





Tracking digital watermarks



Benefits of the Quasar ledger

-  **Compliance** *Who is allowed to create digital watermarks and who may send to whom*
-  **Transparency** *Product life cycle visible, stops counterfeiting*
-  **Immutable** *Historic data can not be changed, valuable for insurers and authorities*
-  **Not a single owner** *Sharing actual information is beneficial to all*

Why blockchain

- Immutable distributed database
- No security risk, no investment in IT infrastructure
- Instant transactions validated by the system, not by a middleman
- Transparent



When (not) use Blockchain technology?

Do not use blockchain as a solution if:

- There is already a single trusted entity
 - Trust is derived from the distributed consensus of the "untrusted"
- When large sets of data need to be stored
 - Only simple and compact transaction records
- When high speed transaction handling is required
 - System consensus takes seconds or minutes

Public or private Blockchain?

- Public Blockchain
 - No central authority (not on technology, not on consensus)
 - Compliance issues
- Private Blockchain
 - Single central authority (both on technology and on consensus)
 - Why use blockchain?
- Consortium Blockchain
 - Cooperative authority (on technology, but not on consensus)
 - Permissioned access can also fix compliance issues

Benefits of Blockchain

- ⊙ No need for a trusted central market authority
- ⊙ Transparent (open) transaction database
- ⊙ Open source and open API standards (free software and easy to connect to by a smart home or device)
- ⊙ Very low cost-to-serve (no need for backups, inherent security, simple deployment)
- ⊙ Privacy and secure communication by design



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Quasar mobile app: claim module Submitting, checking and instant payment/ settlement of claims

Setup Account



Einmalige Angabe der Kunden und Versicherungs-daten

Scan Invoice



Scannen der Rechnung per Handy

Check



Automatisches Erkennen des Rechnungs-gegenstands und Betrags

Verify & Process SV Claim



Schadensfall-bearbeitung
Automatische Rückmeldung des erstatteten Betrags

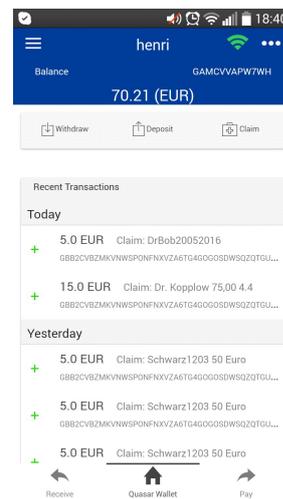
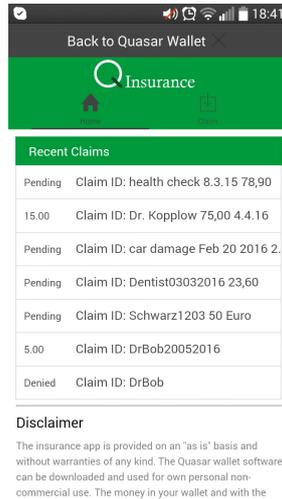
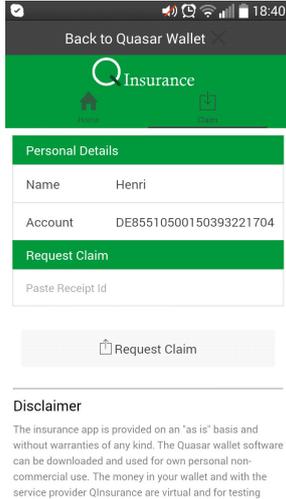
Verify & Process Private Claim



Schadensfall-bearbeitung
Automatische Rückmeldung des erstatteten Betrags

Quasar mobile app: claim module

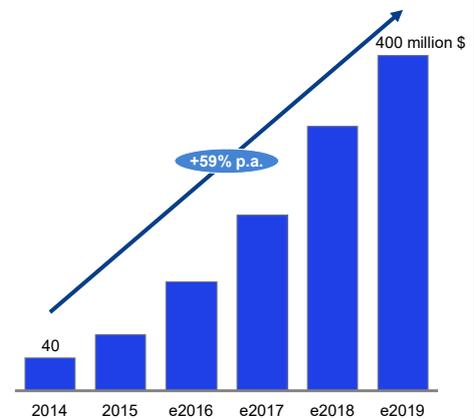
Submitting, checking and instant payment/ settlement of claims



50% of all blockchain use cases are in banking

- Savings > 80 billion \$
 - Cross boarder (P2P and B2B) payments
 - Trade finance
 - KYC and AML management
 - Identity fraud

Optimizing the past, improving internal and inter-banking processes



SOURCE: AITE Group, Tabb Group, CoinDesk

The Internet of Things, a key concept underpinning Industry 4.0



50 billion devices in 2020



1,9 trillion dollar economy



40% of all internet data traffic comes from IoT devices

Blockchain can be used
by the IoT for

- Ownership
- Data security and integrity
- Settlement
- Smart contracts

*solving whom to pay, when
to pay and how to pay*

Quasar enables payments between devices



Achievements

A collage of logos and awards representing Quasar's achievements. Logos include Bird & Bird, TechFounders, Airbus BizLab, MEDICI (Powered by LTP), eit Digital Challenge, agile accelerator (Powered by e-on), and FinTechGermany Award 2016. Awards include European FinTech 100 (2016), 2016 Fintech 100 Emerging star, 2017 Nominee Fintech Dutch, and Golden Garage.

Clients

