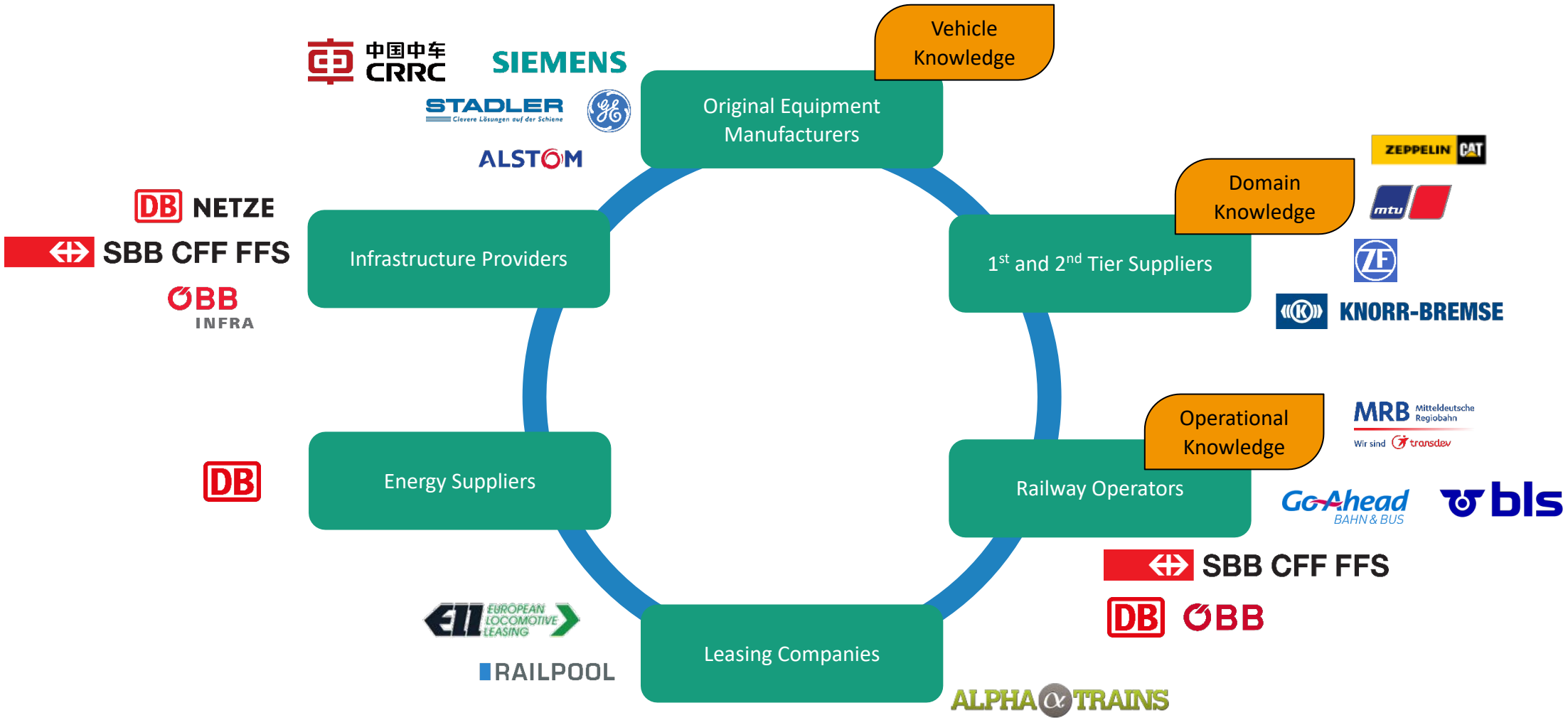
IDS SUPPLY CHAIN MANAGER - ACHIEVING TRANSPARENCY IN AUTOMOTIVE SUPPLY CHAINS

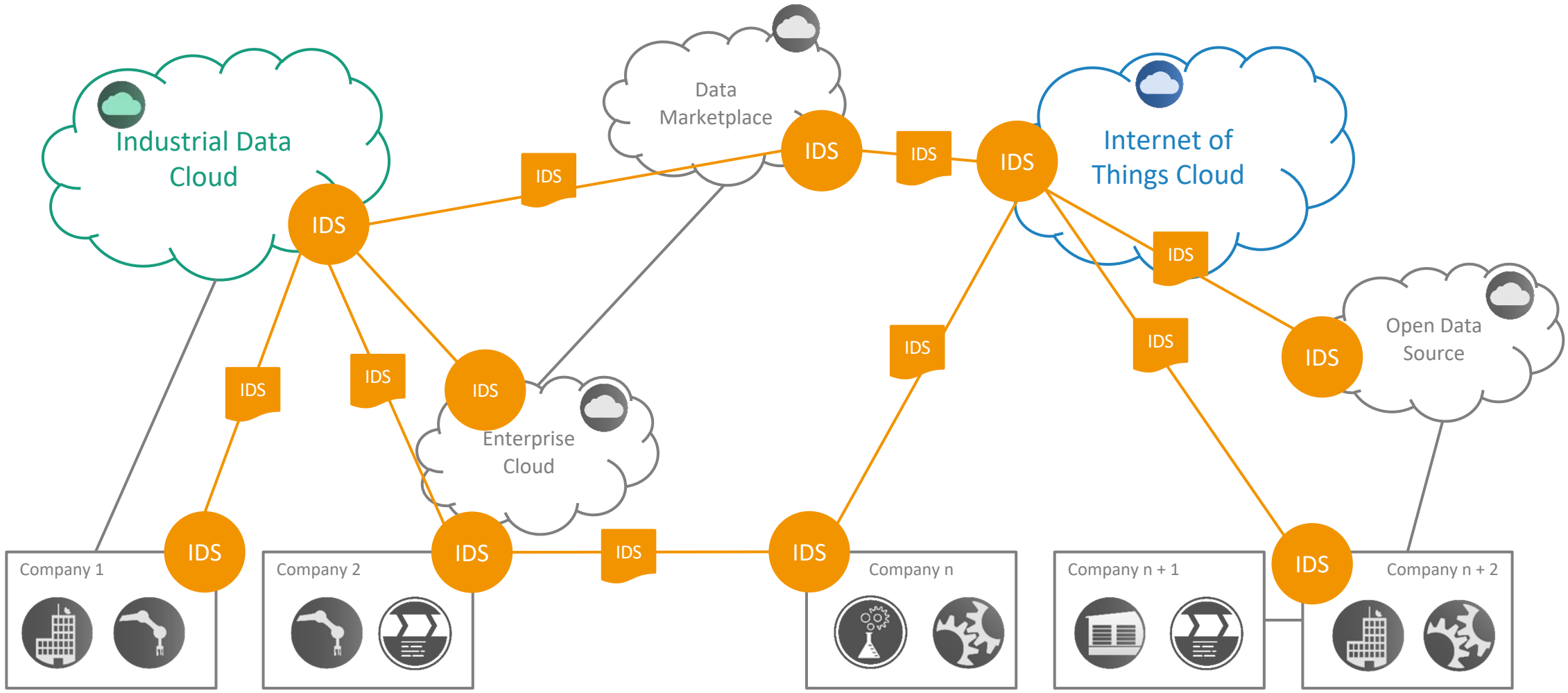
Dr. Jürgen Schmelting • July 1, 2020

Innovation is increasingly driven by industrial ecosystems



Source: Knorr-Bremse (2018).

A Distributed Architecture for Data Sovereignty in Ecosystems



Legend: IDS Connector; Usage Constraints; Non-IDS Communication.

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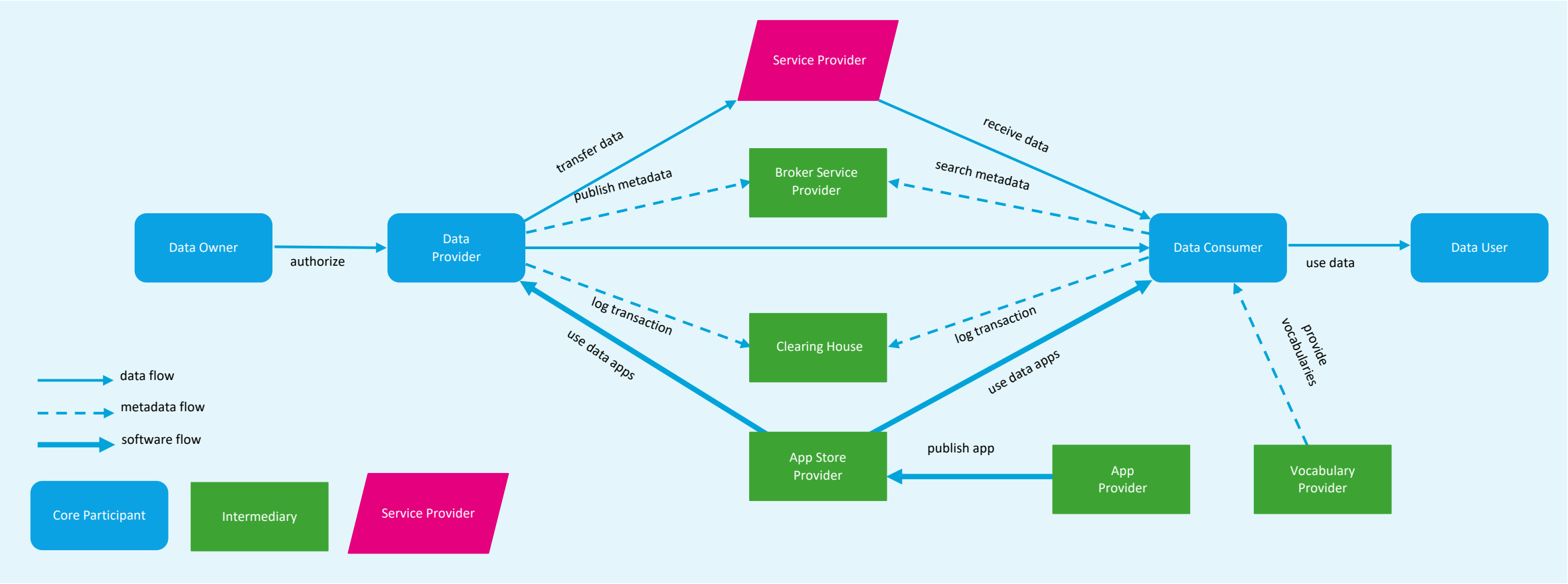
Roles and Components of the IDS

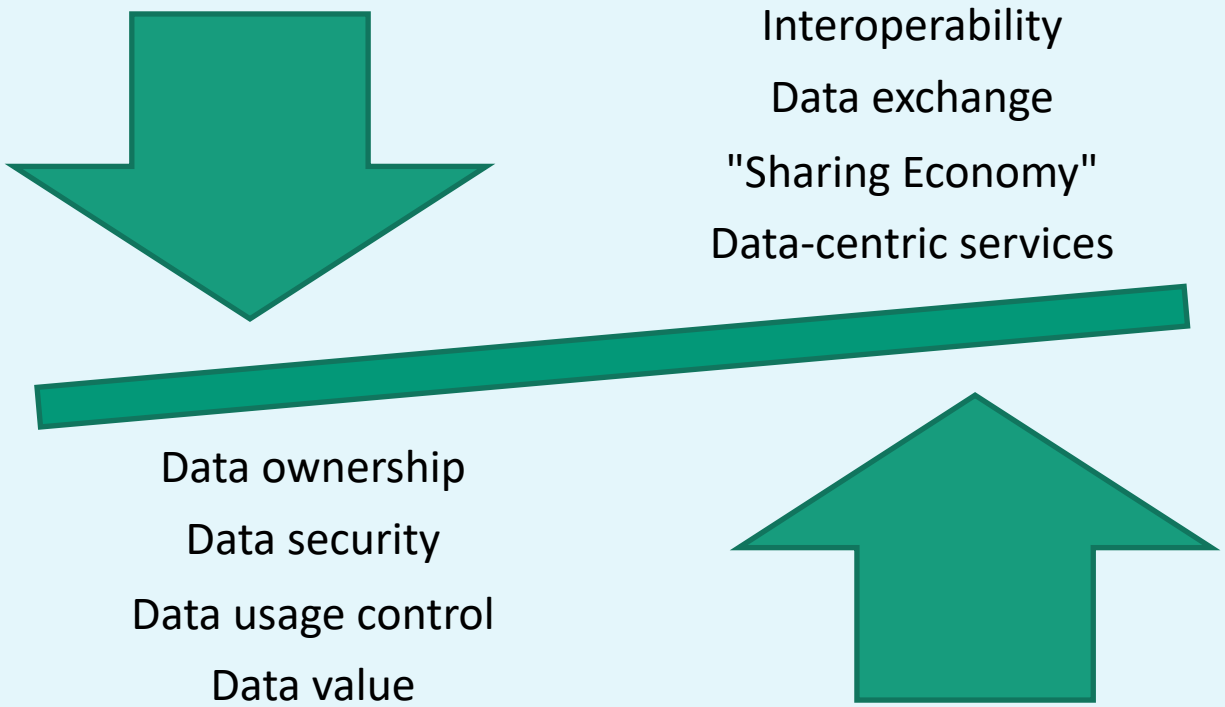


https://www.internationaldataspaces.org/

Source: International Data Spaces Association: Reference Architecture Model, Version 3.0. 2019. Berlin.


300 people contributing
20 countries
100+
INTERNATIONAL DATA SPACES ASSOCIATION

Main Features of the IDS



- Features of the IDS
  - Openness
  - Trust
  - Decentral Approach
  - Data Sovereignty
  - Data Governance
  - Scaling Effects

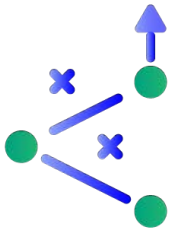
Secure and sovereign data exchange

https://www.internationaldataspaces.org/publications/reference-architecture-model-3-0/

The Problem

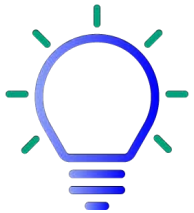
Problem

Supply chain transparency is still not satisfactory. Example: Bottlenecks in demand and capacity management



Reasons

Data is becoming more and more valuable.
Lack of trust in the data recipient



Solution

Technical enforcement of data usage control at the data recipient

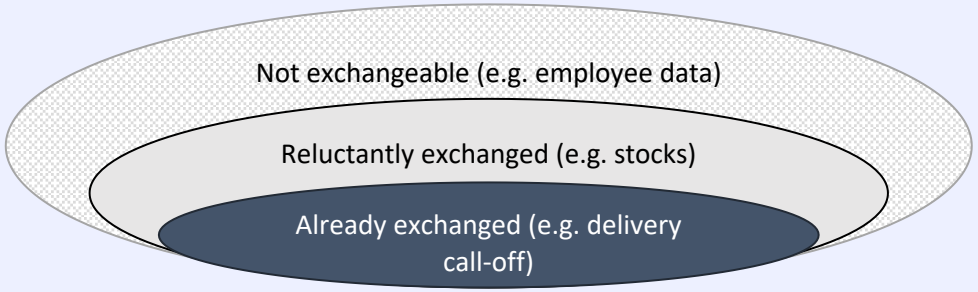
The Key Message

Today, data demands in the supply chain are still frequently not satisfied [...], but an increasing willingness to share data can often be seen.

Table: Companies interested in sharing data, having unsatisfied demands, refusing to share and willing to share data

Data type	Interested	Unsatisfied	Refuse	Unrealized
Stock data	79%	32%	22%	28%
Demand forecast	82%	39%	18%	26%
Production forecast	74%	38%	24%	28%
Bottleneck data	76%	46%	27%	34%
Ø incl. other types	74%	36%	26%	28%

Figure: Focused data types of the use case lie at the border of already exchanged data

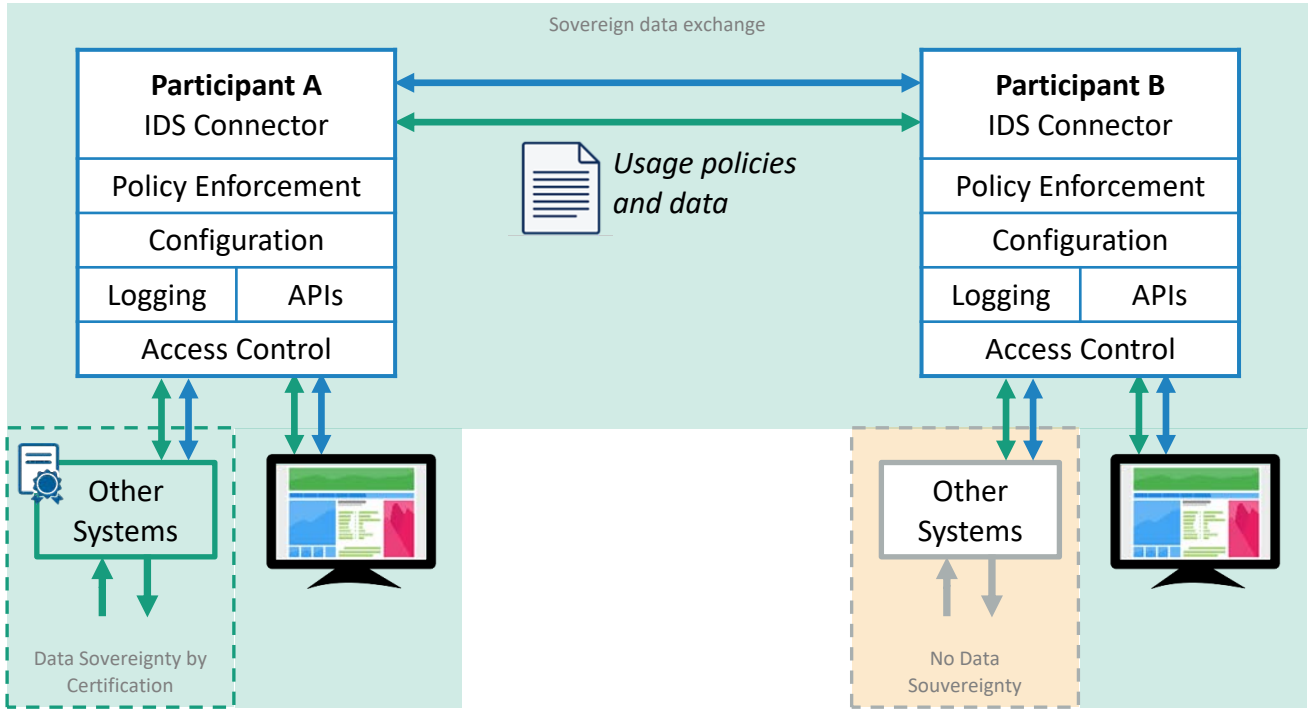


Digitalization of business processes and transparency in the supply chain, on the other hand, are the most important trends that will have to be driven by companies in the future.

Source: Trends und Strategien in Logistik und Supply Chain Management: Chancen der digitalen Transformation. 2017 BVL - Bundesvereinigung Logistik, ISBN: 978-3-87154-607-5, URL: https://bit.ly/2FNgaIh

The Idea

- Exchange stock, demand and production information
- Easy and quick establishment of data connections
- On demand and regularly scheduled data exchange
- On demand update limits are configurable to prevent misuse
- Provide usage control mechanisms to prevent data outflow



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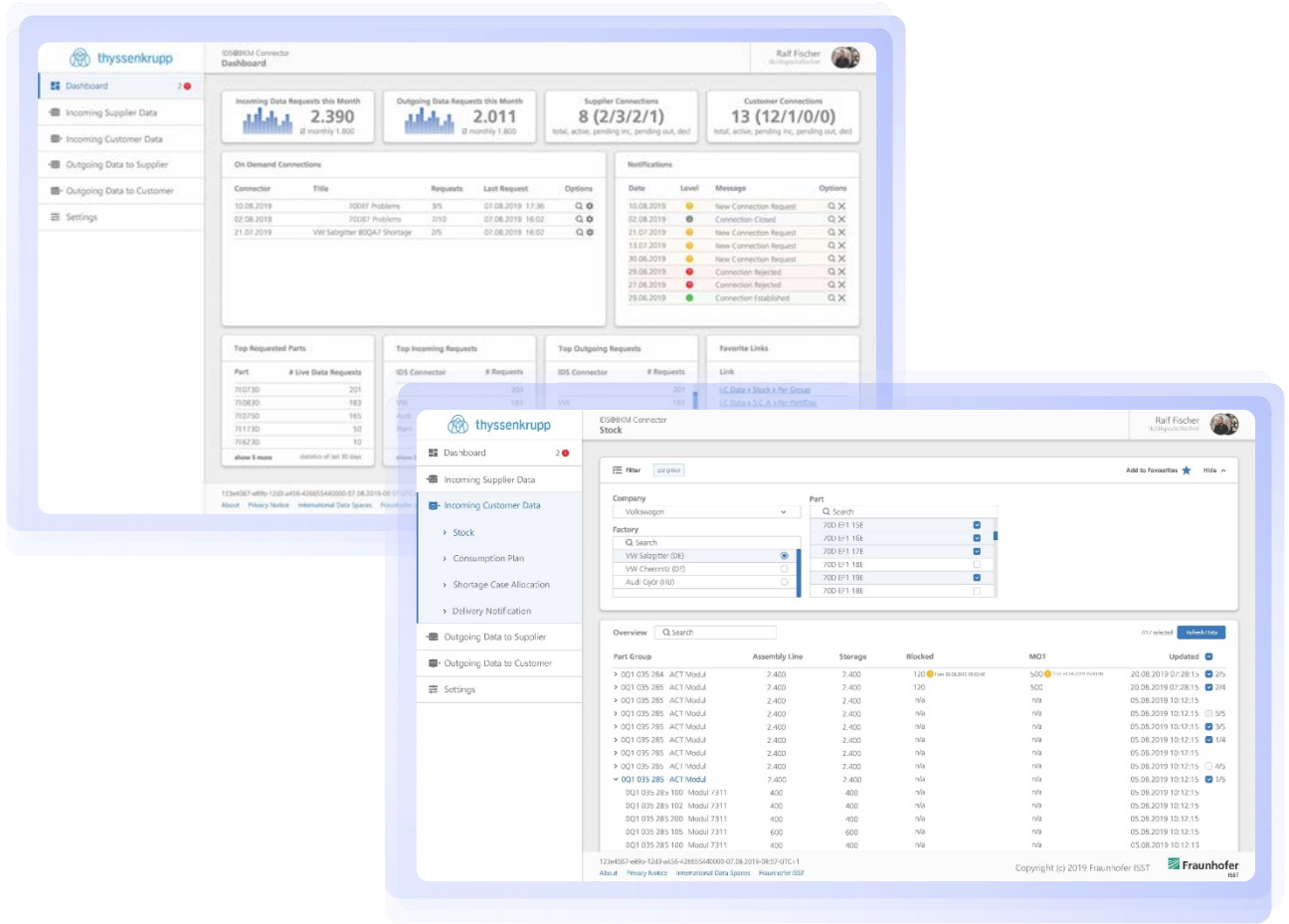

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Usage Control Stack

Technology (Use Case)

	Characteristics		
Frontend access	Disallow	Allow without frontend protection	Allow with protection • JS: no right click, no printing • Bot detection (captcha) • Data as image (SVG)
Allow external API access	Disallow	Allow access	Allow access just for IDS-certified systems
Data retention	Duration (time based: e.g. five hours, two days, one week, unlimited)		
History of data	One Snapshot (n=1)		Multiple Snapshots (n=2,…,m)

Contracts

IDS Membership (Code of Conduct)

Legal / Contractual Framework

Take Aways

1. International Data Spaces provide data sovereignty, to protect your data on a data receivers side

2. Foster Transparency in your supply chain by raising trust with the help of technology

3. Yes, it really works!

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