



Factory-X

What is it and why is it important?

Christian Methe, DMG-Mori
Georg Kube, SAP
Ekrem Yigitdöl, OI4 Alliance



German Mechanical Engineering Summit 2022:

“No improvement in productivity over the past decade of Industry 4.0”

Source: Frankfurter Allgemeine Zeitung, 11.10.2022



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The top 3 reasons:

1. Reluctance to share data
2. Monetization unclear
3. Complicated architectures

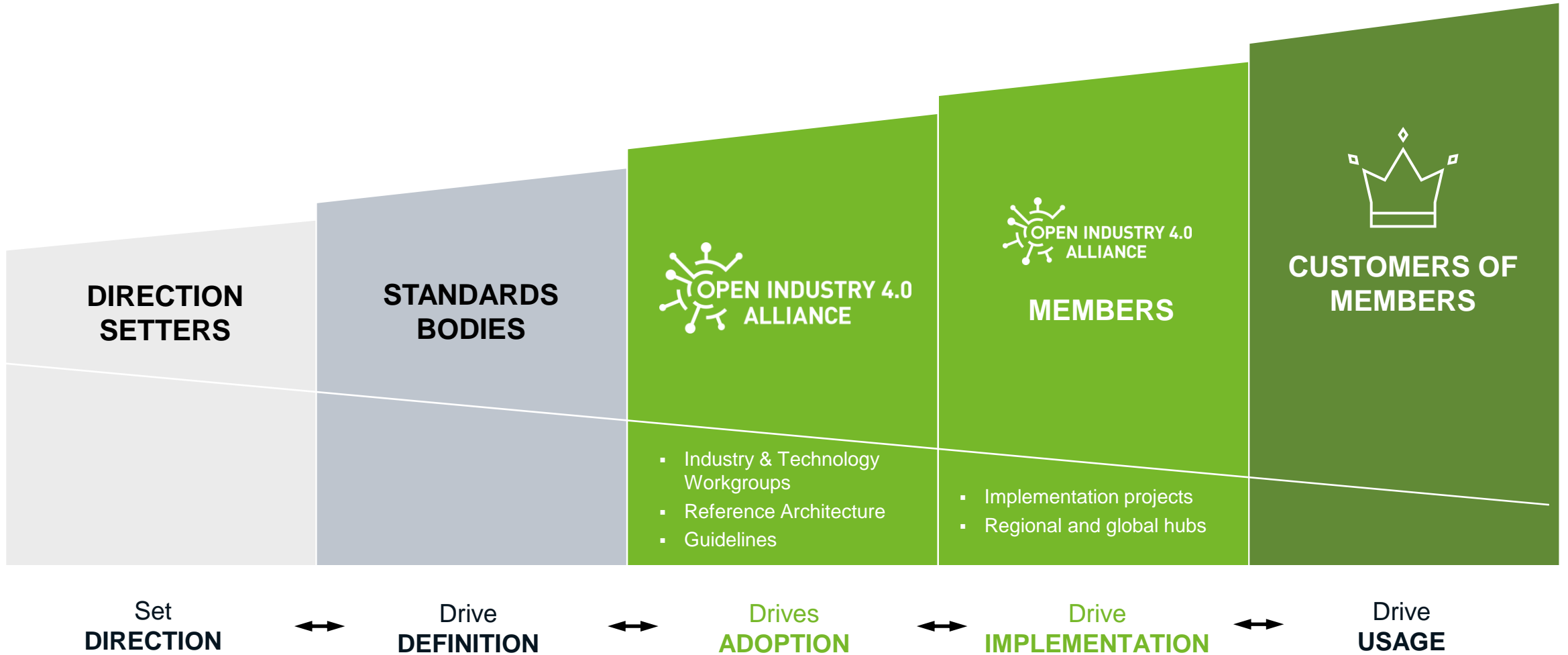




Everyone acts in their own "**bubble**"!

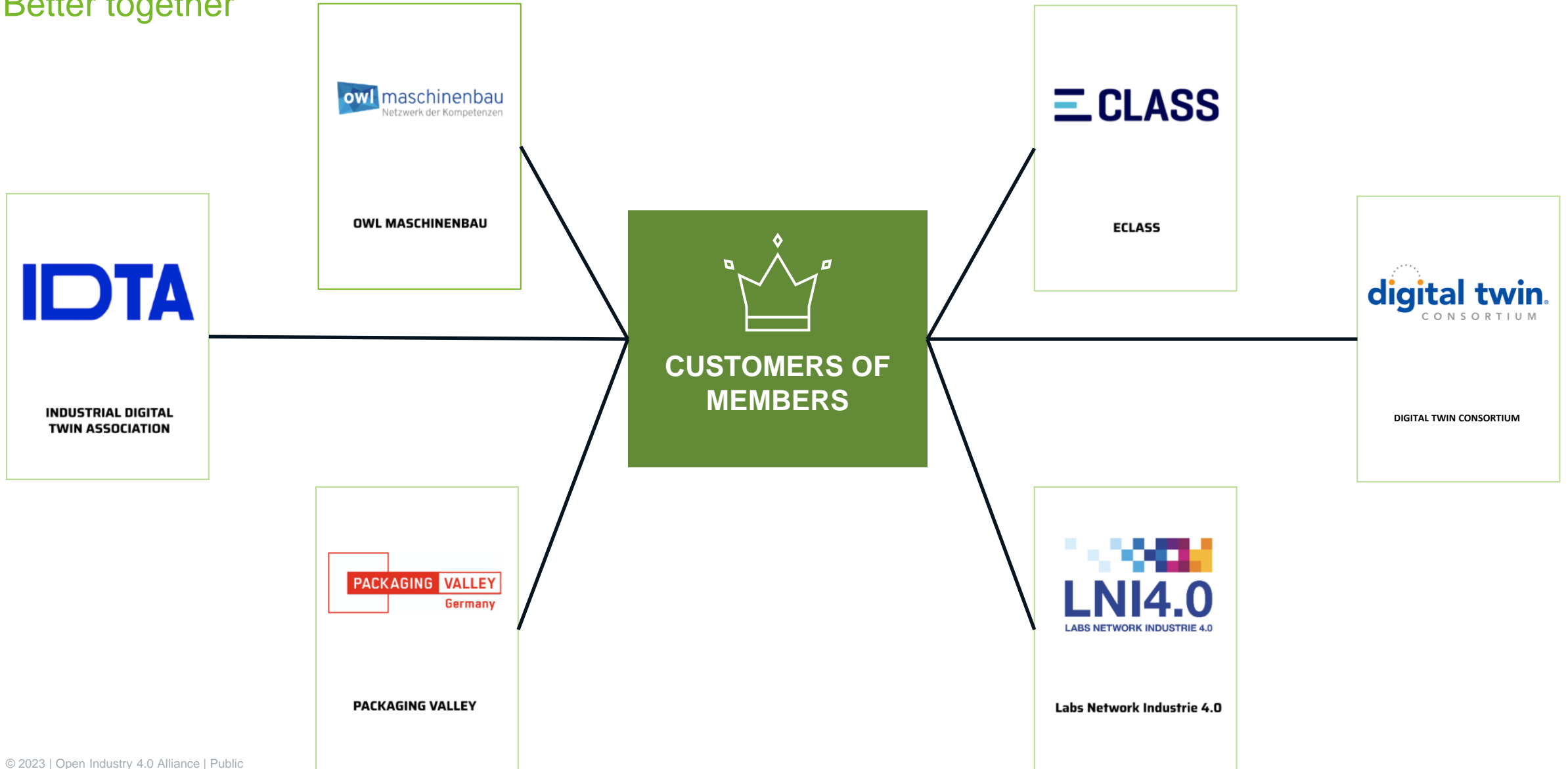
The customer benefit is in the change of perspective on the entire process.

= OI4 Highlights on Collaboration



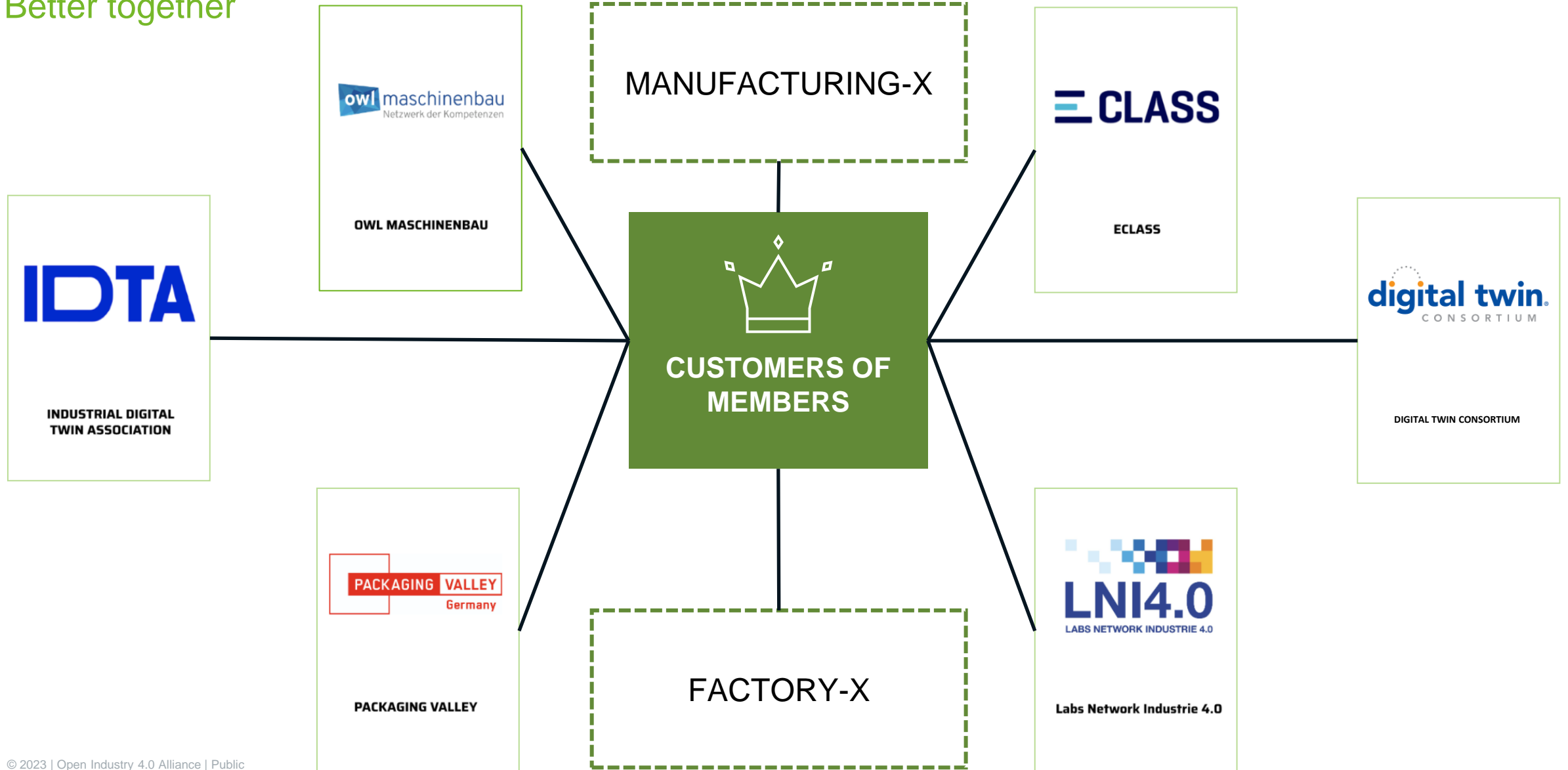
OI4 Highlights on Collaboration

Better together



OI4 Highlights on Collaboration

Better together



O14 Hig
Better to



Better together

IDTA

INDUSTRIAL DIGITAL
TWIN ASSOCIATION

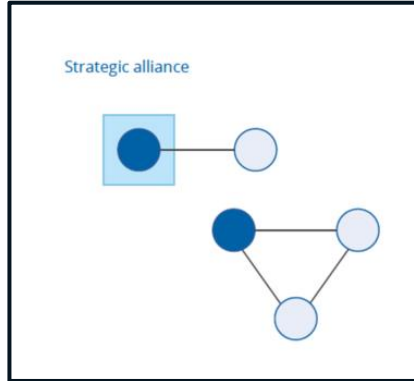


digital twin.
CONSORTIUM

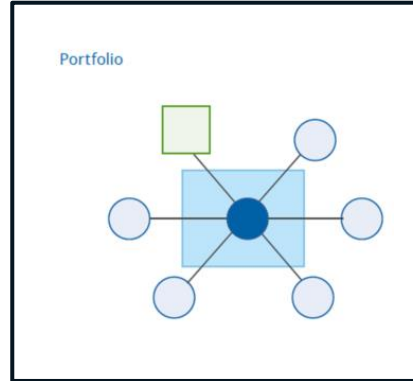
DIGITAL TWIN CONSORTIUM

Why do we need data ecosystems?

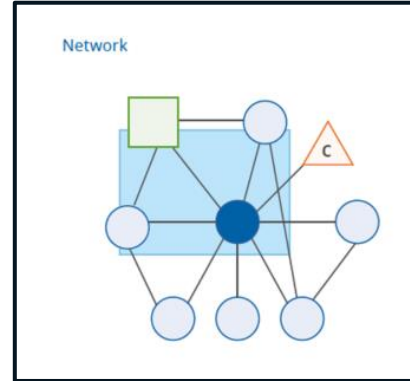
The main focus is on the advantages for the ecosystem participants



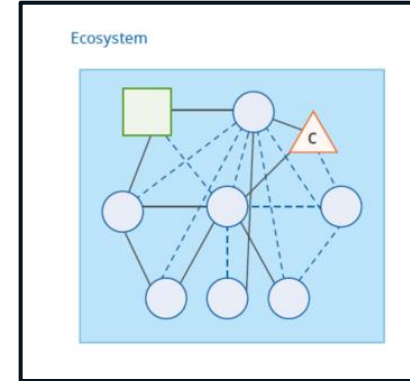
- + independent firms
- + temporarily joined
- + Strategic goals



- + Knowledge is gathered and managed by one
- + Long-term agreements
- + Building specific products and services
- + Exclusive supplier relationships




- + All companies are interconnected
- + All can contribute to innovation
- + Long-term orientation and mutual agreements
- + Shared R&D and service exchange



- + Various types of partners
- + Complex interdependencies
- + Long-term orientation and mutual agreements
- + Partly self-adjusting, but governed by rules & norms
- + Value is determined by collaborators or customers

Partner type diversity: 

Extent of direct customer involvement: c

Extent of Joint long-term strategizing/value creation: 

Extent of ego involvement/orchestration: 

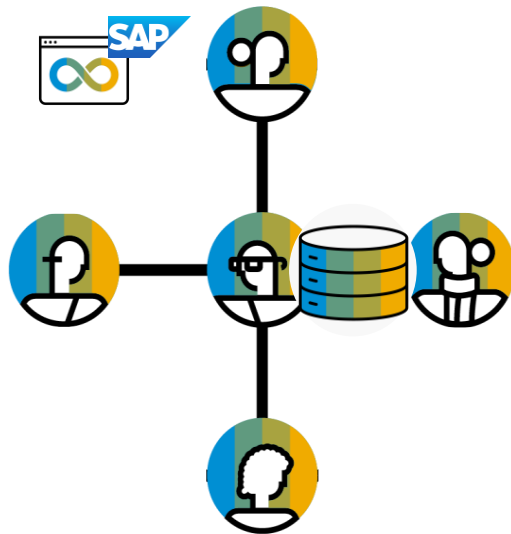
Extent of evolution vs. design: ---

Adapted from: S. Leroi-Werelds, O.-M. Pop, and N. Roijackers – Understanding Value Creation in Alliance Ecosystems: Insights from Marketing – Chapter 1 of Managing Alliance Portfolios and Networks by T. K. Das (Ed.), Information Age Publishing, 2017, p. 5.

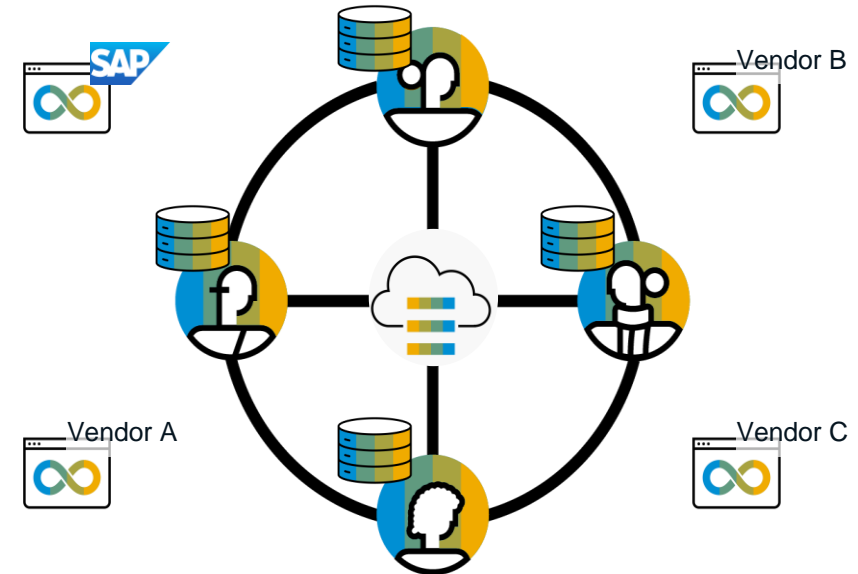
Source: Hype Innovation Report: Building and managing an ecosystem of co-created value, 2017

Open data ecosystems vs. traditional business networks

Industry Business Network



Industry Data Ecosystem



Applications

One vendor all integrated and aligned

Multiple (competing) solutions from various vendors. Each vendor provides and operates his solution.

Topology

Central network service

(Slim) federated operating environment provided by an operating company (joint-venture of multiple companies). Data exchange decentralized or directly between network participants.

Data persistence

Centrally as part of the network

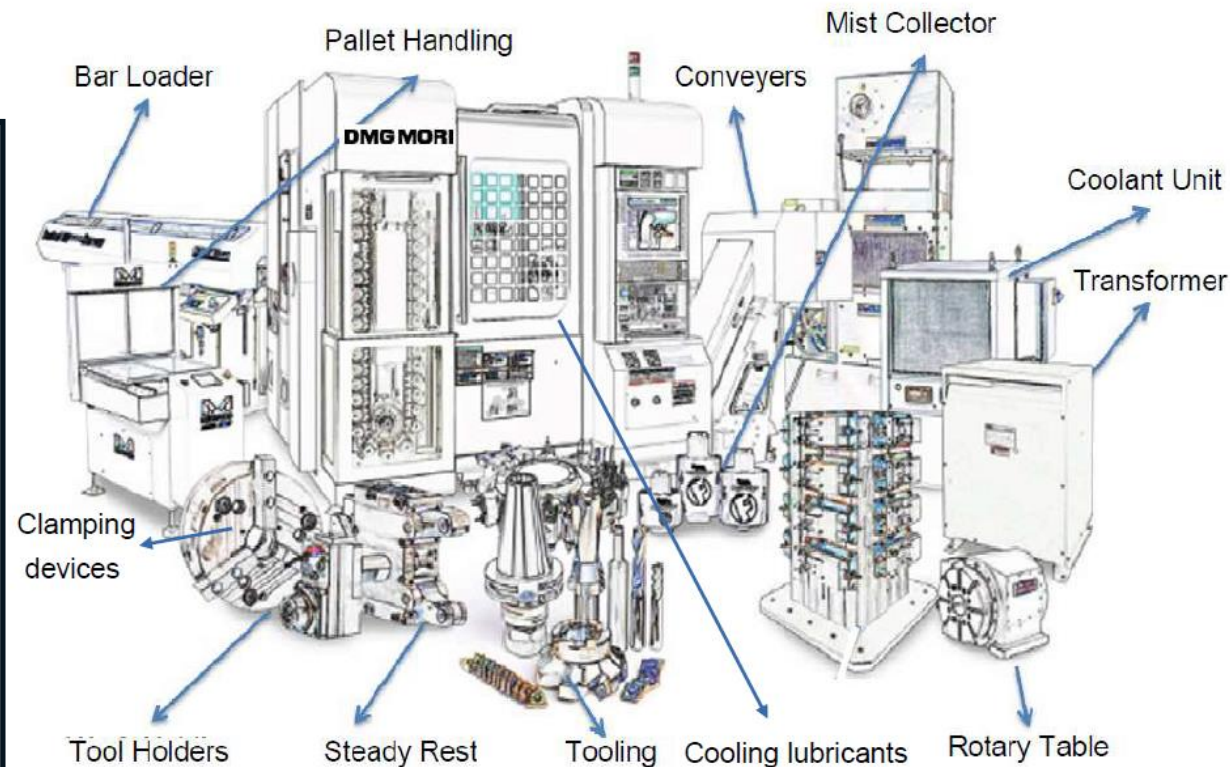
Decentral data persistence – data resides at data owner who can grant access to others.

Value Proposition Factory-X

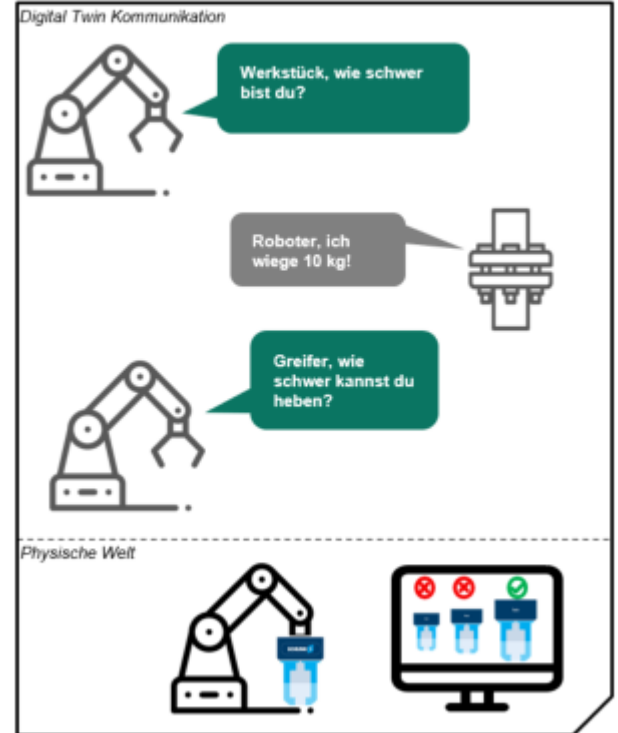
The best Products are the result of the best Machinery



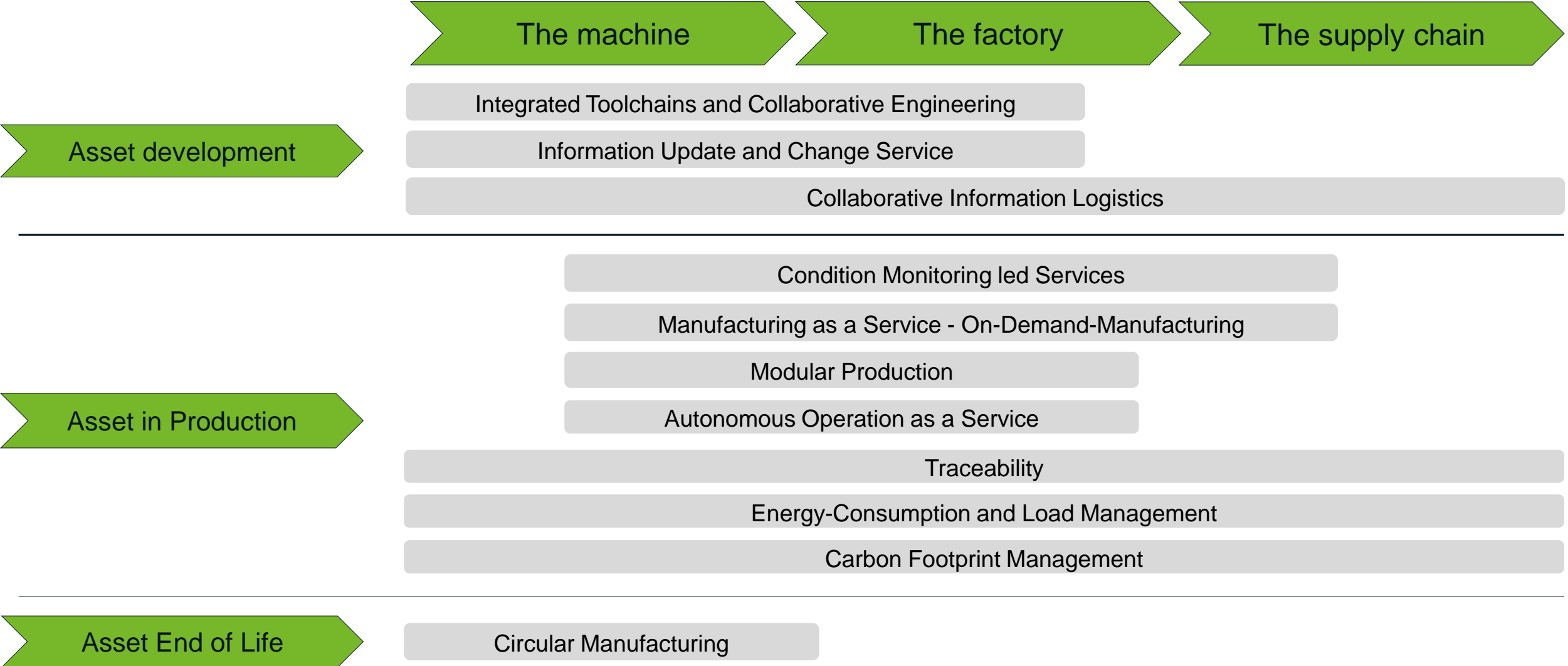
- Today: analogies ECO-System
- 120 partners
- 4.000 Products
- 90.000 Technological combinations
- Drastic savings by the digital ECO system
- High potential using Automated Models, Automated Orders, AI Guidance,...



Flexible Produktion: Leichte Bedienung durch smarte RMC



Illustrative Example for Factory-X Use Cases within the lifecycle

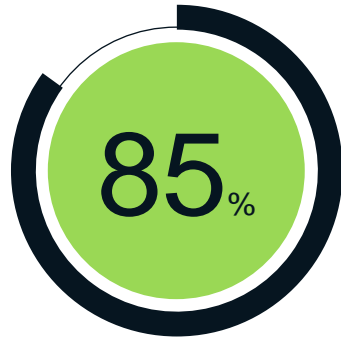


What's in it for us?

Potential "Shared Development" using the example of CATENA-X house connection DMG MORI & TRUMPF



OVERLAP OF
CUSTOMERS'
REQUIREMENTS



RATIO OF HARMONIZED
REQUIREMENTS



PROPORTION OF THE
NEW DEVELOPMENT

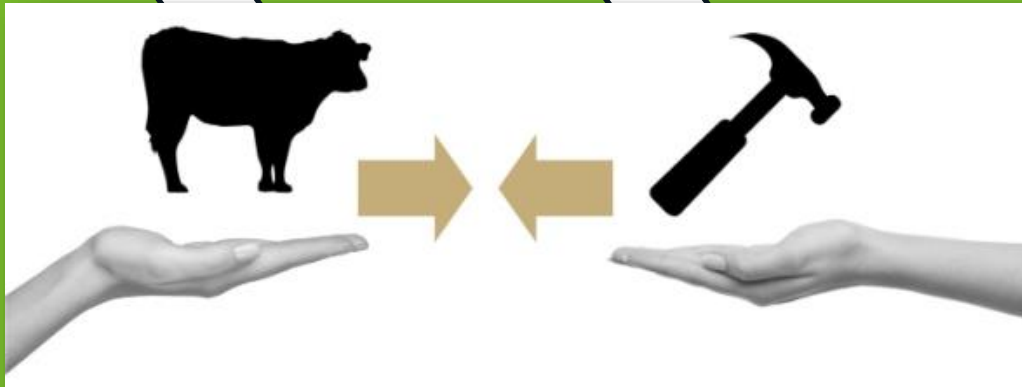
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Digitization seeks
collaboration

What's in it for us?

Data Monetization

Barter Economy



Monetary Economy



Better together

OEMs . . .

Pursuing culture of “Open Cooperation with Standards”

SMEs . . .

Promote consistency and integration and offer co-creation

Software providers . . .

Supporting new open standards

Politicians . . .

Setting of the right regulatory incentives, especially for SMEs

Associations . . .

Supporting interaction between users and implementers

Organizations . . .

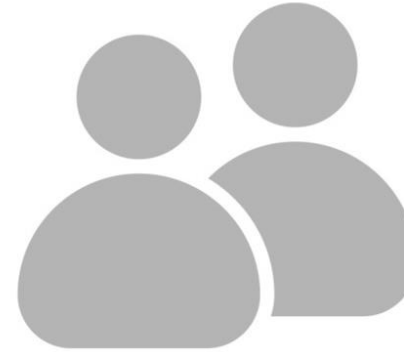
Ensuring the transfer of knowledge in the interest of end customers

From Ego-System to Eco-System



Members of the Factory-X consortium

- Understand your role and interest
- Help make Factory-X successful
- Never hesitate to speak up



Fast Followers

- Follow fast 😊. This could become a market entry barrier quickly
- Understand what it takes to participate
- Get ready



Thank you!