INTERNATIONAL DATA SPACES
A TRUSTWORTHY ARCHITECTURE FOR THE DATA ECONOMY

Create IOT, Bruxelles, 12.09.2019
Lars Nagel, CEO, International Data Spaces Association
350 people contributing

20 countries

100+

INTERNATIONAL DATA SPACES ASSOCIATION
Much more data sharing, pooling, analytics, AI could take place in the manufacturing domain and other economic sectors (...) than what is currently happening.

Access to, and use of, relevant and high-quality data is widely recognized as the crucial element in the digital transformation and for exploiting artificial intelligence in industry.

If we want data be the oil for European industry, a common European data ecosystem is essential.
DATA ——————— AN ECONOMIC ASSET

Trading with data creates huge revenues for some focal companies in an ecosystem, which tend to assume monopolistic attitudes. Rarely, the creators of data are benefitting from this value in an adequate way. Companies do not take advantage of the value.

Making data economy really a success, there is a need for a ...

- vendor independent data ecosystem and market place
- connecting vendor-specific platforms
- open to all
- at low (transaction-) cost and
- easy to adopt and easy to use.
WE ADDRESS THIS NEED.

**IDSA reference architecture forms the base of**

- open, *distributed* data eco systems and market places,
- ensuring *data sovereignty* for the creator of the data,
- and *proven data-provenance* for the user of data,
- all above *audit-proof*, if requested
- based on *European values*.
DATA TREASURES ARE CREATED BY SHARING DATA

Companies want to share data without regret

Stay in control over the flow of your data

Linking data is the new oil of the data driven economy
Innovation by AI requires ecosystems

Data ecosystems require data

Semantic interoperability between platforms and ecosystems

DATA SHARING IS BETTER THAN PLAYING ALONE
Digital identities and certification

Usage Control and enforcement

Secure IoT gateways

TRUST BY DESIGN

SECURE INTERNET FOR THE ECONOMY
DATA SHARING REQUIRES

A COMMUNITY OF TRUST

Trustworthy identities

Cristal clear governance for data sharing

Data sovereignty
THE IDSA DEFINES...

1 Reference Architecture
2 Interfaces
3 Contractual Framework
4 Sample Code

...FOR AN OPEN DATA-ECOSYSTEM.

www.internationaldataspaces.org
INTERNATIONAL DATA SPACES APPROACH:
SELF DETERMINED CONTROL OF DATA FLOWS

Unlimited Interoperability
Enabled by semantic data descriptions

Trust between different security domains
Certified, comprehensive security functions providing a maximum level of trust

Governance for the data economy
usage control and enforcement for data flows

Information Model

Certification Scheme
Setting up a sovereign digital infrastructure for Europe:

**DIGITAL ECOSYSTEM**
- SERVICE PLATFORMS/MARKET SPECIFIC SOLUTIONS
- DATA SHARING INFRASTRUCTURE (IDS)
- CLOUD/EDGE INFRASTRUCTURE
- NETWORK/DEVICES

**USER**
Individual, company or complete ecosystem of companies

**Essential Trust Services**
- Clearing house
- Certification Body
- Certification Authority
- Dynamic Trust Management
- Dynamic Attribute Provisioning

**Base Services**
- Broker, auditability
- Transaction services
- Quality scoring
- Micro-payment services
- Data Usage Control
- ... (omitted)
- Sensor/platform interoperability
- Data connector services
- Encryption services
- Appstore
- Data Governance/Privacy
- Platform access, antitrust

**Operational concept for the infrastructure**
Control based on European values

**Financing**

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