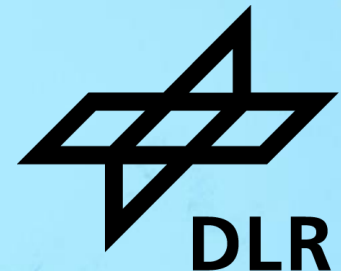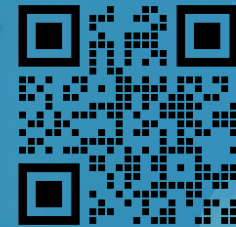# INTERMODAL MOBILITY
MOBILITY AS A SOLUTION

Dr. Michael Karl & Prof. Dr. Frank Köster

DLR-Institute for AI Safety & Security – Sankt Augustin and Ulm

Some services are already reality ... but there's more to come!

- Smart travel-planning, -accompaniment, -support as well as -evaluation on different system levels

- Simplified use of connected mobility solutions and their combination → intermodal mobility including state-of-the-art and future-proof payment systems

- Individualization of mobility solutions → e.g. individualized public transport with flexible/adaptable schedules and (virtual) hubs

- Flexible and smart traffic infrastructures as well as adaptive or ad-hoc traffic management

- Car sharing and especially sharing of „special purpose vehicles"

- Predictive maintenance → smart maintenance for vehicles and traffic infrastructures

- Connected and automated vehicles and capsules for public transport

- etc.

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Focus on Data Spaces (⌗)

- **Data Space** – a Data Space is a foundation for the exchange of data in distributed data- and service-ecosystems, which supports trust, data sovereignty and openness according to sets of standards, processes as well as rules and guidelines respectively. The organization of a Data Space follows federal principles and its operation is based on a set of core-services as well as other services.

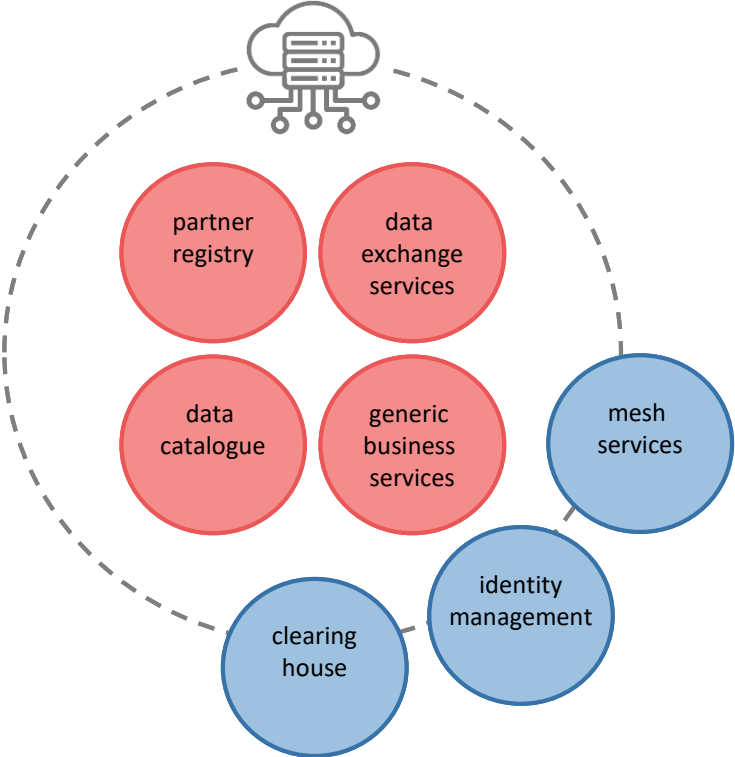 According to that, for the instantiation of a Data Space the following things have to be concretized:

  - **Rules / Guidelines**
  - **Processes**
  - **Standards**
  - **Core-Services** and **Other Services**

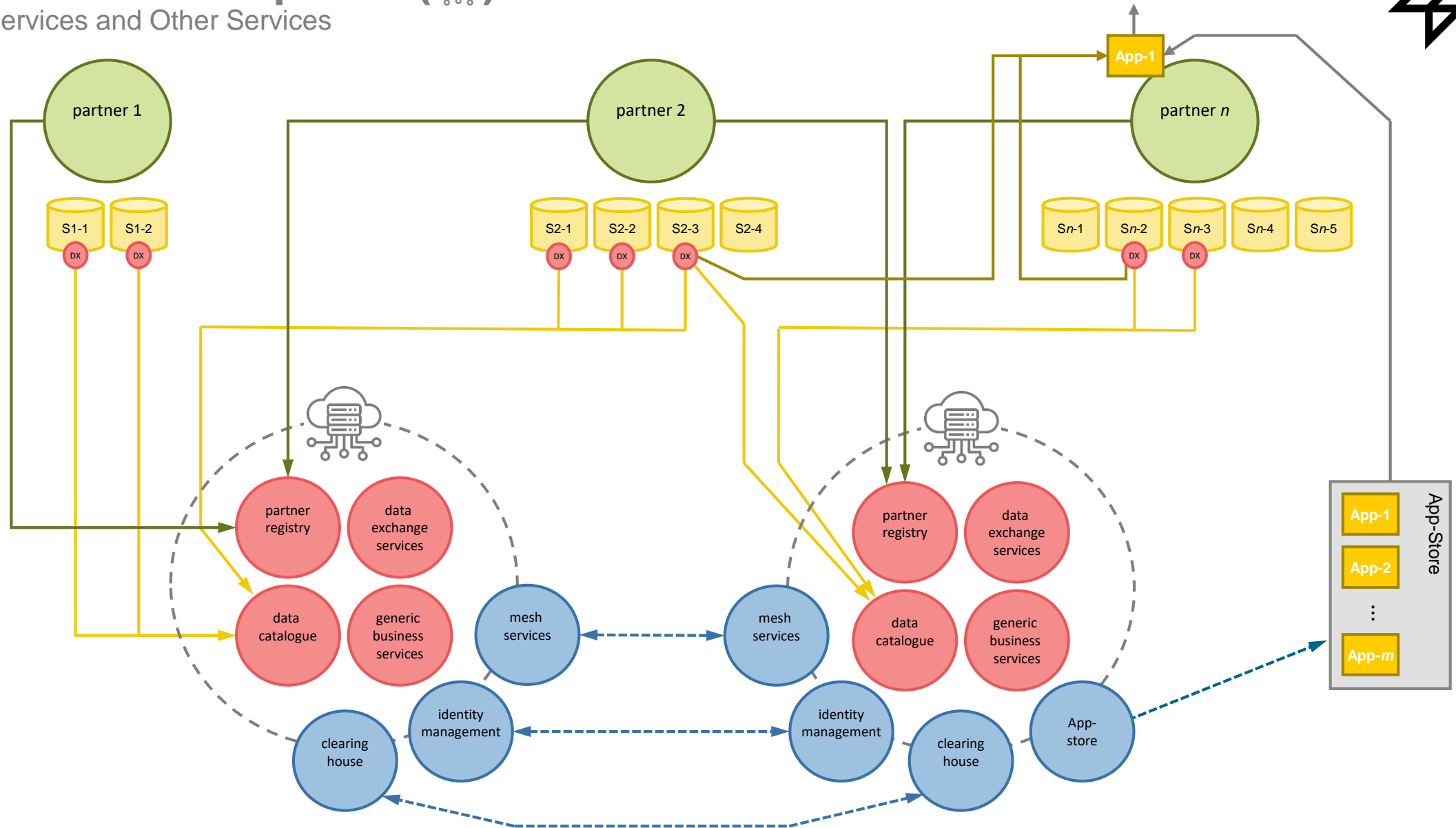| Rules / Guidelines	Processes	Standards	Core-Services	Other Services
- distributed technologies - federal principles (driver for improvement – top-down and bottom-up perspectives) - open or freely available standards - open-source first	- on-boarding of partners - negotiation of smart contracts - certification of data and services	- meta-data - schemas for semantic models - domain-specific standards regarding schemas, data quality and ontologies	- partner registry - data catalogue - data exchange services - generic business services	- clearing house - digital twin registry - test environments and sand boxes - App-store for specific business services

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5

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GAIA-X as a Foundation for Future Mobility/Transportation

From Verticals, Silos and Centralized Platforms to open and flexible Data & Service Ecosystems
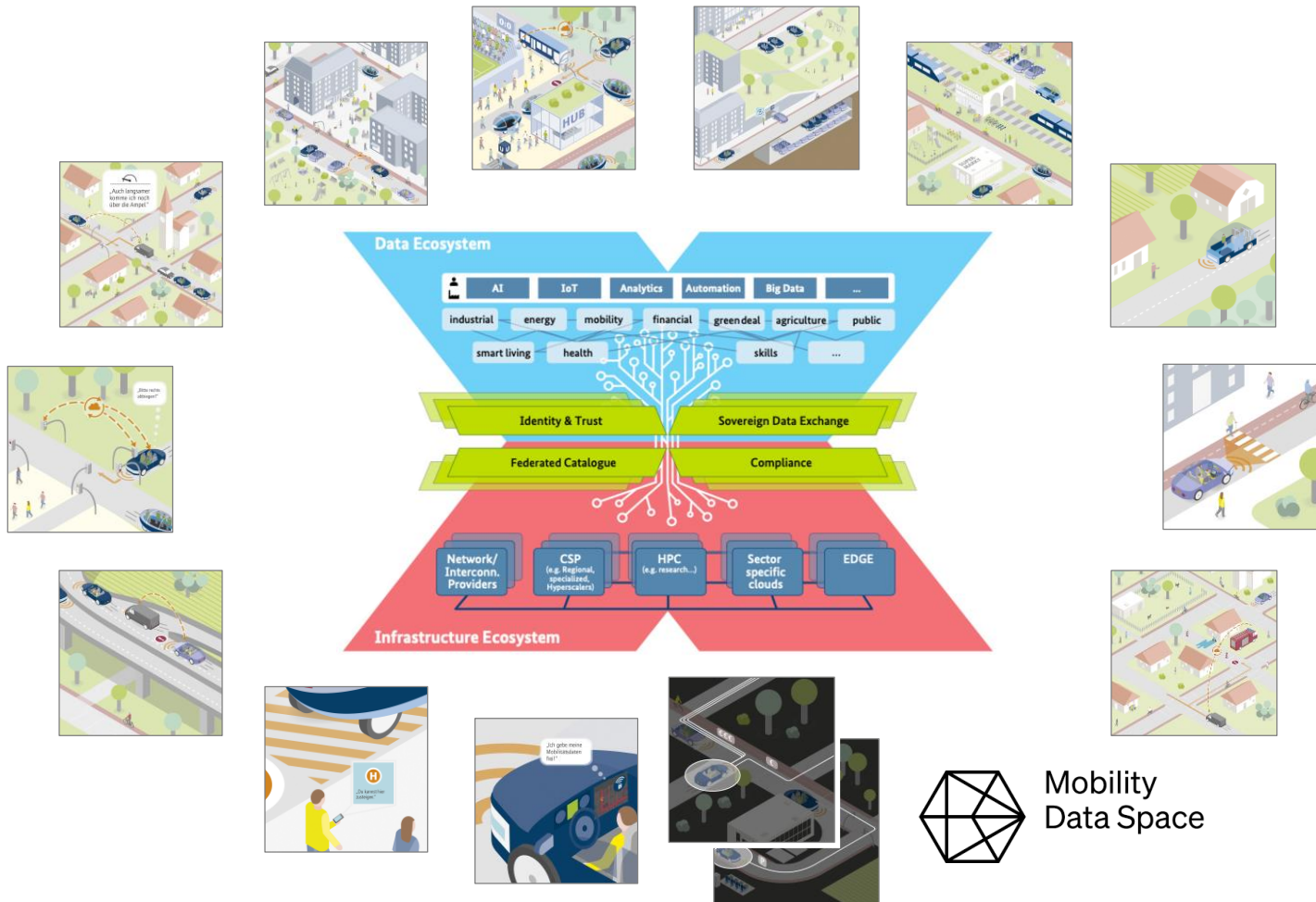
- Currently discussed within the German GAIA-X Hub and in several working groups on the European level

  - traveler information and continuous traveler support

  - complex travel chains and intermodal mobility as well as transportation

  - analogue activities with a focus on transportation of goods

  - European Mobility Data Space

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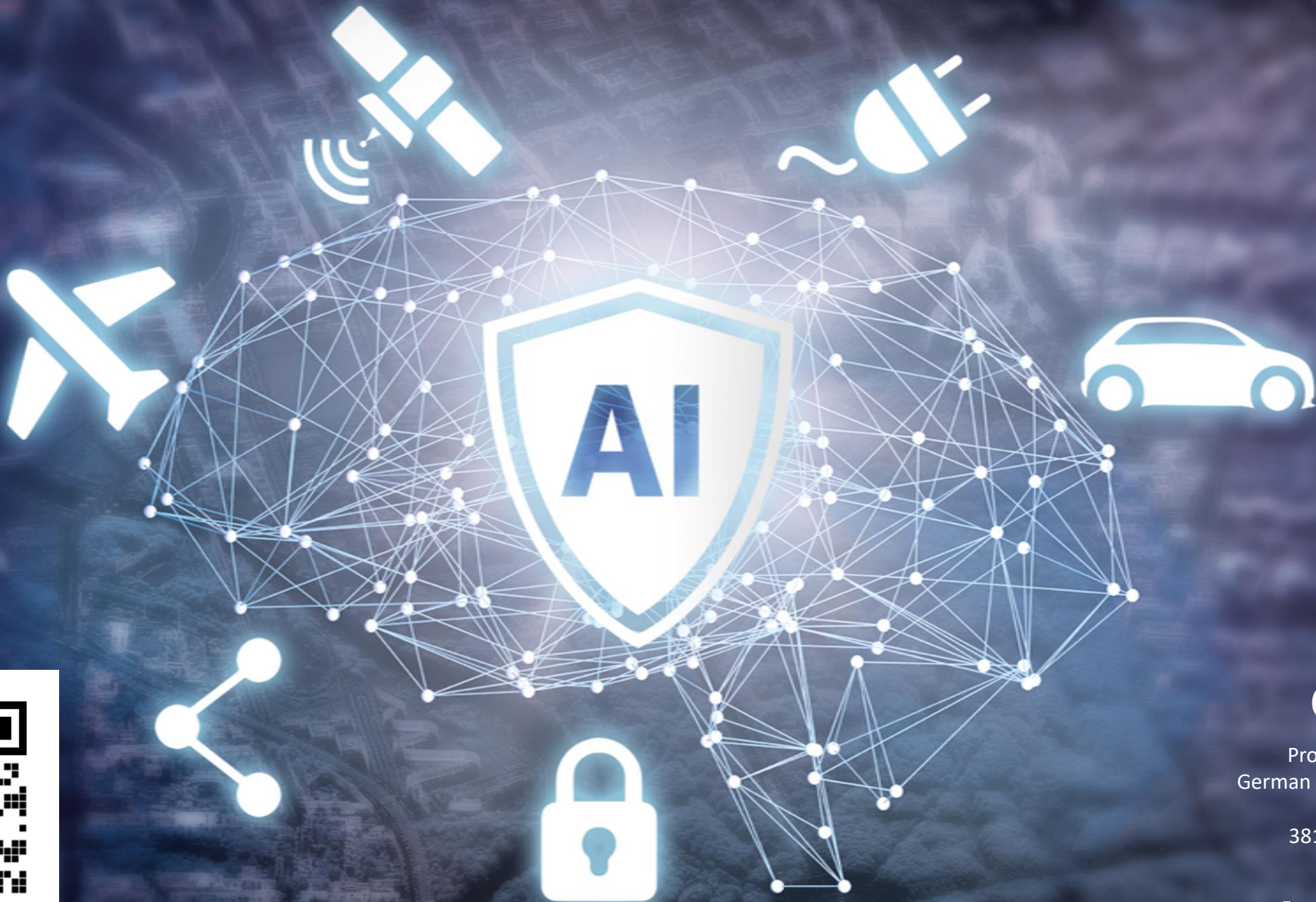
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