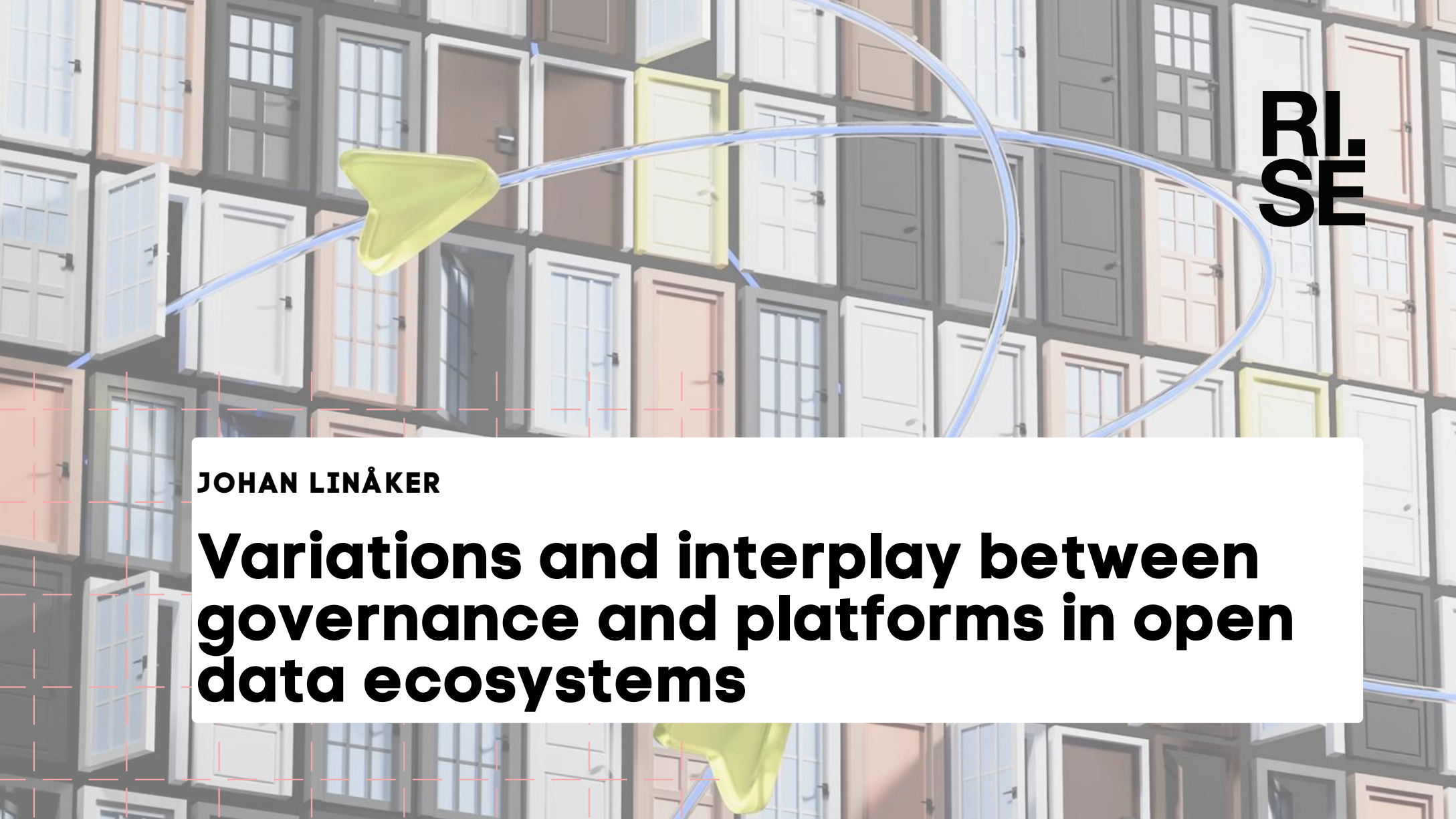


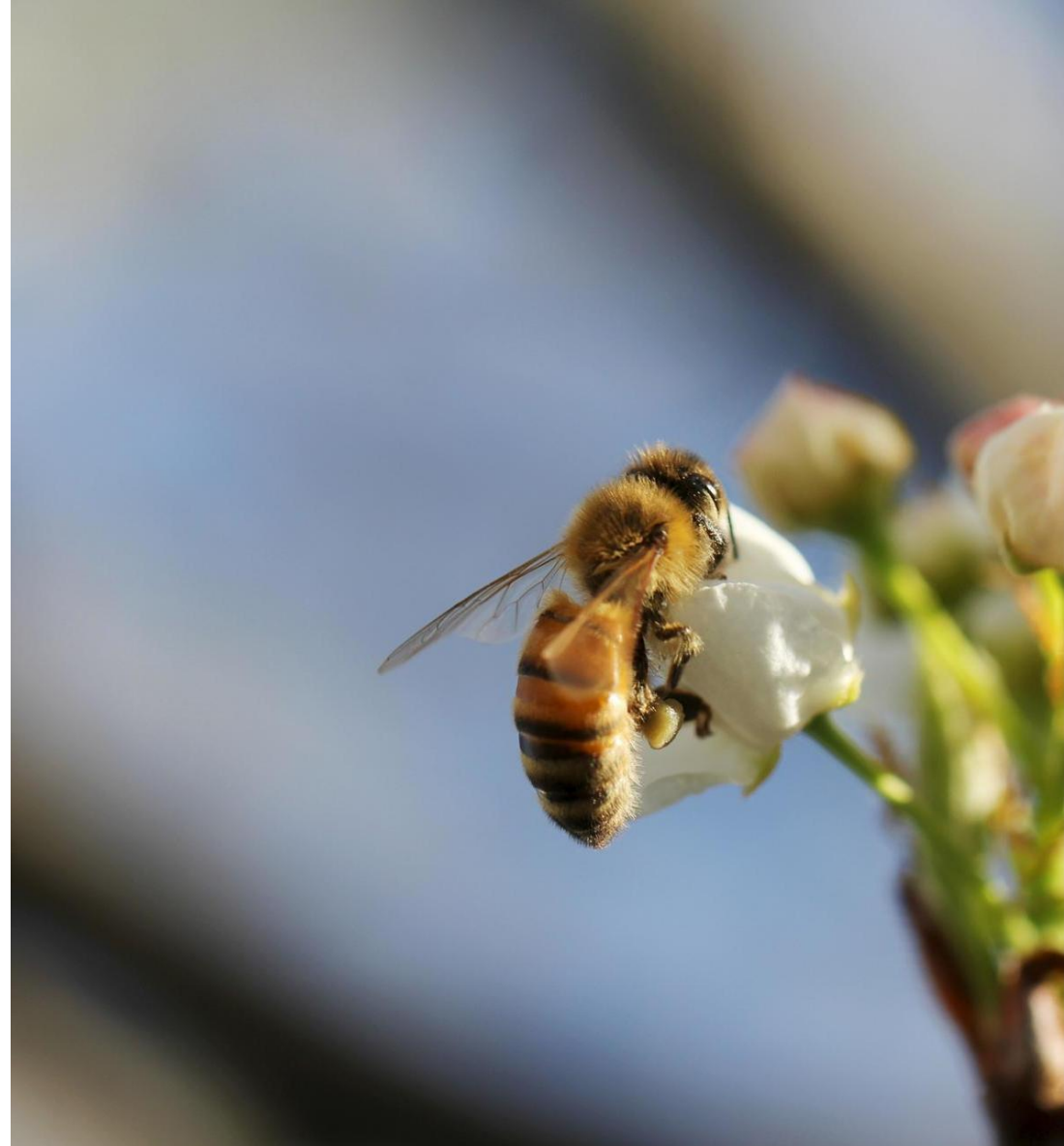
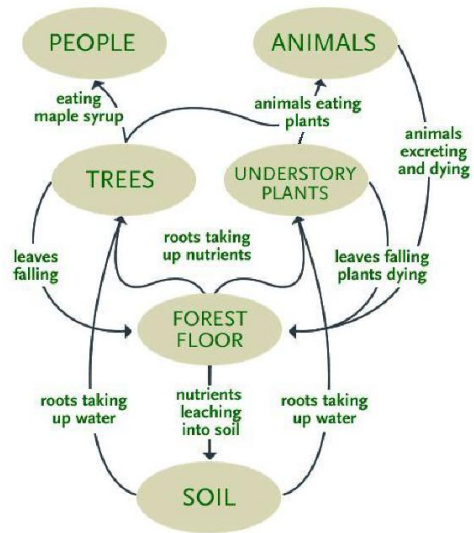


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JOHAN LINÅKER

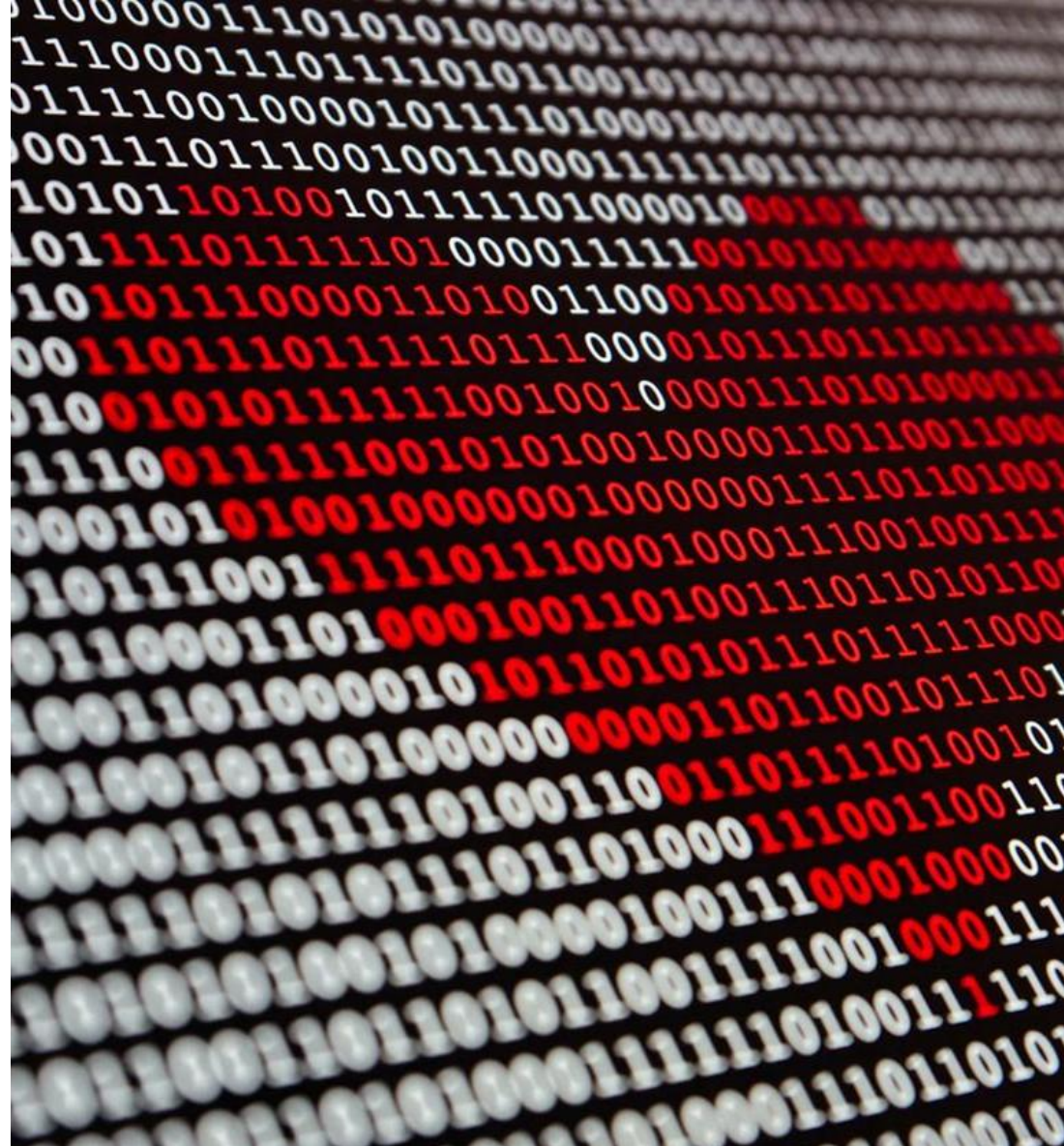
Variations and interplay between governance and platforms in open data ecosystems

Ecosystem as a metaphor



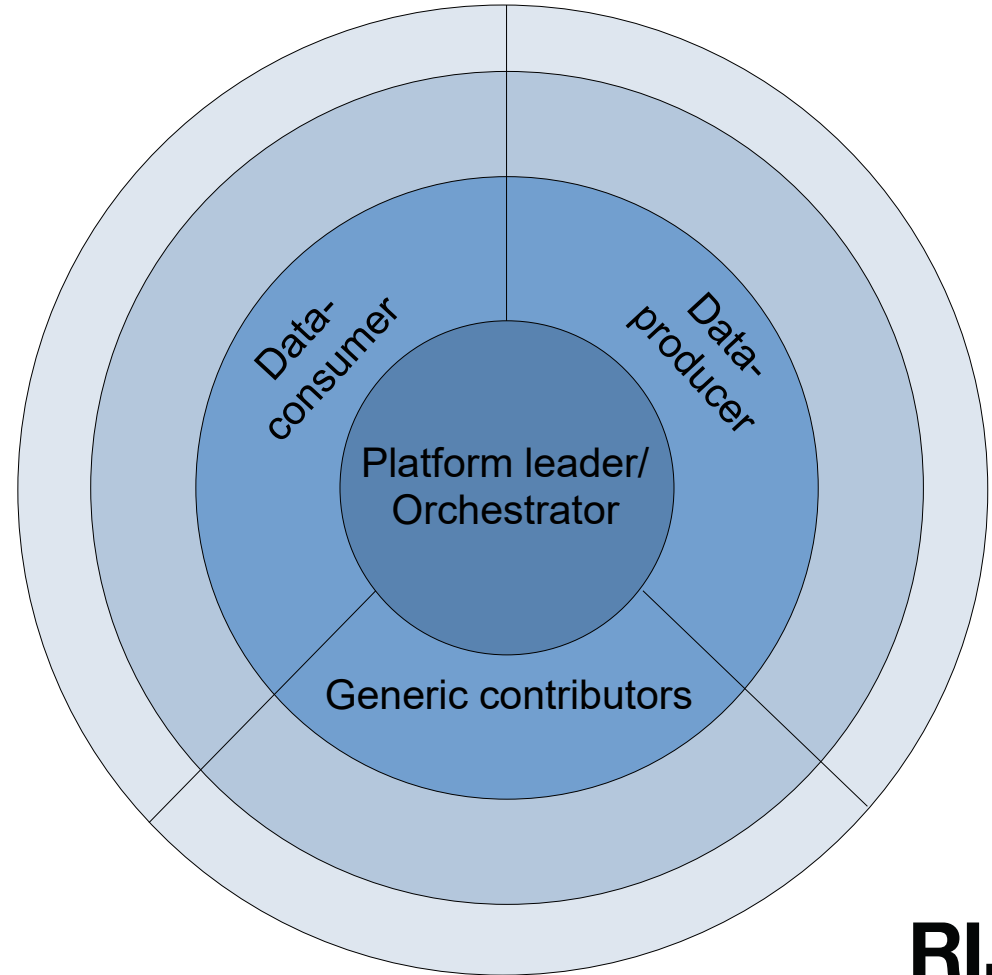
Data ecosystems

- An open network of actors, gathering round a joint interest and platform promoting that interest
- Enables use, sharing, and collaboration round the data and related resources in the ecosystem
- Done through the exchange of knowledge, artifacts, and resources



Governance structure

Open Source ↔ Data



Functional roles

- Data producer
- Data intermediary
- Service provides
- Application developer
- Tools- and infrastructure provides
- ...



Example: Jobtech Dev

- Orchestrated by the Swedish Public Employment Service.
- Collects and publishes internal and external data on their own job-ad platform + several APIs
- Works closely with ad providers for joint sourcing of job-ads – not an easy journey!



Example: Trafiklab

- Orchestrated by Samtrafiken, public entity co-owned by Public Transport Authorities and Private transport operators
- Publishes open data related to the public transport in Sweden, e.g., time tables, bus stops, and disturbances
- Tools, frameworks, and application examples available as Open Source Software



Example: Catena-X

- "Open" data ecosystem for the Automotive industry
- A common standard for the secure exchange of data and information between actors
- Defines guidelines and provides OSS reference implementations for secure data exchange along the automotive value creation chain.
- Data provider defines who gets to use the data, and under what conditions
- Gathers SMEs, OEMs, Tier 1-2-3s...
- Governed through a dedicated industry foundation, The Catena-X Automotive Network e.V.



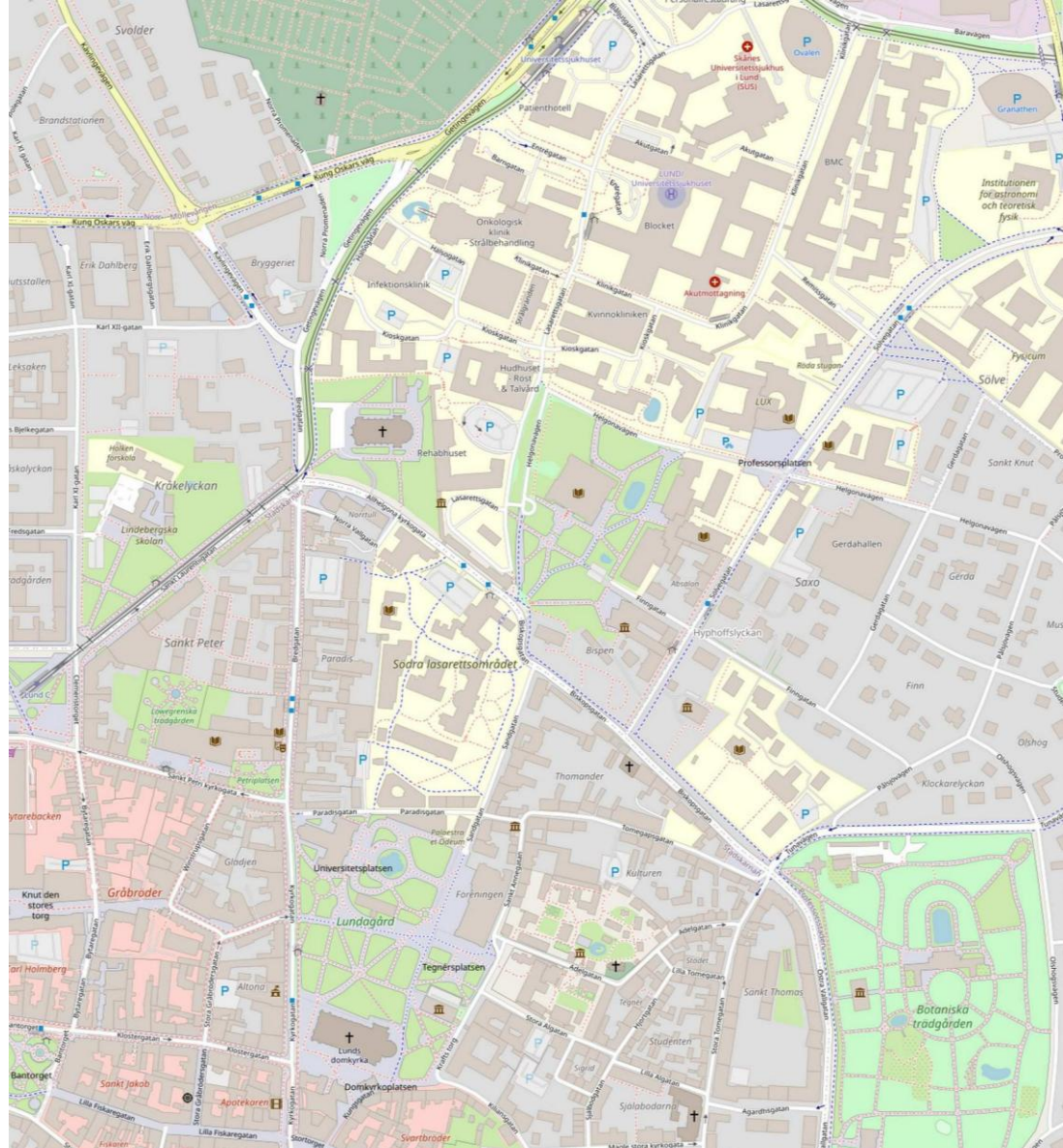
Example: European Mobility Dataspace

- Grounded in the European Strategy for Data, aiming to establish a single market for data, ensuring Europe's competitiveness at a global stage.
- Mobility one of several key sectors
- Aims to provide a common technical and governance framework to enable interoperability and remove barriers to data access and sharing in the mobility and transport sector.
- Builds on several existing data ecosystems
- Explored through 8 local implementation sites across Europe, including Stockholm, and a number of use cases



Example: OpenStreetMap

- Open map data covering the world with > 1 B contributions
- "Community of communities" involving public sector, industry, civil society, academia, hobbyists
- Driven by consensus norms without an explicit hierarchy or orchestrator
- Hosted by a dedicated foundation in the UK
- Open collaboration on the editing of the data and related Open Source Software tools



**Sharing is
still limited**



General sharing challenges

- Confidentiality or business aspects
- Legal barriers and uncertainties
- Costs of opening up and maintaining
- Technical competency
- Lacking incentives and culture
- Unethical and unexpected use case
- Unintended competition
- Knowing what data is needed
- Achieving external reuse and collaboration on data



Technical challenges

- Finding and curating high-quality data
- Managing continuous changes in the data through versioning, labelling, and sharing practices
- Data quality assurance and lack of standardized annotation formats
- No or limited availability of adequate tool-support, and infrastructure for hosting data projects



Challenges in the European Mobility Data Space



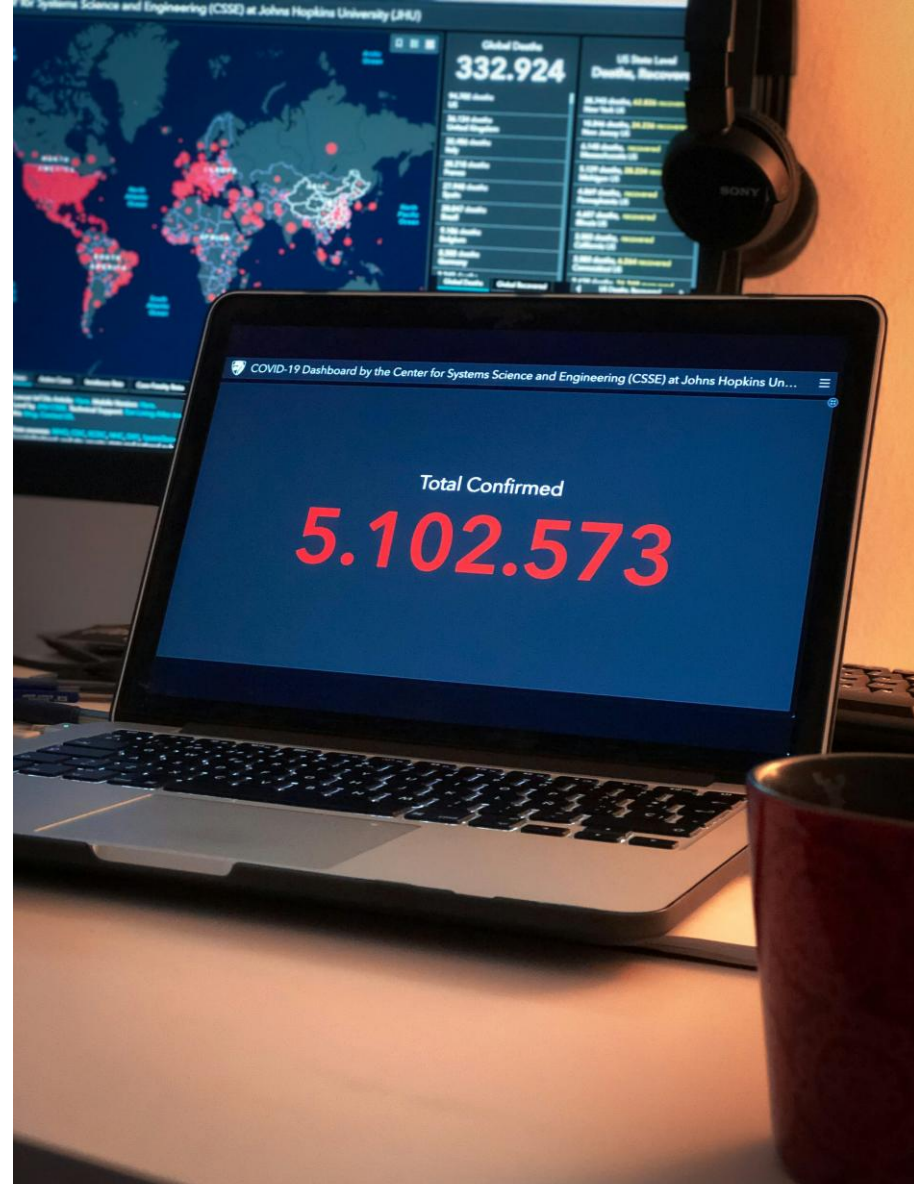
Definition of orchestrating body

- Sustainable orchestrator needed that can manage and facilitate the data sharing and maintain technical platforms, tools, building blocks, standards, procurements, etc. required by the ecosystem actors.
- Extent and openness of governance a balance between inclusiveness and assignment and directives for the orchestrating body.



Control and monitoring

- Sharing of commercial and sensitive data require capabilities for control and monitoring of who uses the data, when, how, etc.
- Data usage control, provider/consumer certification and traceability for all participants requested.
- Important to build trust for data providers that data shared is limited as defined, especially towards, e.g., competitors or third-party service providers.
- Requirements less for Open Data, although still present



Business models and services

- Commercial entities need a marketplace where data and payments can be exchanged.
- Business models and cases for third party service or data providers need design, and communication for potential actors.
- Business models need to align with and be enabled by the ecosystem scope and governance.



Cross-ecosystem data sharing

- Data providers need to be enabled to share and consume data across borders and ecosystems.
- Coordination and governance required of what data is shared in which ecosystem, and how.
- Third-party service providers need to be enabled to offer their products and services in other markets.



Scalability in sharing

- Governance and onboarding of new actors need to scale as local data ecosystems open up and connect with other data ecosystems through European data spaces.
- Requirements on control, audit, and traceability of non-open data need to manage actors joining via external ecosystems.



