# EDC Hackathon II: Building Federated Dataspaces

The Eclipse Dataspace Connector Project

- Welcome
- Hackathon Scenarios and Tasks
- EDC Progress Update
- Introduction to Web DIDs
- Introduction to the EDC Federated Catalog

# Motivation


*»A real data economy, on the other hand, would be a powerful engine for innovation and new jobs. And this is why we need to secure this data for Europe and make it widely accessible.* ***We need common data spaces*** *- for example, in the energy or healthcare sectors. This will* ***support innovation ecosystems*** *in which universities, companies and researchers can access and collaborate on data. And it is why we will build a European cloud as part of NextGenerationEU - based on* ***GaiaX****.«*

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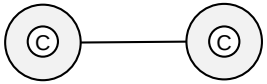
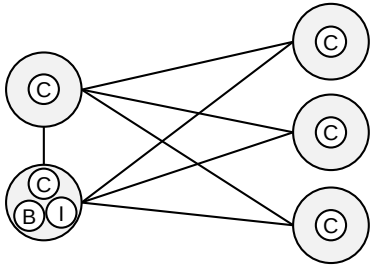
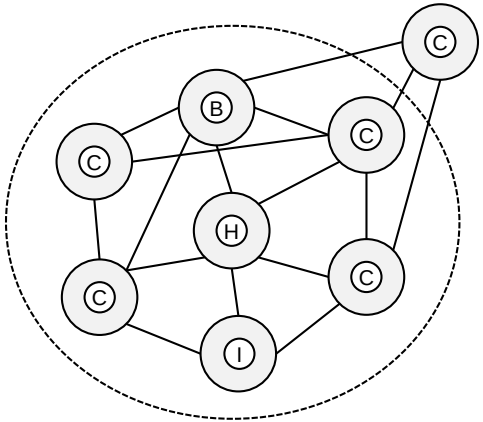
# Data Exchange and Sharing Evolution




Bilateral data exchange




Closed group data exchange




Open and dynamic data exchange

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# Hackathon Scenarios and Tasks

# Hackathon Scenarios



- Derived from real-world projects using the EDC
- Participants in a dataspace want to advertise, discover, and share data
  - Some data is private to a subset of the dataspace
  - Efficiently query data across the dataspace, at scale
- Make a Data Service available to others based on the dataspace trust model
  - Centralized and decentralized identity
  - Usage and access policies

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# Key Dataspace Principles

- Participants maintain control over their identities
  - Support for centralized and federated identity models
- Participants maintain control over which other participants they trust
  - Policy-based access control
- Participants maintain control over their data
  - Some data may be private to a subset of the dataspace
  - Usage policies are transparent and transmitted with data
  - Automated enforcement or a reasonable expectation of data usage policy enforcement

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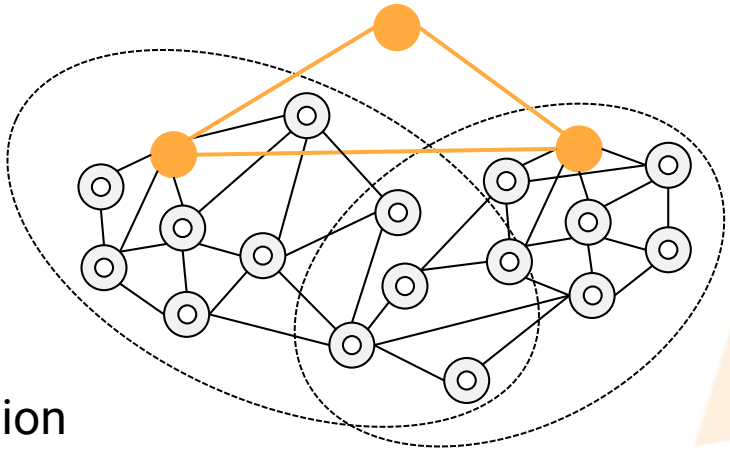
# Technical Challenges

- Embrace heterogeneity
  - Cross cloud, on-premise, edge
  - Data diversity: streaming, large data, event-based systems
- Enable interoperability
  - Policy semantics
  - Data exchange technologies
- Support scale
  - Thousands of participants
- Accommodate change and evolution



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# Hackathon Tasks

- The EDC is an extensible platform for building a complete dataspace infrastructure
- **Deploy a Web DID identity system**: Federated identities without a blockchain
  - A flexible solution to identity management that bridges centralized models (OAuth2) and future-looking blockchain approaches based on DNS
- **Deploy Federated Data Catalogs**: Policy-based data search at scale
  - A scalable solution for advertising and searching for data in a trusted, secure way across thousands of participants
- **Enable Data Services:** A new data sharing scenario
  - Grant access to a data service based on dataspace identity and trust

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# EDC Progress Update

# EDC Progress Report

- The EDC community continues to grow
- New project contributions
  - 56 Pull requests merged since the last hackathon
  - Done by 8 different organizations
- New organizations will be officially joining in the near future
- The EDC is continuing to evolve into a complete dataspace platform
  - Federated catalog and query support
  - Service registration and discovery
  - Centralized and federated identity services

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# EDC Roadmap: Milestone 1

- Target of December
- IDS support
  - Multipart messaging
  - Contract offers (assets) with policy-based filtering
  - Usage policy support
  - Initial contract negotiation support
  - DAPs integration
- Cloud-to-cloud data transfer

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# Further information and contact

General project information:

- https://projects.eclipse.org/projects/technology.dsconnector

Github-Repository:

- https://github.com/eclipse-dataspaceconnector/DataSpaceConnector

Mailing list:

- dsconnector-dev@eclipse.org

YT-Channel

- https://www.youtube.com/channel/UCYmjEHtMSzycheBB4AeITHg

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