

CATENA-X



Nature of the Initiative	Association European Project International Project Data Space	
Mission	<p>To create a global common open data ecosystem for the automotive industry, allowing digital traceability of assets throughout the entire supply chain.</p> <p>To solve the automotive sector's main business challenges and provide secure operating frameworks.</p>	
Sector(s) addressed	Manufacturing Automotive	
Leading organisation	Independent lead, organized by the Management Board , coordinated by Oliver Ganser, CEO of Catena-X Association & Head of Catena-X Consortium (BMW Group).	
Members (approx.)	170 members	
Founded (Year)	2021	
Web (URL)	https://catena-x.net/en/	
Social Media Presence	LinkedIn YouTube	
Relevance for Industry 4.0	First collaborative and open data ecosystem within the automotive industry to improve business processes using data-backed value chains.	
Key Information	Levels	Important Links
Data Space Technical Specifications	★ ★ ★ ★ ★	GitHub
Data Space Governance	★ ★ ★	Document Library Link
Data Space Demonstration	★ ★ ★ ★	Events: Launch event in North America , Eclipse Tractus-X project (online) , IAA Mobility 2023 , Data Driven Value chains (virtual) , Quality Management use case (virtual) , Web Seminar (online) , Going live (online)
Data Space Adoption	★ ★	First E2E adopter journey tutorial
Connected Initiatives	Mobility Data Space / SCSN / Manufacturing-X / agdathub	

Additional Information

Contact (Name/E-mail)

General Email: info@catena-x.net

Management, Operations & Governance: [Hanno Focken](mailto:Hanno.Focken),
hanno.focken@catena-x.net

Business Owner Ecosystems: [Daniel Miehle](mailto:Daniel.Miehle), daniel.miehle@catena-x.net

Business Domain Ecosystems: [Maximilian Ong](mailto:Maximilian.Ong), maximilian.org@catena-x.net

Customer Involvement customerinvolvement@catena-x.net

Report

What is Catena-X?

[Catena = chain] + [X = partners] → Catena-X = network of partners of the automotive value chain.

Based in Berlin, Catena-X (first implementation project of Gaia-X) is an alliance funded by the German Federal Ministry for Economic Affairs and Climate Action within the funding program of “Future Investments in the Automotive Industry” and the European Union’s “NextGenerationEU plan.”

Leading companies in the automotive industry joined to create a network called “Automotive Alliance” back in 2020 and, eventually, it was officially established as Catena-X. It is a sectorial flagship project that employs Gaia-X Trust Framework and runs from 1st August 2021 to July 31st 2024. Throughout the course of its operational life, new and diverse members will continue joining the project: IT specialists, car suppliers and SMEs among others.

Based on the IDS standard and the European cloud Infrastructure of Gaia-X, it can easily be defined as a data ecosystem within the automotive industry. An open-source data ecosystem for secure and cross-company data exchange in the automotive industry whose objective is to boost the automotive industry’s competitiveness, improve efficiency, transparency and quicken processes through data sharing and standardization. It will tackle future challenges like CO2 reduction, circular economy, and supply chain security whilst upgrading the quality of vehicles.

As an association, Catena-X members work together to create technical standards and certification criteria, facilitate development collaborations, gather information and qualification offers and grow the network on a global scale.

The target group of Catena-X are SMEs, OEMs, and their suppliers.

Mission & Objectives

- Build data chains across the complete value chain.
- Increase competitiveness of the automotive industry.
- Create new data-based business models.
- Create a common standard for the secure exchange of data, important for cross-sectorial collaboration. Data exchange and interoperability.
- Create a network for automotive companies and everyone involved in it.
- Establish a transparent strategy for the cooperative advancement of a just data economy. Open, transparent, and fair development.

How does Catena-X work

Phase 1. Pillars for the data ecosystem. Create processes and work on proposals for well-organised structures and the development of standards and certificates.

Phase 2. Standardization, certification, and establishment of the operation. The association is based on open-source principles.

Phase 3. Scaling and international growth. Global participation in this data ecosystem. They need to consider requirements from Phase 1 and Phase 2.

Roles & Members

Catena-X offers 7 different roles within the operational area in which new organizations can participate and provide. There are three main areas, e.g., business applications to solve business issues (i.e., traceability); enablement services to provide or consume data (interoperability and data sovereignty) and core services to enable the basic functionality (commercial services) of the association. It is composed/based of 3 separate organizational elements:

- The Association. The Catena-X Automotive Network e.V., central institution.
- Operating Environment. Cofinity-X (operating company founded by 10 members of Catena-X). Handles the association's operations.
- Catena-X Development Environment. Development is done by developing several candidate standards. To develop one or more, members band together (sometimes with additional third parties) to form cooperations, consortia, or initiatives outside the association.

Founding members include e.g., BMW AG, Deutsche Telekom AG, Robert Bosch GmbH, SAP SE, Siemens AG and ZF Friedrichshafen AG... Other members include: CX Hub Sweden, CX Hub France...

Solutions & Key Assets

- Tractus-X open-source project & Eclipse Foundation

Catena-X provides developers with solutions to contribute to its ecosystem through the Tractus-X project (fully mature open-source project). The goal of Catena-X is to assist developers in accelerating the creation of solutions that will play a key role in the rapid growth of the Catena-X ecosystem. As a result, Catena-X offers two kinds of services to the Eclipse Tractus-XTM project: (1) Core Services (such as portals and marketplaces for core service providers) and (2) Kits (such as for solution suppliers). The Tractus-X project is the open-source project of Catena-X. It is covered by the Eclipse Foundation's scope. This foundation provides an environment for open-source collaboration and innovation. It provides four key services to the community (IP management, Ecosystem development and marketing, Development process and IT infrastructure). First Eclipse Tractus-X Community Days (7th-8th December 2023) in Stuttgart.

- Use cases to help solve problems of automotive value are based on Gaia-X standards that set out the technical requirements to create a sovereign and federated data infrastructure. The use cases are: Traceability (product relevant asset), Quality Management, Sustainability (CO2 footprint, compliance with social standards), Circular Economy (CO2 footprint), Demand and Capacity Management, Digital Behaviour Twins, Business Partner Data Management, Modular Production, Online Control and Simulation, Manufacturing as a Service (MaaS).

Technical Specifications

- EDC (Eclipse Data Connector). Secured interface for data exchange. Catena-X relies on open-source software such as this, which designs technology blueprints for future data spaces.
- BPN (Business Partner Number). ID for partners.
- KITs (Keep-It-Together) (for solution providers, stakeholder groups and data providers) Standard rules for the adoption, development, and use of data. They provide tools for the software developers to build applications and companies to connect to the Catena-X space.
- The standard library provides a set of standards for the organizational roles and briefly mentions the use cases to describe benefits within the organization.

Events

So far, the association has taken part in both virtual and in person events. A couple of them are the IAA Mobility 2023 and the latest one, on October 2023 in which Catena-X went live for the first time. More releases and future events can be read here. The first event on Tractus-X will be held on December 7th and 8th in Stuttgart. For more information click here.

Other useful links:

- About Catena-X library
- Data Space governance 101
- General presentation
- Operating model (oct 2023)
- FAQ → Objectives, structure, current topics, information security and much more. Check the list