

Catena-X and Deutsche Telekom involvement – Overview and user manual

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v3_2024-06-15

Catena-X ecosystem overview

Catena-X (CX) is the first open data ecosystem for the automotive industry designed to create data chains that will enhance your value chain. It's elements include:

- **Catena-X Association** ([link](#)): Runs the ecosystem, has more than 170 members, and owns overall governance including standardization of key software.
- **Catena-X Consortium** ([link](#)): The €250 million, 3-year, 2021-2024 project of 28 partners in automotive with funding support from the German government that incubated the ecosystem and developed its core software foundation ([link](#)).
- **Tractus-X software foundation** ([link](#)): Created by the CX Consortium in the open-source Tractus-X (TX) project under the Eclipse Foundation. It comprises multiple components and incorporates elements and specifications from other sources, such as the [Eclipse EDC project](#) ([link](#)), [Gaia-X](#) trust framework ([link](#)), and [International Data Spaces Association](#) (IDSA, [link](#)).
- **Operating environment**: The ecosystem itself is coming alive through various providers of operating environments, sandboxes, applications, and advisory services all specified and certified by the CX Association in accordance with its “[Operating Model](#)” ([link](#)).
- **3 elements**: From an information systems perspective the CX ecosystem is comprised of (1) a [dataspace](#) for trustful peer-to-peer data exchange ([link](#)), (2) [data product](#) templates for data chains like digital twins ([link](#)), and (3) [super-apps](#) like product carbon footprint (PCF) tracking and material traceability for material pass and next-generation quality assurance.

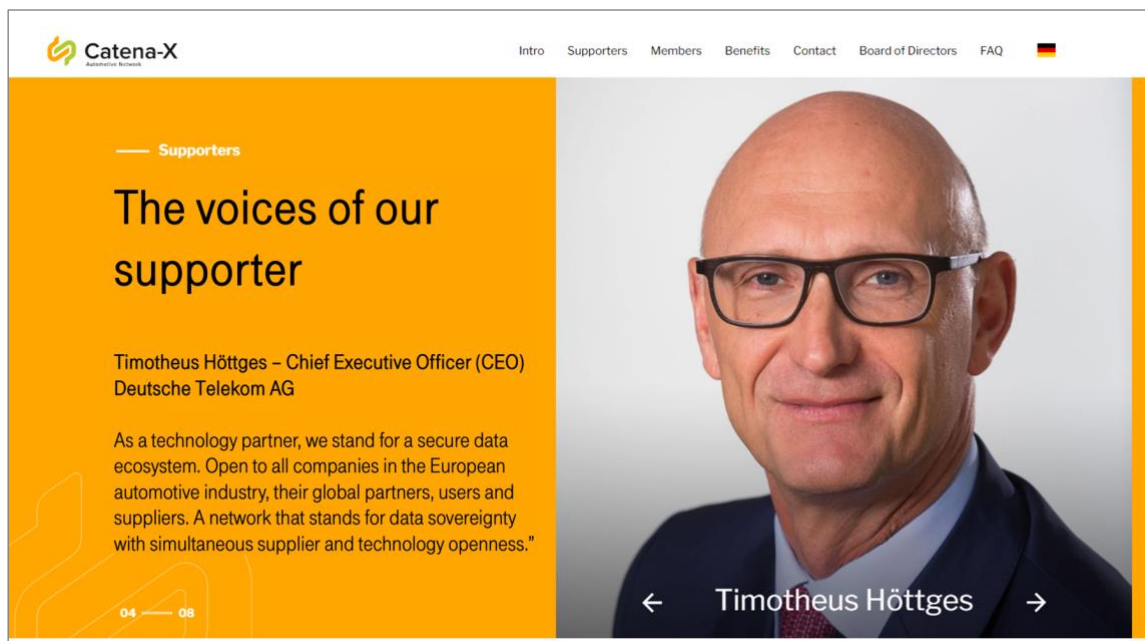


Figure 1: Tim Höttges, CEO Deutsche Telekom, co-founder of CX Automotive Network ([Catena-X](#))

Getting started with Catena-X: A user manual – “it works as your mobile phone”

The CX ecosystem (in [BLUE](#) below) operates much like a national phone system. In a phone system, the government regulates standards ([in the CX data ecosystem the CX Association defines and enforces them through certification](#)) and issues IDs needed for service contracts ([CX Association issues a CX ID](#)). Telecom carriers provide the network ([CX-certified operators like Cofinity-X are offering production environments](#)), while outfitters supply phones ([CX enablement services offer access solutions](#)) and apps ([CX business application providers supply dataspace apps](#)).

Deutsche Telekom involvement: Developer, product innovator, and shareholder

Tim Höttges, CEO Deutsche Telekom (DT), who was part of the pioneers initiating the Catena-X Automotive Network, positioned DT’s T-Systems International (TSI) subsidiary to lead [data sovereignty](#) and [operations](#) (see Fig. 1). When the project was reorganized into an agile setup based on “SAFE” ([link](#)), TSI assumed agile roles of Business Owner (BO), Product Manager (PM), System Architect (SA), and several Product Owners (POs) with their feature teams ([link](#)). Today, TSI is:

- one of ten **shareholders of Cofinity-X**, a first operating company in the CX ecosystem, and
- offering easy-to-use **Software-as-a-Service (SaaS) products** optimized for small and medium sized enterprises without specialized IT departments:

- **“Dataphones”** ([CX enablement services](#)) required to connect to a dataspace; with a long list of productivity features all readily usable as a managed service without systems integration and complete with a browser-based UI optimized for intuitive use by non IT-users ([link](#)).
- Application and data chain **development sandboxes with a built-in dataspace** ([link](#)). This allows a business to focus on its use case rather than dataspace tech. Furthermore, it enables iterative development with partners on a test track first before taking it on the “Autobahn” or into production. TSI offers 3 versions, all based on CX tech stack but with different governance and ownership options: (1) [TX Sandbox](#) (TSI governs, owns, operates), (2) [CX Sandbox](#) (under CX governance – launched with Release 24.05), your own (3) [Living Lab](#) (you govern and own, TSI operates).



Figure 2: Ford-Flex data chain launch at CES, IMX trip to Greenville SC, and CX prelaunch in Austin TX

The train has left the station: From pilots to internationalization in U.S. and Asia

As core system developers we are happy to see first pilots following global supply chains (see Fig. 2):

2024	CES: Launch of a Ford-Flex live data chain for primary scope-3 product carbon footprint (PCF) tracking data; IBM’s 2min video ; Research note ; Flex LinkedIn post
2023	<ul style="list-style-type: none"> • IMX Greenville SC: Launch of 10-nation International Manufacturing-X (IMX); 2-pager • CESMII Smart Manufacturing Greenville: Dataspaces have arrived in U.S., link • IAA & Catena-X Munich: Data drives software-defined vehicle and supply chain, link • Prelaunch Austin TX: First success and next steps, link
2021	Catena-X with GAIA-X: Will Data Space Be the Word of 2021? Link