

CESMII 2023: Dataspaces have arrived in U.S.

By Chris Schlueter Langdon, 2023-11-02

Smart manufacturing welcomes dataspaces

Catena-X, the first open and collaborative data ecosystem in automotive, received a warm welcome and joined the stage at the 2023 CESMII Annual Member Meeting, held in partnership with SME (Society of Manufacturing Engineers, [link](#)), at the SOUTHTEC Smart Manufacturing Experience in Greenville, South Carolina, from October 24th to 26th, 2023 (see Figure 1, left side).



Figure 1: CESMII Annual Meeting and Smart Manufacturing Executive Council

CESMII

CESMII, the Clean Energy Smart Manufacturing Innovation Institute ([link](#)), is dedicated to transforming American manufacturing through the integration of advanced technologies. It's part of the National Network for Manufacturing Innovation, serving as a collaborative platform that unites industry, academia, and government to advance smart manufacturing solutions. Its Smart Manufacturing Executive Council is stacked with leading U.S.

manufacturers like ExxonMobil, Pfizer, Procter & Gamble, Raytheon as well as all U.S. automakers Ford, GM, Stellantis and even local subsidiaries of foreign entities, like Toyota North America (see Figure 1, right side).



Figure 2: Catena-X and CESMII leadership talks

Catena-X

Catena-X is a data ecosystem initiated in the German automotive industry with support from the German government (Ganser & Otto 2023, Schlueter Langdon 2021). It serves as an **industry-driven response** aimed at fostering a more sustainable and circular economy:

- Facilitate **regulatory compliance**: Catena-X is strategically designed to assist companies in meeting environmental and data regulatory requirements, particularly within the European Union. Notable examples include the **European Supply Chain Act**, Environmental, Social & Corporate Governance or **ESG** initiatives like **Corporate Sustainability Reporting Directive (CSRD)** ([link](#)), and broader data regulation like the **European Data Act** ([link](#)).
- Harness **data-driven super-apps**: “Catena” derives from Latin signifying “chains”, and therefore, aptly embodies its purpose, facilitating novel applications driven by data chains like digital twins that span across organizations and along supply chains. Notable super-app examples include product carbon footprint or **PCF tracking**, material traceability and battery passport for next gen quality management (first dataspace case studies in Schlueter Langdon & Schweichhart 2022)

- Utilize next generation **decentralized technology** often encompassed within the framework of Web3: The most significant and transformative feature is the implementation of **data governance with data sovereignty protection**. This innovation enables two parties, even those with inherent distrust, such as competitors, to place their trust in secure peer-to-peer data transactions, thereby unlocking previously inaccessible data across organizations.

The Catena-X data ecosystem is ...

- Governed by the **Catena-X Association**, which defines standards ([link](#)).
- Built on core software developed by the **Catena-X Consortium** ([link](#)), a US\$ 250 million collaborative software development effort by 28 partners from Germany, which is made available as open source under the **Eclipse Foundation** ([link](#)) in the **Tractus-X** project ([link](#)).
- Available for business users in a first operating network by **Cofinity-X** ([link](#)).

What is Catena-X doing in Greenville-Spartanburg?

As automotive supply chains are (a) **global** and (b) interacting with broader **manufacturing** industries C-X Assoc. is reaching out to organizations like **CESMII** to expand the initial C-X open source software core jointly with U.S. partners. CESMII is a digital pioneer promoting smart manufacturing globally, including involvement with **“Plattform Industrie 4.0”** a lighthouse initiative of the German machine tool industry. CESMII chairman John Dyck and his leadership team met with Catena-X Assoc. lead by its chairman Oliver Ganser (BMW; chairman of the board C-X Assoc., head of C-X Consortium), Jeff Schlageter (IBM; C-X Assoc. board member responsible for internationalization), and Chris Schlueter Langdon (Deutsche Telekom; C-X Assoc. Co-Business Dev Manager for U.S., and agile Co-Product Manager of the C-X software in the C-X Consortium; see Figure 2, upper part for Messrs Ganser and Schlageter on stage, lower left for leadership talks, and lower right for a first tech evaluation session). As to underline its importance the CESMII-Catena-X meetup is embedded in the „German Federal Ministry of Economic Affairs and Climate Action delegation trip Industrie 4.0 in the USA” (see our event story on “Smart Manufacturing-X (IM-X)”).

Next steps: C-X Hub U.S. opportunity with CESMII?

One success has been the agreement to ask a joint team for exploration of a C-X Hub U.S. with CESMII. This considerably accelerates C-X activities in U.S., which only started this summer:

- October: **AIAG - hybrid IMDS & Product Chemical Compliance Conference** (2023-10-17-18), Novi, MI, presentation by Niels Angel (BMW; C-X Consortium Business Owner Sustainability), visits by Jeff Schlageter (IBM; C-X Assoc. board member), Nicole Stevenson (Flex; C-X Assoc. Co-BDM U.S.), Bing Xu (iPoint; C-X Assoc. U.S. workbench)

- July: **Suppliers Partnership Innovation Summit** (2023-07-26-27), Columbus, OH, presentation by Niels Angel (BMW; C-X Consortium Business Owner Sustainability)
- June: **Catena-X Pre-Launch at Intelligent Infrastructure Conference** (2023-06-05), Austin, TX
 - See event story on “Intelligent Infrastructure: Sneak preview of Catena-X in U.S.”
 - See event story on “Catena-X Prelaunch: One system”

LinkedIn post

CESMII – Catena-X dialogue, 2 pictures, [link](#)

Learn more from our pioneering dataspace projects

- **What** is a dataspace: For a C-level 1-pager, [link](#), and a Top 10 overview, [link](#)
- **How** to get started: From “Dataspaces 101” to data products, [link](#)
- First **use cases** in AutoMobility: “Data Move People”, [link](#)

References

Ganser, O., and B. Otto. 2023. How European businesses can play a vital role in digitalization. A guest commentary from Oliver Ganser and Boris Otto. Frankfurter Allgemeine Zeitung (2023-10-25), [link](#)

Schlueter Langdon, C. 2021. Catena-X for GAIA-X: Will Dataspace Be the Word of 2021? Blog (2021-03-03), International Dataspace Association, Berlin, [link](#)

Schlueter Langdon, C., and K. Schweichhart. 2022. Dataspaces: First Applications in Mobility and Industry. In: Otto, B. et al. (eds.). Dataspaces – Part IV Solutions & Applications. Springer Nature, Switzerland, [link](#)