HM2024: Dataspace first movers' success

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Hannover Messe (HM) is the world's leading industrial trade fair. It took place from April 22-26 with more than 130,000 visitors from 150 countries, 4,000 exhibiting companies, 300 startups and over 300 economic and political delegations. Figure 1 provides a glimpse of the **opening ceremony** lead by Olaf Scholz, Chancellor of the Federal Republic of Germany; Dr. Ursula von der Leyen, President of the European Commission; and H.E. Jonas Gahr Støre, Prime Minister of Norway as partner country 2024. The fair demonstrated its ability to internationally synthesize the best of technology innovations, business trade fair and economic and political agendasetting with a focus on **CO2-neutral production**, **Industry 4.0**, and **artificial intelligence**.



Figure 1: Opening reception with Federal Chancellor Scholz and EU President Von der Leyen

Catena-X presents value creation through dataspaces

Catena-X, the first collaborative data ecosystem for the automotive industry, presented its three pillars of (1) **standardization** (CX Assoc), (2) **operations** (Cofinity-X), and (3) **trust** provided by Digital. ID, a platform-as-a-service offering of T-Systems International (TSI) that ensures proper user authentication and compliance with the Gaia-X trust framework. Figure 2 shows CX leaders on stage. Overall, the CX data ecosystem is composed of: (a) **CX Association**, (b) **CX Consortium**, (c) **Tractus-X software project**, (d) **operations**. TSI is a leading information and communication technology vendor of the European auto industry (Fuchslocher 2022, Stroh 2022; TSI is No 1, link) and involved as a partner in the 2021-24 CX Consortium as well in the Eclipse projects of Tractus-X, EDC, and Software Defined Vehicle.

-> Overview of CX elements: CX Hannover Messe Special 2-Pager, link



Figure 2: Oliver Ganser (BMW; Head of CX Assoc and Consortium), Anja Misselbeck (MD CX Assoc), Thomas Roesch (CEO Cofinity-X), Sven Loeffler (TSI; Business Owner CX Consortium)



Figure 3: International Manufacturing-X (IMX) participants

Global dataspace expansion with International Manufacturing-X (IMX)

In 2023, ten nations united to establish the International Manufacturing-X (IMX) Council to advance the concept of 'Making Data Work' across global supply chains, with the U.S.

Department of Energy endorsing CESMII's participation. Germany's Federal Ministry for Economic Affairs and Climate Action (BMWK) is leveraging its Industrie 4.0 initiative, with operational projects such as CX, Factory-X, Aerospace-X, Robot-X:

- -> Greenville, October 2023: Launch of 10-nation IMX; 2-pager
- -> CESMII 2023: Dataspaces have arrived in U.S., link
- -> Prelaunch Austin: First success and next steps, link



Figure 4: Gaia-X 4 Future Mobility at Industrie 4.0 and IDSA Mobility Community at CX

Gaia-X 4 Future Mobility with Base-X solution for smart cities & mobility

Gaia-X 4 Future Mobility, a GX lighthouse project and a family of six projects involving over 80 partners with approximately EUR 100 million in funding from BMWK (link), sees TSI's Chris Schlueter Langdon leading the Advanced Mobility Services project. At HM, GX4FM is introducing Base-X for Smart City & Mobility, where our Base-X implementation is closely linked with the open-source reference implementation, Tractus-X from CX:

- **Tue** 14:00-14:40, hall 8/ D17: "Base-X Dataspace Tech for Smart City & Mobility" panel with Mayor Wolfsburg, Head of Traffic City of Hamburg, DLR (see Figure 4, top)
- **Wed** 10-11:30, Convention Center, Room 17: IDSA invites on "Dataspace Adoption Update" with a guided tour of GX and Industrie 4.0 (CX, Factory-X; see Figure 4, bottom)
- -> "X-Factor: From Gaia-X to Base-X" Hannover Fair Special 2-Pager, link



Figure 5: Dataspace first mover wins by Ford-Flex and Asia expansion with Murata

First mover success with Ford-Flex data chain and Murata expansion

Expansion of the **Ford-Flex data chain for CO2** Scope-3 data launched at CES 2024 in Las Vegas with CX/ Tractus-X tech stack (<u>link</u>). Our core team from **Ford** (Kremer, Heck, Udaeta), **Flex** (Shanawaz, Stevenson), **IBM** (Roik, Pfleghar, Kuehmichel, Schlageter), and **TSI** (Schlueter Langdon, Loeffler) were hosted by **Fujitsu** (Mohr) to welcome the addition of **Murata** (Masahiro Terai, Fumiyuki Suchi, Yasuhiro Uehara):

- Mon and Wed, 14:00-15:00, AWS hall 15/ booth D76: "Dataspaces 101/ Ford-Flex CES datachain pilot/ How to join?"
- Tue 10:00-Noon, Fujitsu hall 14/ H62: "Ford-Flex pilot welcomes Murata joining"
- -> "Catena-X and Telekom Products" Hannover Fair Special 2-Pager, link

Benefit from distilled insights gained through our pioneering projects

- -> What is it, impact on (a) strategy and (b) operations: "Dataspace 101"
- -> First use cases: Mobility super-app disruption
- -> Ecosystems resurgence: Ecosystems 2.0 Built on data