ITS WC 2022 LA: First dataspace case study with IDSA & Gaia-X in U.S. – live intermodal travel demo

By Chris Schlueter Langdon, 2023-03-02

ITS World Congress

The ITS World Congress is a global event that brings together industry leaders, policymakers, and researchers to discuss and showcase the latest advancements in intelligent transportation systems (ITS). The Congress provides a platform for experts to exchange ideas and collaborate on solutions to improve transportation safety, sustainability, and efficiency.

Figure 1: Exporting IDSA & Gaia-X dataspace innovation to the USA at ITS WC 2022 in LA

2022 ITS WC in LA

The 2022 ITS World Congress in Los Angeles is impactful for several reasons. First, Los Angeles, with nearly 40% of US imports flowing through LA ports, is a **central hub for**

transportation and technology, thus making it an ideal location for showcasing the latest innovations in ITS. Second, as the world grapples with issues such as climate change, urbanization (see Schlueter Langdon 2021a), and the adoption of new technologies like autonomous vehicles (see "LA Autonomous" in our story on the 2023 LA Autoshow, link), the ITS is taking place at a critical time for the automotive industry. As if to underscore the importance of the ITS, Germany's juggernaut carmakers were active participants.

How IDSA & Gaia-X does it better, faster, cheaper

Better, faster, and cheaper: The US is an innovation engine. No other nation on the planet creates successful companies faster and more frequently that reshape how we live our lives. New companies and even entire industries are created in this land of opportunity constantly, like Amazon, Google, Facebook, and Tesla. OpenAI of ChatGPT fame is set to join their ranks. Because concrete actions are the way of business in the US, we have created a dataspace-in-action demo to showcase our capabilities. Walking the walk, we let the audience use our **mobility super-app** to find the best intermodal trip. Small caveat for this demo: The trips were limited to the city of Hamburg, Germany's second-largest city. The super-app is powered by a novel "dataspace inside" that creates the data chains across competing mobility providers. Those are required for the intermodal travel chains that allow travelers to get from point A to point B–better, faster, and cheaper (see Figure 2 with an intermodal A-B trip displayed on the map to the left). This dataspace technology is innovation refined and launched into adoption by **International Data Spaces Association (IDSA;** link**)** and **Gaia-X** (link).

Adapted from: Schlueter Langdon, C., and Eckert, J. 2022. Intermodal travel super app with agent system and data space: RealLab Hamburg implementation. Scientific Paper ID 1225984, 28th ITS World Congress, Los Angeles: Figures 1, 3 and 4.
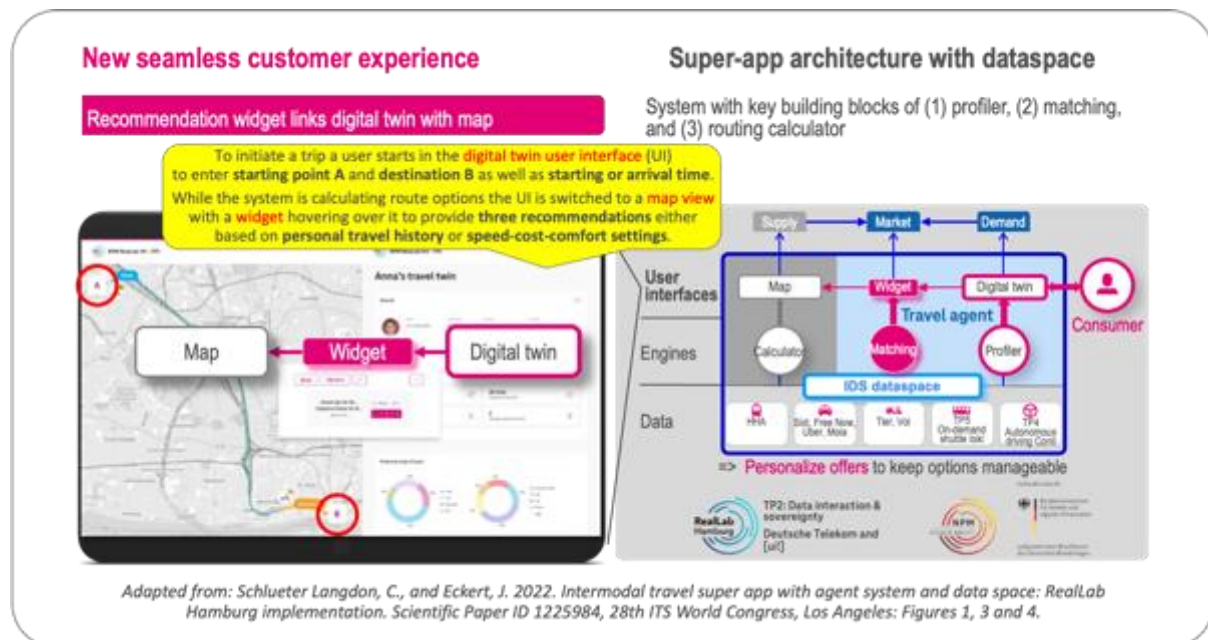
Figure 1: Mobility super-app demonstrator powered by a dataspace

Action! Dataspace in Hollywood: Mobility super-app made in Europe

The Action! Dataspace project is a joint effort between T-System´s Deutsche Telekom Data Intelligence Hub Team and the Urban Institute as part of the **Reallabor Hamburg**/RealLabHH project. With funding from the German Federal Ministry for Digital and Transport, Action!

Dataspace serves as the German Federal Government's **National Platform Future of Mobility (NPM)** real-life laboratory. This demonstrator app with dataspace capabilities has been live tested with data coming from mobility providers in RealLabHH, including Hamburger Hochbahn AG (metro rail), Sixt (car rental), and Tier Mobility (app). The system, launched by visitors to the ITS World Congress in Hamburg, resulted in better data, which resulted in better mobility with 30% faster travel and lower CO_2 emissions. In 2022, RealLabHH was awarded the **"Real Laboratory Innovation Prize"** by the German Federal Ministry of Economic Affairs and Climate Action (link). The project combined two innovations: (1) a software agent system and (2) a dataspace to enable a novel super-app, which supports modal shift, i.e., the shift of trips using a personal car to intermodal travel involving the integration of **public transport** with **micromobility**, such as electric scooters and shuttles. The dataspace utilizes first generation International Data Space (IDS) technology that complies with DIN Spec 27070. Figure 2 illustrates user interfaces and the underlying system architecture. In order to initiate a trip, a user starts in the digital twin user interface (UI) and enters a starting point A and a destination B, as well as desired start or arrival time. While the system calculates route options, the UI is switched to a map view with a widget hovering over it to provide three **recommendations** based on either a user's travel history or speed, cost and comfort preference settings.

Learn more about this pioneering project

- Official RealLab Hamburg report (mobility super-app chapter): Link (RealLabHH 2022)
- Customer journeys and system architecture: Link (Schlueter Langdon & Eckert 2022)
- Results – faster travel, easier to use: link (Schlueter Langdon et al. 2021)
- Business model shift – selling public transport by the seat: Link (Schlueter Langdon 2021b)

References

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