



Twinning LL Karlsruhe



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URBANE - Overview

URBANE: Upscaling Innovative Green Urban Logistic Solutions Through Multi-Actor Collaboration and PI-Inspired Last Mile Delivery

Involved Cities:

- Lighthouse Living Labs: Helsinki, Bologna, Valladolid, Thessaloniki
- Twinning Living Labs: Barcelona, Karlsruhe
- Follower Cities: Aarhus, Antwerp, Mechelen, La Rochelle, Prag, Ravenna

LL Karlsruhe: Main role in the project

Main role in URBANE:

- **Implementing intermodal solutions** combining AMRs (robot) with rail-based (TramTrains) parcels movement in Karlsruhe
- **Demonstrate adaptation of innovations** in new contexts in Wave 2 LLs, Reuse Models and proven practices

Stakeholders:

- **Automotive Engineering:** Coordination of KA TLL, surveys during demonstration
- **City of Karlsruhe:** Providing specific city information, political support
- **AVG:** Providing access to tram and infrastructure (tram stop)
- **SEW:** Providing AMR for demonstration

Twining with Helsinki: Use of AMR in Last Mile



SymbolFoto: Norman P. Krauß

Use Cases

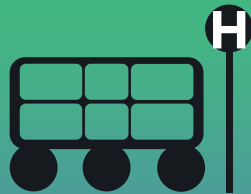
- **UC1: Internal Transport**
 - Transport between tram depots of mail and (small) tools
 - AMR only needed in secured environment
 - 1-1 delivery
- **UC2: ShopToCustomer**
 - (Small) businesses to customers
 - Small businesses delivering to a city quarter
 - n-m delivery
- **UC3: Feeding the Needing**
 - Meals on wheels
 - From central kitchen to end-costumers
 - 1-n delivery

Use Cases are specific to Karlsruhe

Delivery through autonomous mobile robot & Tram-Train, common to all Use Cases



AMR arrives at the origin and the parcels are being loaded onto the AMR



AMR drives to the nearest train station and waits for the train to arrive



AMR enters the train and covers the main part of the delivery route by riding the train



AMR leaves the train and proceeds to the last delivery segment



Robot in Tram, Demo on 6 March 2025



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Thank you!



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