

## Digital Twin for Multimodal Traffic Management

Simulation models play a crucial role in understanding the behaviour of transport systems and in evaluating the potential impacts of interventions before they are implemented in the real world. However, in practice, different organizations often rely on different tools, datasets, and analytical platforms. This fragmentation makes it difficult to combine insights, compare results, and build a consistent understanding of system dynamics across institutional boundaries.

### What is the product?

The ACUMEN **Digital Twin** addresses this challenge by providing a flexible and modular platform that enables the integration of heterogeneous models, data sources, and mobility services within a shared digital environment. Built on a microservices-based architecture, the platform connects existing tools through standardized interfaces, allowing them to exchange data and interact in real time.

This approach supports a wide range of capabilities, including multimodal simulation, scenario analysis, and visualization of system performance. Importantly, the workflow-based design allows users to orchestrate multiple models and services without the need to replace existing systems or infrastructure. This makes the Digital Twin both scalable and adaptable to different organizational contexts.

The underlying architecture, frameworks, and modules are described in supporting documentation.

### Who is it for?

The platform is particularly relevant for:

- **Traffic managers, urban planners, and public transport operators** that use digital twins to support day-to-day traffic operations, policy analysis, and scenario testing;
- **Developers, system integrators, and analytics teams** that seek architectural concepts and integration principles for designing or extending digital twin platforms.

