

USE CASES



Trip Characteristics Inference and Traffic Flow Data Analytics
Riga, Latvia

Watch the video



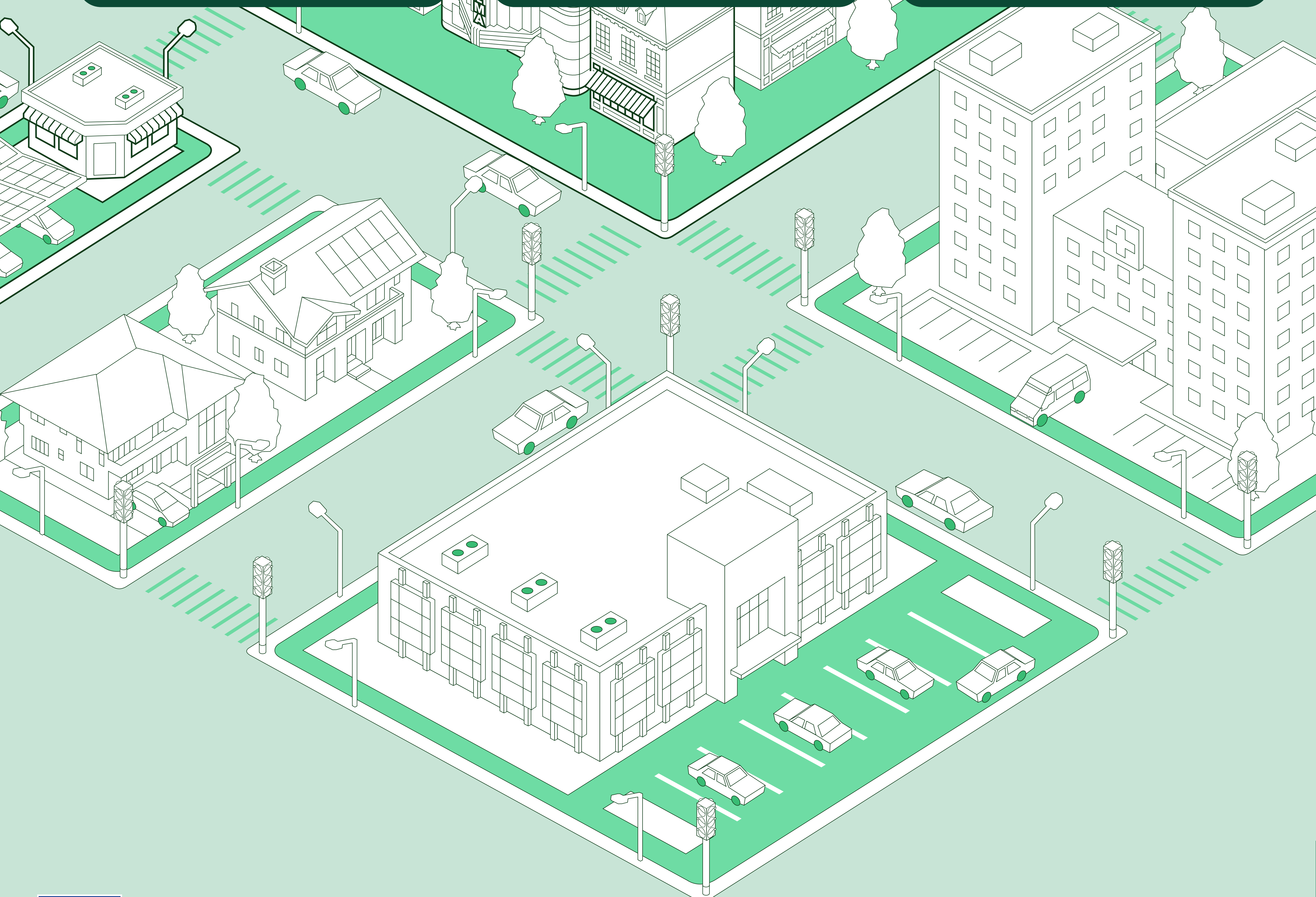
Multi-modal integrated traffic management
Rotterdam, The Netherlands

Watch the video



Risk-assessment, prediction and forecasting during events
The Hague, The Netherlands

Watch the video



EMERALDS

Extreme-scale Urban Mobility Data Analytics as a Service

EMERALDS is a Horizon Europe project developing a Mobility Analytics as a Service (MAaaS) toolset which will set itself apart by moving analytics and sensitive data analytics to edge computing (processing the data on the same devices that collect the data or nearby devices to improve response times & privacy of sensitive data).

The EMERALDS toolset empowers urban planners, transportation authorities, public authorities, data scientists, and mobility operators to make data-driven decisions. This can foster sustainable and efficient urban mobility systems, leading to more efficient mobility, saving time, money and reducing environmental impact.

STAKEHOLDERS



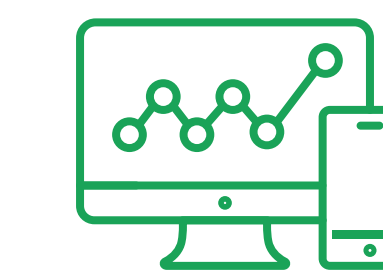
Research & Academia



Governmental authorities



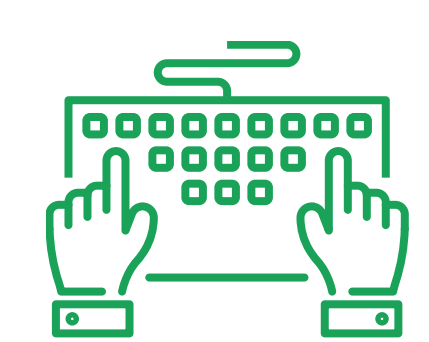
Transport Industry



Technology Industry



Civil Society



Standards development organisations



EMERALDS Toolset

EMERALDS envisions the creation of a versatile suite of specialised software modules, encompassing containerised versions of the tools and software stacks developed and showcased within the project.

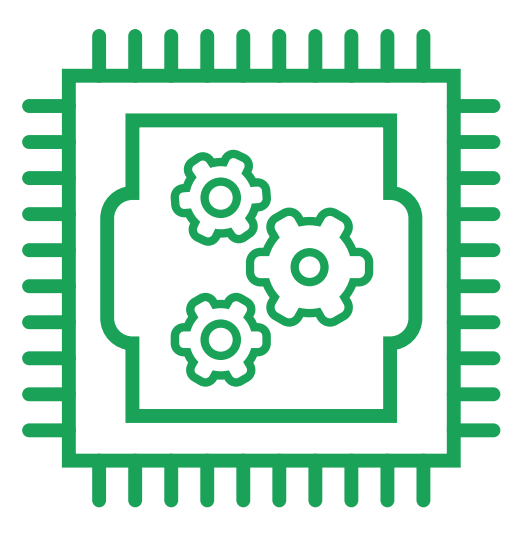
They will be tested by the EMERALDS Use Cases and Early Adoption Demonstrators following an intertwined DataOps, MLOps and DevOps agile methodology.



Extreme Scale Mobility Data Analytics (MDA) at the CC



Privacy-aware in situ Data Harvesting



Extreme-scale Cloud/Fog Data Processing



Mobility Data Fusion and Management



Active & Federated Learning over Mobility Data



Mobility AI-as-a-Service

With the **EMERALDS toolset**, users can collect and manage ubiquitous spatiotemporal data of high-volume, high-velocity and high-variety, analyse them in online and offline settings, import them to real-time responsive AI/ML algorithms and visualise results in interactive dashboards. Privacy preservation techniques are assured.

The EMERALDS service-oriented Reference Architecture leverages a distributed computing environment, encompassing edge, fog, and cloud nodes and demonstrates awareness and adaptability across multiple platforms, addressing key aspects like interoperability, scalability, security, and data governance.

IMPACT

Scientific:

-) Enhanced performance, speed, accuracy, and utility of extreme urban mobility data mining
-) Open science principles

Economic:

-) Extreme scale analytics driving innovation-based growth and jobs
-) Mobility and transportation data accessibility and tools for multi-sectors

Societal:

-) More efficient mobility meeting Green Deal and Sustainable Development Goals
-) Greater accountability, transparency, and control over Artificial Intelligence

Discover the toolset



Learn more

