# ITEA Press release

SMART project reduces traffic congestion and emissions for better urban living

*10 September, Antwerp –* Urban congestion affects citizens and the environment, causing pollution and accidents and reducing a city’s general liveability. However, real-time traffic awareness, adaptive traffic management and efficient algorithms and actuators for real-time traffic control have so far proved hard to achieve. By using advanced 4D spatial technology and real-time vehicle data analysis, the ITEA project SMART, which stands for *Spatial Modelling Analytics and Real-time Tracking,* enhances traffic efficiency and commuting in cities. These innovations in dynamic traffic control and geospatial visualisation reduce emissions and congestion by up to 15% and enhance urban quality of life. The achievements of the SMART project have been recognised with the ITEA Award 2024 for Exceptional Excellence, outstanding in the three categories of innovation, business impact and standardisation.

Data-driven decisions improving urban mobility and traffic
The ITEA project SMART, involving seven partners from Canada and the Netherlands, gives city planners and managers an agile solution to facilitate data-driven decisions to improve urban mobility and traffic throughput for all modes. For citizens, improved traffic flow saves time, reduces stress and increases road safety, particularly for cyclists.

Key innovations include dynamic traffic control, detailed 4D geospatial city modelling and accurate traffic prediction. Utilising advanced roadside sensors and vehicle-to-everything (V2X) communication, standardised Cooperative Awareness Messages (CAMs) are continuously transmitted to a cloud-based system for real-time monitoring and decision-making. This integrated approach, featuring technologies from ViNotion, IRD, Royal HaskoningDHV, Cyclomedia, Geotab ITS, Esri Canada and Eindhoven University of Technology, provides comprehensive traffic insights and enables adaptive control strategies.

When vehicles and bicycles approach a SMART-enabled intersection, the system recognises and classifies them in an early stage, transmits the data to the cloud and computes the estimated time of arrival. Subsequently, the traffic control system adjusts the traffic-light sequences to optimise policies of the city owner. The policy can vary from prevention of congestion, stimulation of sustainable traffic such as bicycles or improved throughput.

SMART has revolutionised urban traffic management, promising a 10-15% reduction in congestion.

*"Thanks to new technologies involved, the ITEA SMART project has demonstrated to us the possibilities and potential to improve congestion and quality of life on our road network."*- Luuk Misdom, Senior Project Leader Smart Mobility, Municipality of Helmond

### Paving the way for future traffic control

Participation in SMART has enriched the consortium with enhanced solutions and expanded market opportunities across Europe and North America. Esri Canada, which led the project, leveraged real-time transportation data in its Transportation GeoXchange platform to develop scalable methodologies, while Royal HaskoningDHV improved Flowtack's traffic awareness coverage, offering the flexibility to improve traffic management aligned with the policies of the municipality. ViNotion's technology within SMART has been certified by the Dutch Ministry of Infrastructure and Water Management. This enables nationwide deployment, resulting in deployments at several municipalities and more on the way. SMART enabled IRD to test and refine iTHEIA, its advanced AI vehicle classification technology, ensuring it meets industry standards and client expectations. Integration with Esri Canada’s Transportation GeoXchange dashboard demonstrated iTHEIA’s compatibility with traffic management systems and opened new avenues for partnerships. The technological advancements enabled via the ITEA project were a factor in the successful commercialisation of iTHEIA and market expansion in North America as well as future opportunities globally.

With the completion of the SMART project, these advancements and partnerships will drive ongoing improvements and innovations in future traffic control strategies. Since the end of the project, the system has been deployed in many Dutch and Belgian cities while the interest continues to grow. Following these deployments, SMART participants are increasingly collaborating in public-private conversations about traffic management standardisation.

This project has received funding from:



## *Note for editors, not for publication*

## For interview requests, questions and additional information about SMART and ITEA, please contact:

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#### SMART project partnershttps://itea4.org/project/smart.html

#### About ITEA

ITEA is the Eureka Cluster on software innovation, enabling a large international community to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society.

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