



Wide-scale deployment of new mobility services in **smart cities**

Edwin Mermans, Senior Advisor, International Affairs at the Department of Mobility and Infrastructure, Province of Noord-Brabant, and *Tamara Goldsteen*, Senior Project Manager Smart & Green Mobility, City of Helmond and Innovation Manager Europe for the Smart Mobility Office of the Province of Noord-Brabant, discuss the importance of the long-term European partnership being built for the adoption of new urban mobility services, and its impact on the future of smart cities.

SOME of us will remember when Neil Armstrong and Buzz Aldrin set foot on the moon for the very first time – what an achievement with the technology of the sixties. The complexity and short timeframe of this challenge made it so impressive. This 'moonshot' was a huge inspiration for the whole world.

Today, with densely populated cities and the constant threat of global warming, we must ask: how do we want to move from A to B in a few decades? What will be the innovative catalyst for sustainable urban mobility? Ultimately, what will be the next moonshot?

Developments in mobility are complex and highly dynamic, meaning it is nearly impossible to accurately predict the future. What we know today is obsolete tomorrow, so this has to be a story of 'learning by doing'.

We know that mobility is a vital element for our society and economy, and we are aware of the challenges and opportunities regarding the future of our cities. To achieve sustainable urban mobility, we must prepare for these challenges, which include congestion, lack of space, growing populations, air quality, noise pollution, liveability, health, social inclusion, economic developments and job creation.

When discussing the opportunities within cities, the wide scale deployment of new mobility services is an important concept to focus on. The solutions the industry can offer have the potential to be innovative with a large impact on society and the way we use public space. If we deploy the crossovers between cooperative, connected, automated mobility and Mobility-as-a-Service (MaaS) we can make a major impact on our smart cities. If, meanwhile, we boost the uptake of shared mobility concepts, we can contribute to wealthy, healthy, spacious and accessible cities. The goal: better cities with more efficient use of space, less congestion, clean air, healthy citizens and a thriving economy. This is not a narrative about a 'technology push' but about placing cities and citizens at the forefront of our efforts.

This is easier said than done – we need to bring theory to practice. There is a lot of knowledge that needs to be implemented in learning by executing concepts in real-life test environments. We need all stakeholders to be involved: governments, research, industry, but also the end users and civil society. Design thinking is key.

Wide-scale deployment of new mobility services – in an urban context – enabled by MaaS and cooperative connected automated mobility is an ambition that can't be realised by a single city, region or country. This is an ambition that requires an international playing field; learning by doing on a European scale is crucial to bringing new mobility services to our cities. Ultimately, what we need is creativity and partnership.

New Mobility Services (NMS) initiative

The 'New Mobility Services' (NMS) initiative, led by the Dutch province of Noord-Brabant, is the partnership to make these ambitions a reality. The NMS initiative is part of the Action Cluster Sustainable Urban Mobility within the wider European Innovation Partnership on smart cities and communities initiated by the European Commission (EC). DG MOVE, the Directorate-General for Mobility and Transport from the EC, facilitates the NMS to build the partnership, find financiers and achieve ambitions. In October 2017, NMS presented its whitepaper and in February 2018, the first partner meeting took place with 80 partners. The number of partners is expected to double by the end of 2018.

The NMS partnership enables and facilitates testing and piloting, and projects are developed for the Horizon 2020 and other European subsidy programmes. NMS offers living labs and real-life test environments, helping make the step from research to deployment. It organises the involvement of users through user centric design, facilitating developments in legislation, and last but not least, brings economies of scale and offers a marketplace for suppliers of new solutions and services.

Within the partnership, tasks are divided into six working groups with specific commitments to be realised in one or two years. The state of play within these groups is discussed below:

Demand-driven first- and last-mile passenger solutions

The focus of this group is to integrate demand-driven first- and last-mile passenger solutions into existing shared transport options. For example, cities with an excellent rail-based public transport system – such as metro – face the challenge of getting passengers to and from stations. Solutions and services developed in this group are also relevant for rural communities with small centres and a large hinterland.

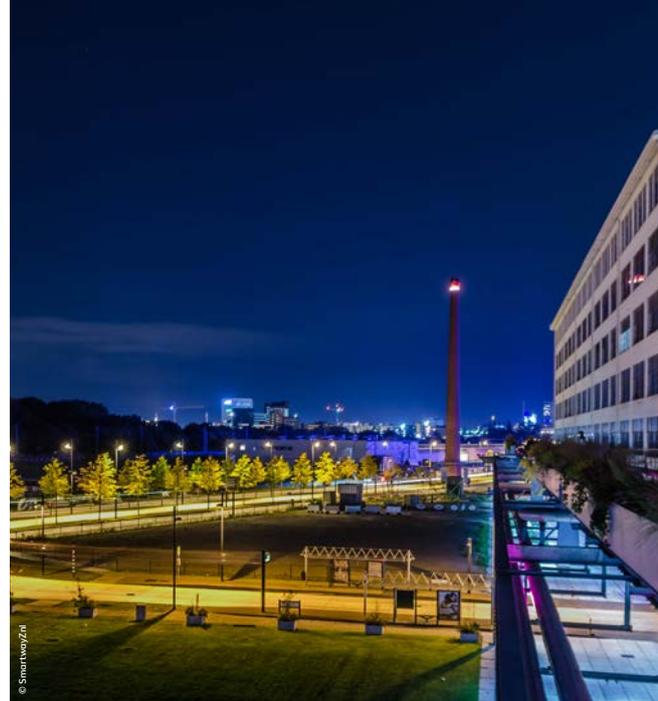
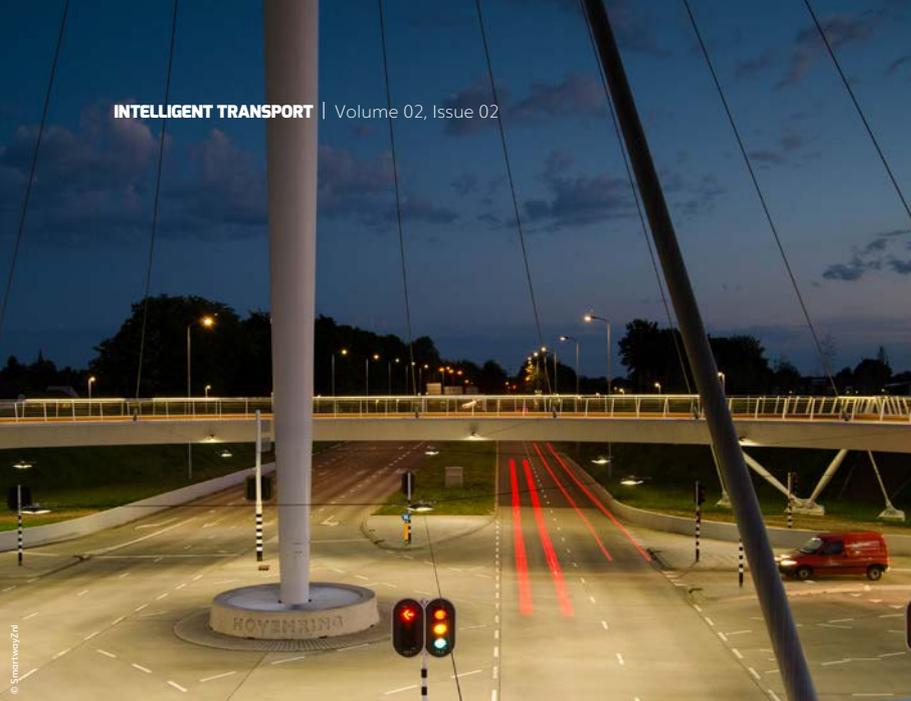
The purpose of this group is to support local authorities to get the most out of existing public transport systems with the help of new technology. The working group aims to develop a system that makes it easier to reach the existing transport network and to make the trip easier. Better station access facilitates the modal shift from car to public transport. ➤



EDWIN MERMANS is Senior Advisor of International Affairs at the Department of Mobility and Infrastructure from the Province of Noord-Brabant (NL). He is working on the TEN-T network, MaaS, C-ITS, CCAM and sustainable urban mobility. Mermans is coordinating the New Mobility Services initiative as part of the European Innovation Partnership on Smart Cities and Communities.



TAMARA GOLDSTEEN is Senior Project Manager, Smart & Green Mobility at the city of Helmond, and Innovation Manager, Europe, for the Smart Mobility Office of the Province of Noord-Brabant (NL). She is representing city and province in European projects and platforms on C-ITS, automated driving, traffic management and MaaS. Goldsteen is also a coordinator of the New Mobility Services initiative in the European Innovation Partnership on Smart Cities and Communities.



ABOVE: Developing smarter traffic management systems is a significant part of the NMS partnership



Parking solutions

This group works on solution-driven multimodal mobility, mainly focusing on the role of parking in first- and last-mile challenges. The purpose: seamless integration of parking with public transport, taxis and shared bike, scooter and electric car services. Topics in this group include parking data, public/private transportation data and the need for one-payment mobility services. A potential outcome from this group is an app that could guide passengers to a parking spot on the outskirts of the city, close to the preferred next mode of transportation.

RIGHT: Greener cities are also smarter cities, as illustrated, and a number of the partnership's working groups focus on elements of sustainability



Intelligent speed adaptation (ISA)

In the years to come, vehicles will gradually take over certain tasks from drivers. New technology already makes it possible to give pointed advice to individual drivers and intervene in the speed of the vehicle. ISA uses communication between the vehicle and environment. A safe optimal speed is derived from digital maps, electronic roadside units and other sources of information that can be read by the car. This group works on practical tests to prove that ISA can contribute to the acceptance of the self-driving car by taking over a very small task from the driver. Also, ISA contributes to better liveability, increased traffic safety and an improved traffic flow with a cleaner environment.

Multimodal transport and logistics in smart city contexts

The aim of this group is to deploy solutions and services that contribute to low-carbon, circular and more cost-effective strategies to improve the urban environment and the lives of citizens. Topics are: combined transport and passenger logistics, multimodal freight distribution, combined passengers and goods services, and last-mile solutions, especially for fresh logistics in urban areas. Key in this approach is breaking down the silos of the mobility, transport and logistic sectors.

Building the traffic management centre of the future

This group works on a multimodal strategy in traffic management by organising smart crossovers of traffic information and handling strategies. Questions like how to deal with green priority services, and how to get a strategy for green priority services are discussed. Traffic-Management-as-a-Service (TMaaS) is a part of this group's responsibility.

Changing roles government, business impact, regulation and governance

The sixth working group is about the changing roles of public authorities related to the deployment of new mobility services. This transition will bring the need for new business models and procurement systems and perhaps even regulation. The focus is on raising awareness and empowerment of public authorities for this transition and innovation. The group tackles how to become a real-life test bed, how to better regulate services and how to procure innovation. One of the results will be an overview of the challenges and regulatory bottlenecks for the industry.

New partners

The NMS partnership is still open to new partners that have ambitions to deploy new mobility services in an urban context. Especially welcome are large companies, SMEs or start-ups offering smart solutions, products and services that need to be tested in a real-life context. Ambitious smart cities and regions with an active strategy in boosting smart and green mobility solutions are encouraged to join. The NMS is a dynamic partnership with a concrete focus on impacting several projects and pilots launching between 2019-2020. Meanwhile, NMS will evolve into a long-term partnership developing projects, creating markets and boosting deployment of new mobility services in the decade after that. 📡