

***Initiative for the deployment of automated and connected mobility services in Europe
by local and regional authorities***

Outputs from the symposium held in Paris, 27 June 2025

This document summarizes presentations, exchanges and recommendations made during the symposium held in Paris, on 27 June 2025, at the invitation of the French ministry in charge of transport and the transport authority of Oslo (Ruter). This symposium was meant to discuss the rationale, objectives and challenges of fostering a safe development of automated and connected mobility services through a coalition of interests among local and regional transport authorities. Discussions during the symposium were enlighten by an European-wide state-of-play of cities and territories vision, and among them, the experience and knowledge from "front-runners".

This document does not represent a formal position nor agreement of any of the symposium's participants. It merely summarizes ideas and proposals exchanged, especially around identified next steps towards a European coalition of cities and territories fostering deployment of automated road transport services, namely:

- a) an assessment of relevant markets;
- b) a process and, if necessary, a structure to aggregate interests of local and regional authorities;
- c) an approach to implement EU regulation for automated vehicles type-approval to the deployment of local and regional transport services.

The document first presents the context, rationale and objectives of a European coalition of local and regional authorities for the deployment of automate and connected road transport services, then points out major discussions taken from cities and territories' perspective and implementation stakeholders, including transport operators and industry.

Next steps are detailed in an annex, which reports on the launch of a Public Authorities Collaboration for automated Transport for Europe (PACT for Europe) under the leadership of European Metropolitan Transport Authorities association (EMTA).

The contact to take part in PACT for Europe is now Thomas Geier (thomas.geier@emta.com).

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Context and rationale

Automation in road transport is now mature to allow the deployment of public and shared transport services, in pre-defined driving environments, without driver on board but with remote supervision, which are being demonstrated by experiments in Europe and large-scale market uptake in other regions.

These services have the potential to enhance the transition from individual mobility and car ownership towards shared and green mobility, inter alia by providing new mobility services where conventional transport is not relevant or efficient. Various studies have highlighted such a potential and the opportunity to reduce public and shared transport's cost of operation through large-scale deployments of shared autonomous vehicles (SAVs) (see annex 1 on Oslo study).

Europe has set up a regulatory framework enabling such services to deploy safely through the development of type-approval procedures for vehicles equipped with an automated driving system, paving the way for national and/or local regulations for in-service operations of automated road transport systems.

However, Europe lags behind the US and China for deployment of autonomous services able to provide competitive services compared to private cars.

The recent Draghi report has highlighted some reasons but also considers that the situation is reversible, especially via a new "vertical" approach for innovation, focusing on technology integration in vehicles, systems, and services.

The objective of building a European coalition of local authorities is to foster the deployment of automated passenger road transport services integrated in public transport networks, leaving the experimental phase, towards a real deployment phase allowing to scale up the market and validate safety in operation.

This initiative will take due care of risks of dependence on non-European suppliers for components, practices or skills, that address potential risks on sovereignty and social acceptance while building European competitiveness. Nonetheless, a first step of deployment based on some non-EU technology bricks could leverage skills development in the EU ecosystem.

Various use cases are foreseen (transport-on-demand, shuttle services, off-peak services, feeding to mass transit, automated bus rapid transit, in various types of areas (low density, peri-urban, urban)).

General approach: aggregate interests in an incremental way

1. Gather feedback / interest from European relevant organizations (2024)
2. Gather interest from European regions / municipalities (2025)
3. Develop shared vision of use cases and deployment opportunities (2025)
4. Propose relevant tools to foster supply (2025)
(e.g. Draghi-type action plan, IPCEI, 10th FP for R&I, procurement)
5. Elaborate a shared deployment roadmap (2025 – 2026)
6. Deploy (2027 – 2030)
7. Capitalize and share lessons learned

1. Objectives of building a European coalition of cities and local authorities towards the deployment of automated road transport services throughout Europe

The event organized on June 27 by the French ministry for transport (DGITM), and Oslo's transport authority (Ruter) is meant to **gather interest of cities and territories in Europe** and to develop an **inception vision of use cases and deployment opportunities** (cf. points 2 & 3 above).

This initiative is supported by European relevant organizations, including UITP, Polis, EMTA, Eurocities, EIT Urban Mobility, PAVE Europe, SAAM, France Véhicules Autonomes (FVA), ERTICO and the CCAM Partnership, which led to achieve point 1 above.

As an output of the event, thanks to which point 2 above is partially done, this (non-binding) document is issued by the organizers, based on the minutes of June 27's discussions and on a state-of-the-art review from cities and territories involved (cf. appendix).

The event on June 27 was the official launch of an initiative gathering cities and territories to share their perspective of the "large-scale deployment of automated road mobility in Europe". The aim was to invite cities and public transport authorities to share their vision to the wider European community of experts working on automation, from industry and technology providers to regulators and type-approval authorities, operators and service providers.

The discussion was led by the use case approach – bringing opportunities and challenges associated with actual deployments of automated vehicles for real services to the end-users.

June 27, organized in conjunction with other initiatives in Europe (be it from industry, be it from Member States) and supported by European associations, received positive feedbacks from cities and territories to move forward on the deployment phase.

Takeaways from the event identified that a joint, pan-European collaboration on large scale public transport use cases – to ensure actual market understanding and achieve industrial interest of manufacturers in the public transport sector.

Grounded on the legacy from the Paris event, organized under the leadership of the European Metropolitan Transport Authorities association (EMTA), who recognizes that the development must be open for all authorities working on the topic of public transport automation and all European associations that have such authorities as members, PACT for Europe will be the direct follow-up from June 27.

2. Minutes of June 27: a first step towards a coalition of local authorities for the deployment of automated road transport services

a. State-of-the-art prior to June 27

From PAVE Europe's white paper published in June 2025 and from a first state-of-the-art among European cities already involved on the topic, the main area dealt with is the question of the integration of autonomous vehicles into the public transportation system to enhance current services.

European cities are facing challenges when it comes to their mobility system:

- Efficient services in urban area and sparse services in suburban to rural areas,
- Driver shortage issue forcing to prioritize services and lines according to dense areas or forcing to lower the frequency,
- High costs of on-demand services where there is to date a rationale to develop complementary services,
- Lack of competitiveness compared to conventional individual solutions.

To summarize the latter items and taking into the survey realized among European cities and PTAs (see attached in annex), the existing public transportation is not reflecting the needs of all citizens of a specific territory, regardless of its size and shape. The complexity of a mobility pool (be it a city, be it a region, be it a group of cities) makes it difficult to create homogeneity in a heterogeneous space.

It is worth mentioning that the majority of audited cities recognizes the lack of public transport in their territory, and almost half of them thinks automated road transport services might be useful to enhance mobility. Among the main use cases that would fit territory's needs:

- On-demand transport (or demand-responsive transport)

On-demand transport is a way to re-think the transportation network in its inner characteristics: extend coverage, provide flexibility to less dense areas according to the demand size and daytime, more accessible (to specific needs). The route can be fixed or extended to a zone depending on the final aim (last-mile transport, connection to mass transit).

On-demand transport is also a leading use case when it comes to the consideration of a larger ecosystem of stakeholders, especially integrators and new mobility solutions providers. Organizing on-demand transport leads to deal with the systemic approach in its integration phase (between platforms, automated driving systems, fleet management and vehicle availability, service and operation).

- Hub-to-hub services and bus lines to complement the existing network

The creation or the modification of a bus line is often thought as an improvement of the existing network, provided that automated vehicles are capable of bringing more efficiency, more reliable while reducing the total costs of operation.

- New solutions for freight and last-mile delivery, possibly organized in conjunction with passenger transport to take advantage of off-peak hours
- Communal services and maintenance operations in depots

When it comes to the business model and the way to create sustainable services, automation has the opportunity to bring two earnings:

- Costs savings, which consist in estimating cost drivers and potential operational cost reduction (replacing drivers by remote operators providing that technology is mature enough)
- Revenue increases, which consist in building a new mobility-friendly environment leading to attract more user on a sustainable basis.

It is worth mentioning that the use case will lead the business model, which will also lead the vision and deployment roadmap.

As a consequence, cities and local authorities consider that there is a lack of global and strategic vision for the development of automated services in their territory. They are pushing for political awareness on the importance of accompanying the mobility transition in improving public transportation solutions. In particular, it goes beyond subsidized transport but searching for new instruments to create market incentives for the players.

While having a high-level ambition of integrating autonomous vehicles in the transportation network is a key element to its deployment in European territories, some questions are raised:

- How to make public transport an attractive market for autonomous vehicles?
- How to build an appropriate and friendly environment to foster the development of cities vision to a European common roadmap: in terms of legal and regulatory environment, in terms of governance and coordination, in terms of financial support?
- What kinds of tools are of interest for local authorities and cities to build their use case approach when it comes to the business model?
- How to balance the risk that ties in the demand size and move from a local perspective to an aggregated demand?
- How to manage safety standards and acceptance criteriae both at a local level and European level to support the move towards actual deployments?

A guideline in moving forward will be to think about the unique right line where Europe can make a difference, which is the integration of autonomous vehicles in the public transport.

b. Minutes of June 27

The event organized June 27 in Paris gathered more than 150 experts from all over Europe to discuss large-scale deployment of automated road transport services throughout Europe.

At first, thirteen European cities and territories shared their state-of-play and vision of the deployment.

Then and after technology providers showcased the state-of-play of technological maturity already commercialized outside Europe, an implementation perspective was given by new transport providers and operators, who elaborated on challenges faced when it comes to automated services' operations.

Main output: European perspective of automated shared and public mobility

Technology was first presented as providing capabilities to move people in a more efficient and integrated way. Among the benefits of automated mobility in public transport were presented the ability to expand coverage, address labor shortages, enhance accessibility, support sustainable urban mobility goals and drive new business and service models. To better assess automated vehicles in public transport, the focus needs to be put on the service while technology is now mature to scale-up on the number of vehicles on the road.

Automated mobility through automated vehicles was then presented as a key enabler to foster shared mobility. The starting point was given from the report that people were not willing to share vehicles with people they don't know. The main reason for that is the lack of understanding of shared mobility, directly correlated with the "unknown" anxiety without any on-board authority, which does not exist when it comes to shared mobility in the public transport. Step-by-step alternatives with new products may help to increase understanding of shared spaces to let new shared mobility solutions appear.

Lessons learned from the US brought the challenge of fully integrating automated vehicles into the public transit, especially when it comes to incentives to encourage users' modal shift. Now that technology enables large-scale deployment of automated vehicles on the road, cities will have to think about how to integrate it into their public transport system to meet their urban planning goals. Cities will have to find a balance between user convenience versus transportation system efficiency. Europe has the opportunity to think about the way to integrate automated vehicles on the road before technology is deployed.

Large-scale deployment of automated vehicles on the road will need strong partnership between industry and cities – as well as clear goals supported by a vision.

Vision of cities

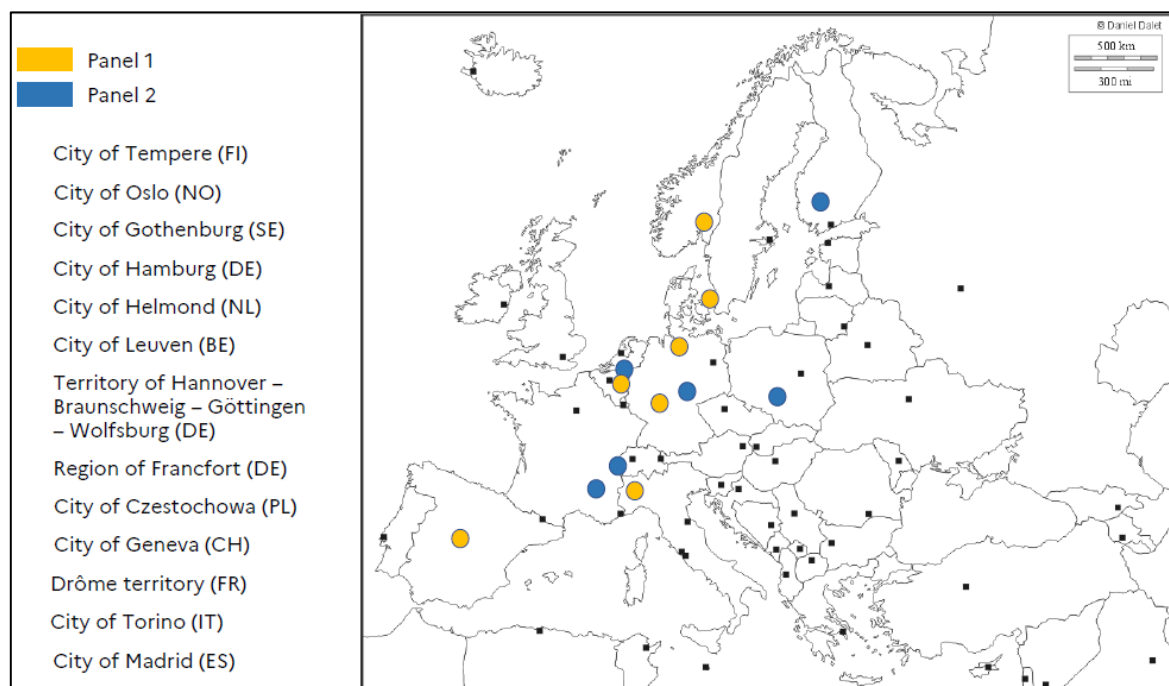


Figure: European cities and territories which shared their vision and roadmap for the deployment of automated vehicles on the road

The map above shows the thirteen European cities and territories included in the two panels which shared their vision for the deployment of automated road mobility given their experience as well as opportunities and challenges faced in their territory. The two panels are representative of big cities to medium sized cities, unified regions to fragmented rural territories.

Cities and territories' representatives were asked to share their vision towards the deployment of automated vehicles and their roadmap following a use case approach. While sharing their perspective, some of the opportunities and challenges were touched upon.

Among the use cases of interest from a city or public transport authority perspective:

- Strengthening public transport with flexible on-demand services
 - Taxi-services with individual vehicles (ride-hailing)
 - Shared mobility with vans (ride-pooling)
 - In-between individual and public transport with shuttles (10+ passengers)
- New automated bus models with higher capacity vehicles (automated buses up to 70 passengers) to complement the existing transit network and create an interconnected global system
- Closed-sites (harbors, airports, commercial centers) with a large variety of vehicle types from small shuttles to large buses
- New (municipal) services including automated waste collection, cleaning, charging processes in depots (specific vehicle types)

The panel discussions raised out the need to foster a comprehensive approach towards an integrated system starting from the use case.

The vehicle is just one ingredient of a recipe built of at least a four-ingredient recipe: a vehicle platform, self-driving system, operational basis, environment and path for large-scale deployment.

Panel discussions focused on three major items showing both opportunities and challenges:

- Strategic ambitions
 - Need for political support to integrate automation in the global city strategy and more widely into a European sustainable vision
 - Find the way to better address mobility needs while pursuing societal goals: shift in the transportation system (more accessible, more inclusive, more efficient, safer and more sustainable mobility)
 - Begin a societal dialogue with the general public to create trust and build acceptance
- Regulatory boundaries
 - Lack of national and local frameworks for procurement or licensing of automated services that belongs to Member States on one hand
 - Need for clear roles for PTAs and PTOs, meaning cooperation between stakeholders of the whole value chain, from local authorities to type-approval authorities
 - Need to give forces to move on type-approval procedures for automated vehicles in Europe, starting point of any large-scale deployment
- Financial burdens and business models
 - Need large amount of public funding to prove the case for commercial and actual services

- Need for joint procurement initiatives to launch a European market
- Need public-private partnerships for data sharing, mobility services and maintenance in order to build a transparent and reliable ecosystem every citizen can trust
- Search for economic business models will showcase the best investments depending on the need for operational cost reduction or increase in revenue
- Technical maturity
 - Integrate L4 technology in a global interconnected system (connectivity, intelligent infrastructure) not only based on vehicles
 - Invest in the service pillar meaning the operation of automated vehicles for the purpose of transport services to the users (remote operations) to showcase the added-value Europe can bring
 - Improve mutual knowledge of vehicle type-approval procedures and processes when it comes to fully automated systems

The main challenge raised in the panel discussions was the urge to move from testing and exemption regimes to actual deployments. Testing has shown its limits when it comes to a mature technology and the need to showcase operational services (e.g. commercial service, moving children, no on-board operator). In the past years, Europe and Member States have spent millions of euros for testing with only limited added-value for deployment.

Moreover, and while public funding is pending all over Europe, investments have to be prioritized to benefit actual deployments meaning that concrete spin-offs are expected. The type-approval hurdle was mentioned several times in the sense that if Europe wants large-scale deployments, she'll need type-approved vehicles.

Implementation perspectives

- ***From service providers***

Service providers are pushing for an integrated approach of the mobility system putting the user in the forefront of the approach instead of the vehicle or any of the transport means, which has to be considered only at a later stage of the designing phase.

The status quo is to offer a mobility solution to everyone whereas the public mass transit system offers a mobility solution to everybody. Shared on-demand mobility is then central to align with larger European goals for a sustainable mobility system. The better the mobility system, the more users it attracts, reducing the numbers of vehicles on the road.

When it comes to the ability to provide everyone with a mobility solution, it belongs to the ambition to match the existing public transportation services with remaining user unsolved needs: mobility as a service becomes mobility as a network. Flexible mobility solutions are bridging the gaps of the existing transportation systems.

- ***From operators***

Nine transport operators were represented on June 27 and shared their experience and views on opportunities and challenges for the deployment of automated road mobility.

The following table shows barriers and opportunities as well as success factors discussed in the session.

	Positive	Negative
Internal	Technical: - Significant improvement of system performance and safety - Possibility to develop new (hybrid) services to reinforce the public transport attractiveness Financial: - Reduce total costs of operation	Financial: - High initial costs, lack of funding for the development / preparatory phase, and lack of existing business model Technical: - Limited L4-redundant maturity and ODDs - Lack of infrastructure readiness Ecosystem: - Lack of stakeholder's awareness - Need for better cooperation
External	Sector transformation: - Change in job opportunities, new training and processes - New fields (remote operations) Financial: - Cost optimization coming with large scale and shared resources Benefit to society: - To users with customized service to the user needs, accessibility, ... - To the existing transport network with new alternatives, modal shift	Regulation: - Lack of harmonized (and implemented) frameworks - Testing regimes provides limited opportunities and does not provide scalability Financial: - Lack of public investments - Lack of private investment as long as the business cases are not clear

The panel discussion showcased market opportunities when it comes to the use case and associated vehicle types. In particular, two market segments were highlighted with different dynamics depending on investments, technology maturity and ability to scale: autonomous mobility services integrated within public transport networks and robotaxi services targeting the ride-hailing market. Success factors identification will leverage public authorities' ability to accelerate large scale deployments of automated mobility.

The panel discussion highlighted one of the strengths of the European framework to vehicle type-approval, articulated with national to local frameworks.

The vehicle type-approval regulation is based on a theoretical and scenario-based testing, compliance with defined performance metrics and general operating conditions while the national level is based on the matching between the vehicle ODD and local road deployment. The analysis of the local route encompasses the operation of automated vehicles is safe in open, dynamic and specific environments, continuous assessment of real-world traffic performance, continuous local traffic risk assessment, adapted standard operating procedures.

While the first part is based on the competency of technical service and type-approval authorities, the second part relies on the competency of certified parties or operators. In that perspective, empowering stakeholders for European type-approval is once more a key enabler of large-scale deployment throughout Europe. Operators are pushing for "blueprints" for the type-approval process, making it more flexible and progressive.

Operators are pushing to deploy the technology in real services, not for time-limited experiments. While technology already exists, demonstrating its safety to provide safe and efficient services is a goal. The business model will take shape as fleets of operated vehicles in services will grow, without safety drivers.

Annex: Deployment as the cornerstone of today's effort: selected extracts

June 27 featured the need to move to actual deployment of the technology and automated services rather pursuing efforts in testing non mature technologies on the road.

This short annex shows selected extracts from June 27 taken from both presentations and discussions involving the audience. To preserve the anonymity of quotes, words have been mainly reformulated and referred to the session panel.

From city and territories:

- Difficult to move from the testing phase because mature, meaning type-approved technology is missing
- Financial and economic barriers to deploy actual services tie in the testing phase itself: how to call for tenders if there is no vehicle on the market?
- Should be clear on what we mean: we are mixing scaling up and scaled deployment
- Seek for L4 mature technology to be deployed on the road

From technology providers:

- Regulation (EU) 2022/1426 is the result of a great amount of work involving Member States as well as the industry
- Europe should implement a strategy to facilitate the development and commercial deployment of automated vehicle technology, leveraging the competitive strengths of the single market
- Remove the small series limitation for deployment and market uptake
- Look for the approval process, the final line for vehicle approval, and see how to get an approval
- Reach vehicle type-approval through a multi-stage approach to jump in the deployment process and large-scale operations
- An incremental process, possible with pre-series vehicles, will help reach the gap between existing and limited testing regimes and large-scale demonstration

From implementation perspective:

- Affirmed goal to complete the full EU ADS type-approval by the end of 2026
- Europe has been the place of scattered testing and pilots with non-mature technology for the last past years, need to launch operations in cities but for real services
- Testing and pilots means that there is uncertainty about the future of that non-mature technology, rather invest on type-approval procedures, be it on small and limited ODDs, be it with limited capabilities
- Expanding testing approvals among Member States is not the right direction, rather invest in homologation procedures and standards to ensure technology will enter the market at the end

From operators:

- Foster development and deployment of L4 technology in real and integrated services with more mature technology: for now, only very low level of technology involving at the end small fleets and safety drivers

- Europe has known too scattered projects and testing, echoing previous debates: we don't need pilots but services and we need vehicles
- Build the first step at the vehicle level to move forward: type-approval of automated vehicles is an enabler to demonstrate safety and build trust
- Miss type-approved vehicles: create blueprints for the approval process
- Make the approval process more flexible and progressive through partial approvals for example

Selected extracts towards deployment taken from Maria-Cristina Galassi, Team leader on automated connected vehicles and safety regulation at the European commission (DG GROW):

- On-going work on vehicle regulation to allow unlimited series of fully automated vehicles by 2026 – updating the whole type-approval framework
- Aim to facilitate the access to a single market to foster Europe's competitiveness
- Avoid fragmented approaches through harmonized guidelines for large-scale rollouts

Selected extracts towards deployment taken from Member of European Parliament Pierfrancesco Maran:

- Change the attention to better consider that automated vehicles will play a role in the mobility transition
- Need to change the way testing is realized, not only software-based testing – but services
- The level of technology needed depends on the use case: lower for public transportation use cases
- A coalition is needed if Europe wants to compete and deploy services
- Message to Ms Commission to have a plan for the next six months to foster a deployment perspective for automate road services

Selected extracts towards deployment taken from Madame Anne-Marie Idrac, former minister and high-level representative for the national strategy of automated road mobility in France:

- The goal is to go from testing and pilots to deployments in order to scale up
- Deploy to move from use cases to business cases
- Homologation procedures remain an issue for the deployment
- Message to Ms Commission to focus to deployment
- Message to Ms commission to implement the EU regulation through a step-by-step approach