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CITIES AND REGIONS FOR TRANSPORT INNOVATION

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#POLIS2022

Testing an autonomous shuttle at the Port of Barcelona

How AVs can contribute to a safer, more sustainable and flexible transport environment for port workers

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pendel

Transporting the future.

As a **one-stop shop**, Pendel provides an **all-inclusive** and **continuous** service for **autonomous transport**.



All-inclusive service

From preparation, setup, to operation



Tech and service partners

Reliable, leading industrial position



Proven track record

Delivering 4+ projects by 2023



Our deployments in 2022



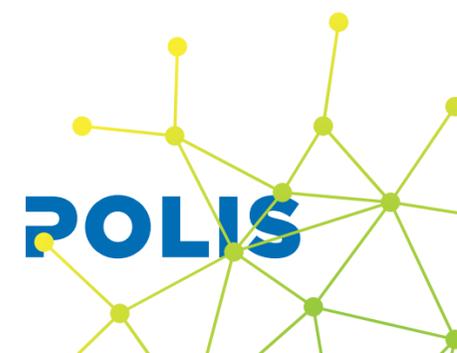
Port of Barcelona, Spain

Last mile from a parking lot to the World Trade Center



Hannover Region, Germany

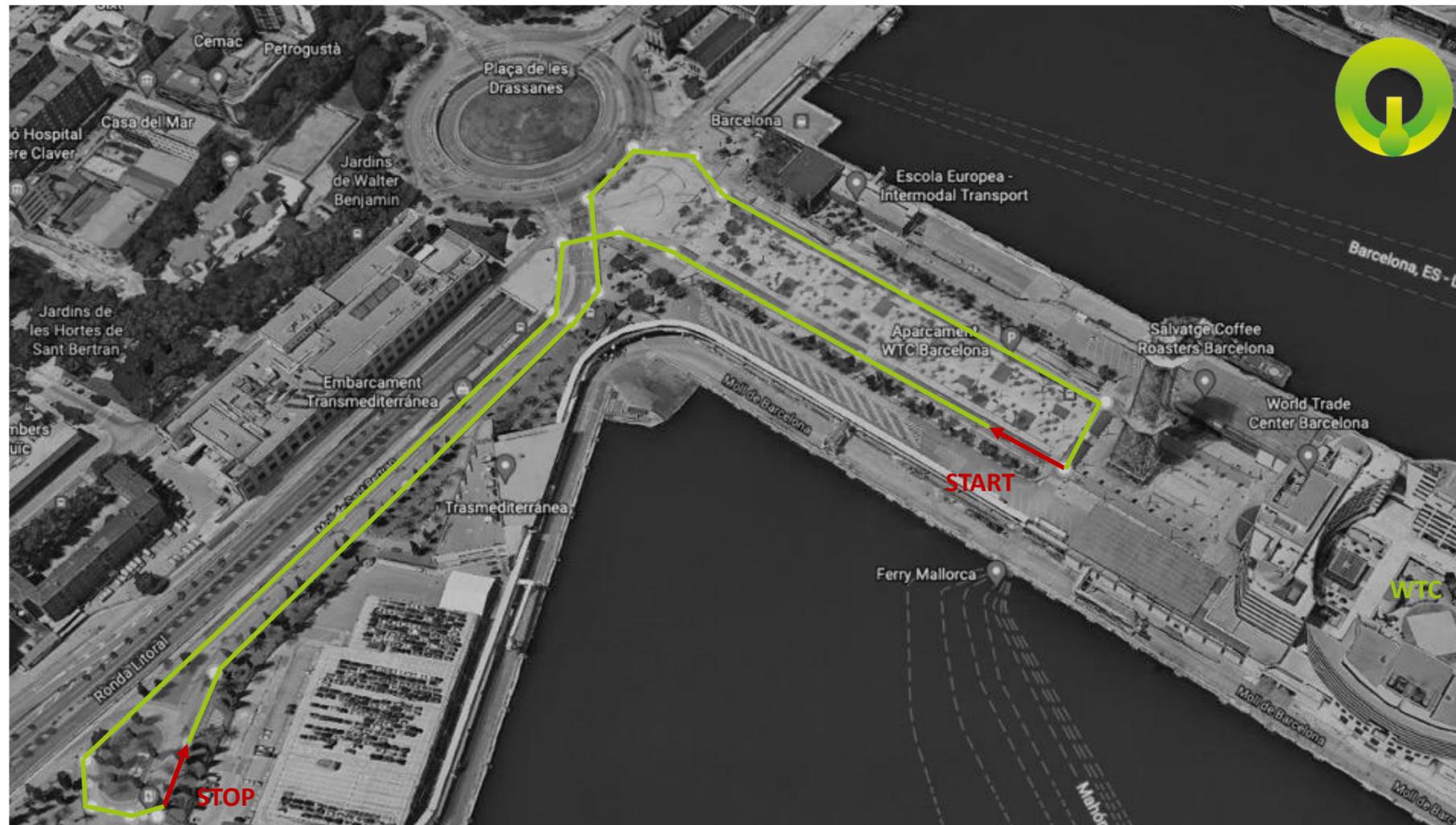
Last mile from a tramway station to a university campus, temporarily substituting a conventional large bus





The pilot project at the Port of Barcelona

Deploy an autonomous shuttle in real-life conditions and understand the main regulatory and operational steps needed.



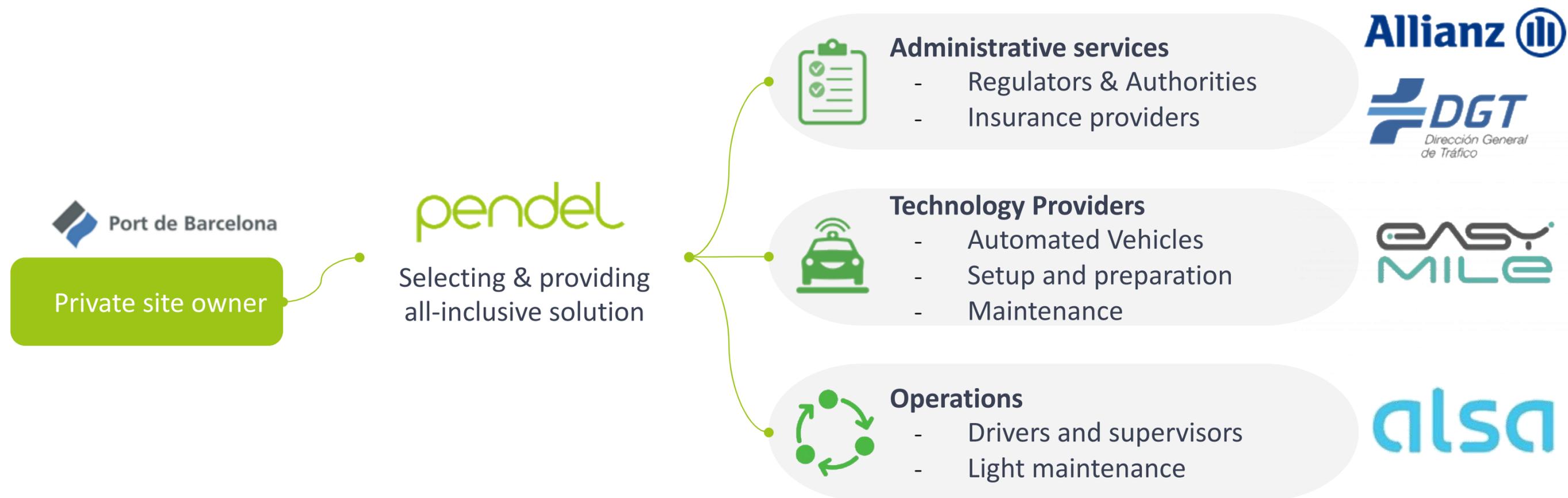
Operation during June 2022

1.5 km roundtrip

Public road (very busy)



Stakeholders involved in preparing and operating





Our main learnings from this pilot for the future of AV



1. Overall, the technology works

Trip time regularity

Standard deviation time of 1.09 minute calculated out of 375 trips. Main reason for delay was due to emergency stops and its “recovery time”.

No accidents

The pilot maintained its transportation service during one month without any accidents.

Users felt safe Users had a positive perception of preventive emergency stops, but felt that the suddenness of stops presented a hazard when standing up.







2. Not everything that shines is gold

Interruptions due to 'reckless drivers'

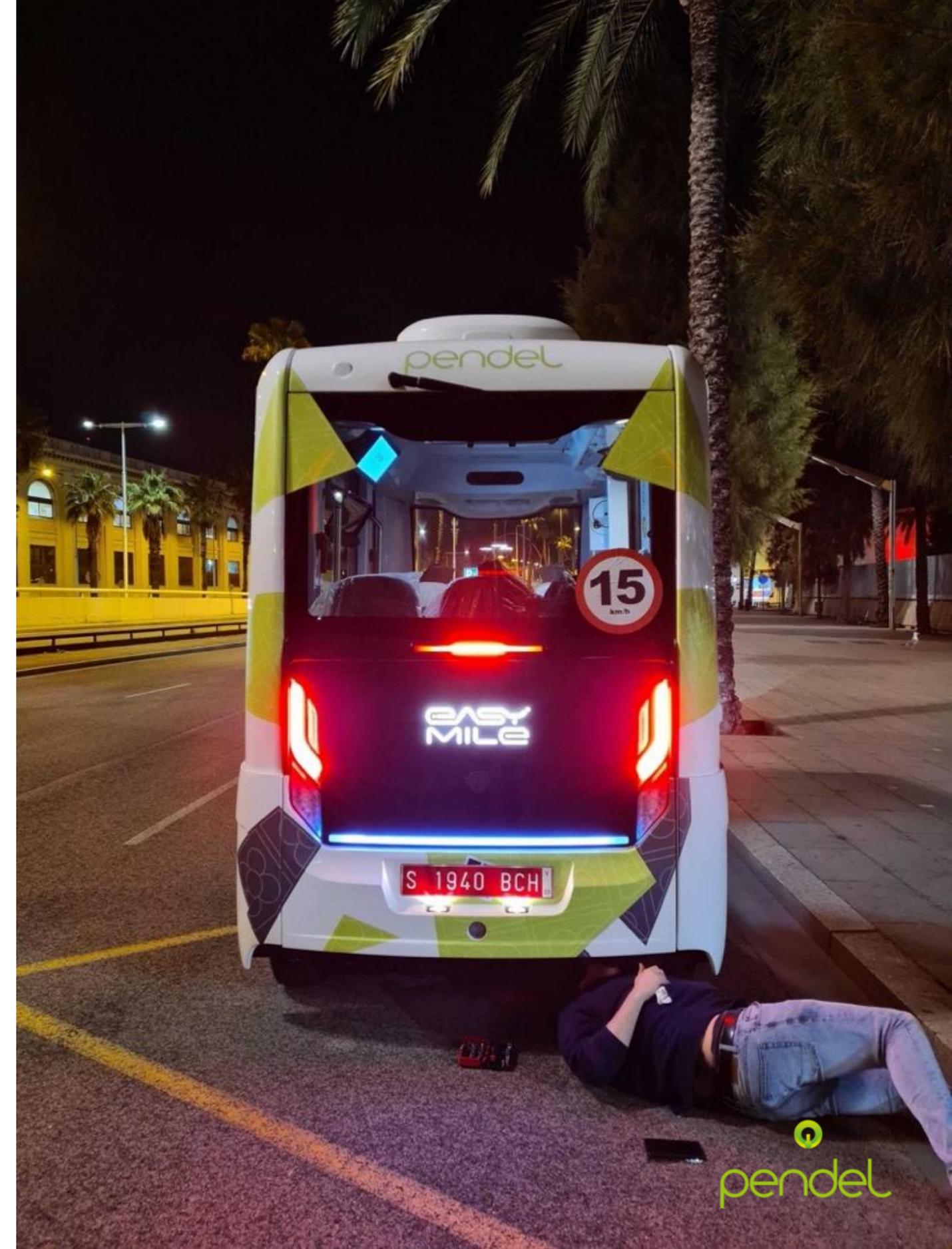
Over 379 trips, 76 emergency stops were recorded.
Mainly due to reckless driving behaviour of other road users.

Route flexibility is needed

The vehicle should be able to incorporate several routes simultaneously.

Higher speed would convince more people

The shuttle took twice as long as a conventional vehicle to complete the route (15km/h).



3. Public acceptance needs to be considered

Barcelona Secreta 26 mai · 🌐

El futuro ya está aquí: los coches autónomos llegan a la ciudad 🚗

Voir la traduction

BARCELONASECRETA.COM

El primer vehículo sin conductores empieza a circular por BCN

El 30 de mayo el Puerto de Barcelona estrenará el primer vehículo autónomo y sin conduct...

698 235 commentaires 211 partages

Comment 1: Me da menos miedo un vehículo autónomo que muchos conductores de bus y taxi, ahí lo dejo!
J'aime Répondre Voir la traduction 15 sem Modifié 23
↳ 10 réponses

Comment 2: Entendéis porque necesitan reducir población . Todo será máquinas , irás a comprar y adiós cajeras, camareras, todo te lo harás tú o un robot . Ya hay muchos países que tienen robot como camarero . Somos desechos para esta gentuza . Millones de trabajos caerán .
J'aime Répondre Voir la traduction 15 sem Modifié 34
↳ 6 réponses

Comment 3: Venga, todo automatizado, sigamos quitando puestos de trabajo, de perlas para los empresarios
J'aime Répondre Voir la traduction 15 sem 35
↳ 5 réponses

Comment 4: Agenda 2030. Reducción de la población e inteligencia artificial a tope. Además para que el cacharro este circule antenas 5g en cada esquina ...vamos una maravilla
J'aime Répondre Voir la traduction 15 sem 6
↳ 10 réponses

Comment 5: ESE FUTURO DISTOPICO QUE NOS VIENE PISANDO LOS PIES !!
J'aime Répondre Voir la traduction 15 sem 2



Our recommendations

Choose your use case and route carefully

Where can autonomous vehicles be efficient already today and provide a real-added value, moving from demonstrations to transportation services.

Anticipate the performance of the vehicle

At the moment, we see many experiments taking shape as "additional route for experiments", which have a lower consequence on the user journey in case the service is not working properly.

Use your pilots to engage with citizens

Public perception on autonomous vehicles remain controversial. It is crucial to showcase the foreseen benefits (safety, expansion of public transport, driver shortage of AVs...etc.) and engage with different civil stakeholders.





Main question to keep in mind for transport operators for the next years



Roadmapping

Don't let the technology drive off without you

Finding the right balance between the mobility need, the technology performance and its related service cost to define optimal use cases.



Get started and pilot

How to organise multi-service level agreements ?

Defining the future role of transport operators and the new stakeholders involved in complex public-private collaborations

Our plans for the future: Fleet of 4 Shuttles, driverless (!), on-demand Moving cruise ship passengers to the city





RIDE2AUTONOMY



Integrating autonomous shuttles into public transport in ten European cities

OBJECTIVES

- Accelerating the uptake of automated shuttles for passengers
- Ensuring replication by other cities
- Evaluating socio-economic and environmental impacts and user acceptance
- Validating transport emissions reduction



Total project budget :

€1 million

This project has received funding from the European Union's Directorate-General for Communications Networks, Content and Technology, 2020 Work Programme under grant agreement No. LC - 01632937

Web page : <http://summalab.nl/r2a/>

Project Coordination : Rupprecht Consult

Communication Management : POLIS Network

Technical Coordination : LuxMobility



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Interested to know more ?

Read our last insight guide or get in touch with us

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