



OPEN SELECTED INITIATIVES
by Keolis **INNOVATING FOR**
MOBILITY



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EDITORIAL

As innovation pioneers, we understand that the future of mobility is shaped by working hand-in-hand with the people who live in and contribute to our communities every day.

In a world that is evolving faster than ever, Keolis constantly leverages the latest technological breakthroughs – including artificial intelligence, electric mobility, etc. – to blaze new trails. We place innovation at the heart of our solutions to current societal and environmental challenges as we work towards a more sustainable society and a just ecological transition that benefits the most vulnerable among us.

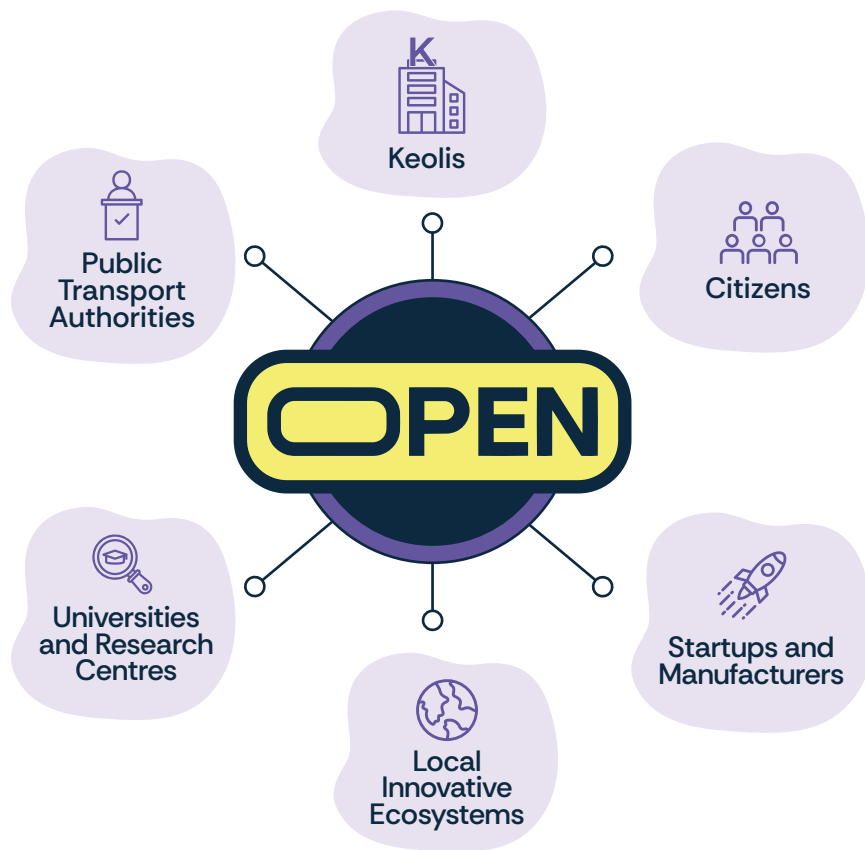
Our vision for mobility is resolutely inclusive, focusing on our passengers as much as our employees' well-being. At Keolis, we innovate for and, more importantly, with our passengers and employees, embracing an open and participatory approach.

Rooted in the communities we serve, our innovation is what sets our Open Labs apart: they structure innovation, keep it local, while remaining open to the world. Our goal with this approach is to fast-track innovation in all the cities and regions we serve, and in that way give rise to the breakthroughs that will shape the future of mobility.

OPEN by Keolis

INNOVATING FOR MOBILITY

We are convinced that the future of mobility can only be built alongside the people who live and work in our communities. That's why the Keolis Group works in close collaboration with public transport authorities, residents and local stakeholders to reimagine travel and enhance mobility experiences. We excel at engaging our employees and partnering with communities to envision, test and implement lasting innovations.



SWITCH TO LAB MODE!


Every city and region can become a full-scale innovation lab, where residents, authorities and local stakeholders come together to shape the future of mobility. While each lab is unique, they all share their insights and outcomes with each other and with the Group Lab to foster collective progress.

6 
ACTIVE LABS

200+ 
PARTNERS

130+ 
INNOVATIONS
ROLLED OUT A YEAR


180+
INNOLEADERS

50+ 
INNOVATION-RELATED
EVENTS A YEAR

ARTIFICIAL INTELLIGENCE

Generative AI is revolutionising habits as much as it is revolutionising technology. The Keolis Group already uses AI extensively in its operations, to optimise maintenance and forecast passenger numbers, for instance.

Now the technology is creating new opportunities to enhance the passenger experience, for example by providing directions, tailoring services, facilitating customer relations and improving accessibility. It is also paving the way for testing new, innovative tools to support employees in their daily tasks.



DEPLOYED

PASSENGER INFORMATION

KEINFO: generative AI keeps passengers informed

— Promptly informing passengers of any service disruptions reduces stress and inconvenience. Providing timely and accurate information, in other words, helps to reassure passengers. To do this, Keolis Nederland developed a tool that uses generative AI to draft messages and broadcast them through their various channels. This AI system has shortened the time it takes to process and send messages to passengers from 20 minutes to 5.

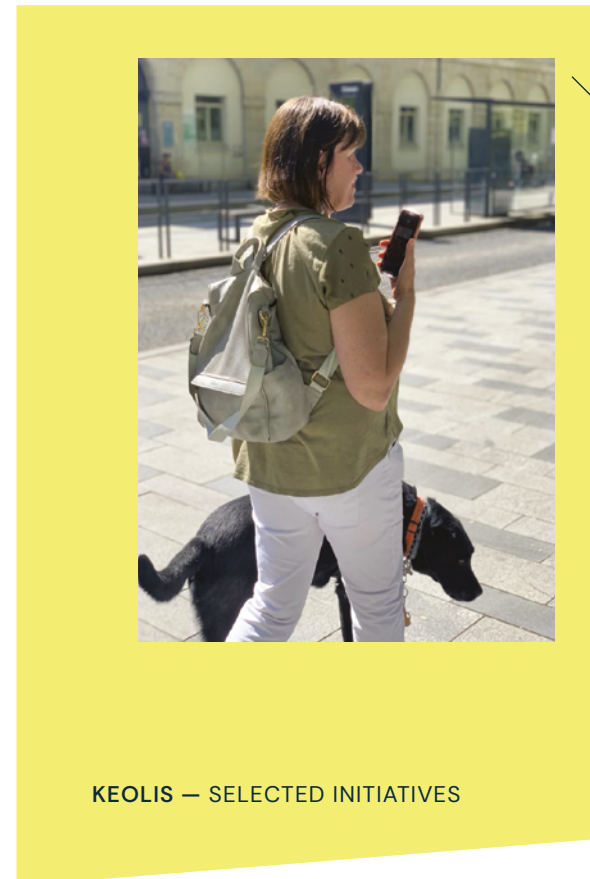


TRIAL

PREDICTIVE MODELS

IMove: AI forecasts ridership

— In Australia, the Victoria Department of Transport, Keolis Downer and the University of Melbourne joined forces to develop IMove, a tool to predict onboard crowding on trams in the country's second-largest city. IMove uses AI to simultaneously analyse data collected by ticket-validation machines and passenger-counting cameras, along with external variables that affect ridership (the weather, day of the week, events, etc.). This innovation helps anticipate peaks and troughs in passenger numbers (including within the free transit zone) and allows for operational adjustments.



DEPLOYED

ACCESSIBILITY

Ezymob: AI simplifies access to transport for visually impaired people

— To fulfil the Group's pledge to make public transport accessible to all, Keolis Besançon Mobilités, Grand Besançon Métropole and local associations working with the visually impaired rolled out Ezymob across the city's tram, bus and coach network. This digital assistant uses AI to guide passengers in real time with audible prompts and/or large fonts. It also spots doors and empty seats, provides audible directions in busy hubs and counts down the stops to the passenger's destination.

PASSENGERS

Improving the passenger experience is central to our innovation strategy, which aims to facilitate the shift from solo driving to a combination of shared transport, walking and cycling. And we place passengers – in all their diversity – at the centre of our innovation approach to offer them an inclusive, multimodal experience.



DEPLOYED
NUDGES

The nudge to encourage multimodality

— Incentives do more to change people's behaviour than hard restrictions. This is the principle behind the "nudges" that Dijon Métropole and Keolis are using in the system they designed and launched to inform passengers and encourage multimodality. The new signage combines coloured arrows and icons at bus and tram stops as well as on pavements and certain walls. These nudges naturally point users to the means of transport that best suits their needs (tram, bus, walking, etc.) and are optimising modal shifts to regulate ridership at the Place de la République tram stop, which is often crowded.

TRIAL

COMFORT ON BOARD

Real-time metro ridership updates

— Spreading passengers more evenly around tram and metro cars does a lot to improve the overall travel experience: it reduces crowding, so passengers are more comfortable during their trip and can get on and off more easily. In Lyon, Keolis and SYTRAL Mobilités partnered with the company Affluences to trial smart cameras that measure occupancy in each metro car and send the information to the next station. The system at the station then displays green, amber or red lights to tell passengers how full each car is, so they can head towards the emptiest ones before the train pulls in.

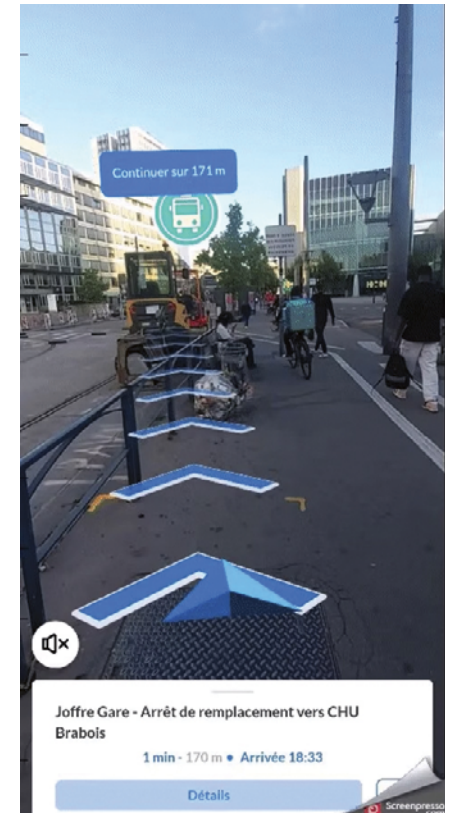


DEPLOYED

ACCESSIBILITY

Smart itineraries for people with reduced mobility

— To make cities more inclusive, in particular for people with reduced mobility, Rennes Métropole, Keolis Rennes and Someware, a startup, teamed up to develop and deploy Handimap. The system streamlines journeys to provide a more convenient experience for passengers with disabilities, parents with pushchairs and other people with limited mobility. The Rennes Métropole network application suggests itineraries based on accurate mapping, factoring in the various options (walking, public transport, etc.), the condition of the roads (e.g. whether they are paved or not), any unevenness (steps, sidewalks, etc.) and obstacles (construction sites, etc.). The system uses Rennes Métropole's open data source.



DEPLOYED

TEMPORARY SIGNAGE

Guiding users with augmented reality

— During the works to replace the tram line in Nancy, Keolis provided a temporary bus service along a parallel line. Besides the usual signs and markings to direct passengers to the temporary stops, Keolis Nancy set up Wemap, a guidance system using augmented reality and geolocation technology. Passengers simply scan a QR code – no need to download a new app – and follow the directions that display on their screen. This innovation was developed alongside local passengers to ensure the solution closely matched their needs.

DRIVERS

At Keolis, we believe that caring for our drivers is as essential as caring for our passengers. For two main reasons: the quality of their life at work and the quality of the service we provide. We do this in three ways: listen to and understand the needs of our drivers to provide HR and managers with better tools; take our drivers' individual needs into consideration; and provide drivers with tools to improve autonomy and help them manage their daily activities.



> FIND OUT MORE : [INNOVATION.KEOLIS.COM](https://www.innovation.keolis.com)

EXPLORED BEHAVIOURAL AND COGNITIVE STUDY

What goes on in a driver's mind?

— Our Innovation Department conducted a study on the mental strain that drivers endure, and the behavioural and cognitive skills they need to thrive in their job, to gain a deeper understanding of their experience in a bus, coach or tram's driving seat.

The study, which we ran in France and Australia, shed light on the key factors at play in the driver experience. It also pinpointed the types of experiences drivers look for. This in turn led to vital insights and recommendations for HR managers (to help them fine-tune recruitment, onboarding, training, etc.) and Operations managers (to help them understand requirements relating to support, training, etc.).

One key concept that emerged was "mental ecology" where the goal is to strengthen driver skills and experience on the job to optimise their well-being, while watching out for their mental health, and addressing presenteeism and general safety overall.

The next step is to extend this study to professionals providing on-demand transport solutions and transport services for people with reduced mobility.



TRIAL CUSTOM SCHEDULES

Kustomize-ing schedules

— While accommodating employees' individual needs helps to nurture loyalty, the legacy scheduling system, based on standard weeks and shiftwork, had little room for flexibility. To provide it, DiviaMobilités, Keolis's subsidiary in Dijon, is trialling a new digital solution called Kustomize. The solution gathers each driver's preferences online (they can state whether they are more or less available in the morning, afternoon or evening, etc.) then it cross-references those preferences with the network's staffing requirements and labour-law considerations, enabling an algorithm to generate a bespoke schedule for each driver.



TRIAL MANAGER RELATIONS

An app to reinforce the manager-driver relationship in Nantes

— It can be hard for managers to stay in touch with drivers, who spend most of their working day on the road. Good relationships between managers and drivers, however, are essential to foster loyalty. To bridge that gap, Keolis in Nantes developed Into The Mood, an app it is now trialling. In addition to the other digital tools they already use (to manage schedules, services, shift swaps, etc.), drivers can use the app on their work phone to answer very brief questions about their current state of mind and report any trouble they are having. Managers receive messages instantly and drivers can track the response to their requests on the app.

ECOLOGICAL TRANSITION

Questioning today's mobility and reinventing the mobility of tomorrow involves pushing boundaries and changing habits in ways that will help protect our planet. The Keolis Group is harnessing innovation across the board – technological, societal, behavioural and environmental – to build appealing, sustainable mobility and thereby advance the energy transition and the ecological transition as a whole.

DEPLOYED
ENERGY MIX

An all-electric fleet at Keolis Alpes-Maritimes

— It's a first for France! The 19 bus and coach lines that Keolis operates in the Alpes-Maritimes department are now fully electric. The overhaul took a substantial amount of work – outfitting five depots, training drivers and maintenance crews, and setting up a new control centre to supervise the all-electric fleet. This initiative ties in with Keolis's bold targets for its direct CO₂ emissions. Besides transitioning to electric fleets in France, Keolis is operating 33 hydrogen buses on the Foothill Transit network in California.



TRIAL
SOLO DRIVING

New-generation carpooling in Rennes

— Keolis Rennes, Rennes Métropole and Ecov are simplifying carpooling to make it as convenient as public transport. The carpooling line in this city combines the best of both worlds, calling at five stops to collect passengers in four suburbs. The system uses Star't, a mobile app that connects drivers and passengers in real time so they can arrange planned or unplanned trips. The drivers receive notifications of requests on their phone or see them on the boards at the stops.



TRIAL
RESILIENCE

Hot Protection Tram : adapting to climate change

— Bordeaux Métropole and Keolis Bordeaux Métropole Mobilités are conducting several experiments to identify solutions that will enhance their public transport network's resilience. The first one carried out this summer was Hot Protection Tram, the initiative involved adding solar films to the windows on eight trams and reflective paint to air-conditioner covers on the tram roofs. The goal of these trials is to ease heat inside trams, lower energy consumption and protect air-conditioning units.



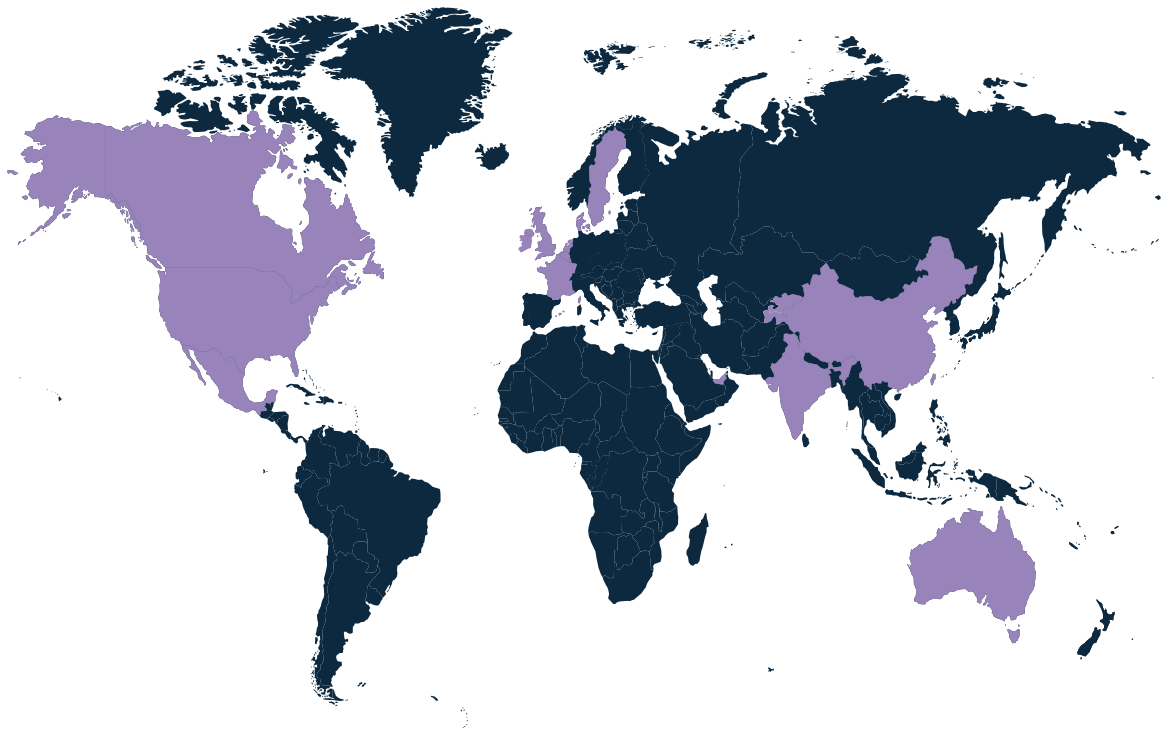
EXPLORED
SMART CITY

Patterns CO₂ monitors travel carbon footprints as they happen

— Patterns and Patterns CO₂, which were developed by Keolis subsidiary Hove, are helping public transport authorities monitor the impact of their travel-related carbon footprint and measure the improvements arising from their local planning policies.

The solution gathers GPS data from mobile phones and uses enrichment algorithms to determine the proportion of travellers using each mode of transport. It then assesses each journey's carbon footprint.

Métropole du Grand Nancy will be launching several major projects over the coming years (bus rapid transit systems with entirely decarbonised fleets, several kilometres of right-of-way lanes, new secure cycling lanes, park-and-ride facilities, etc.) and will use Patterns CO₂ to measure the modal shift dynamics and carbon emissions impacts of these initiatives.



68,000

employees around the world with a wide range of skills of skills, helping to design and deploy innovative network solutions



13

countries where innovation is in action



300

public transport authorities place their trust in us



13

means of intermodal transport operated

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