

# Automated metros: sustainable mobility for quality city life

PORTFOLIO OF EXPERTISE

RATP  
GROUP



# Operational Operational

excellence  
excellence

## — RATP GROUP IN FIGURES

3<sup>rd</sup>

largest urban transport  
operator in the world

Over 100

operations throughout  
the world

9

transport modes  
operated by the Group

26

fully automated or  
semi-automated lines  
operated globally  
by 2026

Over

71,000

employees, a quarter  
of whom work abroad

### **RATP is a pioneer in automated metro systems.**

Over the past 75 years, RATP teams and RATP Group have developed unmatched *savoir-faire* that brings together design, transformation, operation, and maintenance of these high-performance and sustainable networks. RATP innovates every day to create the services of tomorrow.

The automated metro is a development priority for RATP Group. It is the practical expression of our mission to sustainably improve the quality of city life.

Whether we are building high-performance public transport networks in a growing metropolis or transforming existing networks in a historic city centre, our infrastructure projects are designed to improve life sustainably for passengers, for residents, and for cities themselves.

# RATP Group, an expert in automated metro systems

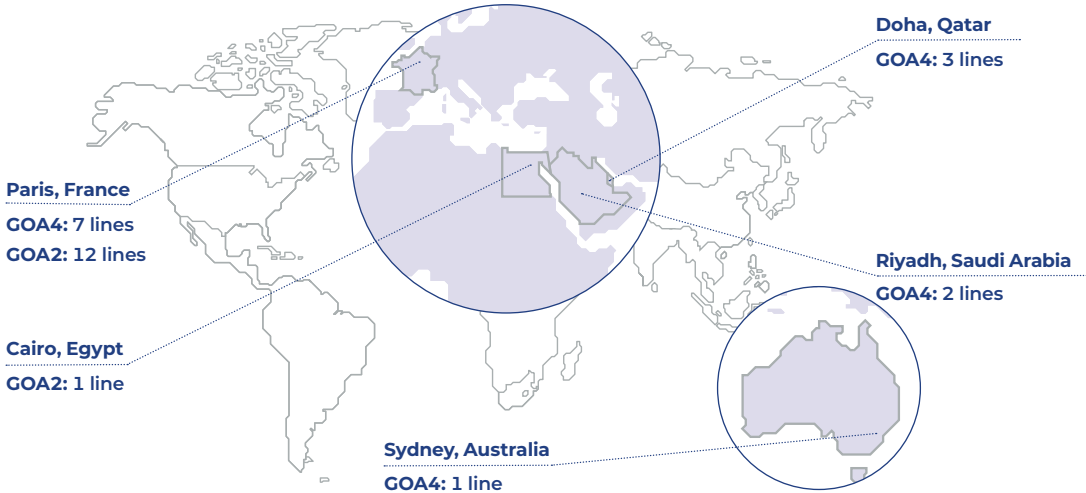
The automated metro is a robust and flexible form of transport with unrivalled performance. No wonder, then, that it is experiencing unprecedented growth. Worldwide, thirty calls for tender are currently underway and set to be launched in the next three years. They are proof that this transport mode perfectly meets the expectations of cities and their residents for a form of mobility that is sustainable, consumes less energy, has greater capacity, and offers a high level of service.

**75 years**  
of experience.

**Over 480 km**  
of fully automated or  
semi-automated metro lines  
to be operated by RATP Group  
around the world by 2026.



## RATP Group: a leading player



RATP Dev advises the city of Belgrade on the operation of its future automated metro system.

## A pioneer in automation

- 1952**  
RATP tests automated operation of metro lines.
- 1979**  
90% of the Paris metro network is operated by an automated driving system with staff on board.
- 1998**  
Metro line 14 starts service. It is a world premiere: a high-capacity and fully automated line with no staff on board.
- 2012**  
Full automation of line 1, the oldest and busiest line on the Paris metro, with no major disruption to traffic.
- 2017**  
RER line A becomes the first high-capacity railway line equipped with automated control on its central Parisian section.
- 2023**  
Metro line 4, the second busiest line on the Paris network, becomes fully automated with no on-board staff.
- 2024**  
Global first: with the extension of metro line 14, the automated driving system has been replaced without any major traffic disruption.

## A primer in automation

There are four grades of automation.

| GOA1*                                                                                              | GOA2*                                                                                                                                                                                                            | GOA3*                                                                                                                                               | GOA4*                                                                                                     |
|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|                                                                                                    |                                                                                                                                                                                                                  |                                                                                                                                                     |                                                                                                           |
| <b>Controlled manual operation</b><br>The driver manages the various aspects of driving the train. | <b>Semi-automated train operation</b><br>The train is under automated control. The driver is responsible for opening and closing the doors, driving the train, monitoring the track, and dealing with incidents. | <b>Automated train operation with staff on board</b><br>A staff member (not a driver) on board opens and closes the doors and deals with incidents. | <b>Fully automated driving</b><br>No on-board staff. A control centre supervises all operations remotely. |

\* Grade of Automation.

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RATP Group is a trusted partner of cities and public transport authorities as they make strategic decisions to foster their development and attractiveness. With the automated metro, RATP provides tailored mobility solutions for each city according to its history and needs to transform the existing network or to invent the public transport of the future.



# Accompanying cities in their strategic choices

The automated metro is the epitome of high-capacity transport, offering speed, punctuality, efficiency, and flexibility. At the same time, it gives users access to innovative physical and digital services. The result is an unparalleled passenger experience that is acclaimed by users, such as the passengers on Paris metro line 14, for example.

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# Making mass transit a high- quality passenger experience

# Mastering the entire value chain



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RATP Group's integrated expertise is a major asset in the world of automated metro systems as it enables the Group to master the design and qualification phases while always taking account of operations and maintenance requirements. Its human and societal commitment as well as its deep roots in regions also make the difference.



**Hiba Farès,**  
Chief Executive Officer,  
RATP Dev

EXPERT VIEWPOINT

"Automated metro systems and urban rail are enjoying renewed success at a time of global challenges from population growth and climate change. RATP Group is the undisputed leader in this market thanks to decades of innovation and risk-taking. Together with our trusted partners, we are applying this know-how widely today to serve cities and their residents."

# Accompanying cities in their strategic choices

Brownfield or greenfield?\* Each city has its own story. Some need to adapt their long-standing network, while others have to create a modern public transport system from scratch.

\* Brownfield: a project on an existing network.  
Greenfield: a new project.



**Christophe Villard,**  
Director, Transport and Operation  
Systems, Société des grands projets

EXPERT VIEWPOINT

## THE AUTOMATED METRO: HELPING CITIES MEET LOW-CARBON GOALS

The automated metro has proven to be one of the best technological and ecological answers to the challenges of sustainable mobility. Agile, robust, and high capacity, it can adapt to local conditions. In the Île-de-France region, with the automation of metro lines 1 and 4, the automated metro has revived a network that was over a hundred years old, and it will enhance the existing network with the northern and southern extensions to metro line 14 and with the upcoming Grand Paris Express lines. In the Middle East, Asia, Australia, and Canada, the automated metro is supporting urban growth and helping to relieve congestion and reduce the use of private cars. It is an active player in the energy transition of cities towards a carbon-free model and is appropriate for both greenfield projects in fast-growing cities and upgrading long-standing networks.

"The 200 kilometres of Grand Paris Express lines will be fully automated to ensure better service for users and lower energy consumption for operators. Real-time monitoring improves passenger comfort through improved punctuality and more regular intervals between trains. Frequency is adapted to passenger numbers to reduce overcrowding on trains during peak hours or in the event of disruption. This amounts to a significant improvement for the two to three million daily passengers anticipated on the four new Parisian metro lines. Along with improved service quality comes the environmental benefit of a more energy-efficient metro network. With automated driving, the energy required for acceleration is stored during the braking phase, with an energy recovery of 30% compared to mechanical braking. The energy consumption of trains is also optimised by making maximum use of the profile of the line and coasting."

### -22%

30 cities around the world, including Paris, have successfully reduced their CO<sub>2</sub> emissions by 22% on average over the past ten years or more, notably by combining efficient public transport with a reduction in car traffic.

(Source: C40)

### 68%

of the global population will live in cities in 2050, compared to 55% in 2020.

(Source: IPCC report, March 2022)

## UPGRADING TO REDUCE CONSUMPTION

RATP has focused on reducing its environmental footprint since 2022. New rolling stock, financed by Île-de-France Mobilités, meets demanding specifications to reduce interior and exterior sound levels and optimise electric braking to reduce particulate emissions. Another example is metro line 14: it operates a new, more environmentally friendly maintenance site, with on-site wastewater treatment and the recycling of wash water.



## USING THE LATEST TECHNOLOGIES TO AUTOMATE EXISTING NETWORKS

Converting metro lines with drivers to automated systems without staff has considerable advantages for cities: automation improves the performance, quality of service, and safety on high-traffic lines. Overall service excellence is ensured, whether it's measured in terms of passenger information, punctuality, journey times, sound levels in stations, or response time to incidents. Metro line automation increases the speed, regularity, and robustness on a daily basis. It also means smoother traffic flows and the ability to increase or decrease the level of service in a flexible way, as all trains on the line are managed in real time from a single control centre.

RATP teams achieved a world first in 2012 with the full automation of metro line 1, which is used by 750,000 passengers daily. Work was carried out on 13,500 sites, mainly at night, with no major interruption to traffic. The automation of an existing line in a dense and physically constrained urban environment while maintaining operations is a true technical feat. In 2023, Paris metro line 4 also underwent an upgrade.

### SUBURBAN (RER) LINES, TOO

As well as pioneering the installation of fully automated metro lines (such as line 14 in Paris), RATP Group is also a leader in upgrading train instrumentation and control systems on legacy lines. The central section of the suburban RER line A has been equipped with an automated control system since 2017, a world first for Europe's busiest railway line used by over a million passengers a day. This innovation has reduced the journey times between Vincennes and La Défense by 2 minutes.



## Metro line 1

### A century old, now fully automated

The automation of Paris metro line 1, completed in 2012 with no major interruption to traffic, was a veritable technical feat. This project was rolled out on the busiest line in the network and marked a first in the transport sector. Never before had an operator migrated an operating line with drivers to an automated line on this scale. The key to our success was the Group's integrated structure. One of the secrets to our success for this complex operation was that RATP decided to carry out the commissioning of the overall operating system itself. It took charge of all the integration and qualification activities that would result in the automated commercial operation of metro line 1, ensuring continued operations at the same time as installing the automation.



**98% traffic regularity**  
after automation, compared to 79% before

## Our achievements



**Sandrine Sérouart,**  
Director, RATP's Metro line 4  
Automation Project

### EXPERT VIEWPOINT

"As it automates existing lines in cities, the Group continues to build on its unparalleled expertise, project by project. Thanks to innovative design, the new high, platform-edge doors on metro line 4 take up less floor space. New installation methods that use the experience gained with metro line 1 enabled each of the 1,062 platform-edge doors to be operational when the service resumed the morning after installation, with no disruptions to passenger service. Our permanent innovation ensures excellent service that meets the needs in dense urban areas."

## Metro line 4

### Automating without major service interruption

Now more than a hundred years old, metro line 4 notably serves the major Paris rail stations and strategic hubs such as Châtelet – Les Halles station. Automation works on the line started in 2016. The works, which also upgraded signage, infrastructure and operating systems, were completed at the end of 2023. Meanwhile, the line was extended, and stations were upgraded to receive passengers under better conditions. Platform screen doors across metro line 4 are fitted with screens displaying live information such as the waiting time for the two upcoming trains. Following the automation of metro line 1, this new project, fully financed by Île-de-France Mobilités, is being completed with no major disruption to traffic, and further advances the expertise of RATP Group teams.

**15% reduction**  
in energy consumption  
from automation



**Loïc Cordelle,**  
General Manager, CAMCO

EXPERT VIEWPOINT

"The city of Riyadh is very spread out, and everyone here uses a car. The authorities wanted a world-class public transport network to relieve congestion and reduce pollution in the capital. There are severe weather constraints here to which any system needs to adapt, including dust, sand, and temperatures above 40 °C. Cultural norms also play a major role, including very high service quality standards. For example, there is a requirement for 99.8% availability, regularity, cleanliness, and safety on our lines. One of the main aims of the project is the transfer of skills to the Saudis, so that a minimum of 45% of the maintenance works and operation can eventually be carried out by local workers."

## Greenfield project in **Riyadh**

Riyadh has chosen the automated metro to structure its future public transport network. It is coordinated with a high-grade bus network which is also connected to the local bus network. This greenfield project is one of the largest metro network projects in the world. It addresses a major environmental challenge for the Saudi capital, which suffers from chronic traffic congestion. Currently, 98% of residents use their cars to travel around. With the city's population expected to double by 2050, Riyadh must offer alternatives to meet the challenge of demographic growth.

### **2 fully automated lines**

(blue and red lines)

**63.3 km**

**40 stations**



**Bertrand Gaillard,**  
Executive Director, Projects  
and Strategy, RATP Dev

EXPERT VIEWPOINT

"Several types of cities are now showing interest in automated metro systems. These include fast-growing cities whose development has been organized around cars, and which have now reached a saturation point. This is notably the case in the Middle East, for example in Doha and Riyadh, which wanted to adopt public transport systems to promote more harmonious development. In these cities, the automated metro is the backbone on which bus and tram lines are constructed. Other mature cities which have developed over a longer period also suffer from congestion problems. Faced with the challenges of climate change and local pollution, they too want to promote the shift from cars to public transport to increase the density and coverage of their networks and provide new solutions. This is the case in Australia and Singapore, for example, and also in North America, in cities such as Los Angeles and Montreal, and of course in the Île-de-France region, with the Grand Paris Express project. Creating lines, completing them, automating them and, above all, operating them over time: for all these needs, our integrated expertise makes us established and recognised partners in regions where we are often already well established."

## Multi-modal transport in **Doha**

Doha's automated metro network, which was developed by RKH Qitarat, a joint venture between RATP Dev, Keolis, and the Hamad Group in Qatar, is a benchmark for smart cities, with three lines totalling 76 kilometres and four associated tram lines. This state-of-the-art, multi-modal, environmentally friendly public transport system provides Doha residents and visitors with a safe and reliable service of impeccable quality.

### **3 fully automated lines**

(red, green, and gold lines)

**76 km**

**37 stations**



# Making mass transit a high-quality passenger experience

To remain attractive, public transport networks must live up to the expectations of city dwellers. What could be better than the automated metro, which ensures frequency, regularity, and a high level of service?

## SERVICE INNOVATION

The growth of urban mobility requirements goes hand-in-hand with increasing service expectations. The cleanliness of facilities and trains, the quality of real-time information provided to passengers, the presence of trained and welcoming staff, and the provision of everyday services during the journey all contribute to the excellent reputation of the automated metro. To continue attracting the most demanding passengers, it must meet high quality standards and offer an optimal travel experience. This service culture is bringing about change. For example, metro network maintenance long used to be guided by technical performance indicators, but today it also considers passenger satisfaction as a priority among factors that may not be quantifiable.

## 6-STAR EFQM CERTIFICATION

In 2023, after having been awarded 6-star certification by the EFQM (European Foundation for Quality Management), metro lines 1 and 14 became the first metro lines in France to have reached such a level of excellence.



## DIGITAL TECHNOLOGY IN DAILY LIFE

The arrival of MaaS (Mobility as a Service), which makes all the city's mobility services available to passengers, is a breath of fresh air for passenger service. In the Île-de-France region, the Bonjour RATP app allows users to book a taxi, rent a self-service bicycle or reserve and pay for a kick scooter, and also to create an itinerary, obtain information in real time, buy a ticket, or access the thousands of points of interest on the Mappy map, including restaurants, cinemas, bakeries, hairdressers, and many more.

## ENHANCED PASSENGER EXPERIENCE

Automated metro networks combine the best in passenger experience, from more comfort and reduced noise to welcoming trains and stations, state-of-the-art passenger information, and clean and well-maintained facilities. On metro line 14, the new MP14 trains financed by Île-de-France Mobilités have 40% less interior noise, new and more ergonomic seats, and dynamic screens inside the carriages that provide information. On metro line 4, the station platforms have been totally refurbished as part of the automation of the line to make the station more welcoming and comfortable for passengers with a warm atmosphere, cosy seating, modernised tiling and flooring, and new lighting. In Doha, the brand-new automated metro operated by the RKH Qitarat joint venture, which includes RATP Dev, operates at a top speed of 100 km/hour and excels in station comfort and cleanliness.

**40%**  
noise reduction on the  
latest-generation trains (MP14)

Close to **95%**  
passenger satisfaction with the  
information provided under normal  
operating conditions on metro line 1

**97.2%**  
passenger satisfaction  
with punctuality on metro line 14





## Metro line 14

at the heart of the Île-de-France regional network

### Champion of service quality

The pioneering metro line 14 is the most popular line on the Paris metro network, and it is determined to maintain its top spot. The line, which has been undergoing unprecedented extension works since 2015, now links Saint-Denis - Pleyel station in the north to Orly airport in the south. These extensions represent a change in scale for the line. By connecting the centre of Paris to one of the major French airports in 20 minutes, it attracts new types of passengers: not just those who commute to work in Paris every day, but also tourists and business passengers. It provides all users with a tailored experience: everyday services for commuters alongside services suited to international customers and visitors.

### Strategic and agile

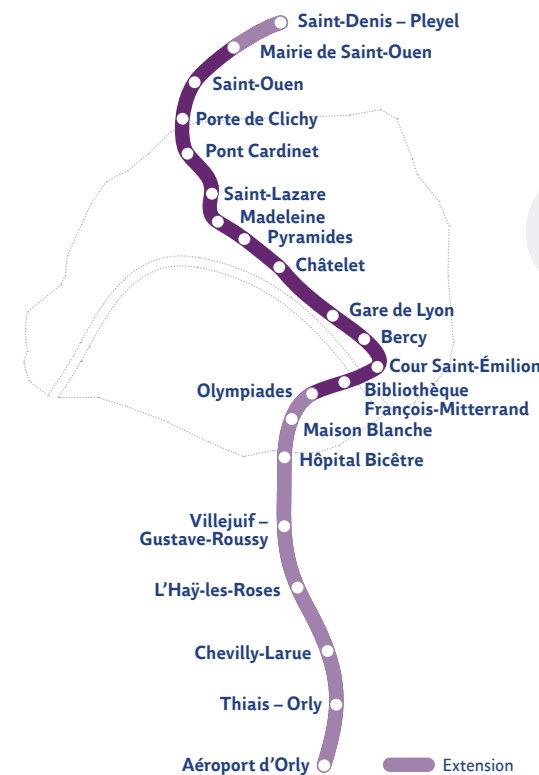
Metro line 14 is a showcase for the Group's expertise and a large-scale demonstration of what an automated metro can do. The line's flexibility was demonstrated during the pandemic crisis, with services adapted to successive lockdowns and reopenings. This line can adapt to events in the city, whether daily or exceptional, such as the Olympic and Paralympic Games Paris 2024, and can provide the best of innovation and comfort to passengers on board the latest-generation trains. With the Grand Paris Express project on the horizon, it is preparing to take on a new role, that of the backbone and north-south artery of the region, contributing to the development of the Île-de-France region. With an additional 15 kilometres of line to the south, it serves over a dozen towns, an airport, excellent hospitals, and major areas of economic activity. It also provides a link between the historic metro network and the 200 kilometres of the four future automated metro lines of the Grand Paris Express.

**from 9 to 28**  
kilometres of automated lines

**x2**  
the number of passengers  
carried upon completion

**85**  
second intervals  
between trains during peak hours

**17%**  
savings in electricity  
with the new MP14 trains operated  
with the support of Île-de-France  
Mobilités, notably through energy  
recovery during braking



**Emmanuel Sologny,**  
Director, RATP Metro line 14

EXPERT VIEWPOINT

"Metro line 14 has undergone a major transformation between 2015 and 2024. Its distance tripled, as it grew both northward and southward as it is extended to both it will carry twice the number of passengers, to reach 1 million passengers upon completion. The expansions over these ten years require a full upgrade of all the line operation systems,

which date from the late 1990s. This is an invisible transformation for our customers, but essential to further improve the performance of metro line 14. Our teams have worked on 1,000 night-time work sites every year since 2015, with no decrease in service quality. This is a daily and collective feat that only an integrated group like ours could achieve."

**Our**  
**achievements**

## Innovating to improve the customer experience



### Stations that fit in with the city fabric

The contemporary architecture of the four new stations on the northern extension of metro line 14 integrates perfectly into the fabric of the city.



### Heat drawn from the ground

Geothermal energy is being used for heating in a pilot project at the Porte de Clichy and Mairie de Saint-Ouen stations. The thermoactive foundations of the stations transmit heat from or to the ground to regulate the inside temperature. This geothermal capture reduces CO<sub>2</sub> emissions by 50%, sulphur dioxide by 20% to 40%, and nitrogen oxide by 40%.



### Platform-edge doors that communicate information

The platform-edge doors have integrated information displays that provide waiting times for the next trains, replacing those previously installed in the middle of the platforms.



### Using AI to streamline traffic

At Gare de Lyon station, a pilot project used artificial intelligence to measure density on platforms and on board trains and provide this information to passengers. Passengers can then choose to move to less busy platforms or carriages.



### On-board information

Displays on board the new-generation metro line 14 trains provide dynamic, real-time information to make passengers' lives easier.

# A winning consortium for metro line 15 Sud (south)

RATP Dev, Alstom, and their Singapore partner ComfortDelGro Transit have created a consortium to reach the target set by Île-de-France Mobilités to create a new generation of mobility for automated metro lines 15, 16, and 17 of the Grand Paris Express. Each partner brings its specific and complementary skills to the consortium: for RATP Dev, this is operational expertise and knowledge of the region; Alstom provides its maintenance know-how; and ComfortDelGro Transit offers its expertise in advanced smart mobility and customer experience, particularly in terms of cleanliness. Île-de-France Mobilités designated the consortium to operate and maintain metro line 15 Sud, the first line on the Grand Paris Express network to be commissioned in 2025.

"We are adapting our best practices to the Île-de-France region. Since late 2021, our teams have been working with those of RATP Group on service excellence. The aim is to adapt our best practices to the French context and together create innovative services for passengers on the future lines of the Grand Paris Express."

Jeffrey Sim, Managing Director, SBS Transit Ltd



Louis Villié,  
Managing Director, ORA L15

### EXPERT VIEWPOINT

"As a pioneer of the automated metro, RATP Group has an unparalleled base of expertise and a culture of excellence that enables it to respond to ambitious calls for tender in 'enhanced RATP Group' mode alongside benchmark partners. In the calls for tenders for automated metro lines on the Grand Paris Express network, for example, RATP Dev has positioned itself as an integrator of solutions built jointly with Alstom and ComfortDelGro. With these partners, we have provided the optimal cross-fertilisation of experience that enabled us to offer innovative solutions to Île-de-France Mobilités that meet the challenges of this major project."

"As a long-standing partner of RATP Group, Alstom is proud to team up with RATP Dev and ComfortDelGro Transit to provide the public transport authority Île-de-France Mobilités with eco-responsible and innovative mobility services that promote regional integration and provide an unprecedented quality of service. The operation/maintenance project for the first lines of the Grand Paris Express will enable Alstom to combine its renowned expertise in the maintenance of transport systems and rolling stock with the complementary expertise of RATP Dev and ComfortDelGro Transit to serve the Paris region and its residents."

Benoît Stephan, RATP Key Account Director, Alstom

# Mastering the entire value chain

RATP Group is deploying its best talent to meet the needs of cities. In addition to the essential technical and service expertise, what makes the difference is the human commitment to serving the public and the focus on the specific demands of each region.

## A GLOBAL AND INTEGRATED APPROACH

RATP Group has opted for integrated expertise: as both an operator and maintenance provider, it has a wide range of skills and is not simply a network “user”, but a stakeholder in the entire value chain. RATP teams are able to take a critical look at existing metro systems, advise cities on how to improve or transform them, or whether to acquire new systems. When RATP teams are awarded an operating contract, they take end-to-end responsibility for the management of the assets (rolling stock and infrastructure) that are entrusted to them. The Group is one of only two operators in the world with the dual capacity to manage operations-maintenance and project ownership. This enables RATP to participate in a range of diverse contracts, including upstream design and project management either on new lines or old networks. For renovation projects, RATP can help the public transport authority to anticipate risks and ensure that the line operates well on a daily basis.



**François-Xavier Nousbaum,**  
Manager, RATP Metro  
Transport Division

EXPERT VIEWPOINT

“In a highly dense network such as Paris’ metro network, automated lines have proven their worth: excellent frequency, operational flexibility, quick recovery following incidents, among other benefits. This has led RATP to embark on automation projects with lines 1 and 4, which were global firsts in complexity and scale. These projects were made possible through the orchestrated commitment of the company’s stakeholders, engineers, operators, and maintenance technicians, and it has allowed us to acquire solid skills in automated metro systems.”



## PLATFORM-EDGE DOORS FOR OPTIMISED SERVICE

Platform-edge doors ensure smooth passenger flows while keeping the platform area safe. The doors ensure the timely departure of trains and contribute to traffic regularity. They ensure optimal quality of service on busy lines. On metro line 4, dynamic passenger information is now built into platform screen doors.

**+5 km**  
of platform-edge doors  
installed in the 29 stations  
on metro line 4  
**+1,000**  
platform-edge doors

## A SOLUTION FOR EVERY PROJECT

RATP Group adapts its solutions to every type of automated metro project and participates in fixed-term operation and maintenance tenders from all over the globe. In recent years, the Group has won contracts in Doha, Riyadh and Sydney, to commission, operate and maintain new lines. In Lyon, the Group was also designated to operate the city's metro network. The Group has also participated in such contracts alongside its partners Alstom and ComfortDelGro Transit for the future metro lines of the Grand Paris Express network (see page 17).

The Group can also act as an upstream operator to advise public transport authorities on strategic choices for the design of a new automated metro line. This is the case for the city of Belgrade with regard to its future automated metro network.

Finally, as part of public-private partnerships, RATP Group can join forces with expert partners, rolling stock suppliers, and civil engineering companies to contribute to the design of the network or line from the outset, and can then build and operate the respective line(s).

### SAET

The train operation automation system (SAET) groups all the equipment – such as data transmission systems and monitoring tools – required to ensure the automated management of trains on the line. When traffic is busy, it can bring additional automated trains into service.



Metro line 4 extension work site.



**Dao Dam-Hieu,**  
Executive Director, Commerce &  
International Partnerships, RATP Dev

### EXPERT VIEWPOINT

“With more than 2,000 engineers, the Group has a vast pool of experts who specialise in automated metro systems throughout their life cycle, across the entire value chain, and in all their technological aspects. These resources can be implemented to commission a new metro, operate and maintain lines, and to improve an existing network. Not only do we have talented managers who skilfully monitor, manage, and maintain metro networks on a daily basis, but we can also draw on experienced technicians and engineers who improve the technical performance and attractiveness of the metro and contribute to its long-term commercial success. This ability to mobilise a large number of experts across a wide range

of disciplines enables us to act as quickly and effectively as possible in the event of an incident or major issue involving safety, technology, interfaces, or other issues. Another of the Group's strengths is its expertise in managing complex automation projects on very busy lines. This means keeping the lines open and working efficiently during long periods of works, safely managing multiple signalling systems simultaneously and increasing the reliability of the automated system – all the while minimising the daily impact on our customers. We have achieved this successfully in Paris on busy metro lines 1 and 4. It requires complete mastery of the technologies along with excellent project scheduling, and rapid operational reaction.”

### EXPERIENCE IN THE FIELD

The teams from the Group's Operational Development Agency provide study, consultancy and technical assistance services in railway operations engineering. The Agency brings together experts, operators, and engineers who have gained extensive expertise in the field, both in France and abroad. They offer assistance with all phases of transport systems and project commissioning.

# Orly-Paris

## A sustainable and inclusive line

Sustainability and inclusion are at the heart of service quality on OrlyVal. In terms of the environmental impact, the shuttles emit only 21 grams of CO<sub>2</sub> between Antony and Aéroport d'Orly, compared to 1,224 grams for a private car. The line is also committed to accessibility: all of its stations are equipped with lifts, the shuttles are directly accessible to people with reduced mobility, and staff are trained to assist passengers with special needs.

Customer satisfaction above

**99%**

**1<sup>st</sup>**

in the world to develop Liquid Crystal Display (LCD) windows



**Claire Lemois,**  
General Manager,  
OrlyVal Service

EXPERT VIEWPOINT

"OrlyVal has been providing a fast, reliable, and environmentally sustainable solution for travel to and from Paris-Orly airport since 1991. A pioneer in metro automation, the line has forged its own identity, combining innovation and service excellence to attain the highest standards of transport to and from international airports. Its operational excellence has been awarded a 4-star EFQM R4E (Recognised for Excellence) certification. In terms of innovation, our shuttles were equipped with LCD display windows in 2020. This technological breakthrough, a world first, enabled us to provide our passengers with real-time information based on the direction of travel."



# Our achievements



**Wadii Bouchiha,**  
General Manager, RATP Dev  
Mobility Cairo

EXPERT VIEWPOINT

"Cairo metro line 3, operated by RATP Dev Mobility Cairo, currently carries 350,000 passengers a day, and this will increase to over one million passengers daily within five years. Upgrading the transport service in one of the world's largest megacities while ensuring the training and diversity of the teams is a truly exciting challenge! RATP Dev Mobility Cairo also aims to create local jobs: we are committed to ensuring that at least 90% of the staff are Egyptian."

## Local jobs and talents in Cairo

The Group's Egyptian subsidiary, RATP Dev Mobility Cairo, won two contracts in late 2020: one to operate and maintain Cairo metro's Green Line 3 for a period of fifteen years, and the other to operate the Capital Train suburban rail line for twenty years. The subsidiary has recruited more than 2,000 employees and has included more women in transport jobs; a local training centre is also being created to ensure the transfer of knowledge and know-how. The aim is to offer Cairo residents a service that meets international standards in terms of operations, maintenance, and passenger experience.



**Marie-Hélène Amiable,**  
Mayor of Bagneux (Hauts-de-Seine)

A WORD FROM THE MAYOR

“People come up to me in the street to talk about the metro line 4 extension as an opportunity for them and their children to study and to find work. Lucie-Aubrac station has transformed the town in a very visible way, with the creation of a new square that will also house the future station for metro line 15. The station itself is bright and aesthetically pleasing, and the entire neighbourhood is being transformed. Departmental authorities will rebuild the nearby school and gymnasium, social landlords are renovating their housing stock, and companies are establishing businesses in our town. Quality transport in the town also means reduced travel time for Bagneux residents, more equality for all, and greater respect for our environment.”

## POSITIVE IMPACTS ON REGIONS

RATP Group’s commitment to regions, notably supported by its corporate Foundation, covers the major issues of employment, social integration, equal access to the city’s resources, and the energy transition. As a pre-eminent capacity-building transport mode, the automated metro not only shapes the landscape and mobility of the cities it serves, but also generates many positive changes in terms of education, integration, and social diversity. In the Île-de-France region, the extension of metro line 4 to Bagneux has linked the town to the centre of Paris, opening up new opportunities for residents. As another example, the 460,000 integration hours scheduled for the various construction sites on the southern extension to metro line 14 will boost the recruitment of local residents who are currently isolated from the job market. They include underqualified young people under 26, long-term job seekers, welfare recipients, and people with disabilities, among others.



In 2019, RATP became the first multi-modal transport operator in the world to be awarded “Committed to CSR – Confirmed” status by Afnor Certification. In 2022, it was awarded “Committed to CSR – Exemplary” status, which is the highest level of certification.



## SHARING MORE THAN TRANSPORT

At RATP Group, metro networks are also living cultural venues. Culture is a key element in anchoring networks in a region and bridges the gap between the underground city and the surface, the present and the past. The new Lucie-Aubrac station in Bagneux is easily identifiable from a portrait created by street artist C215. In Cairo, RATP Dev Mobility Cairo promotes Egyptian heritage in metro line 3 stations, such as Heliopolis, dedicated to the “City of the Sun” of ancient Egypt.

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