

Automated metros: sustainable mobility for quality city life

PORTFOLIO OF EXPERTISE

RATP
GROUP



Operational Operational

excellence
excellence

— RATP GROUP IN FIGURES

3rd

largest urban transport operator in the world

Over **120**

operations worldwide

9

transport modes operated by the Group

30

metro lines, including 15 fully automated lines, set to be in operation by 2035

Over

73,500

employees, a quarter of whom work abroad

As a frontrunner in automated metro systems, RATP has pioneered the expansion of the public transport mode. For over 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, 30 calls for tenders 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, and offers a form of mobility that is sustainable, consumes less energy, has greater capacity, and offers a high level of service.

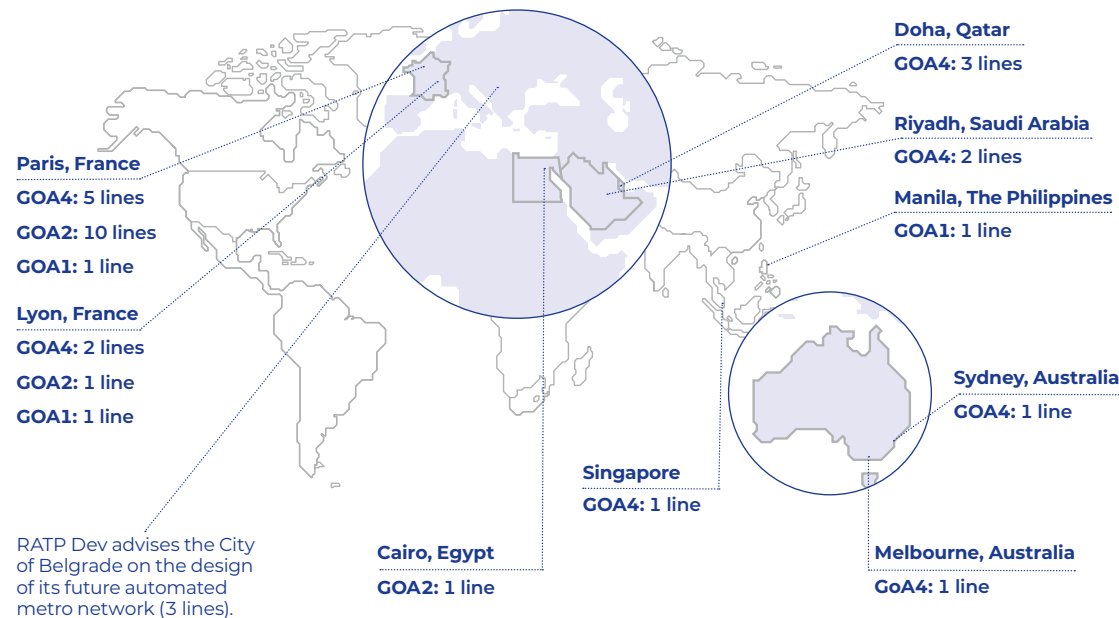
Over 75 years
of experience.

Over 330 km
of fully automated metro
lines currently in operation
or set to be operated
worldwide by RATP Group.



RATP Group: a leading player

Metro lines to be operated by RATP Group across the globe by 2035



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**
Paris metro line 14 enters service. A world first: a high-capacity, fully automated line with no staff on board.
- 2012**
Full automation of metro line 1, the oldest and busiest line on the Paris metro network, 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.

<p>GOA1*</p> <p>Controlled manual operation The driver manages the various aspects of driving the train.</p>	<p>GOA2*</p> <p>Semi-automated train operation 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.</p>	<p>GOA3*</p> <p>Automated train operation with staff on board A staff member (not a driver) on board opens and closes the doors and deals with incidents.</p>	<p>GOA4*</p> <p>Fully automated driving No on-board staff. A control centre supervises all operations remotely.</p>
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* 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.

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.



Nicolas Patin,
Director, Transport and Operating Systems, Société des Grands Projets

EXPERT VIEWPOINT

“The Grand Paris Express network will be fully automated over its 200-km length to guarantee better passenger service, powered by a more energy-efficient operation. Real-time train control will provide passengers with greater comfort through punctuality, consistent intervals between trains, and service frequency adapted to ridership. As the public project manager, we are designing the Grand Paris Express network to be a robust transport system that ensures controlled network operations, and a high level of performance to serve the estimated two to three million daily passengers that are expected on the four new metro lines. This choice also reflects our commitment to environmental responsibility. Automated operation will recover the energy required for acceleration during the braking phase, allowing 30% of that energy to be recuperated, compared with mechanical braking. Energy-efficient driving modes will also optimise train energy consumption by leveraging the line’s profile, and coasting whenever possible.”

UPGRADING TO REDUCE CONSUMPTION

-22%

30 cities around the world, including Paris, have successfully reduced their CO₂ emissions by 22% on average over the past 10 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)

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.

In 2012, RATP teams achieved a world first with the full automation of Paris 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.

Following a vote by Île-de-France Mobilités in 2022, metro line 13 will also be automated by 2035. The first phase in the upgrading plan will be to mobilise RATP Group experts for infrastructure adaptation, in preparation for the arrival of new MF19 rolling stock on the line in 2027.

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 two 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 true 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 that service continued during the installation of the new automation system.



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



Fabien Gervois,
Director, Automated Metro
Systems, RATP Dev

EXPERT VIEWPOINT

“We bring RATP Group’s unique expertise to transport authorities around the world. We support cities in commissioning new lines, such as in Riyadh (Saudi Arabia), Doha (Qatar), and soon in Paris with metro line 15 South, as well as in Sydney (Australia) and Singapore. We also provide integrated expertise to optimise projects from the design stage. In this capacity, we are advising the City of Belgrade (Serbia) on its future network. Additionally, we contribute to upgrading projects, such as in Lyon, where we took over the operations of heavy transport modes. The Lyon network consists of four metro lines — two of which are automated. Everywhere we operate, we apply the highest international standards while adapting to each local context, in order to guarantee safe, reliable, high-performance, and sustainable networks.”

Greenfield project in **Riyadh**

The City of Riyadh has chosen an automated metro network to establish a structured public transport system, in coordination with a high-end bus network. As a greenfield project, the Riyadh network is one of the largest metro projects worldwide, and it addresses a major environmental challenge in the Saudi capital, which experiences chronic traffic congestion. While private cars remain the primary mode of transport for 98% of Riyadh residents, the city has introduced alternatives to meet the demands of its growing population, which is expected to double by 2030. Within the first nine months of operation, over 60 million journeys were made on the two metro lines operated by CAMCO (RATP Dev and Saudi partner SAPTCO).

2 fully automated lines

(Blue and Red Lines)

63.3 km

40 stations

Strategic service in **Sydney**

The Sydney Metro – Western Sydney Airport line, for which RATP Dev will provide operation and maintenance for fifteen years, is set to become the backbone of western Sydney, the largest metropolitan area in Australia (nearly 6 million inhabitants). This future line will open up new areas and help generate thousands of jobs, thereby boosting the region’s economic dynamism. To respond to the Sydney Metro tender, RATP Dev has partnered with construction companies Webuild and Siemens Mobility, as well as financial partner Plenary Group, within the Parklife Metro consortium. It is contributing its expertise from the design phase to help optimise the project.

1 fully automated line

(Sydney Metro-Western Sydney Airport)

23 km

6 stations

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

Major structuring project in **Melbourne**

The Melbourne metropolitan area has launched the construction of a 90 km orbital rail line, designed to connect the tram and suburban rail networks with the city’s main airport. The delivery of the first section, in the east, has been awarded by the Suburban Rail Loop Authority (SRLA) to the Linewide Alliance, comprising RATP Dev, John Holland, Alstom, KBR, and WSP. This ten-year contract covers the delivery of all infrastructure systems and rolling stock for the future line. RATP Dev will contribute its expertise throughout the construction phase. When Suburban Rail Loop East opens in 2035, operations and maintenance will be carried out by the TransitLinX joint venture (RATP Dev and John Holland) under a fifteen-year concession.

1 fully automated line

(Suburban Rail Loop)

26 km

6 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), Paris metro lines 1 and 14 became the first metro lines in France to have reached such a level of excellence.



ENSURING THE SUCCESS OF EVERY MAJOR EVENT

Managing mobility during the world's largest international events requires world-class expertise, particularly in the operation of automated metro systems capable of handling massive passenger flows with a high level of reliability. Alongside event organisers and public authorities, proven methodologies have been strengthened through major competitions over time. The FIFA World Cup 2022, the Rugby World Cup 2023, and the Paris 2024 Olympic and Paralympic Games: each event has confirmed the expertise of RATP Group.

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. In Paris, 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. The fully automated metro in Doha, operated by the RKH Qatarat joint venture, in which RATP Dev is a partner, runs at peak speeds of up to 100 km/h and stands out for the comfort and cleanliness of its stations. In Riyadh, the passenger experience is enhanced by a range of innovations deployed across the network, including customer assistance robots, security robots, and short-story dispensers that accompany passengers throughout their journey.

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

96.5%
passenger satisfaction with punctuality on metro line 14
(Source: Île-de-France Mobilités 2024 perception survey)





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 connects Saint-Denis – Pleyel station in the north to Orly airport in the south. Following these extensions, the line's length has tripled from its original length. Furthermore, in 2024, the automated driving system on board metro line 14 trains was replaced, a world first successfully carried out by RATP Group and its industrial partners. By linking central Paris to one of France's main airports in 20 minutes, metro line 14 now serves a wider range of passengers — from daily commuters working in Paris to tourists and business travellers.

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.

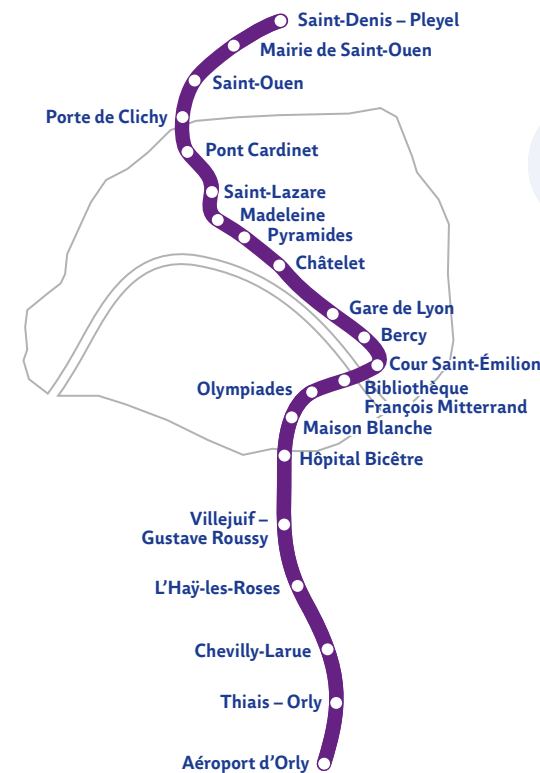
Our achievements

From 9 to 28
kilometres of automated lines since 2015

2x
the number of passengers carried,
compared to 2020

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

“Between 2015 and 2024, metro line 14 underwent an unprecedented transformation. Northern and southern extensions tripled the line's length, and doubled its ridership, which is set to reach one million daily passengers once the Grand Paris Express network lines are put into service. To ensure the success of these extensions, the line's operating systems also had to be upgraded, as they dated from the late 1990s. While the transformation may have taken place out of customers' sight, it remained indispensable. RATP Group accomplished

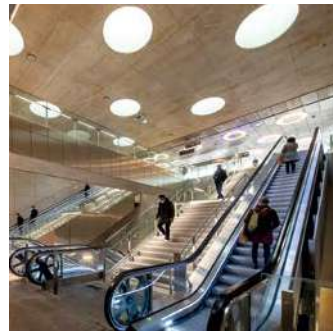
a world first by replacing the automated train driving systems on a metro line that was still in operation. Our teams succeeded in doing so by conducting approximately one thousand night-time operations yearly that had no impact on service quality, with further improvements to efficiency and reliability during the commissioning of the extensions, which opened one month before the 2024 Paris Olympic and Paralympic Games. The transformation was a daily collective achievement that only an integrated Group like ours would have been able to achieve.”

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 Paris 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 Porte de Clichy and Mairie de Saint-Ouen stations. The thermoactive foundations of the stations transmit heat to or from the ground to regulate indoor temperature. This geothermal capture reduces CO₂ 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 crowding 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 on the Grand Paris Express network to be commissioned in 2027.

“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.



François-Xavier Nousbaum,
Manager, RATP Metro
Transport Division

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.

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 metro 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 Paris 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, it has won contracts in Doha, Riyadh, Sydney, Melbourne, and Paris (Paris metro line 15 South), 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 (ADO-IE) 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.

Our achievements



Arnaud Legrand,
CEO of RATP Dev – Lyon

EXPERT VIEWPOINT

“SYTRAL Mobilités has entrusted RATP Dev with a project management assistance mission to support major developments on the network, particularly the automation of line A and the modernisation of lines C and D. This trust reflects the recognised expertise of our teams in managing complex technological and organisational projects.”



In Lyon

Operations takeover and modernisation

In January 2025, RATP Dev took over the operation and maintenance of the metro, tramway, funiculars, and airport shuttle of the Lyon TCL network — the largest transport network in France after Paris. All teams were mobilised to ensure a smooth transition, invisible to passengers. They are now supporting major network modernisation projects, with the goal of minimising disruption for users.



In Riyadh

Jobs and local talent

In Riyadh, CAMCO, a subsidiary of RATP Dev and its Saudi partner SAPTCO, operates the two main lines of the capital's automated metro network. Over 3,400 employees have been recruited to carry out operations and maintenance, including 70% Saudi nationals, actively contributing to the development of a national public transport industry. RATP Dev is leveraging its international expertise to support the upskilling of local teams, notably through ambitious training programmes. This momentum is strengthened by key partnerships, notably with the Saudi Railway Polytechnic.



Malangou Seyadou,
CEO of CAMCO

EXPERT VIEWPOINT

“The societal impact of this mobility project is considerable: 36% of employees are women, illustrating the project's direct contribution to the evolution of Saudi society. Metro operations are also transforming daily life for residents. In a historically congested city, passengers now save an average of 25 minutes per trip, with journey times reduced from 92 to 67 minutes since the network opened at the end of 2024. The metro provides greater mobility independence and offers female students, for example, a safe way to reach their campuses.”

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.



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."



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.



Claire Lemois,
Manager, Accessibility Programme,
Sales and Marketing Division

EXPERT VIEWPOINT

"The Cap'Handéo Mobility Services Certification attests to the proper support of people with disabilities throughout their entire journey, from pre-trip information to arrival at their destination. 100% of the rail network of Île-de-France Mobilités network operated by RATP Group is certified Cap'Handéo Mobility Services. This approach fully aligns with the Group's commitment, alongside transport authorities, to improving the accessibility of operated networks. Regarding automated metro lines, newly built stations are fully accessible to all, notably

thanks to elevators. Where possible, automation projects on existing lines also integrate solutions designed to facilitate daily travel for people with reduced mobility and those with sensory impairments. The MP14 trains operating on Paris metro lines 4, 1, and 14 are equipped with dedicated wheelchair spaces, with additional clear floor space under seats for guide dogs, as well as a soft, natural lighting environment. Numerous screens provide both visual and audio information, which is particularly helpful for passengers with visual or hearing impairments."

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