

Société du Grand Paris

ACTIVITY
REPORT
2019



Employee
Portraits

2019
in
pictures

Factoring in
the
environment

The supervisory board's remarks are traditionally an opportunity to assess the project's progress and the milestones achieved by the Société du Grand Paris teams. This year's edition is no exception. It highlights both the consolidation in project leadership with programme management staff doubled in a single year and the spectacular progress of the tunnel boring machines in action underground across Île-de-France. It also takes another look at the development trends emerging in station districts, painting a picture of the construction of a low-carbon city designed to take on the challenges of the 21st century.

Above all, however, the supervisory board's remarks in this activity report are made against the backdrop of an unprecedented, uncertain, and extremely serious situation. The COVID-19 epidemic severely affected the region's residents, shedding light on persistent geographical and social inequity and disparities in healthcare and the concentration of overcrowded housing. The economic and social repercussions of the crisis will be lasting, creating challenges that require immediate mobilisation across the board.

Faced with this crisis, the Société du Grand Paris teams have displayed a tremendous sense of responsibility, both with the immediate suspension of construction when it became apparent that the situation was unsafe and with the gradual process of reopening the worksites after working closely with the contractors and project managers to develop and apply targeted safety measures as part of an ongoing dialogue with local leaders. They rose to the challenge of adapting to the changing situation to continue hiring, awarding contracts, consolidating financing, and facilitating formalities for businesses near the worksites.

The supervisory board would like to take this opportunity to publicly recognise that ethic of responsibility, on which we will continue to rely in the coming months to support the local economy, particularly SMEs and work integration organisations, and to continue designing the mobility and urban lifestyles of the future. The Grand Paris Express, born of a dialogue between the government and local stakeholders and designed for future generations, must serve as a foundation to take on the societal challenges that lie ahead and create the post-Covid world.

Patrick Braouezec,
*Chairman of the Supervisory Board
of Société du Grand Paris*



Patrick Devedjian, Mayor of Antony from 1983 to 2002, was President of the Hauts-de-Seine departmental council from 2007 on and a member of the supervisory board of Société du Grand Paris. He held several government positions: Deputy Minister for Local Liberties (2002 to 2004), Deputy Minister for Industry (2004 to 2005), and Minister under the Prime Minister in charge of the Implementation of the Recovery Plan (2008 to 2010).

Patrick Devedjian passed away on Sunday 29 March 2020.

Société du Grand Paris mourns the loss of one of its founders, a leading voice on its supervisory board, a great strategist, and a man of deep convictions who supported and defended the Grand Paris Express from the beginning. Patrick Devedjian fought to ensure that his department would be fully served by the Grand Paris metro, from north to south. Keenly aware of the need for service to the La Défense business district, which contributes to the economic appeal of the region and of France as a whole, he was a vital partner in finding a solution for the complex issues involved in building the station.

It was a pleasure and an honour to work with him as a trusted colleague, with whom I shared a commitment to honesty and efficiency. We will remember his kindness, his high standards, and his constructive approach, always on the lookout for new solutions. We will miss his presence.

Thierry Dallard,
Chairman of the Management Board
of Société du Grand Paris

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Off the beaten path...

For its 2019 Activity Report, Société du Grand Paris gave the Enlarge Your Paris editorial team carte blanche to share its thoughts on Grand Paris and its experiences in a region whose identity is being reshaped, step by step. We would like to thank them for sharing their story.



Exploring the Grand Paris Express

by Vianney Delourme and Renaud Charles,
founders of Enlarge Your Paris

On a hot June morning, more than eighty hikers from across the region met in front of a Grand Paris Express worksite on the Noisy – Champs RER A platform. Their goal? To hike along the path of Line 15 South to the Saint Maur-des-Fossés station, 20 kilometres away, where another Société du Grand Paris worksite is located.

As we planned this trek, our idea was to lead an urban hike that would give participants a sense of the scale of the Grand Paris Express but also give them a chance to discover or rediscover the areas it will link. On this first Grand Paris Express hike, participants discovered the Noisy – Champs university cluster, the brutalist "camembert" buildings of Noisy-le-Grand, the Fort of Villiers built in 1878 to stop the Prussians, who had already swept through twice in 70 years, and the charming streets of Saint-Maur, immortalised by Jacques Tati in *Mon Oncle*.

Diverse landscapes

It was serendipity when later in the day, just as the participants were really beginning to feel the kilometres of asphalt they had hiked under a blazing sun, they encountered a mobile ice cream vendor in Champigny at the end of the aptly-named rue de la plage ("beach street" in English), once a hugely popular swimming spot on the Marne river. The vendor must have hit her sales quota for the day and the hikers enjoyed a refreshing break as they discussed the vulnerability of pedestrians in a metropolis dotted by heat islands. Because the hike was not all bucolic riverside charm. We also walked through concrete-covered commercial zones and along departmental highways, paths that pedestrians take out of necessity, not for pleasure... But that was part of the plan. A hike along the path of an underground transportation line would take us where it wanted, preventing us from prioritising the prettiest, most impressive, or most symbolic sites. Walking the equivalent of four stations along the future Line 15 South was a very practical way to experience a little slice of a region that remains abstract: Grand Paris.

During the course of our hike, we also saw that the metro whose challenges and achievements we have been reading about for nearly a decade is finally becoming a reality. As we walked through the streets, squares, and suburbs of Noisy, Villiers, Champigny and Saint-Maur, every 800 metres we saw worksite barriers, and behind them cranes, concrete mixers, and settling ponds forming a temporary industrial landscape that revealed the presence of earthworks under our feet. It quickly became clear to the hikers that the countdown to an as-yet imperceptible urban revolution has started.

Hidden treasures revealed

There have been several dozen Grand Paris Express hikes since that first one, taking hundreds of veteran hikers and curious locals alike along lines 15, 16 and 18, or to join Société du Grand Paris's "KM" worksite celebrations. And so the pedestrian Grand Paris Express was created, kilometre by kilometre.

The idea is simple: getting to grips with the revolution represented by these suburb-to-suburb metro lines and discovering the cultural treasures of an emerging metropolis. In late 2015, Apur released its study *Le Grand Paris Express et lieux culturels*, a valuable map of 270 cultural sites around the Grand Paris Express stations. Part of that list has become familiar to pedestrian Grand Paris Express hikers, who have been welcomed to more than fifty of the sites.

The best people to ask about the cultural treasures of Grand Paris are local residents.

Local residents are the best people to ask about the cultural treasures of Grand Paris. We have had the good fortune of exploring the streets of Cachan, Arcueil, and Bagneux with the founders of Le Plus Petit Cirque du Monde; walking the heights of Chelles with a modern market gardener who told us about setting up her farm just steps away from a Grand Paris Express worksite; leaving the king's kitchen garden at Versailles through the gate once reserved for princes with students from the École de Paysage de Versailles; crossing Georges Valbon park in La Courneuve with urban shepherds and fifty sheep; and strolling across the Vitry city centre plaza with

the street artists who have made it their open-air studio.

With all of them, we discussed their vision of culture and Grand Paris, their expectations for the area in terms of work, housing, and public transportation, and in some cases the disruptions caused by the works or their fears of gentrification.

A shared story

Before the first Grand Paris Express train takes its first trip, these urban hikes have, in their own way, enabled it to reveal the region's hidden corners, the guiding thread of a shared story. Interest in the hikes spread by word of mouth, with some drawing over a hundred participants and journalists from France, Italy, Germany, North America and beyond to unfamiliar areas that are all too often shunned. A youth group in Sevrans is planning a hike for the 2021 season to introduce the town to hikers. Students from an architectural school in eastern France spent three mornings drawing the station worksites between Vitry and Chelles, discovering the scale of a project that will ultimately belong to their generation. The hikes have also attracted the interest of the celebrated Cresson Laboratory at the École d'architecture de Grenoble and researchers at the École d'urbanisme de Lyon. If this is the case, it is because walking, accessible and open to all, is a wonderful avenue for cultural mediation and for observing urban transformations.

Grand Paris and walkability

In October 2019, during a presentation on the "Pedestrians of the Grand Paris Express," held in Paris at the Maison de l'Architecture en Île-de-France, urban walking organisations, city experts, a veteran reporter, a novelist and a philosopher who enjoy urban walks, shared their vision of Grand Paris and the role that pedestrians have the potential to carve out around, and perhaps thanks to, the future metro.

“Interest in the hikes spread by word of mouth, with some drawing over a hundred participants ... to unfamiliar areas that are all too often shunned.”

Because there is still room for improvement: walking in the suburbs often remains a negative experience, as explored in detail by a team of urban planners in the *L'Atlas du Grand Paris* published by Apur in 2013. We experienced that very clearly during our hikes. Essential metropolitan infrastructure like airports, railways, motorways, and major industrial zones also represents "urban fault lines" that cut off the paths pedestrians take every day, particularly in working-class neighbourhoods. Even the region's rivers seem to converge on Paris, cutting off the path of "Grand Parisians." On average there is a bridge across the Seine every 3 km outside Paris, compared to one every 300 m within the city limits. In spite of those issues, on all our treks we found paths, roads, passages, and tracks to enable us to follow the path of the Grand Paris Express. As we moved from industrial wasteland to village centre, from oversized commercial zone to national forest, and from motorway interchange to unexpectedly vast city park, our urban travels were as varied as they were surprising, with new and

unique settings every day. We walked from "Lucifer's domain to the belvederes of Grand Paris," to borrow the wonderful expression of Dominique Alba, Director of Apur.

The power of pedestrians

Finally, during these urban hikes across car-dominated landscapes, drivers were often surprised to see, perhaps even to stop for, dozens of hikers, all on sidewalks and crosswalks, of course, even where they are virtually invisible due to wear and the lack of maintenance.

Will these group explorations make it possible to restore the existing but unknown or disused paths between the 68 future stations or even create new ones? How will the arrival of the Grand Paris Express encourage both everyday pedestrians and hikers armed with their Navigo transit pass?

The *Places du Grand Paris* repository recommends "building or restoring large-scale pedestrian itineraries" (principle 11). Our thoughts turned in the same direction, with the development of a local walkability diagnosis as we walked.

2020 marks the halfway point of the Grand Paris Express project. But the pedestrians of the Grand Paris Express have only just begun to explore the Grand Paris metro and its surroundings.

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Living up to our responsibilities

by **Thierry Dallard, chairman of the management board
of Société du Grand Paris**

Lines 15, 16, 17, and 18... Work is under way on all the Grand Paris Express lines. The worksites for the new metro have become a part of the urban landscape. How do you see the project's progress to date?

A decade ago, Société du Grand Paris had just been founded. And in another decade, the Grand Paris Express will be in operation, carrying over two million passengers every day. So we are now at the halfway point. With 150 civil engineering worksites along Lines 15, 16, 17 and now 18, we can finally sense that the revolution is real and feel the full weight of our responsibilities.

Société du Grand Paris underwent profound changes in 2019. Is the transformation now complete?

In less than two years, the programme management was fully restructured for the project's transition to the industrial phase.

We were joined by over 200 new employees, and the trend will continue with another 300 new hires in 2020. Our transformation also demanded new working methods. We set up a joint project platform with Île-de-France Mobilités and RATP-I to work together on preparing for the operational phase of the Grand Paris Express. It is one of the practical applications of the independent audit report requested by the supervisory board and management board and handed over last summer.

Another practical application of the principle of collaboration that underlies the Grand Paris Express...

The Grand Paris Express was made possible by the joint determination of the French government and the Île-de-France region. Their visions ultimately converged after an extremely extensive public debate. Driven by the determination and support of all the mayors and elected leaders across this large region, the project was launched without delay and moved seamlessly through all the steps leading up to the start of the works. The general interest thus prevailed. That is the project's true strength, and doubtless what makes it unique. From the highest levels of government down through all the layers of local democracy, the new metro met with consensus. It is thanks to this reciprocal relationship of trust that we have been able to take on the different crises that any project on this scale encounters. That focus on listening to local stakeholders must remain central to our approach. This is particularly true for Lines 15 East and 15 West, for which we selected a design-build approach. The contract process will be initiated after an in-depth dialogue with local elected officials, which will be our focus this year. Working together also means being exemplary when it comes to our treatment of the people who live near our worksites. We must do everything in our power to limit disruptions, provide them with extensive support, and listen to them throughout the project so we can explain each new step.

The Grand Paris Express is intended to foster the emergence of a new urban model. How does Société du Grand Paris contribute to that goal?

We are tackling a collective challenge: the need to restore the

city, make it less resource-intensive, more peaceful, more breathable, and a better place to live. We also need to take responsibility for stopping urban sprawl, which is paving over ever-increasing surfaces and driving residents farther and farther from the centre of the metropolis. Société du Grand Paris will be fully involved in this vast project, both as the programme manager of the Grand Paris Express and its stations, of course, and as a partner for developers working in the station districts. Close to 200 urban development projects are already in progress around the stations slated to open in 2024 and 2025. Each of our stations offers unprecedented opportunities and will serve as a catalyst for urban transformation. It is also an opportunity to rethink the way we live and work in cities, imagine the mobility of the future, and better equip the cities of the future for the many crises they will face.

Société du Grand Paris was quick to respond to the global health and economic crises caused by the Covid-19 pandemic, by suspending work on its worksites. What do you believe are the initial lessons of the crisis?

In our response to the crisis, our values and who we are came to the fore more strongly than ever. Société du Grand Paris is a major programme manager, with all the attendant duties and responsibilities. Huge numbers of people are involved in building the new metro. Their safety is our top priority. Underground works are particularly high-risk. They involve a whole chain of highly-specialised contributors, and any disruptions to that chain can cause serious harm to its other members.

That is why we immediately suspended all construction and started working with all the relevant stakeholders to identify what it would take for us to gradually reopen the sites.

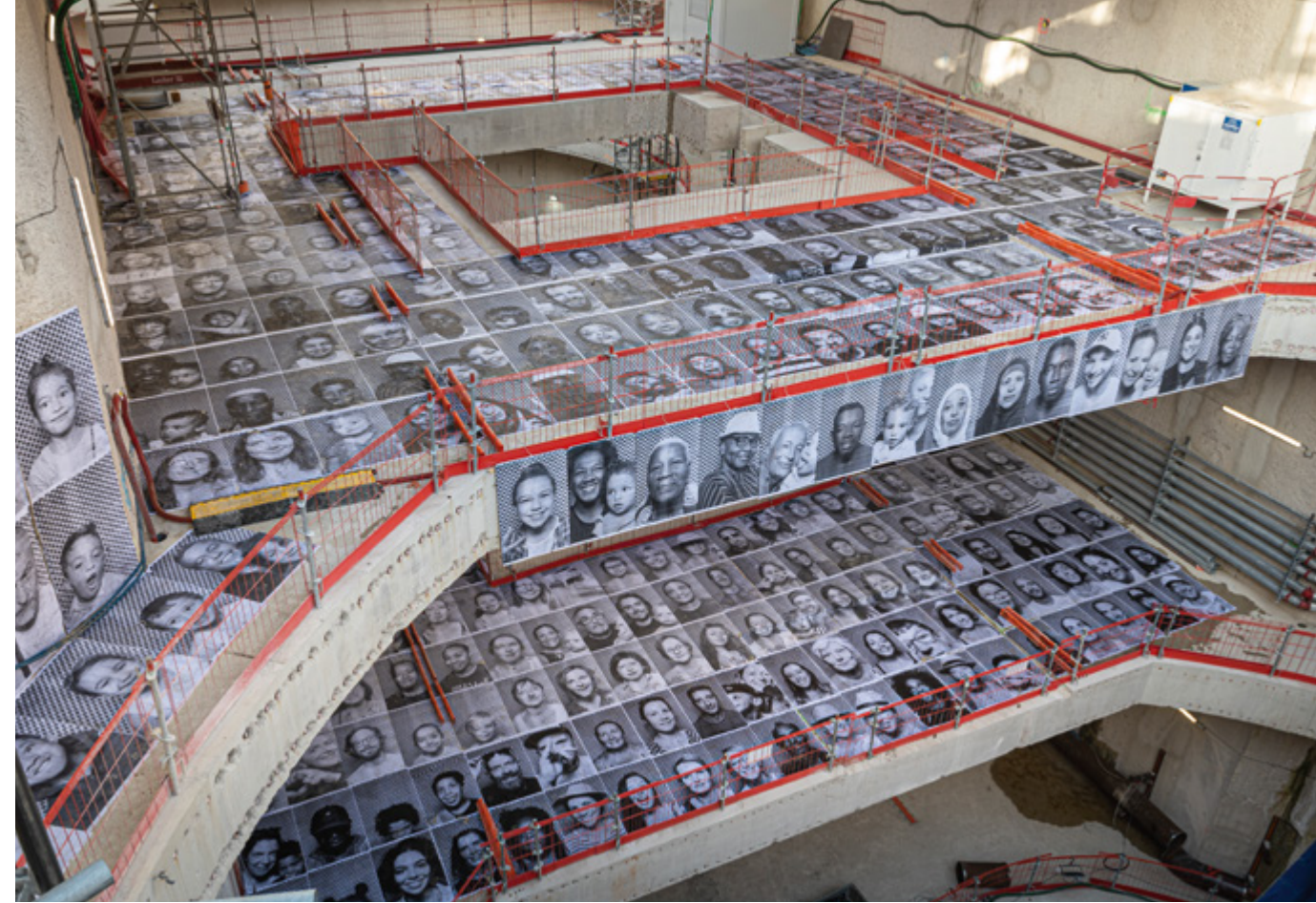


“Each of our stations is a catalyst for urban transformation.”

For the safety of workers and local residents alike, we modified the worksites, installed water facilities, and ran trainings. From the field offices to spoil removal, we inspected, assessed, and rethought absolutely everything, even for work on the tunnel boring machines. I would like to take this opportunity to highlight the professionalism of everyone involved: the people who secured the worksites and were the first to return and the teams who managed the contractual impact or accelerated payments to our suppliers—especially SMEs—to help them weather this crisis.



The Fabrique du métro invites the public into the heart of the underground exploits of the Grand Paris Express during European Heritage Days. Since 2018, the Fabrique du métro has served as a full-scale test site for the future equipment and has helped the public understand the project from all angles. Over 20,000 people have already visited it.



On 29 June, the Arrighi wasteland worksite in Les Ardoines became an artistic centre before the launch of two tunnel borers on Line 15 South. The artist JR took over the site during a KM, as these public cultural events are known. In 2019, another KM drew 3,500 visitors to the Puits Mandela worksite in Saint-Denis.

“For me,
these
pictures
sum up 2019.”

Thierry Dallard



The line conferences, which began in spring 2019, drew 750 elected officials and partners from Grand Paris to join in a dialogue with the new metro's programme management. With these events, Société du Grand Paris reaffirmed the need to include local stakeholders in every step of the project.



Steffie-Orbival, the first tunnel boring machine, emerges in November after digging 2,183 metres between Champigny-sur-Marne and Villiers-sur-Marne. Its cutting wheel will be reused on Line 17. By end 2019, 11 tunnel boring machines had dug 9 km.



From 3 May to 13 July in Versailles, Société du Grand Paris was at the "Horizon 2030" pavilion at the first Biennale d'architecture et de paysage. Visitors discovered models of the future stations. The event was an opportunity to show how the Grand Paris Express will radically change mobility and the landscape in Île-de-France.



On 28 November, Île-de-France Mobilités and Société du Grand Paris unveiled the book *Places du Grand Paris*. This repository reminds readers that the Grand Paris Express stations and their surroundings will serve as "breathing spaces" that link the city and the metro.



In this adventure, people are our core concern

Georgina Mendes, manager of the public spaces and inter-modal transportation unit

“I came from Île-de-France Mobilités, where I worked in inter-modal transportation and new forms of mobility after spending six years in public space planning and development. Early in my career we talked about transportation, then movement, and now we talk about mobility.

That lexical shift has brought us closer to how people use transportation. My role is to imagine the public spaces in front of the future stations without necessarily being able to anticipate how they will be used. The future is hard to predict and mobility is changing rapidly. The old approach of tearing down to rebuild has fallen out of favour, mainly for environmental reasons. So we have to design flexible, accessible spaces for all users.

Station districts are extremely busy at certain times of day in the morning and evening, but what about the rest of the time? So it is important to ensure that they are as neutral as

possible so they can accommodate maximum use during rush hour and then host a market or exhibition on the weekend, for example. In November 2019, we published *Les Places du Grand Paris* with Île-de-France Mobilités. The book is the culmination of months of joint reflection on the transition to making the projects around stations operational.

It is both a general work on the use of mobility and cities and a technical document that lays out a shared vision for the future inter-modal public spaces linked to the Grand Paris Express. The new metro will radically change movement, in the broadest sense of the term, in the Paris region. It will create a far denser network of stations. Pedestrians will be prioritised. In fact, Parisian mobility will be extended to the farthest suburbs, and people throughout the region will become less car-reliant.”



Sandra Philippe, cross-functional project manager

“When I joined Société du Grand Paris in 2011, there were about thirty people. Nine years later, a good fifteen of them are still here. At the time, it really felt like a start-up where everyone pitched in and did everything. I was an executive assistant at the time, but I took classes in addition to working, which is what enabled me to move up later on. Now I’m a cross-functional project manager in the local residents unit, which is tasked with anticipating the disruptions the Grand Paris Express worksites will cause to the 17,000 people who live in their immediate vicinity. We discuss, design, and implement prevention and support measures to foster acceptance of our worksites, which are often located in dense urban neighbourhoods. We operate as a sort of laboratory for local residents’ issues, and we try to provide tailored responses. In this adventure, the Grand Paris Express,

Jérôme Beuchée, urban development project manager

“I joined Société du Grand Paris in July 2015 in the land department, where I was responsible for acquisition of the land needed to extend Line 14 to the south and build Line 15 East. My role was managing the land agency tasked with identifying and negotiating with the property owners affected. The vast majority of these negotiations led to an amicable agreement. In 2019, I was transferred to a role where I could get back to my roots in urban planning. In my new role, I work on the development of real estate projects near or above the future stations. These developments will include housing, student housing, offices, and more. Société du Grand Paris aims to leverage the land it has acquired to help create station districts that are genuine urban neighbourhoods. The idea is to contribute to transforming the city with the arrival of the new metro while bringing in revenue that will offset the cost of the project.”



people are just as much a core concern as the technical side!”



Jérémie Jauroyon, risk manager

"After earning a Master's degree in Law and Political Science with a focus on risk management, I joined a major French construction company. I spent five years there as a quality, environment, and risk manager and then as a risk manager, which gave me the opportunity to work in Doha for a year. After my time as an expat, I'm happy to be back in France, working on an exceptional project like the Grand Paris Express. This job isn't just the next step in my career. It's a unique experience. I work at the risk, audit, and internal control division, where I design, implement, and supervise all the project's risk management measures. That includes supporting the project management team for each line by providing the tools to anticipate and analyse risks of all kinds. Since January, I've been coordinating Société du Grand Paris's half-yearly risk management cycle, which involves coordinating the work done by the company's project risk managers, working with subject-matter experts on cross-functional analyses, and producing probabilistic simulations to assess the financial impacts of risks. Those simulations, which are absolutely essential, are what can give our governance bodies reasonable assurance that our operations and investments are under control."

Diana Nait-Belkacem, local forward-looking jobs and skills management coordinator

"When I worked for the Aéroports de Paris Group at Orly, I used to walk in front of the barrier around the new station worksite. I would say to myself, "Why not apply?" And now I am lucky enough to work in worksite human resources management for the entire project. I work with our local contacts to identify the jobs and skills needed for the works. I plan and propose HR steering tools to support monitoring of those needs and how they are met. I am currently working on setting up a dynamic, regularly updated map of Grand Paris Express jobs. The goal is to show hiring needs as the worksites progress and in the different sectors involved. That enables us to plan ahead and work with our training partners, construction companies, government agencies, and local stakeholders to identify relevant training and promote it to job seekers. The tight labour market for certain skills makes that really key. For example, there is a shortage of electricians and track layers. The process also aims to encourage contractors to fulfil the CSR commitments incorporated into our contracts, particularly in terms of job creation and training. That means hiring locally, creating sustainable jobs, or facilitating career changes. So construction isn't just disruptive, it also creates great opportunities!"



Arnaud Pacheco, strategy and innovation project manager

"When I first joined the company, my role was steering innovative projects like the "Défis jeunes talents" programme. I have since moved to the strategy and innovation division. I work with people across the company to ensure successful implementation of the 2024 corporate project, which is based on the following commitments: delivering the lines, the sustainable nature of the project, and being a responsible, attractive, and

credible programme manager. Now that we all have a clear, shared vision of success, I provide support to help all the divisions move in that direction.

Our goal is to ensure that all employees understand their division's objectives, as well as those of the other divisions, so we can meet our commitments, together. That kind of transparency strengthens our cross-functional approach, which has been catalysed by the new site since 2020."

Decisive economic effects

by Bernard Cathelain, member of the management board of Société du Grand Paris

“In 2019, more than 6,500 people worked on Grand Paris Express worksites.”

With fourteen tunnel boring machines launched on the Grand Paris Express lines by the end of 2019, do the underground works represent a turning point for the project and for programme management?

Grand Paris Express has moved into a new phase: project industrialisation. Work is under way on all the stations on Line 15 South, with the station shell finalised for Fort d’Issy – Vanves – Clamart and work on the moulded wall of the Saint-Maur – Créteil station, the deepest in France, completed. On Line 16, civil engineering works are ramping up, with eight stations currently under construction. Preliminary works restarted in Chelles last summer. We should be able to notify package 3 for Line 16 in a few months and get started on the civil engineering works at the same time. Other Grand Paris Express lines have also move into the civil engineering phase including Line 17, where construction of the Le Bourget Aéroport station started in spring 2019.

Has Société du Grand Paris identified any special risks due to the scale of the project?

While the works are on a different scale, it is still essential to adapt to the constraints and realities of the site, while capitalising on the lessons learned on the most advanced sites.



The geological reality in Champigny is not the same as that in Blanc-Mesnil or Arcueil. The Parisian Basin is very geologically diverse. That is clearly one of our challenges, and with over 7,000 samples taken along the lines, we are working to identify every individual risk so we can adapt our construction methods accordingly. The ramp-up in underground works also means relying on experienced professionals, particularly to drive the tunnel boring machines. Training a tunnel boring machine team isn’t just a quick formality! We work with the entire public works ecosystem to ensure our contractors can fill those jobs. That is a particularly pressing concern given that other projects are already draining those rare skills. Having said that, building the new metro isn’t just about underground works, although their scale attracts a great deal of attention. In 2019, Société du Grand Paris awarded the first contract for traction equipment and works for Line 15 South. That was followed by the high voltage/ low voltage line contract for the joint section of Lines 16 and 17, which was notified in December. The call to tender for the rolling stock, driving automation and on-board systems for Line 18 has also been published.

In this rapidly changing context, what is the outlook for the implementation of the design-build process, which Société du Grand Paris selected for Lines 15 East and 15 West?

We chose the design-build approach due to the extremely complex nature of these two lines, particularly in terms of geology. They will also be built in very urban environments, with complex connections to the existing network. That made design-build the best approach to stay on time and on budget. Société du Grand Paris selected its technical programme management support provider last summer, and the first calls to tender for the packages for these two lines will be published in 2020. The schedule will go through a coordination phase in close cooperation with local elected officials.

Société du Grand Paris aimed to use the construction of the new metro to boost employment, particularly in Île-de-France.

How is that going?

In 2019, 6,500 people worked on the Grand Paris Express worksites. And we achieved one million hours of work integration in the summer of 2019, showing that our worksites can be a springboard for a return to work.

The civil engineering works on Lines 15 South, 16, and 17 North, for which we are the programme manager, involved 4,300 companies, 2,000 of them from the region. As our country confronts an unprecedented crisis, the economic effects of the Grand Paris Express worksites will be decisive, particularly for the surrounding neighbourhoods.

“If I had to choose
a few images that
represent the past year.”

Bernard Cathelain



In January, the “face” of the future Lines 15, 16, and 17 was revealed. Nearly 13,000 Île-de-France residents voted on the design of the train’s front end. The winner was the “full-surround” lines design.



90 people, including 66 firefighters, spent 4 hours on the first underground fire drill. The drill, which was held in February, will be repeated for each tunnel borer to keep workers safe.



The Grand Paris Express worksites marked their one millionth hour of work integration in summer 2019 thanks to the ramp-up of construction, mainly on Lines 15 South and 16. Over 1,600 people have signed work integration contracts since works started.



River platforms were built to load barges with spoil directly from the worksites. The first transfer took place in spring on the Puits du Canal worksite in Aubervilliers. Alternative forms of transportation for spoil removal on the Grand Paris Express became a reality in 2019.



Four pilot projects on the square in front of the Bobigny prefecture tested the use of urban furniture to protect public spaces. These innovations include features that go far beyond their original function as anti-ramming barriers, like these concrete letters that can be moved to form an infinite number of words.



Jean-Baptiste Treussard, rail operator relations manager

"As the rail operator relations manager, I am responsible for managing the contracts, agreements, and finances related to rail safety. SNCF and RATP are my main contacts. I also run the third-party construction permit office that the land acquisition unit set up after I joined Société du Grand Paris in October 2019. Its goal is to facilitate and track discussions, both internally and with the different stakeholders (municipal governments, prefectures, planners, developers, etc.) before, during, and after the construction permit filing process. I find tremendous satisfaction in that double role, which made possible by the very diverse industries and stakeholders involved in the project."

Being directly involved in a worksite

Albane Bonnaud, infrastructure maintenance vehicle project manager

"I left London and took the Chunnel to join a new underground project, the Grand Paris Express. In England, I was responsible for optimising the Eurostar high speed trains for passenger comfort. Now I develop trains for network infrastructure maintenance to guarantee optimal operability for the RATP, which will be the infrastructure manager. Our role is to ensure that the RATP can carry out all track maintenance with a minimum of equipment. In practical terms, that means providing train cars, functional modules (welding, cranes, etc.), and kleinloks. These elements can then be assembled



and disassembled as needed, like Lego! The machines we supply will be fully electric, a first in France. Joining Société du Grand Paris in this role has given me the chance to contribute to one of the world's great rail projects."



Ioana Pascu-Brochard, assistant project director, Line 16, Section 1

"Being directly involved in a worksite and seeing the Grand Paris Express emerge in real life is hugely satisfying as an engineer. And steering the worksite for the

tunnel that will run under our new office in Saint-Denis is a whole new experience! I spent 12 years as a project manager on major projects like high speed train lines, Line 15 South of the Grand Paris Express, or the Charles de Gaulle Express. They all have one thing in common: they are rail infrastructure projects. For me, the Grand Paris Express is about meeting Île-de-France residents' need for mobility and boosting the regional economy. As a professional, its technical and human complexity make it a fantastic challenge. I had already worked as a project manager for the Châtillon - Montrouge station project management office on Line 15 South. And now I'm back on the project in programme management. I am currently responsible for the Western section of the civil engineering, track, and catenary contract for section 1 of Line 16, which runs from Saint-Denis to La Courneuve. I work closely with the sector project managers and cross-functionally with my counterpart on the Eastern section, which runs from Le Bourget to Aulnay-sous-Bois. The contract is innovative because it combines civil engineering works and rail equipment. The goal is to optimise the

interfaces and thus the schedule. At 1.84 billion euros, it is also the project's biggest contract. The Western section includes the infrastructure for Line 16 (shared with Line 17) and Lines 14 and 15: the Saint-Denis-Pleyel, La Courneuve Six-Routes and Stade de France stations, ten service shafts, and about 11 km of tunnels. Work started in early 2018, and I have been involved for over six months now. My goals are to keep to the budget, schedule, and technical specifications, as well as the environmental and safety specifications. I work with the programme management support team, the project manager, the contractor, and the other divisions of Société du Grand Paris as well as the other programme managers that interface with our project on a daily basis. I make sure that our works are compliant, ensure that all the different stakeholders coordinate their work, and notify them of any changes in the event of improvements or problems."



Chiv-San Ung, systems contract management project manager

“I spent over thirteen years at Alstom, before working in project management. I was the project manager for the electrification of the Lyon trolleybus system and the first tramway in the city of Bergen and also ran several rail signal projects. As the systems contract management project manager, I work for both the transport systems and operation division and the project division for Line 18, a line which has several distinctive features: a viaduct, smaller rolling stock, and a third rail traction system for a sleeker exterior look. In that capacity, I work with the civil engineers and other specialists in the upstream phases to look for solutions that will still be viable in fifty years.”



Claire Sabatier, worksite safety and security coordinator

“Before joining the project, I worked for a non-profit that was essentially a think tank. My role there included organising discussion groups on global

security issues like preventing terrorism, risks of all kinds, crisis management, etc.

At Société du Grand Paris, our unit provides expertise and support on worksite safety and security to the project divisions. We are there to support them and to ensure that security measures are applied as defined. I'm lucky enough to be able to follow the progress of the worksites across all the network lines and work on several cross-cutting areas like feedback, monitor drills on the worksites, emergency management issues, and more. In late 2019, we initiated a contract for worksite security audits, which I manage. That is a weighty responsibility, since it is the means for us to ensure the operational implementation of the measures defined by Société du Grand Paris and achieve a holistic overview of the level of security on our worksites. In the field, I very much enjoy working with emergency responders on drills. When you're on a tunnel boring machine and see the tunnel being dug before your eyes, you really grasp the scale of the project.”

Faouzi Saadi, cross-functional process coordinator

“The Grand Paris Express is my first experience in the rail industry. I'm an engineer by training and started my career in the gas, avionics, and nuclear industries. I currently work in the reporting division. Reporting is actually just the tip of the iceberg. To ensure that it is reliable, we implement an entire process and a set of management tools. Our division is cross-functional. That means I supply all the divisions and entities that make up Société du Grand Paris with methods and tools. In the other direction, they send me the information we need for our regular progress report, which is a bimonthly report compiled for the management board, the audit committee, and the supervisory board. A clearly defined methodology and targeted tools are the keys to controlling our schedule, budget, and risks!”



Social and environmental challenges guide our work every day

by Frédéric Brédillot, member of the
management board of Société du Grand Paris

Société du Grand Paris planned to accelerate its hiring to support its restructuring. Did it achieve that goal?

Yes, Société du Grand Paris doubled its headcount in a single year! More than 230 new employees joined us in 2019. Thanks to the government and parliament's decision to increase our employment cap in the 2019 Finance Law, we will continue that trend in 2020, with a target of 750 employees by the end of the year.

That growth, which we were able to continue throughout the spring by working remotely during lockdown, has enabled us to consolidate our project steering in strategic areas, with a wide range of professionals including contract managers, legal experts, purchasers, and civil engineers. We will also be seeing growth on the teams dedicated to rail systems, preparations to operate the metro, and the design and development of the urban hubs that will be built around the stations.

Dramatically increasing a company's headcount has consequences. How have you taken on that challenge?

First, there was the practical, logistical issue of finding a space where we could all work together. The new company headquarters, strategically located in Saint-Denis near the Grand Paris Express worksites, are big enough that we can have all the teams on a single site, as well as some of our closest partners. But the move alone doesn't address all the challenges generated by our growth. The most important hurdle is integrating our new employees.



“More than 230
new employees
joined us in 2019.”

project, so they naturally guide our work every day. By its very nature, the Grand Paris Express offers a response to the biggest contemporary challenges: fighting climate change, eliminating regional inequality, and creating jobs. Those efforts are more relevant now than ever before, particularly in Île-de-France. Our CSR strategy isn't about being trendy or artificially trying to give our project a soul. Instead, it aims to tell the world who we are and what we can rightly be proud of.

Is that why Société du Grand Paris also chose green finance? Is that strategy still in place?

Yes, we have issued green bonds five times so far, once in 2018, twice in 2019, and twice in 2020. The most recent bond issue was in April 2020, in the middle of the lockdown. The first 2020 bond issue, which totalled 2.5 billion euros for fifty years, is the world's longest-term green bond issue. The success of our bond issues proves that the markets understand our financing model. It also reinforces Société du Grand Paris's status as a project company exclusively dedicated to the new metro and its credibility as the world's leading non-sovereign green investor.

Our clear objective and our shared passion for this great project probably make it easier than for other companies, but the challenge is still very real. We also need to transition to a fully collaborative, cross-functional model, which is vital to be able to deliver the Grand Paris Express lines on time and on budget, and in line with the expected quality and safety standards. To strengthen that cross-functional approach, we decided to set up a project platform to centralise all our skills. Collaboration is also a core part of our corporate plan, which sets out clear objectives and precise, regular assessments. That kept us busy throughout 2019.

The corporate plan is accompanied by the implementation of a CSR strategy, which represents a major step in the evolution of the programme management...

The CSR strategy formalises something that has always been integral to our operations. Social and environmental issues are the heart and soul of our

We signed the lease on our new headquarters in spring 2019. All of the employees and skillsets have been located on a single site since early 2020. The move goes hand-in-hand with our corporate restructuring, and will contribute to a more collaborative, cross-functional approach.



“2019 was a year rich in significant events. Here are my highlights from the year.”

Frédéric Brédillot



The executive committee of Société du Grand Paris was completed in June. The new organisation, which is structured around eight major divisions, is essential as we prepare for the ramp-up in construction.

In May, Société du Grand Paris issued its third 30-year green treasury note, bringing in 1 billion euros and confirming international institutional investors' continued confidence in its financing model.





The first contract for Line 17 was awarded at the beginning of the year. This 439.4 million euro contract covers the works for package 1, between Le Bourget and Gonesse. Construction of the underground walls of Le Bourget Aéroport station began in fall of 2019.

On 31 March 2019, close to 10,000 people ran the Grand Course du Grand Paris Express race. The course took them through urban terrain along the path of the Grand Paris Express from the Canal Saint-Martin to the Stade de France. It was a wonderful opportunity to promote the project to thousands of people from across the region.



Genuine solidarity among employees

José-Martial Sagbo, middle office operator

"I would hear talk about the new metro and watched its growth from a distance. Now, after three years in banking, I work on the Société du Grand Paris trading floor. Trading is a fairly recent activity for the company. Since the project is largely financed by loans, we decided to issue green bonds on the financial markets. I'm a middle office operator, so I interact with other areas, including legal affairs, IT, and management control. My core role is internal control. First, I help set up the financing programmes. Then I verify that they comply with the financial budgets defined by Société du Grand Paris. Finally, I make sure that the transactions processed are compliant with the debt management framework defined by our management board. In the bond issue process, the middle office is responsible for preparing the necessary legal documentation before the subscription period. Once subscriptions are closed, it monitors the rest of the operation to ensure that it runs smoothly and that the funds are received on the Société du Grand Paris accounts. The regulations require separating the front, middle, and back office activities: the office that makes a commitment must not handle payment. We are very much in the background, but our work is essential for financial transactions to happen. On the trading floor, we mainly follow the project's progress in figures: we see its progress in our cash flow variations."



**Anaïd Khatchadourian,
industrial relations manager**

"At Société du Grand Paris, there are around twenty employee representatives, including alternates, who bring all the issues within the company that can affect employees to the attention of management. As a lawyer and employment specialist by training, I manage our relationships with employee representative bodies and unions, alongside the director of human resources. My role is to help foster positive industrial relations so we can make progress on our projects. I am also responsible for ensuring that we are always in compliance with the employment laws and regulations. My responsibilities include helping draft collective bargaining agreements, ensuring that employee representatives are consulted when required by law, and contributing to employee-employer dialogue on a range of issues. More broadly, I provide support and advice on employment law issues and manage individual working relationships. Société du Grand Paris enjoys positive industrial relations. The employee representatives are very committed to their role and to a constructive approach. A shared drive to contribute to the ambitious project we manage creates genuine solidarity among employees, which is rare elsewhere."



Laurie Buala, legal advisor - contracts

"I joined Société du Grand Paris on a programme management support assignment run by the recruiting firm EPSA. I've been a Société du Grand Paris employee since August 2019, in the Contracts and Contract Management Division, where I am a legal advisor on contracts for Line 18. My role is to make sure that all of Société du Grand Paris's agreements and contracts are compliant. That means advising the line divisions and purchasers, and interacting extensively with those entities. Our role is to find a solution that fits everyone's requirements and constraints while ensuring that all our procedures are compliant with public procurement law. The Grand Paris Express is a unique project on an unprecedented scale, which means new legal issues and new challenges to take on. I particularly appreciate the opportunity to work with other entities."



Kasia Blanchon, contract manager

“I previously had the opportunity to work on transportation infrastructure projects at SNCF and Aéroports de Paris, including the redesign of Orly-South and the construction of the building linking it to the West terminal. Those two major projects, which combined buildings and infrastructure, sparked a desire to work on something even more ambitious. I am currently a contract manager with the contracts and contract management division, where I work with the Line 15 South team. My job is to help the operational staff, particularly the operational contract managers, manage the civil engineering contracts for the segments from Pont de Sèvres to Fort d’Issy - Vanves - Clamart and from Villejuif Louis-Aragon to Créteil l’Échat.

Since I joined the company, I have mainly focused on managing contractors’ requests for additional compensation. During performance of the contract, companies often discover certain parameters that were not estimated in advance. That can lead to disagreements between contractors and project managers. We then start negotiations so the contract can continue and to preserve the relationship between the parties so they can work together effectively. I am very impressed by Société du Grand Paris’s organisation.

It has become a large company without losing the mindset of a start-up that can adapt to each new phase of the project.”



Florian Guigny, construction economist

“My relationship with Société du Grand Paris started in 2016. At the time, I was working for an external firm that had been hired to prepare counter-estimates for the first civil engineering contracts on Line 15 South, then on Line 16. A year ago, Société du Grand Paris created a quality / cost / scheduling / sourcing unit that operates across all its contracts. Internalising “Cost” skills enables it to capitalise economically for its own benefit and manage its budget on a more strategic level. On a purely logistical level, that move has also created a closer relationship with the purchasers, which is key to being able to provide them with feedback on past negotiations. Finding myself right at the heart of the project has given me a more holistic view of it.

That level of involvement makes my role all the more exciting: not only can I take my thought process further, I can also contribute to all kinds of contracts—civil engineering, station fittings, or systems. The design-build contracts for Lines 15 West and 15 East are the next new challenge for us to tackle, since the target purchasing costs have to be challenged and contextualised all over again based on this new type of contract.”

Sofiane Benfadel, office software and digital work environment manager

“I was a service provider for Société du Grand Paris from 2013 to 2016. At the time, it had barely a hundred employees. I came back in September 2019 after seeing a job offer on its website. The changes it has undergone in such a short time are impressive. I arrived in the middle of preparations for the move to our new headquarters—an extremely busy time for the IT division.

Everything went quickly, but thanks to my past experience I was able to get a running start. With my team, we migrated workstations and digital devices for one thousand people with no issues, which was quite a feat! My usual role is coordinating the outsourcer that handles part of our IT support. My unit’s role is meeting users’ needs to avoid productivity losses and dissatisfaction in general. When everything works, it’s like we don’t even exist. But when things need to happen fast, like right now with the lockdown, we emerge from the shadows!”



Developing a sustainability- centric approach



1 Ethical, people-centric project management



FOCUS 1: Fostering and ensuring safe, healthy conditions for everyone on the Grand Paris Express



FOCUS 2: Hiring, on-boarding, and retaining employees and contributing to talent development



FOCUS 3: Fostering well-being at work

FOCUS 4: Having appropriate governance and ensuring fair corporate practices

2 Factoring in the environment in both design and implementation



FOCUS 1: Limiting the project's community and environmental impact



FOCUS 2: Promoting the circular economy



FOCUS 3: Taking climate and energy issues into account



FOCUS 4: Integrating environmental issues into corporate operations

3 Taking part in creating the city of tomorrow



FOCUS 1: Contributing to the transformation of mobility



FOCUS 2: Integrating station districts into the city



FOCUS 3: Designing and building maintainable modern infrastructure for the long term

4 Working for - and collaborating with - local stakeholders



FOCUS 1: Supporting economic and social development around the project



FOCUS 2: Promoting work integration and training through the project



FOCUS 3: Maintaining an uninterrupted dialogue with local stakeholders

A CSR strategy in the service of a sustainable development project

In 2019, Société du Grand Paris began implementation of a Corporate Social Responsibility (CSR) approach. This approach, which was developed through dialogue, is not a rigid, inflexible system. It is based on the development and promotion of best practices for implementation of the Grand Paris Express and employees' daily activities.

Structure of the CSR approach

One of the highlights of 2019 for Société du Grand Paris was the implementation of its CSR strategy. The process involved creating a position dedicated to structuring and rolling out the approach, training a working group including representatives of all divisions, and drawing up a roadmap to guide the company in its role as a contracting authority and its responsibilities as a public enterprise.

While the structure of the CSR approach is new, Société du Grand Paris has made numerous commitments to incorporating environmental, social, and economic concerns into its project steering and operations since its creation in 2010. Implementation of the CSR strategy will continue throughout 2020: an action plan will be rolled out and the relevant sustainable development challenges will be shared with all employees and managers across the different divisions.

To anchor its approach, Société du Grand Paris plans to take the additional step of signing the Global Compact in 2020. Signing the Global Compact is a way of committing to compliance with universally recognised principles of respect for human rights, labour rights, environmental protection, and anti-corruption efforts.

2010: an assessment of the project's environmental impact was submitted during the public debate that led to the emergence of the Grand Paris Express. Impact studies were then incorporated into the regulatory files for the metro lines, all of which were found to be of public utility.

2012: the CarbOptimum® carbon calculator for the Grand Paris Express was developed, enabling an initial assessment of the project.

2015: Société du Grand Paris contributed to the climate conference with the publication of its green book, which laid out its seven environmental commitments for project implementation and management.

2017: Société du Grand Paris required that at least 20% of work on the Grand Paris Express be done by SMEs. To ensure compliance with this clause and encourage the involvement of small and mid-sized companies, it founded an observatory made up of professional organisations, chambers of commerce and industry, and the SME Directe office.

2018: Société du Grand Paris took a responsible green approach to its massive investment programme, becoming the world's first 100% green bond issuer.

The Société du Grand Paris roadmap

The initial work done in 2019 produced the first CSR roadmap, which covers both the corporate and project scopes. Société du Grand Paris based its work on ISO 26000, the recognised international standard for corporate CSR implementation.

This roadmap (*details on page 42*) is organised around four key pillars, which are broken down into operational focus points and practical actions.

Pillar 1: Ethical, people-centric project management

Governance methods and listening to all project stakeholders are essential. That means both affirming employees on the job and in terms of their environment and implementing ethical, transparent practices.

Pillar 2: Factoring in the environment in both design and implementation

Protecting the environment is integral to the Grand Paris Express, from design to operation. Beyond the Grand Paris Express, Société du Grand Paris strives to incorporate environmentally friendly practices into its operations and to educate its employees.

Pillar 3: Taking part in creating the city of tomorrow

Société du Grand Paris designs the Grand Paris Express to benefit the areas it runs through. It also aims to support the emergence of the cities of the future: diverse, fully-accessible, connected, multi-modal, with inclusive architecture and supported by a wide array of services.

Pillar 4: Working for - and collaborating with - local stakeholders

Since the public debate of late 2010 and early 2011, Société du Grand Paris has been working in partnership with all local stakeholders. It has formed numerous consultation and discussion bodies to share a collaborative vision of the project and its implementation.

Société du Grand Paris's contributions to the United Nations Sustainable Development Goals

Société du Grand Paris's commitment to corporate social responsibility is based on four pillars, applied as a set of CSR guidelines. These pillars and guidelines also shape its efforts to contribute to the United Nations Sustainable Development Goals.

In September 2015, the United Nations adopted 17 Sustainable Development Goals (SDGs) as part of its 2030 Agenda. These goals unite businesses and members states around a common goal: achieving effective protection of human rights, reducing inequality, tackling climate change, and protecting natural resources.

The French roadmap, drawn up in September 2019 by the Minister for the Ecological and Inclusive Transition, is structured around six principles:

1. Promoting a just society by eradicating poverty, fighting all forms of discrimination and inequality, and ensuring that all people enjoy the same rights, opportunities, and freedoms.
2. Transforming the societal paradigm through carbon sobriety and reduced natural resource consumption to protect the planet, the climate, and biodiversity.
3. Using initial and continuing education to change behaviour and encourage lifestyles tailored to the world of the future and the challenges of sustainable development.
4. Promoting health and well-being for all, particularly through healthy, sustainable food and agriculture.
5. Enabling effective community contributions to achievement of the SDGs and transforming practices with increased pilot projects and local innovation.
6. Contributing to European and international plans for sustainable societal transition, peace, and inclusion.

Société du Grand Paris has identified 6 of the 17 SDGs which are particularly relevant to its activity and the Grand Paris Express's benefits for mobility, the environment, the regional economy, and expertise.

-  Industry, Innovation and Infrastructure
-  Reduced Inequalities
-  Sustainable Cities and Communities
-  Responsible Consumption and Production
-  Climate Action
-  Partnerships for the Goals

The CSR approach also covers other goals:

-  Good Health and Well-Being
-  Quality Education
-  Gender Equality
-  Clean Water and Sanitation
-  Decent Work and Economic Growth
-  Life Below Water
-  Life On Land
-  Peace, Justice and Strong Institutions

The stakeholders

An intimate dialogue with the project's stakeholders

Since its inception, Société du Grand Paris has made listening and dialogue the cornerstone of its approach. Thanks to its ongoing dialogue with elected officials, local residents, and its partners, it has personal relationships with and in-depth knowledge of all the stakeholders. The different stakeholders have been included in the implementation of the Grand Paris Express every

step of the way, through dedicated processes. As a result, Société du Grand Paris is in a position to develop a CSR approach that fits their needs and expectations. A map of the project stakeholders is one key tool to do that successfully. The following table shows the context of Société du Grand Paris's relationships with its stakeholders, their expectations, and how it interacts with them.

STAKE-HOLDERS	REQUESTS - EXISTING DISCUSSION BODIES (NON-EXHAUSTIVE)	STAKEHOLDERS' KEY EXPECTATIONS	CSR PILLAR
Future passengers	<p>Public Consultations and Studies Public debate in 2010-2011 organised by the National Public Debate Commission: 55 public meetings, 15,000 participants. Voluntary consultations under the aegis of a guarantor selected by the National Public Debate Commission between 2012 and 2015. Seven public utility studies between 2013 and 2016. Seven public inquiries between 2015 and 2019 for the regulatory environmental authorisations for each line and operations centre ahead of the civil engineering works phase.</p> <p>Opening of the Fabrique du métro in 2018 Visitors can explore different facets of the project with free guided tours (reservations required). Open houses are held during the year.</p> <p>Worksite open houses Worksites are opened to the public to celebrate major project milestones. More than 40,000 people have attended these artistic and educational events since 2016.</p> <p>Guided observations from the edges of active worksites on Lines 15 South and 16 Free guided tours, which keep visitors out of the active works zone, are available with pre-registration.</p>	<ul style="list-style-type: none"> - Serving the public interest: improving the transportation offer, making travel faster and easier - Protecting the environment, by design - Controlling costs and staying on schedule - Providing information on the different phases of the project 	2 3 4

STAKE-HOLDERS	REQUESTS - EXISTING DISCUSSION BODIES (NON-EXHAUSTIVE)	STAKEHOLDERS' KEY EXPECTATIONS	CSR PILLAR
	<p>Website and social media Publication of news articles and videos on the project and the works. Publication of educational content on Facebook, Instagram, and YouTube. Contact form available online.</p> <p>Consultation on the external design of the cars for Lines 15, 16 and 17 in late 2018 with Alstom and Île-de-France Mobilités. 13,000 Île-de-France residents helped choose a design for the front of the new trains.</p> <p>Grand Paris Express image studies done in June 2015 and May 2019 by BVA Survey of Île-de-France residents on name recognition of the Grand Paris Express and the Société du Grand Paris and their expectations for the project.</p>		
Civil society	<p>Dialogue and regular contact initiated since the public debate: meetings, responses to opinions expressed during the public utility studies of the lines and the regulatory authorisation process (urban planning and environmental studies).</p> <p>Meetings with non-profits particularly environmental groups.</p> <p>User tests of the station and train fittings to fully understand their ergonomics, how they are used, and how accessible they are for a broad panel of testers: cleaners, station agents, and passengers with and without disabilities.</p>	<ul style="list-style-type: none"> - Ensuring regulatory compliance and ethical behaviour. - Making commitments to the environment. - Guaranteeing optimal quality of service for all users. - Ensuring that the Grand Paris Express is accessible for everyone. 	2 3 4
Residents around worksites	<p>On-site contacts: door-to-door, office hours, dedicated public meetings.</p> <p>Public meetings for people who live near worksites.</p> <p>Presence of local outreach agents around the worksites starting in the civil engineering phase.</p> <p>Compensation programme for the most seriously affected residents.</p> <p>Contact form on the website and social media Responses to local residents via the website and on Facebook.</p> <p>Distribution of information on the phases of construction and upcoming disturbances to local residents. Information posted on the worksite barriers and signs around the work-sites. A Credoc study of perception of worksite communications was carried out in 2019.</p>	<ul style="list-style-type: none"> - Ensuring equitable treatment for all local residents across all Grand Paris Express lines. - Informing and supporting local residents during construction. - Reducing the disturbances caused by construction. 	2 4
Société du Grand Paris employees and their representatives	<p>Continuous dialogue with unions and employee representative bodies</p> <p>A collaborative approach and employee consultations Plan to move all employees to a single, freshly laid-out site activated in 2019: dedicated e-mail address, tours of the new building, showroom, meetings, regular progress updates. Four online consultations and presentations on work and office life in the new building.</p> <p>"Great Place to Work" satisfaction survey in 2019 to explore employees' perceptions of the company's operations, the planned fit-out of the new space, and the development of an employer brand.</p> <p>Discussion groups and meetings for internal presentations of tools, the teams' activities, and progress on the project.</p>	<ul style="list-style-type: none"> - Contributing to changes in the company. - Ensuring transparent employer-employee dialogue and management. - Providing good jobs and working conditions. - Boosting employability and supporting career aspirations. - Recognising employees' efforts and expertise. 	1

STAKE-HOLDERS	REQUESTS - EXISTING DISCUSSION BODIES (NON-EXHAUSTIVE)	STAKEHOLDERS' KEY EXPECTATIONS	CSR PILLAR
Service providers	<p>Contractual relationships with over 4,300 companies and sub-contractors for the works</p> <p>Commitments required in the works contracts Audits are carried out to monitor these commitments.</p> <p>Regular monitoring/progress and steering meetings</p> <p>Joint discussions on work and employment issues: VSE/SME access to works contracts. Matchmaking by local government agencies to put contractors in touch with local social enterprises when works contracts are started.</p>	<ul style="list-style-type: none"> - Ensuring fair business practices. 	1
		<ul style="list-style-type: none"> - Promoting companies' CSR commitments and initiatives. - Honouring contractual commitments and payment times. - Providing good working conditions. - Maintaining an uninterrupted dialogue so all companies can work on the project. - Establishing long-term, trusted relationships. 	2 4
Transportation stakeholders (Île-de-France Mobilités, RATP Infrastructures, infrastructure managers and operators of existing networks, etc.)	<p>Thematic working groups and technical workshops (Interconnections, Grand Paris Express operations, maintenance, rolling stock, etc.).</p> <p>Contracts, partnership agreements, and protocols</p> <p>Monitoring committee, technical committee, meetings</p> <p>Project platform set up to centralise all the Société du Grand Paris, Île-de-France Mobilités, and RATP Infrastructures teams to strengthen coordination among the three entities and facilitate operation and maintenance of the network.</p>	<ul style="list-style-type: none"> - Maintaining a continuous dialogue with Société du Grand Paris, ensuring inclusion in the project design process and regular updates on its progress. - Preparing the framework for the handover of management to Île-de-France Mobilités, the future transport operators and RATP Infrastructures. - Defining the performance and quality of service objectives for the future operators and maintenance providers, in keeping with the transport system's design. 	3
		<ul style="list-style-type: none"> - Discussing practices, positions, or shared commitments. - Developing shared tools and methods. - Resolving implementation issues together. 	4
The Business community	<p>Partnerships and memberships with numerous businesses, federations, chambers of commerce and industry, business associations, etc.</p> <p>Presence at tradeshows and conferences at the request of various partners.</p> <p>SME Observatory</p> <p>Local partnership approach to support contractors' CSR commitments to facilitate access to the opportunities created by the Grand Paris Express worksites.</p> <p>B to B Events/speedmeeting</p>	<ul style="list-style-type: none"> - Communicating on the CSR values (affirming the company's social, societal, and environmental commitments). - Meeting the Green EMTN financing programme requirements. - Managing reputation risks/greenwashing. 	1 2 3 4
Financing providers	<p>Producing financial and management reports, etc.</p> <p>Green Bond Reporting for bond investors.</p> <p>Ad hoc reporting based on a joint finance partner's commitment (e.g. European Investment Bank, CDC).</p> <p>Investor communications: sharing financial policy/strategy.</p> <p>Communications targeting SRI ratings analysts: promoting the companies' CSR commitments (internal/external).</p>	<ul style="list-style-type: none"> - Communicating on the CSR values (affirming the company's social, societal, and environmental commitments). - Meeting the Green EMTN financing programme requirements. - Managing reputation risks/greenwashing. 	1 2 3 4

STAKE-HOLDERS	REQUESTS - EXISTING DISCUSSION BODIES (NON-EXHAUSTIVE)	STAKEHOLDERS' KEY EXPECTATIONS	CSR PILLAR
The Education community	<p>Creation of the "Classes du Grand Paris Express" programme for children and teens of all ages:</p> <ul style="list-style-type: none"> - producing and distributing educational resources; - local cultural and educational initiatives; - promoting jobs to young people. 	<ul style="list-style-type: none"> - Distributing information to influencers. - Building knowledge based on the project. - Raising awareness of construction-related jobs. 	4
Elected officials and local authorities	<p>Formalising dialogue and consultation bodies for a structured approach with the institutional players (members of parliament, senators, prefects, department presidents) and local elected officials on each line: supervisory board, line conferences, steering committees, technical committees, works monitoring committees, individual meetings, involvement in broader events (e.g. Amif).</p>	<ul style="list-style-type: none"> - Contributing to the decision-making process. - Contributing to defining and implementing the project within their jurisdiction. 	4
Government agencies	<p>Dialogue and coordination meetings with government agencies, prefectures, etc.</p> <p>Project progress updates</p>	<ul style="list-style-type: none"> - Keeping to the roadmap established by the government, the authorities' commitments, and the procedures and regulations. 	1
Oversight	<p>Oversight and regulatory structures: supervisory board, oversight committee, financial statement verification committee, audits and commitments committee, anti-corruption programme steering committee.</p>	<ul style="list-style-type: none"> - Controlling risks and costs and keeping to the roadmap and schedule defined by the government. 	1 2 3 4

PILLAR 1 Ethical people-centric project management

THE GRAND PARIS EXPRESS IS AN ADVENTURE ON A SCALE NEVER BEFORE SEEN IN FRANCE. IN 2019, 7,000 PEOPLE WERE INVOLVED IN THIS MASSIVE PROJECT, BOTH ON THE NUMEROUS WORKSITES AND IN PROGRAMME MANAGEMENT.

KEEPING THEM SAFE AND GUARANTEEING EXCELLENT WORKING CONDITIONS REMAINS SOCIÉTÉ DU GRAND PARIS'S PRIORITY. TO EFFECTIVELY SECURE ITS ORGANISATION AND PROJECT STEERING, IT EXPANDED ITS STAFF BY BRINGING IN 200 NEW EMPLOYEES. SOCIÉTÉ DU GRAND PARIS IS ALSO COMMITTED TO TRANSPARENT, FAIR, AND ETHICAL PRACTICES.



FOCUS 1: Fostering and ensuring safe, healthy conditions for everyone on the Grand Paris Express

As programme manager, Société du Grand Paris is responsible for safety. It does everything in its power to keep workers safe on its worksites, including implementing strict preventive measures. It is also continuously looking for new ways to improve its employees' working conditions and foster their well-being.

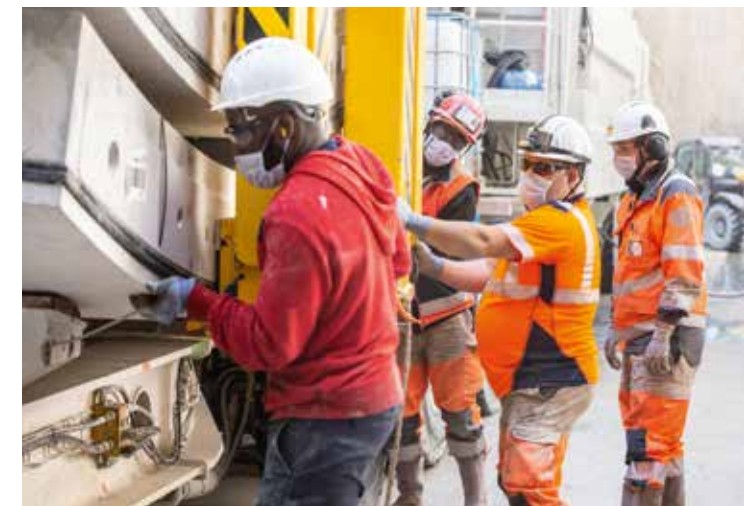
Preventing serious accidents on and around worksites as the programme manager

Building the Grand Paris Express will require over 260 worksites across the Paris region. That means safety management across all worksites is a key aspect of the project, for both workers and local residents. The main worksite risks are generated by handling, large objects in motion, and falls. Underground works involve additional risks due to their unique configuration (risk of collapse and fire) as well as psychosocial factors (feeling of being trapped, etc.).

The safety management strategy is based on the development of a shared doctrine applied by everyone involved throughout the works process. The general principles of worksite accident prevention are applied and adhered to by the programme manager, project managers, construction companies, and health and safety coordinators, who are also responsible for controlling the inherent risks of joint operations. The contracts signed by these companies include the worksite safety charter and repositories developed by Société du Grand Paris. The charter reviews the legal requirements and recommendations on safety as well as project-specific information like the programme manager notification process in the event of an incident on a worksite. The goal is to establish optimal safety rules that are identical across all the Grand Paris Express worksites managed by Société du Grand Paris. Each company is also required to fulfil its responsibility for the health and safety of its employees on the worksite.

Worksite access is strictly regulated. Each worksite manager is responsible for implementing access control and managing employee site access based on planned work times, authorisations, and training, as identified in advance by company leadership. Visitor access rules are also implemented, in conjunction with the host company and the site safety manager. These rules cover the documentation visitors must provide to justify their visit, advance training on worksite safety, and provision of personal protective equipment (PPE).

A series of drills with support from emergency services was launched in 2018 and will continue throughout the project. These full-scale drills provide an opportunity to test and improve the companies' emergency plans and help workers identify the risks and practice managing incidents. They bring together companies, health and safety coordinators, programme management, and emergency services. The first fire drill was held in the tunnel boring machine launch shaft in Champigny on 4 February 2019. Tunnels are confined spaces where special safety standards and emergency procedures apply. The drill lasted four hours and involved 66 firefighters. This type of training (fire and first aid) will be scheduled for all tunnel boring machines.



Construction restarted in April 2020 with strict sanitary measures to protect workers.

Société du Grand Paris rolled out an emergency and crisis management plan in 2019. The plan defines how to manage unusually significant events of the preceding types. A situation is considered a crisis when the standard event management rules are inadequate. The plan is intended to keep the worksites running and plan for or report any incident or combination of incidents that could affect the project: safety (for Société du Grand Paris employees, workers on the worksites, suppliers and service providers, visitors, residents), asset integrity (premises, equipment, and the surrounding area), physical preservation of the environment around worksites; processes that are critical to the company; and the reputation or assets of Société du Grand Paris. The goal is to enable a rapid, targeted reaction, particularly in terms of communication and coordination with the stakeholders responsible for resolving the incident. 300 incidents were reported in 2019, 80% of which occurred on worksites. Annual worksite safety audit campaigns will start in 2020. Each Grand Paris Express worksite will be audited annually by AFNOR Certification to assess its safety measures and site-level safety management system. These audits will provide management resources and qualitative indicators for the local teams and improve experience sharing.

Protecting all employees' health and safety

Société du Grand Paris provides optimal health and safety conditions and an environment that promotes work-life balance to all its employees and service providers working on its premises. It makes every effort to foster a positive and safe workplace that protects their health. A unified workplace risk assessment document (DUERP) provides a list and assessment of all identified workplace risks. This legal document is updated annually, in cooperation with the Health, Safety, and Working Conditions Commission, which is empowered to make suggestions.

As required by the Labour Code, in addition to these risk prevention measures, Société du Grand Paris has set up an alert and first aid process based on:

- written instructions, which are distributed to all employees and posted on the premises, describing what to do in case of an emergency and the

emergency number to call;

- training volunteer employees as workplace first aid responders; they are involved in prevention at the company and may assist and provide first aid to employees. This training is provided by certified trainers and includes regular retraining;
- providing appropriate first aid equipment (a general first aid kit approved by the occupational health physician, emergency first aid kits distributed to workplace first aid responders, and defibrillators).

In case of fire, all employees must follow the evacuation procedure distributed to them and displayed in the building. Volunteer evacuation managers are responsible for ensuring compliance, and fire drills are held *at least* twice per year.

With regard to employee welfare, in 2017 Société du Grand Paris signed an agreement on death and disability insurance and health care expenses, following union negotiations and consultation of the works council. It also signed a rider to the agreement in 2019. The agreement guarantees extensive employee insurance coverage, in compliance with the legislation and regulations that introduced the concept of responsible policies. Under the agreement, all employees are covered by a death and disability insurance policy and a health care expense reimbursement plan that can be combined with an optional additional hospitalisation cover policy. The majority of all mandatory insurance premiums are paid by Société du Grand Paris, at rates of 100% and 50% respectively for “death and disability” coverage for employees in social security cap categories A and B, and 90% for mandatory supplemental health insurance. Several months after its creation, Société du Grand Paris opted to align non-managers' sick leave coverage with that enjoyed by managers, with no seniority requirements. In practice, this means that all employees, regardless of status, receive their full salary while on sick leave for up to 90 days, with no waiting period. The same terms apply to maternity and paternity leave.

As required by the Labour Code, all employees undergo an information and prevention consultation with a healthcare provider from the occupational health department within three months of starting their job. The consultation covers the employee's state of health, information on the risks to which they are exposed on the job, awareness-raising on the preventive measures to take, and information on medical monitoring. Employees then see the occupational health physician for regular consultations at a frequency determined by their working conditions and medical conditions, as well as after returning after 30+ days of sick leave, a workplace accident, or maternity leave. These consultations offer an opportunity to monitor their health, anonymously discuss any difficulties they may face, and raise their awareness of workplace risks.

Société du Grand Paris is a government agency governed by French employment law. In its capacity as programme manager, it is responsible for respect for human rights and working conditions, in compliance with the principles of the International Labour Organization. It protects its employees fundamental rights, particularly freedom of association and collective bargaining, gender equality, and anti-discrimination efforts in day-to-day operations.

In its contractual relations with the construction companies that work on the Grand Paris Express worksites in Île-de-France, Société du Grand Paris is particularly careful to ensure compliance with these fundamental rights and international agreements, as well as the European and national regulations that protect them. It is committed to eliminating all forms of exploitation of workers.

FOCUS 2: Hiring, on-boarding, and retaining employees and contributing to talent development

In February 2018, when he confirmed that the Grand Paris Express would be completed in full by 2030, the Prime Minister stressed the need to expand the staffing level of Société du Grand Paris. The 2019 Finance Law put that into practice by opening up the possibility of creating 200 new jobs. This significant budget increase had been expected and was needed to enable better project management and achieve the government's objectives. This growth trend will continue in the coming years.

Such dramatic growth poses major challenges for the people involved. It means mobilising teams to recruit new employees, on-board them, maintain the employability of existing employees and keep them committed to the project while treating everyone equitably.

Hiring and appropriately on-boarding employees

By the end of 2019, Société du Grand Paris counted 419 employees. In other terms, it had virtually doubled its headcount in just one year – and it will continue to expand in the coming years to handle the ramp-up of worksites across all the Grand Paris Express lines.

The wide variety of jobs created reflects the vast palette of skills required for the project. From support functions to project implementation (lines, systems, land, etc.), and from procurement to risks and contract performance, Société du Grand Paris grew across the board. Scaling up has enabled Société du Grand Paris to industrialise its processes and better coordinate all the different phases of the project as programme manager.

Permanent hires are prioritised. In 2019, 208 permanent contracts were signed, with 14 fixed-term employees hired as reinforcements. Thirteen employees who were previously on fixed-term, temporary, internship or co-op contracts were hired on permanent contracts. Société du Grand Paris's new employees are 54% men and 46% women. Société du Grand Paris is committed to a training and

work integration policy for young people, particularly in the form of co-ops, which provide an opportunity for students to earn their degree while gaining their first work experience to build their employability. In 2019, 20 co-op students and 40 interns contributed to building the Grand Paris Express in programme management.



208
permanent contracts signed

Such strong growth makes integrating new employees a key concern. It is important to provide a positive environment for new employees to start work and develop their talents. In 2019, 98% of new employees remained in their jobs after the trial period. An on-boarding process, which is slated for expansion, is provided for new employees. Since 2019, they have attended a welcome session with a member of the Management Committee and the Human Resources Division, during which they learn about the company's structure, as well as mandatory trainings on a range of issues: public procurement contracts, ethics, payment processes, worksite safety, information security, and more. The on-boarding process also includes a visit to the Fabrique du métro—a great opportunity to share the company's goals with new employees—and a visit to a Grand Paris Express worksite. Twelve sessions were held in 2019.

All new arrivals also receive a new employee handbook, which includes the keys to understanding the company's structure, the values of Société du Grand Paris, and all the project topics. A mentoring system was also developed in 2019, with employees who have been with the company for at least 4 months and work in a different division serving as mentors.

Boosting employees' employability

Société du Grand Paris is strongly committed to developing a palette of skills and helping employees succeed on the job.

One of the keys to achieving that objective is having all employees undergo an annual review with their manager. Annual reviews are an opportunity to look back at the employee's performance over the past year and identify development needs for the job based on their current skills and career goals. They also provide an opening to identify potential initiatives to boost the employee's skills. In addition to these annual reviews, a biannual career review is a broader opportunity to discuss the employee's career path and growth, in line with Société du Grand Paris's commitment to maintaining and building skills (career reviews will become annual in 2020).

Much of employees' learning and professional growth happens on the job.

Training can support internal career changes as well as more long-term moves, based on five strategic pillars:

- building employees' professionalism and skills by working to achieve the best possible match between the needs expressed and the training solutions offered;
- developing a management culture through a selection of "à la carte" training modules that meet individuals' needs to improve their management approach and develop best practices by learning methods and tools to apply on the job.
- fostering well-being at work;
- creating a project-specific training programme;
- optimising training funding through the skills operators (OPCO) programme.

Société du Grand Paris uses several different approaches to training:

- mandatory and optional trainings included in the skills development plan (e.g. training plan) are offered based on the needs identified by the employee or their manager during reviews;
- personal training accounts;
- skills reviews.

222 employees underwent 5,389.15 hours of training in 2019.

Internal mobility is another strategic aspect of the human resources policy since it offers professional development and growth opportunities to employees, who can move up within the company, while simultaneously meeting the project's operational needs. The growth in headcount and changes in the organisation and therefore in jobs made the need for an internal mobility management system particularly pressing. At the end of 2018, a charter was drawn up to define the major principles and processes for internal mobility. It is a practical expression of the goal of encouraging internal mobility and supporting employees in their career growth.



5,389,15
hours of training provided
to 222 employees in 2019

In 2019, 22% of jobs were filled internally by 59 people (22 women and 37 men).

An electronic hiring application was recently released online to accompany the development and monitoring of the recruitment plan, in parallel with the publication of job offers on the Société du Grand Paris website and an internal list. A system for managing internal and external applicant spaces and simplified CV and selection process management was also implemented.

A forward-looking jobs and skills management module is currently being rolled out.

It covers the job and skill repositories, annual and career reviews, career committees, career paths, and individual development plans.

Personalised support measures in the form of training or special individualised measures have also been implemented for employees who are transferred.



Maintaining equal treatment and balanced staffing

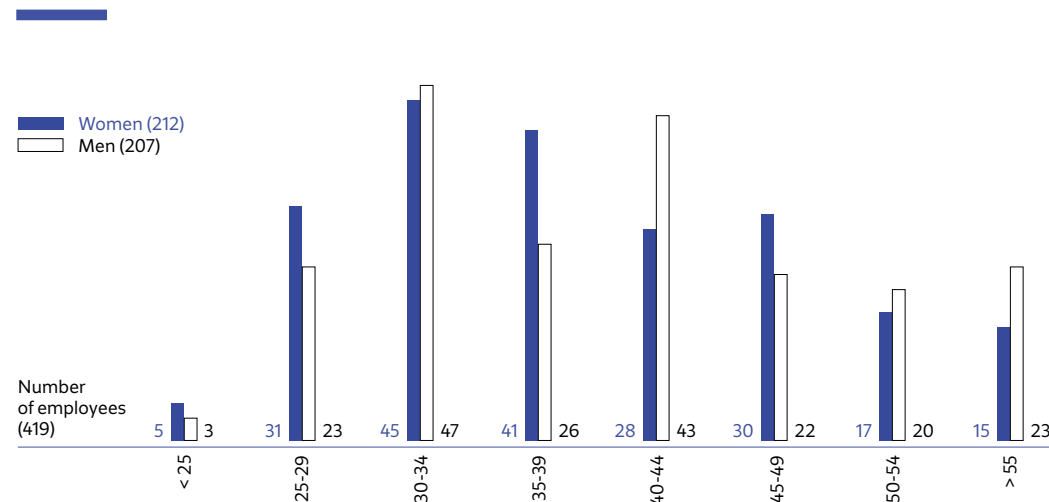
Société du Grand Paris's hiring policy is open to diversity and equal opportunities. For the year 2019, Société du Grand Paris earned a score of 90/100 on the workplace gender equality index, the major benchmark for workplace gender equality in French companies under the Professional Futures Act. This encouraging result is a significant 9-point improvement over its score for 2018 (received in 2019), and reflects Société du Grand Paris's goal of becoming an exemplary company in terms of workplace gender equality. 51.6% of current Société du Grand Paris employees, and close to a third of managers, are women. When pay modifications were applied, women made up 59% of wage gap correction beneficiaries and 54% of performance bonus recipients. Furthermore, 59% of women received performance-based pay increases. A gender equality committee was created in early 2020, following the December 2019 Social and Economic Committee elections. The committee is made up of elected Social and Economic Committee members and chaired by the management representative appointed for the purpose, with the assistance of Société du Grand Paris employees. It meets several times per year and is tasked with assisting the Social and Economic Committee with



its work on workplace gender equality, preparing for discussions of the comparative report on the status of men and women, and preparing for corporate negotiations on gender equality.

Société du Grand Paris treats all applicants equally, starting with the joint recruitment process, and selects applicants on the basis of their skills, qualifications, experience, and motivation. Eleven nationalities were represented in 2019, up from seven in 2018. Since early 2020, job offers have also been published on the website of the national work integration agency for people with disabilities (Agefiph).

HEADCOUNT BREAKDOWN



FOCUS 3: Fostering well-being at work

Société du Grand Paris applies a proactive workplace quality of life policy that covers health, safety, and workplace quality of life. The entire organisation and all managers are involved in creating a positive environment and good working conditions and relationships within teams and with managers.

Creating and maintaining a positive workplace that meets employees' needs

In 2019, a discussion of workplace quality of life and how to optimise employees' working conditions based on their jobs was initiated. Employees were consulted on the fit-out of the new offices. The consultation process ran throughout the year, with four consultations on work and office life in the new headquarters. In 2019, the Health, Safety, and Working Conditions Commission selected Syndex, a firm certified by the Ministry for Labour, to assess the impact of the new fit-out proposed for shared spaces on employees' working conditions, health, and safety.

Société du Grand Paris decided to implement an annual internal survey, to be carried out alternately by two independent research firms, to assess employee satisfaction and well-being at work through the prism of different themes (relationships, fairness, etc.). The 2019 survey was carried out by the independent research firm Great Place To Work. The 2018 survey had identified the structure's strengths and weaknesses after a year of major changes, particularly the restructuring of the company, ahead of the planned large-scale hiring campaign. In 2020, another survey, this time on employee services, will be carried out by a different independent firm. Société du Grand Paris aims to take the process a step further by earning OsmoZ certification, which centres on six societal issues: environmental health, healthy living, work-life balance, communication and social ties, functionalities, and a collaborative approach.

Promoting work-life balance

Société du Grand Paris prioritises full-time employment but allows employees to opt for part-time schedules. Part-time work is authorised automatically as required by law in certain situations, such as part-time parental leave or medical leave. In other circumstances, it requires management approval. However, the share of part-time employees remained low in 2019 (2%, up from 1.3% in 2018). Pregnant women are eligible for reduced work hours and employees are entitled to special leave (additional time for splitting leave, seniority leave, leave for family events, etc.). A nursing mothers' room has been available since 2018.

A series of agreements with employee representative bodies have been signed to promote work-life balance and workplace quality of life. These agreements brought significant advances including the implementation of an agreement on time banks (2016) and a remote work charter (2016). Employees may be eligible to work remotely under a contract rider if the move is deemed opportune after a personalised discussion with their manager. Remote work is limited to one day per week.

The employee representatives have implemented several other initiatives to benefit employees, including holiday vouchers, cultural vouchers and/or sport vouchers, discounted cinema tickets, and more.

Encouraging and applying best practices in management

A clear, shared vision of the task at hand and hands-on management are two of the keys to performance and job satisfaction. A management repository was created in 2019 to support managers in their interactions with team members and to avoid personal and operational risks on the job. The repository contributes to a positive, open, and flexible work environment for all employees and on-site programme management assistants. It also helps managers support their team members' professional development.

Themed discussion workshops for managers are held regularly to assist them in managing their teams' unique features and to provide a space to share ideas and solutions. The workshops have covered a number of themes, all management-related (management in an open space, annual reviews, etc.). Four management workshops have been held since their creation in late 2019, and 24 managers have attended them.

Société du Grand Paris continues to work on developing a management culture to drive hiring, limit turnover, and contribute to internal career progress.

FOCUS 4: Having appropriate governance and ensuring fair corporate practices



16

Integrity and exemplary conduct are key values for Société du Grand Paris. They undergird all its actions, in all circumstances.

Responsible and transparent governance bodies are also vital for a clear understanding of all major risks and their level of control, and to secure the company's strategic and financial future.

Applying a corruption, fraud, and conflict of interest prevention policy

Société du Grand Paris is committed to strict compliance with all applicable legal and regulatory provisions, particularly those on preventing corruption and conflicts of interests. It has a zero tolerance policy for unethical behaviour of any kind.

Corruption prevention policy

Société du Grand Paris's corruption prevention policy, which was drafted in 2019 and took effect in 2020, lays out its commitments and forms the basis for all its efforts to prevent the risk of corruption. It lays out the scope and steering and assessment procedures for the policy, defines the governance bodies set up to oversee compliance with its provisions, and clearly states how it applies to employees as well as third-parties with which the company has business relations. It also provides a solid framework for meeting regulatory

requirements and meets the expectations of external oversight authorities (ministries to which it reports, Cour des comptes, etc.) and the French anti-corruption agency.

Société du Grand Paris has signed an agreement with the anti-corruption agency. Under the agreement, it receives support for the process of achieving compliance with the provisions of the Sapin II Act of 9 December 2016 on transparency, anti-corruption efforts, and modernisation of the economy.

Corruption risk map

The Société du Grand Paris corruption risk map, which is updated regularly, is intended to identify, analyse, and prioritise the company's risks of exposure to external solicitations for the purposes of corruption. The map was drawn up based on the French anti-corruption agency's recommendations and presents the risks of corruption inherent to each of Société du

Grand Paris's activities by macroprocess and the associated sub-processes, in order to identify priority actions and areas to watch. The map also includes documents on the different risks and the associated action plans: each document includes a description of the risk, an example that illustrates it, specific existing preventive measures, and the associated action plans.

130
employees who underwent awareness-raising or completed training on preventing corruption

The anti-corruption plan is formalised and deployed by the risks, audit, and internal control division with the support of the legal affairs, procurement, contract management, and human resources divisions.

Governance bodies have been formed to manage these efforts. The anti-corruption programme steering committee is tasked with defining and monitoring the actions to take. It is responsible for developing, supervising implementation of, and steering the anti-corruption programme. It is chaired by the chairman of the management board and is made up of the division heads of Société du Grand Paris. Progress on the actions implemented is presented annually to the audit and commitments committee, which then reports to the supervisory board (see page 61).

Ethical principles

All employees are required to read the ethical principles appended to the internal regulations, provided at the signature of their employment contract, when they join Société du Grand Paris. These principles define and provide examples of potentially unethical behaviours to avoid. All employees are required to uphold these principles and to apply them in their work. These rules provide guidance on how to behave in business. All employees must refer to them in the event that they encounter a situation which could call into question the justification, impartiality, and fairness of any business decision of any kind. The internal regulations, which took effect in 2015, also cover harassment and the duties of discretion and secrecy.

Since 2019, new employees have attended awareness-raising sessions on ethics and the rules that apply to Société du Grand Paris as part of the on-boarding process. A longer training course on preventing the risk of corruption and conflicts of interest has also been developed for the managers and employees most exposed to those risks. A total of 130 employees, 25% of all staff, completed one of these trainings in 2019. All employees will ultimately undergo training on these issues.

Code of conduct and ethics advisor

In compliance with the Sapin II Act, a code of conduct will be published in 2020. It will replace the ethical principles and provide more detailed versions of the existing rules (zero tolerance policy, rules on gifts and invitations, etc.). It will be distributed, along with a summary, to all employees after approval by the employee representatives. Third parties with which Société du Grand Paris has business relations may also be informed of these rules.

This code of conduct will extend the company's existing measures against corruption and influence peddling, with measures such as the development of a corruption risk map.

The code of conduct will also define the role of Société du Grand Paris's ethics advisor. The ethics advisor will advise employees on compliance with their obligations and the ethical principles; when potential conflicts of interest are reported, he or she will provide all relevant advice to end the conflict of interest; he or she will receive alerts on potential code violations, notify the board of directors, and propose ways to remedy the breach; finally, he or she will suggest improvements and updates to ethics procedures and practices, particularly those on preventing the risks of corruption and conflicts of interest.

Purchasing practices and managing conflicts of interest

Société du Grand Paris applies the rules defined by the current Public Procurement Code. The contracts and contract management division, which is responsible for all the company's purchasing, ensures that all purchases comply with public procurement law and protects the company's interests. As a purchaser (procurement contracts) or licensing authority (licensing contracts), it upholds the basic principles of fair treatment for all candidates, free access, and procedural transparency. These principles ensure that public procurement contracts are efficient and make wise use of taxpayer funds. Contracts cannot be awarded to businesses which are subject to pre-defined exclusions and that cannot guarantee the absence of conflicts of interest, and are concluded for a fixed term.

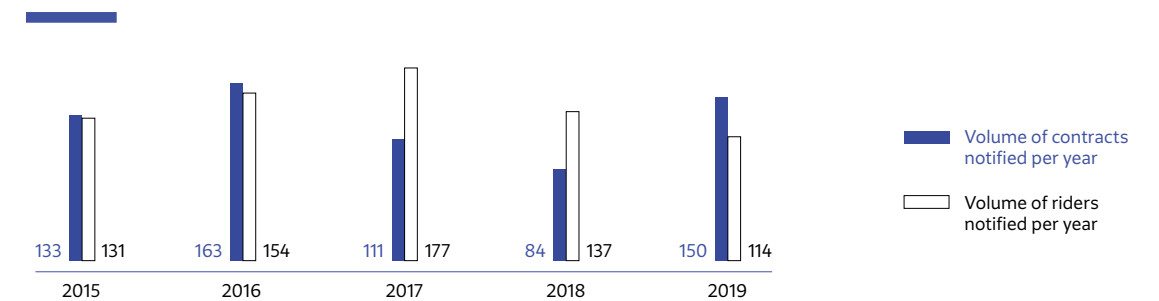
Conflict of interest clauses are incorporated from the publication phase and in the consultation documents. Pursuant to article L. 2141-10 of the Public Procurement Code in force on 1 April 2019, Société du Grand Paris may exclude any legal or moral persons whose bid creates a conflict of interest from the contract award procedure, if the conflict cannot otherwise be resolved. Applicants must submit a sworn statement that the applicant or, where applicable, each member of the group, is not involved in a conflict of interest as defined here. If doubts arise at any stage of the procedure, Société du Grand Paris reserves the right to question the applicants. For each contract, it considers the principle of equal treatment of applicants, proactively distributes information to ensure equitable treatment, and allows adequate time for bid submission. Furthermore, applicants may submit any necessary questions about the contract via the government procurement platform, to ensure traceability.

Employees are made aware of the importance of keeping data confidential, particularly by taking preventive measures. After each call to tender is published and before the contract starts, the awardees also sign confidentiality agreements.

Société du Grand Paris set up a contract procedures review committee to ensure compliance with the disclosure and competition procedures that apply to Société du Grand Paris and to assist the Chairman of the management board in awarding works, supply and service contracts. The committee reviews contracts, riders and any other decisions that exceed the limits it sets and reviews allotment strategy decisions. It verifies compliance with the contract procedures, issues opinions on bid rankings and the choice of the most economically advantageous offers, ensures a competitive balance and protects the interests of Société du Grand Paris. It makes any suggestions necessary for proper contract management. This committee is made up of 11 members, a majority of 6 of whom are from outside Société du Grand Paris. The committee chairman is selected from among the outside members, who include a representative of the national competition, consumption, and fraud prevention agency. It also includes three representatives of Société du Grand Paris including the director of contracts and contract management and a representative of the transport economic and financial inspection mission, who serves as an advisor.

In 2019, the committee met approximately every two weeks, reviewing three to five files at each meeting.

VOLUME OF CONTRACTS AND RIDERS NOTIFIED PER YEAR



Whistleblower procedure

As required by the decree of April 19, 2017 on whistleblower alert management procedures for public and private institutions and government agencies, Société du Grand Paris has developed a whistleblower alert intake and processing procedure for all whistleblowers. Under this procedure, whistleblowers can report any unethical behaviour, crimes, misdemeanours, or serious and manifest violations of a law, regulation, international treaty regularly ratified or approved by France, unilateral act of an international organisation based on such an international commitment, or a threat or serious harm to the general interest. These reports are processed by a whistleblower contact, an individual from outside Société du Grand Paris appointed for a two-year period which can be renewed once and designated by the Chairman of the management board. The whistleblower contact is also the ethical advisor. The whistleblower procedure is defined in a document available to all employees. It complies with the legal provisions on guaranteed anonymity for whistleblowers, guarantees that they cannot be targeted by proceedings, and prohibits reprisals inside or outside the workplace. No reports have been filed since the procedure's implementation in 2017.

Third party notification and assessment

Contract awardees and future applicants will be notified of the code of conduct and the principles that underlie the anti-corruption policy. Companies can be held liable for corruption on the part of a third party with which they have a contractual relationship. To ensure that it can assess its rank one and intermediate suppliers, Société du Grand Paris implements a third-party corruption risk assessment process. The process is based on targeting criteria to identify priority companies and a questionnaire which is sent to the companies identified, either during contract performance for contracts that have already been signed or when new calls to tender are published. The process will be supplemented by an external analysis tool for the highest-risk companies, to obtain information on their exposure to corruption. The first assessments will begin in 2020.

Independent governance bodies

The Supervisory Board

The rules on the composition, organisation, and operations of Société du Grand Paris are defined by law no. 2010-597 of 3 June 2010 on Grand Paris. An application decree issued by the Council of State and published in *Official Bulletin* no. 2010-756 of 7 July 2010 defines the make-up of its governance bodies, the rules and procedures for appointment of members, and their roles.

Société du Grand Paris has official powers as a public authority to build the Grand Paris Express. It will not manage the Grand Paris Express; management will be entrusted to a network manager. The project enjoys long-term State financial guarantees and the overwhelming majority of its funding comes from tax revenue, with loans to be paid off in 2070. Société du Grand Paris therefore does not have shareholders and does not operate on the competitive market.

It is led by a management board under the authority of a supervisory board. The supervisory board is made up of a majority of government representatives proposed for appointment by the government and local elected officials; these representatives include the presidents of the departmental councils of Île-de-France, as required by *Title I - article 8-III of the Grand Paris Act*. To ensure that all decisions are fully-informed and objective, each member must submit a declaration of interests to the government's commissioner (the prefect of the Île-de-France region) at the beginning of his or her term of office and at each change of position. Under the law of 11 October 2013 on transparency in public life, the chairman of the management board must submit a declaration of interests or assets to the High Authority for transparency in public life. Furthermore, no contract between Société du Grand Paris and a member of this board, the management board, or a company or organisation of which a member of one of these bodies is a manager, executive, administrator, director, or shareholder with over 5% of voting rights and which would not constitute an ordinary transaction under normal market conditions may be drawn up without the authorisation of the Supervisory Board. The member of the supervisory board involved in the conflict of interest is excluded from the vote. Finally, the government commissioner may oppose the decisions of the management board or supervisory board of Société du Grand Paris.

Audit and Commitments Committee

The Audit and Commitments Committee is responsible for issuing opinions and comments to inform the supervisory board of the investment, audit, internal control, and risk management policy of Société du Grand Paris, as well as its budget, finance, and accounting management. It also verifies the independence of the statutory auditors. It is made up of 12 members:

- five members appointed by the supervisory board from its own ranks;
- five members of the supervisory board appointed by the ministers for: the economy, transportation, urban planning, the budget, local development;
- two qualified individuals appointed for a three-year term by the chairman of the supervisory board upon the proposal of the chairman of the management board of Société du Grand Paris, on the basis of their experience in audit, internal control, budget and finance management, and risk management. Their compensation is set by the management board.

The members of the audit and commitments committee must report any conflicts of interest. Should any such conflict arise, they must recuse themselves from the committee's work on the issues in question. The chairman of the committee may take any necessary measures to prevent such risks.



**MARINA BELLINI,
DIRECTOR OF HUMAN RESOURCES
SOCIÉTÉ DU GRAND PARIS**

Société du Grand Paris hired over 200 employees in 2019, doubling its headcount in a single year. Is the CSR approach one of the things that attracts applicants to the programme management team?

It's certainly a way of standing out from the crowd. That's why we go above and beyond our regulatory obligations to offer the people who work here

a particularly high-quality personal development plan tailored to their expertise. Of course, the main draw for applicants is the chance to play an active role in managing Europe's biggest project and being in the thick of the action, where the strategic choices that will shape the mobility and cities of the future are made. But it's clear that workplace quality of life is also a factor for applicants. They want a job where they can grow,

“Our CSR approach is all about making our actions as a company consistent with the project we manage.”

learn, and maintain the level of excellence that the project demands. When you sign on to this kind of adventure, when you are involved in managing such

a complex project, you know that you are taking on a major commitment. Building the Grand Paris Express is an exceptional experience, so as the programme manager we have to offer an equally exceptional employee experience.

As a company with a rapidly expanding headcount, our CSR approach is also a way to build a shared culture to bring together newcomers and those who have been with Société du Grand Paris from its inception.

Did the move to a single site in Saint-Denis provide an opportunity to strengthen that approach?

Of course. Workplace quality of life is as much about the career paths we offer our employees as it is about the quality of their work environment. As part of our preparations for the move, a major step for the company, we listened to employees to better understand and incorporate their needs and the way they work. The move is also a chance to affirm the consistency between the project we manage and how we operate in the office. For example, the environmental benefits that are central to the Grand Paris Express are reflected in our choice of short circuits for our corporate catering or the site-wide recycling effort.

Was it also a chance to adapt to the company's new structure?

Yes, our new space reflects our new, cross-functional organisation. The project platforms bring all the necessary skills together around the same table to meet our stringent requirements for operational excellence and to focus all our efforts and all our energy on the goal of delivering the Grand Paris Express on time and on budget, with the expected level of quality.

PILLAR 2 Factoring in the environment in both design and implementation

FACED WITH TODAY'S ENVIRONMENTAL CHALLENGES, SOCIÉTÉ DU GRAND PARIS MUST BE RESPONSIBLE, EXEMPLARY, AND INNOVATIVE. THE GRAND PARIS EXPRESS WILL CONTRIBUTE TO SHAPING THE DEVELOPMENT OF A LOWER-CARBON, MORE SUSTAINABLE METROPOLIS FOR ÎLE-DE-FRANCE RESIDENTS. ITS IMPLEMENTATION MUST ALSO PRESERVE LOCAL COMMUNITIES AND BIODIVERSITY.

FOCUS 1: Limiting the project's community and environmental impact

From tracing the future metro lines to managing worksites, Société du Grand Paris has always sought to minimise or eliminate the project's impact on local communities and natural environments.

That means including stringent environmental requirements in its contracts with construction companies and closely monitoring their implementation up through delivery of the structures.

When preventive or reduction measures are inadequate and residual impacts on significant natural environments remain, Société du Grand Paris works with its partners to implement the necessary ecological compensation and forest offsets, with a focus on overall consistency and synergies between lines.

In the same spirit, in addition to the measures planned and implemented to limit disruption to the daily lives of local residents, it has set up a support programme for people living near worksites.

Incorporating environmental guidelines and commitments into public procurement contracts and ensuring effective implementation



In its works contracts, Société du Grand Paris requires contractors and sub-contractors on its worksites to comply with environmental requirements which, in certain areas, go beyond the regulatory requirements. These requirements are laid out in the environmental charter for worksites it developed, which is signed by the works companies, and in the Environmental Protection Agreement.

This contractual document defines the measures that contractors must apply systematically on all worksites to ensure their environmental integration and control risks.

It also identifies sites for which special additional measures must be taken due to their sensitive environmental context.

From the tender phase, when they submit an operational environmental protection blueprint, contractors agree to implement an environmental management system that complies with the ISO 14001 standard (standard for environmental management systems issued by the International Organization for Standardization).

The blueprint then becomes the environmental protection plan when work starts on the site. In this document, the contractors provide a detailed list of the measures they undertake to apply throughout the works in order to meet Société du Grand Paris's requirements, in line with the Environmental Protection Agreement.

During the works, the companies regularly report quantified data (greenhouse gas emissions, tonnes of waste excavated, volume of water pumped, etc.) to the project manager and programme manager.

To ensure that all these requirements are effectively applied, Société du Grand Paris regularly carries out environmental audits of the project managers and contractors, in addition to the usual worksite monitoring and inspections.

A total of 96 audits have been done at its request since 2017, 41 of them in 2019. Corrective actions were taken when necessary, such as improving spoil management and reducing worksite noise.



audits completed since the beginning of the project, including 41 in 2019



Planting/replanting initiatives to foster biodiversity

The construction of certain new structures like stations, service shafts, or operations centres can have an

ecological impact on natural environments.

When this impact cannot be avoided or adequately limited, every effort is made to ensure that the best possible offset measures in terms of both ecological impact and local integration are applied. Société du Grand Paris strives to ensure that these offsets are located in Île-de-France, as close as possible to the worksites, and that they are high-quality and long-term solutions, with a thirty-year commitment. Its approach includes pooling offset measures at the line level in Île-de-France, with a focus on implementation on public land in partnership with local stakeholders. To better serve local communities and support education, these measures are implemented in natural areas that are open to the public whenever possible.

In 2019, to offset the ecological impact of the new service shafts on Line 16, the Bois Madame site in Chelles was restored in partnership with the town as an environmental site that will be opened to the public (see pages 68-69). Wetland restoration work was done along the Yvette river on the Paris-Sud University campus, in partnership with the Syndicat intercommunal pour l'aménagement hydraulique de la Vallée de l'Yvette (SIAVHY). The goal is to offset Line 18's impact on wetlands. This restoration project is part of a broader programme of ecological restoration and flood prevention along the Yvette, led by SIAVHY. Forest offset measures for Lines 15 and 16 were implemented in 2019. For Line 15 South, Société du Grand Paris made a financial contribution to improvements in several national forests in Île-de-France, under a cooperation agreement with the national forestry office. The forest offset for Line 16 took the form of a contribution to the Strategic Forestry and Wood Fund, to support government forestry initiatives. To offset the impact of Lines 17 and 18, Société du Grand Paris will contribute to the creation of the Pierrelaye forest, which will ultimately become a vital new green space for the metropolis. The project, which is spearheaded

by the Syndicat mixte pour l'aménagement de la plaine de Pierrelaye-Bessancourt (SMAPP) and was officially designated as being of public utility in early 2020, covers close to 1,350 ha and will be completed progressively over the coming decade.

A total of 42 hectares of offsets have been implemented since 2017: 24 ha of forest offsets and 18 ha of ecological compensation, including 9 ha in 2019 (2.5 ha of ecological compensation and 6.5 ha of forest offsets).

In addition to offsetting its residual impact on protected species and habitats, Société du Grand Paris also strives to restore the natural environment on its sites at the end of the works, with added environmental benefits wherever possible. It also works with its design office partners to assess the possibility of integrating green roofs into the structures built. At the Champigny-sur-Marne operations centre, for example, the residual impact on protected insect species is partially offset by the creation of a green roof with a direct link to the ground. The site will house train repair and maintenance facilities as well as the command centre for Line 15 South. Its roof will feature calcareous grassland and acidic, limestone heath habitats. This 1.6 ha project, located in an urban environment, is an opportunity to reconcile biodiversity and economic activity.



42

hectares restored since 2017 for ecological compensation and forest offsets, including 9 hectares in 2019

Planting initiatives for ecological compensation or worksite restoration will prioritise local wild seeds. With the threat of climate change and the attendant high probability of an increase extreme weather events (droughts, violent rain), wild local seeds boost the chances of successful plantings and safeguard local genetic diversity that is a perfect match for the soil and climate and can improve disease resistance. In 2019, a partnership was initiated with the Conservatoire botanique national du Bassin parisien and CDC Biodiversité to develop sourcing for local wild seeds in Île-de-France.



Supporting residents around worksites

The majority of worksites are located in dense urban areas. With their noise, vibrations, dust, and blocked roads, they disturb daily life and create unpleasant effects for local residents and businesses. To reduce these potential disruptions, Société du Grand Paris works with its contractors to implement carefully tailored measures that meet local needs on each worksite (noise barriers, equipment movement and cleaning, etc.). It is also keenly aware that hostility may persist despite those measures. In response, it has formed a local residents unit to support non-business residents and provide compensation. This unit forms close relationships with local residents affected by the works and carefully assesses each individual situation. This ongoing dialogue significantly increases local acceptance of this type of large-scale project. The unit also assesses and provides support for requests, whether individually or collectively. The type of support provided depends on the intangible disruption caused and is based on the principle of equity: financial compensation, adaptations (e.g. installation of double-glazed windows), or temporary relocation. 10 partnership agreements have been signed with social housing authorities to enable a holistic approach to apartment buildings affected by these disruptions. Financial agreements have also been signed with condominium committees to fund double glazing based on a quote submitted by the requesting party and assessed by an acoustics specialist retained by Société du Grand Paris. A total of 2,130 claims have been filed and assessed, 1,060 in 2019. 94% of them received a positive response. Three households were relocated in 2019.

Another of Société du Grand Paris's priorities is keeping local residents updated throughout the project implementation phase, from the start of the preparatory works. For all worksites or project phases that have a noticeable impact on travel and public transportation for a significant amount of time, it provides residents with documentation on the reason for and benefits of the works, their scope, type and duration, and the contact information for the project manager and contracting companies. Since 2019, worksite newsletters have also been available by email by subscribing on the Société du Grand Paris website. More than 24,000 people have signed up for newsletters on Lines 15 South, 16 and 17. 15 local outreach agents are stationed around the worksites to liaise with local residents and provide the information they need to understand the works and the project, reassure them, and plan for any potential future disruptions. More agents will be added as the worksites ramp up. In 2019, they received over 4,200 requests. Local residents can also ask questions directly on the website, during worksite events like tunnel borer inaugurations, or at the many information meetings held in partnership with the local authorities. In 2019, these meetings drew 4,000 participants (see pages 95, 96, 97 - Pillar 4. Working for - and collaborating with - local stakeholders).

RESTORATION OF THE BOIS MADAME WETLANDS IN CHELLES

During construction of Line 16 of the Grand Paris Express, it was impossible to conserve certain wetland zones despite the avoidance and reduction measures implemented. This was the case of the construction of two service shafts for use as safety shafts in Chelles. In its request for environmental authorisation for the line, which was granted on 23 August 2017, Société du Grand Paris undertook to offset their impact by restoring degraded wetlands near the worksites.

The Bois Madame site in Chelles was identified based on its ecological potential and its location near the affected sites. Restoration work was done in 2019, before construction of the shafts, in partnership with the town.

The site, which was previously a marsh and had been abandoned for several years, was in poor condition: a wasteland overgrown with shrubs and invasive exotic species like Japanese knotweed and littered with rubbish. The first step in the restoration process was clearing the entire site, removing all the rubbish, applying pesticide to the Japanese knotweed, digging a pond, building several birdhouses and bat shelters, and sowing seeds in spring. The project was designed by Egis Environnement, the firm



responsible for the Line 16 environmental studies. Société du Grand Paris funded the restoration and will handle management and ecological monitoring of the site for thirty years as part of a partnership with the town of Chelles. The site will open to the public in 2020.

2,400 sq. m

of land restored

30

years of ecological monitoring



PIERRE-BENOÎT BERTHIER SITE MANAGER, LOISELEUR GROUP

Your company, which specialises in landscaping, athletic surface installation, and green waste recycling, was selected to restore a wetland area in Chelles in 2019 after a call to tender by Société du Grand Paris.

What was involved in that project?

The goal of the project was to offset the impact of the construction of two shafts for the Grand Paris Express in Chelles. The 2,400 sq. m site where the project was located, called the “Bois Madame,” was a wasteland on what was once the bed of the Marne river. That means the phreatic zone is flush with the surface, which creates a naturally wet environment. The site had been used for illegal dumping—there were piles of household rubbish, rubble, appliances, and more. It had been completely abandoned and was covered in invasive plants like Japanese knotweed and butterfly bush. Our priority was to eradicate them and stop their spread. We had to start by inventorying them and carefully marking the areas where they were growing. Once we had located all of them, we excavated to a depth of 2 metres and moved the spoil to a certified storage centre. The goal was to eliminate as much of the roots and rhizomes as possible, to keep them from growing back. We then selectively cleared the site to start with bare ground, although we did keep a few native species. Finally, we levelled and tilled the ground. We then dug a pond in the lower part of the site, where the phreatic zone is level with the surface. So the pond is naturally filled with water, with no need to seal it. Once we had dug up the ground, we replanted the site with native species and grasses that were carefully selected for the site. We also made eco-friendly shelters for wild animals with plant materials from the site.

What is the project’s current status?

The site has been handed over to the town of Chelles. It will be open to the public starting in 2020. To make that possible, we built a wooden boardwalk, which visitors can access via a wooden staircase from the appropriately named rue des Sources (spring street). Visitors can use it to visit the wetlands without getting their feet wet and discover the site’s biodiversity while minimising their environmental impact. Nature was quick to reclaim the site. We recently observed that it is once again home to numerous species (insects, ducks, snakes, etc.) and a wonderful array of plants.

How did you work with Société du Grand Paris during the project?

We worked directly with the Société du Grand Paris teams, who helped us get to grips with the site’s environmental riches. We were directly supported by the ecologists from the Egis group, who verified the invasive species we identified and gave appropriate instructions, taking our technical advice into account. That kind of teamwork meant we could combine our different skills to make the project a success, to benefit the site and its broader ecosystem. I think we achieved our goals. However, the site will require regular monitoring. Nothing beats restoring a natural site right in the middle of a town.

“Nature was quick to reclaim the site.”

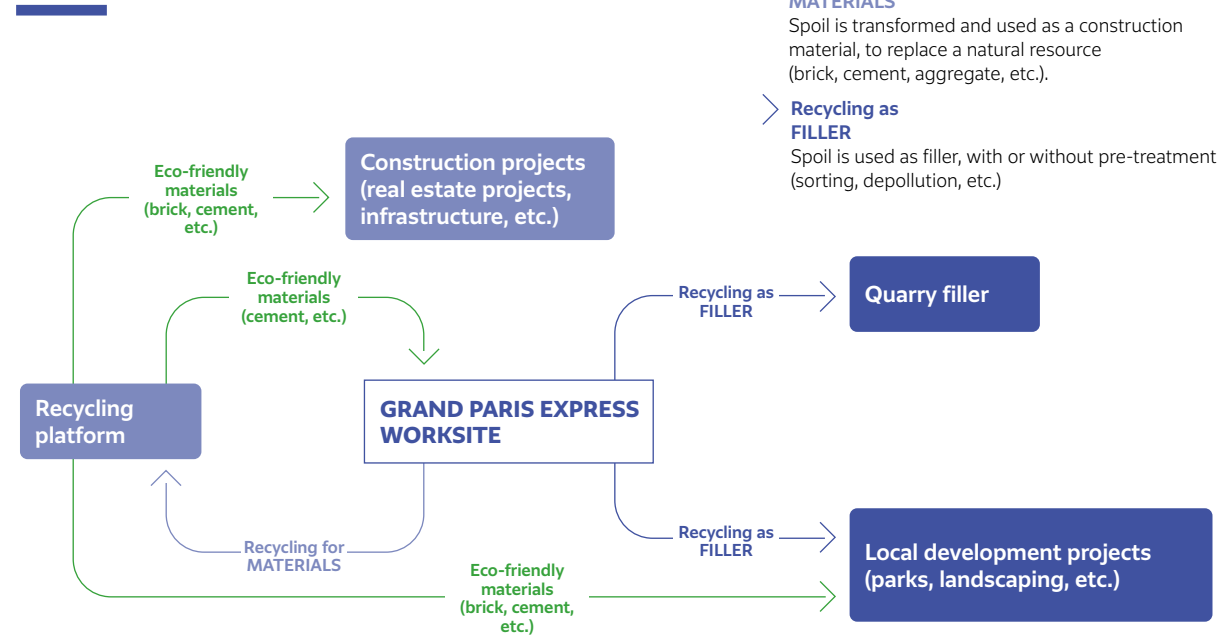
Société du Grand Paris has also set up a compensation programme for local retailers affected by its worksites. Its goal is to maintain the appeal of local retailers and artisans throughout the project, from the start of the preparatory works. To that end, an amicable compensation committee was formed to assess compensation claims from business owners around the worksites (retailers, artisans, freelancers, retail and office landlords, liberal professions). The committee covers all Grand Paris Express lines including Line 14 South, for which the RATP is the programme manager. It is chaired by an administrative judge, who is not paid for his activities by Société du Grand Paris. The committee's opinions are collegial and require a majority vote by the members present. Its decisions are based on the applicable rules on no-fault liability for public works, as applied by state agencies.

In 2019, 40 compensation claims were filed and the committee issued 22 opinions. Société du Grand Paris responded positively to 11 of the claims, 50% of those evaluated, for a total of €481,378.

FOCUS 2: Promoting the circular economy

Managing the spoil excavated on the Grand Paris Express is a major challenge. The type of soil encountered varies widely by location, and the speed at which the earthworks progress requires custom solutions. A single tunnel borer can extract over 2,000 tonnes of earth per day, and hundreds of tonnes are excavated daily for each station during the earthworks phase. While the Environmental Code classifies spoil management as a form of waste management, spoil should no longer be destined for landfills. Instead, it should be treated as a resource—a flow of material to be processed and recycled. In line with this circular approach, Société du Grand Paris has set a target of recycling 70% of the spoil excavated to build the new metro. To achieve that target, it has implemented strict traceability for spoil.

RECYCLING AS FILLER AND MATERIALS



- > **Recycling for MATERIALS**
Spoil is transformed and used as a construction material, to replace a natural resource (brick, cement, aggregate, etc.).
- > **Recycling as FILLER**
Spoil is used as filler, with or without pre-treatment (sorting, depollution, etc.).

And to complete the “virtuous cycle” of the circular economy, recycled materials are prioritised on its worksites. Société du Grand Paris is working with its partners to develop sustainable, responsible industries to turn spoil into construction material.



Promoting spoil recycling

Spoil recycling means using spoil to meet existing needs in certain industries or for public works in order to preserve natural resources. As part of the virtuous cycle of the circular economy, the recycling process contributes to local development projects and limits the need for waste disposal. Most spoil from the Grand Paris Express is currently used in aggregate and gypsum quarry redevelopment projects. Some is also recycled as clinker by cement plants. At end 2019, 45% of the 9.5 million tonnes of spoil excavated since construction began had been recycled.

Recycling spoil as filler for public and private development

Reductions in the volume of spoil excavated are encouraged by assessing the opportunities to reuse it as filler directly on the worksite, across the contract packages for each line. Several other options to diversify spoil use are currently being examined, including reuse in development projects spear-headed by local stakeholders. For example, 1.4 million tonnes of spoil from Line 16 will be used to landscape the “La Plaine du Sempin” park in Chelles and Montfermeil. Development work is scheduled to start in 2020.

The “Ligne Terre” project for local authorities and public developers was launched in 2019 to identify new projects in the region. A call for expressions of interest by private developers has also been launched. A total of 15 development projects have been identified and work on reliability is under way. Contracts with developers have already been signed for the conversion of the former Petroplus refinery in Seine-Maritime, which is accessible by river, and the development of a walnut grove in La Grange au Roy in Seine-et-Marne.



Recycling spoil for industrial use in construction material production

Société du Grand Paris has rounded out its range of solutions by recycling spoil for construction material production. It encourages the growth of external industries to develop new materials (bricks, ceramics, tile, cladding, cement, etc.) made from the spoil excavated on its worksites.

It identified current and future recycling capacities through the 2019 publication of a call for expressions of interest for the spoil recycling industry. In addition to the platforms that are already accepting spoil from the Grand Paris Express, 35 other industry players with 110 platforms were identified. All of them can use spoil to replace quarried resources, for uses that vary depending on the type of spoil. The process will continue in 2020 with a technical partnership with the industrial platforms that have applied. Further studies will enable characterisation of spoil and identification of possible uses based on its chemical and mechanical properties, to meet the needs of the construction industry in Île-de-France.

Testing the use of recycled materials in construction

In addition to its efforts to expand the industry and develop processes, Société du Grand Paris has begun efforts to incorporate incentives into its works contracts and ensure reuse of the excavated spoil in materials to meet local development needs. To that end, in 2019 it signed a partnership agreement with the Plaine Commune public territorial establishment to convert spoil from the Grand Paris Express into eco-friendly materials for use in local construction and development projects. It also signed an agreement with the public agency Est Ensemble. In 2020, pilot projects will be launched to implement these processes and provide developers with the tools to achieve the targets set for recycled material use in their projects.



FOCUS 3: Taking climate and energy issues into account

Société du Grand Paris strives to reduce its greenhouse gas emissions, in line with France's climate commitments to the European Union and under the Paris agreement. Its objective is to contribute to the energy transition in Île-de-France by commissioning the entire network by 2030. The new metro will provide a reliable and efficient alternative to driving, thus reducing greenhouse gas emissions from fuel and changing mobility. It will also drive a process of urban transformation, with new, low-energy developments built around the stations, and will contribute to the emergence of a low-carbon metropolis that is equally mindful of resources and residents. Beyond the benefits of the metro itself, climate and energy are taken into account from the infrastructure design phase to ensure that it will consume as little energy as possible. Société du Grand Paris also integrates the latest technologies to address the risks of climate change.

Encouraging greenhouse gas emissions reduction initiatives

Optimising infrastructure sizing and promoting the use of "low-carbon" construction materials

The structures were sized by the design offices with the goal of optimising their volume and reducing the quantities of materials required to build them and the volume of spoil to excavate. Concrete use is the leading source of worksite GHG emissions. The concrete production process uses massive amounts of energy and a project on this scale requires vast quantities of it, on the order of millions of cubic metres, particularly for tunnels and other infrastructure. Société du Grand Paris's specifications for civil engineering companies include requirements on the manufacturing, supply, and use of concretes to reduce their environmental impact. These include using CEM III cements, which are less exothermic due to their composition and have a smaller carbon footprint than CEM I cements, for moulded walls,



tunnels, aprons, and concrete foundations. To reduce the carbon footprint of traditional clinker production, it has launched the "designed concrete" process, which will be included in future calls to tender.

This process is based on a performance requirement for companies that can choose their concrete formulations.

It is consistent with the study on the development of spoil-based cement formulations to replace the quarried material traditionally used in cement production.

Measuring the Grand Paris Express's greenhouse gas emissions to identify areas for improvement and reduce its carbon footprint

A dedicated tool, CarbOptimum®, was developed in partnership with specialised research firms to estimate the carbon footprint of the current and future Grand Paris Express projects, taking into account all greenhouse gas emissions (GHG) sources generated by its construction. The carbon impact is calculated by measuring the carbon footprint generated by the project's construction and its operating expenses against the effects of its operation, which will lead to reduced greenhouse gas emissions. Those reductions will be achieved thanks to changing mobility and user habits, as well as development around stations, which will contribute to limiting urban sprawl.

The Grand Paris Express's carbon footprint was updated in 2019 based on progress on construction and feedback from the first worksites.

The assessment was carried out in compliance with the applicable standards. The footprint will be positive as soon as the first metro lines are commissioned.

From 2030, when the entire network is commissioned, to 2017, it will avoid 750,000 to 1,200,000 tonnes of CO₂ equivalents per year. That represents a 1.5% to 3% decrease in the region's emissions.

Quantifying the project's emissions made it possible to identify and prioritise the main sources of emissions and the most influential parameters to develop an action plan and effectively cut GHG emissions. The biggest source of CO₂ emissions is the construction phase.

Carbon footprint of several cements commonly used on worksites:

- CEM I (Portland Cement): 95-100% clinker and 0-5% secondary components => 881 kg of CO₂ eq/tonne produced;
- CEM III/A PM ES (blastfurnace cements): 35-64% clinker, 36-65% blastfurnace slag and 0-5% secondary components => 363 kg of CO₂ eq/tonne produced;
- CEM III/B (blastfurnace cements): 20-34% clinker, 66-80% blastfurnace slag and 0-5% secondary components => 310 kg of CO₂ eq/tonne produced.

Alternative shipping methods

The construction of the Grand Paris Express will generate nearly 45 million tonnes of spoil. To reduce its environmental impact and the greenhouse gas emissions generated by shipping it, Société du Grand Paris has set a target of removing at least 7 million tonnes of spoil, 15% of the total, by water or rail, mainly directly from the worksites. Doing so is also a way to encourage alternatives to trucking via clauses included in its civil engineering contracts.

In 2019, about 233,000 tonnes of spoil (4.2%) were removed directly from the worksites by water or rail. Several river

platforms were built to load barges directly at the worksites: the Arrighi wasteland in Vitry-sur-Seine, Île de Monsieur in Sèvres, and Bonneuil-sur-Marne for Line 15 South, and Aubervilliers, by the Canal de Saint-Denis wells, for Line 16. Additional platforms will be built as more worksites are opened. An offset waste management platform was also built in the port of Bonneuil-sur-Marne to remove spoil excavated by the Créteil l'Échat tunnel boring machine by water. Spoil is also removed using the network of existing shared-use platforms and quays which are made available by special authorisation or under a temporary usage agreement with the construction companies.



233,000

tonnes removed by river and rail in 2019

Industrial sidings were built on the Bry-Villiers-Champigny station site for removal by rail, enabling the removal of close to 50,000 tonnes of spoil from the site since 2019. Taken together, all these solutions have avoided over 10,000 truck trips, with the corresponding reduction in greenhouse gas emissions. All of this is made possible by the availability of a number of outlets that are directly accessible by river or rail, with truck delivery for the final kilometres in some cases. In 2019, 17 outlets and intermediate processing and recycling sites accepted materials by river and 1 accepted them by rail.

Taking energy performance into account in project design and implementation

The operating phase is the project's second-largest source of CO₂ emissions. Electricity is the main power source for the trains, network, and structures.

While the French energy mix means its GHG emissions are generally relatively low, extremely high speed and high frequency metro traffic will require tremendous amounts of power. Station and train lighting, escalators, and elevators will also use large amounts of electricity. Current estimates indicate that the infrastructure's annual consumption will be in the range of 600 GWh-equivalent to a city the size of Rennes. That means it is crucial to reduce the greenhouse gas emissions generated by network operations and maintenance as well as by the rolling stock. Energy sobriety is one of the key challenges and objectives of the Grand Paris Express.

Designing the transport system

Société du Grand Paris selected a transport system based on the most advanced technologies to limit energy consumption.

- Making the traction power chain more efficient
- The rolling stock specifications are designed to achieve the most efficient traction power chain performance possible. The stakes are high, since 20% to 25% of the energy injected into the catenary is dissipated.



– Electric braking

The metros' service braking will be 100% electric. The trains will produce energy by reinjecting the energy from braking into the catenary. Energy savings compared to mechanical braking are estimated at 30%. Electric braking also limits particle production and air pollution.

– Coasting

Coasting is movement after traction is turned off when approaching a stop or in a reduced speed zone. It naturally consumes less energy than running at full power, since less kinetic energy is used (20% less than full power).

– Optimised train traffic

The metros will be automatic, which ensures optimal and therefore lower-energy driving. Trains use energy when they accelerate but produce energy when braking. Aligning these two phases—acceleration and braking—enables natural energy exchanges between trains on the line and avoids energy diffusion and loss. The synchronisation of these two phases is generally established when the trains leave the terminal stations. Some trains may be delayed along the way, upsetting the energy optimisation balance. The innovation on the Grand Paris Express is the fact that train traffic will be controlled in real time all along the line, allowing adjustments in response to unexpected events.

– High energy-efficiency lighting

High-performance LED lighting will be used on the trains.

Structure design

Société du Grand Paris worked with Jacques Ferrier on an architecture charter for the Grand Paris Express to foster architects' understanding of the sober architecture required for the future stations. As the project progresses, the charter and architectural specifications, which lay out the guidelines for station design, have been the foundation for a series of technical and environmental instructions on materials savings, energy savings, and other topics, thus reaffirming these commitments. The goal is to empower designers to take responsibility for the multidisciplinary coordination required to optimise their projects across the board (civil engineering, materials, equipment) and to minimise the economic

and environmental impact of construction (construction techniques, materials available on the market, etc.) as well as the impact of operation and maintenance of these structure (lifespan, user comfort, etc.). The principles defined for the stations comply with the HQE, BREAM or LEED standards.

All operations centres will be required to achieve good, excellent, or exceptional HQE® certification. Those located in Champigny-sur-Marne and Palaiseau have already received HQE office building certification.



Anticipating risks linked to climate change



The climate change studies done as part of the Île-de-France regional climate plan highlight the increase in summer and winter temperatures as well as more frequent and more intense rains in spring. These changes may lead to extreme weather events like heat waves, flooding, and droughts followed by heavy rains that cause run-off or landslides.

It is therefore essential to make the region more resilient (increase its capacity to adapt to the risks it faces) to protect residents and infrastructure from these effects. According to ADEME, the French Environment and Energy Management Agency, there are two key ways to reduce these risks: limiting climate change and adapting to it.

In the case of the Grand Paris Express, that mainly means taking into account the risks of heavier rain (flooding, run-off), droughts (clay expansion and contraction), and changing temperatures for the aerial components of the network.

Water-related risks

Because the Grand Paris Express runs near the Seine and Marne rivers, Société du Grand Paris has identified the flood zones in the current flood risk prevention plans of the municipalities it runs through and assessed their risks to the project.

It has also developed a flood risk management strategy, which is incorporated into the structures' design. The first goal of the strategy is to ensure that all regulatory obligations are met. These include applying offset measures on all infrastructure to maintain the floodplain balance. On certain points related to infrastructure protection, the strategy defines objectives that go beyond the regulatory requirements to contribute to a more resilient network. These include:

- infrastructure designed to resist flooding higher than the 1910 benchmark;
- high-performance mobile flood protection barriers that can be installed quickly when flooding is expected in the operational phase;
- taking the risk of flooding into account during construction by defining the flood level for the phase and planning appropriate management strategies.

Each construction company is also expected to prepare a flood warning and management procedure based on flood level monitoring using the Vigicrues website; removal of spoil, machinery and other equipment depending on the alert level; installation of protective barriers around sensitive parts of the worksite; and rapid closure of the site if necessary. In 2019, flood levels did not require any site closures, but yellow flood warnings did trigger installation of monitoring and security measures. Rainwater management measures are developed at site level to ensure that rainwater is recuperated, stored, and released at appropriate rates. These measures contribute to reducing network overload and urban run-off.

Drought risks

The risk of surface clay expansion and contraction caused by severe droughts may become more frequent, leading to compaction or expansion that can affect buildings with shallow foundations. These risks were assessed as part of the environmental studies. The major Grand Paris Express structures are not susceptible to these risks.

Temperature change risks

The infrastructure and rolling stock are designed to guarantee operational continuity in challenging weather conditions, including snow and high temperatures. Each station is carefully integrated into its surroundings to reduce the negative effects of heat islands in dense urban areas. They are also designed for "thermal comfort" so they maintain comfortable temperatures for users even during heat waves or severe cold.

FOCUS 4: Integrating environmental issues into corporate operations

Société du Grand Paris's commitment to controlling and reducing the environmental risks linked to the construction of the Grand Paris Express extends to all its activities. It has therefore implemented several initiatives within its offices to reduce its environmental impact and encourage employees to adopt eco-friendly habits at work.



Controlling and reducing the environmental impact of site operations and developing best practices

In 2019, the teams prepared to move to the new site to accommodate growing staff numbers and centralise all the skills needed to build the new metro on a single site. The move was driven by the goal of providing employees with a high-quality workplace environment for their comfort and well-being (read

page 50 - Pillar 1. Ethical, people-centric project management). It will also optimise the energy and environmental performance of Société du Grand Paris's operations, since the site selected is a new, HQE (high environmental quality) certified building rated as excellent in terms of eco-construction, eco-management, and comfort.



The building is Building Research Establishment Environmental Assessment Method certified (BREEAM IN-USE Very Good) and its energy performance has earned Effinergie+ certification (RT 2012 -40 %).

Société du Grand Paris aims to take its efforts even further by involving all stakeholders—the site's owners and operators and its own employees—in earning OsmoZ and HQE operation certification. Monitoring and audits will be carried out through these certification and label programmes to assess performance on the relevant criteria.

The move also provided an opening to focus on waste management and recycling. The nature of Société du Grand Paris's activities means the waste produced by its employees is relatively homogeneous. In order to reduce waste and promote recycling, it provided shared waste disposal locations instead of individual waste bins, with a recycling centre located in the building. The printer fleet was also optimised to reduce the number and volume of consumables. Société du Grand Paris also continued to pursue its policy of going paperless, which started with electronic archives, with the launch of a "digital approach" to simplify tasks and go virtual.

To limit the greenhouse gas emissions from its employees' commutes and on the job, Société du Grand Paris encourages them to use public transportation or alternatives like cycling. As an incentive, it reimburses 90% of the cost of their public transportation passes and pays mileage. For travel that requires a car, it provides hybrid vehicles. As part of the move, this programme will be boosted by the replacement of the entire vehicle fleet and the provision of parking spaces for employees' electric cars. As an additional measure, Société du Grand Paris is reducing business travel thanks to video-conferencing systems like Skype Business installed in meeting rooms and on personal IT devices.

The success of all these resources also depends on raising employees' awareness of more responsible practices. Two major measures were implemented in 2019:

- a collaborative approach based on regular employee consultations on the move in order to understand their expectations, include them in every step of the project, and work together to define the working conditions, usage, and services for the new site. A presentation was given on eco-friendly ways to foster well-being for all and reduce our environmental impact using the resources provided;
- increased best practice support for employees with the distribution of various documents (new employee handbook, awareness-raising posters on printing reduction and management) and encouragement for eco-friendly habits in the form of mugs and water bottles distributed to reduce the use of plastic cups.

Integrating environmental and social criteria into the choice of internal service providers and ensuring effective implementation

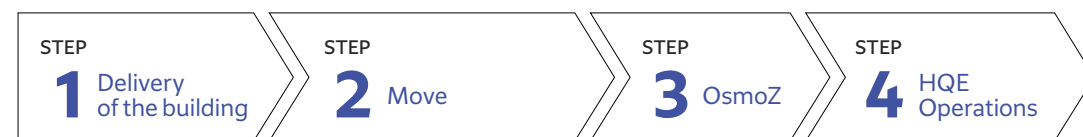


Environmental and social expectations were also expressed during contract negotiations with the companies working on the Société du Grand Paris headquarters. The specifications for the service contracts (catering, maintenance, etc.) include commitments on:

- waste reclamation (recycling guide and communications and awareness-raising initiatives) and composting;
- achieving "zero paper" and "zero plastic" targets;
- responsible supply logistics.

These social and environmental criteria were worth 5% each in the bid assessment process. Monitoring and reports are submitted regularly to ensure compliance with these commitments and give employees an overview of the initiatives implemented.

THE STEPS OF THE CSR APPROACH FOR THE MOVE TO THE NEW SITE



PILLAR 3 Contributing to creating the city of tomorrow

THE NEW METRO WILL MAKE LIFE BETTER AND EASIER FOR MILLIONS OF ÎLE-DE-FRANCE RESIDENTS, WITH A NEW CAR ALTERNATIVE AND SHORTER TRAVEL TIMES. THE STATIONS BUILT WILL ENHANCE TRANSPORT ACCESS IN UNDERSERVED AREAS, JOBS, SERVICES, AND LEISURE ACTIVITIES CLOSER TO LOCAL COMMUNITIES. TO MAKE THESE NEW OPPORTUNITIES A REALITY, WE ARE ALREADY WORKING ON THE TRANSPORTATION OPTIONS AND USAGE OF THE FUTURE.

TECHNICAL CHOICES ARE ALSO MADE FAR UPSTREAM TO ENSURE THAT THE METRO WILL MEET THE NEEDS OF FUTURE GENERATIONS OVER THE VERY LONG TERM.

THE NEW METRO IS MORE THAN JUST A PUBLIC TRANSIT NETWORK: IT IS AN URBAN PLANNING AND DEVELOPMENT PROJECT THAT WILL REINVENT THE REGION FOR A MORE DIVERSE, MORE ECO-FRIENDLY, AND MORE ACCESSIBLE FUTURE.

Public space around the future Saint-Denis Pleyel station



FOCUS 1: Contributing to the transformation of mobility



The construction of 68 stations offers an opportunity to explore new synergies across all forms of travel in the Île-de-France region.



80% of these stations will be linked to the existing network. Once the Grand Paris Express is complete, 95% of the region's residents will live within 2 km of a station, so they will be able to walk, cycle, take a bus, or use other active urban transportation to reach the metro instead of driving. Société du Grand Paris is working closely with its partners—local authorities and Île-de-France Mobilités—to plan for the mobility and user preferences of the future and encourage intermodal access around stations.

Encouraging increased intermodal options around stations to promote the use of car alternatives

In our rapidly changing world, it is hard to predict mobility and user preferences in 2030 and beyond. Yet public spaces and intermodal facilities must be planned in advance of the project design phase to ensure that they meet the needs of all users, across all types of transportation. To make that happen, in 2015 Société du Grand Paris teamed up with Île-de-France Mobilités to launch a series of studies

involving all its partners, particularly local authorities. The goal was to define the development plan and intermodal facilities to be built around the stations when the metro lines are commissioned. Each company handles the aspects that fall within its scope: Île-de-France Mobilités is responsible for intermodal transportation and mobility, while Société du Grand Paris is responsible for public space definition. The studies are carried out by the local authorities or public planning and development authorities and are funded by Société du Grand Paris, at a total cost of just over 6 million euros. 63 hub studies have been launched since the start of the process. The first to be approved was the La Courneuve Six-Routes study, in May 2019 (see pages 88-89).

To guide this planning and design work, Société du Grand Paris and Île-de-France Mobilités published *Places du Grand Paris, principes de conception des espaces publics du Grand Paris Express* on 28 November 2019. The book represents the culmination of the work done through the Atelier des Places du Grand Paris, a programme launched in 2017 to define a holistic vision for the project and ensure homogeneous development of the station districts. A multidisciplinary group led by the architecture and urban development firm TVK was entrusted with the project.

The book is thus intended to foster a shared design culture for the public spaces of the Grand Paris Express. It is based on a dialogue involving local authorities and institutional partners as an extension of the existing local processes. It will serve as a guide for all the contracting authorities responsible for designing new station districts, with 40 operational development principles and a roadmap to shape the different phases of the project (choice of designer, construction, commissioning, management). The book is structured around three key ambitions:

- continuity: the station plazas will extend the existing urban fabric, forming a link between the city and transportation infrastructure;
- availability: for fully-accessible public spaces where different uses and functions can coexist;
- upgradability: to ensure that public spaces can be adapted as cities change over time.

Over half of the 40 principles are focused on the environment and integration into the landscape: choice of materials, heating and cooling, rainwater management and recovery, etc. (read pages 64 - Pillar 2. Factoring in the environment in both design and implementation).

Société du Grand Paris and Île-de-France Mobilités will assess compliance with their ambitions and award project subsidies based on developers' project proposals for the station districts and the results of the hub studies.

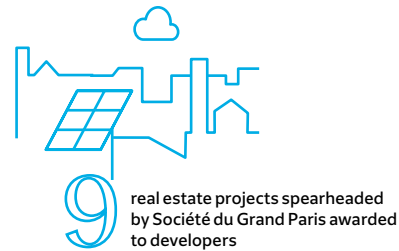
FOCUS 2: Integrating station districts into the city

The Grand Paris Express has become the foundation of numerous urban development projects across the Île-de-France region. With 140 km² of potential space for development—150% of the area of Paris proper—the future station districts will offer housing and local jobs, making them more than just transit corridors. They will contribute to urban transformation and optimal use of space around stations. Société du Grand Paris works with local authorities and developers to actively advance this trend. The new stations will be the gateway to the metropolis. Each station will reflect the unique identity of the local area while offering passengers and residents of these new districts a consistent level of comfort and service.



Contributing to urban transformation and diversity

The Grand Paris Express will enable significant housing expansion in the Île-de-France region. A demographic boom is already under way in the future station districts, which saw population growth of 3% from 2010 to 2015, compared to just 1% for Grand Paris as a whole. Projections to 2040 show that the completion of the metro, paired with strong policies in favour of increased urban density, will lead to the construction of 10,000 to 15,000 housing units per year within an 800 m radius around the future stations. That will represent 14% to 21% of the 70,000 housing units that will be built annually to meet current regional demand*.



*Source Apur, 2019. Changes in the Grand Paris Express station districts

BUILDING THE CITY AROUND THE GRAND PARIS EXPRESS

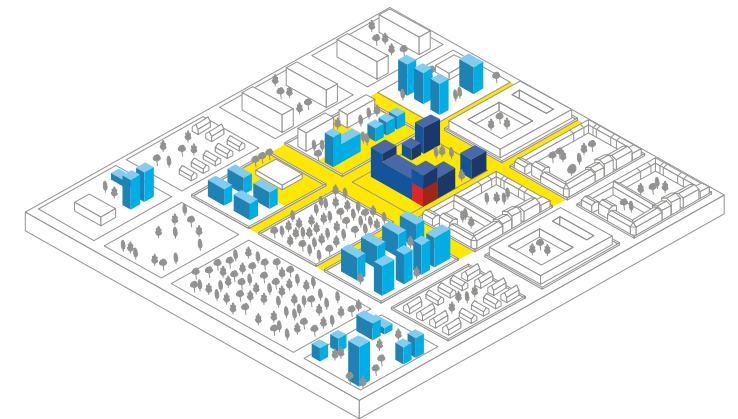
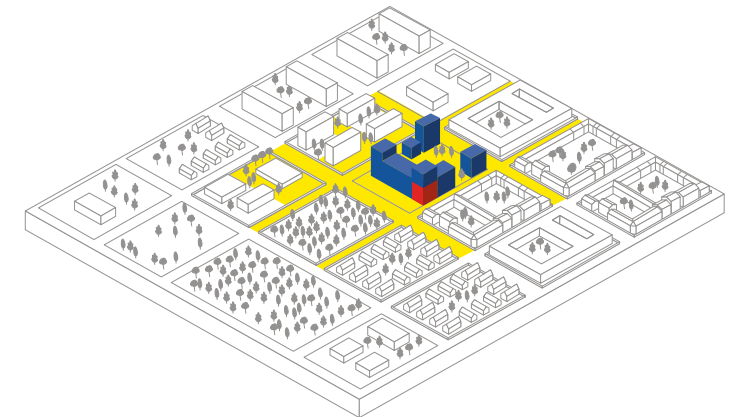
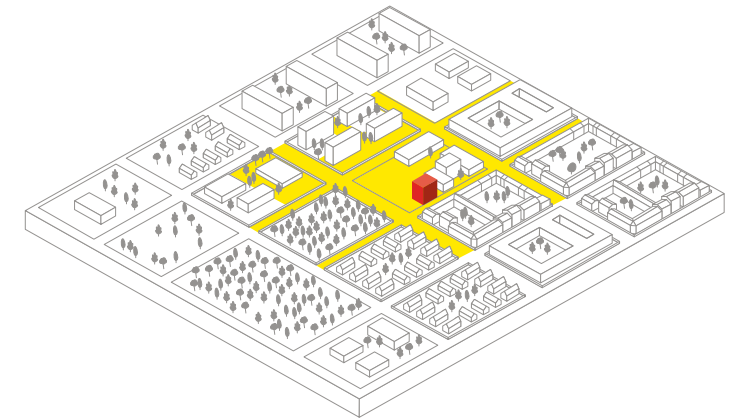
Société du Grand Paris contributes to the development of station districts on several levels, with a sustainable approach strongly focused on local mobility.

1 – The Grand Paris Express station is a landmark within its urban environment. The public spaces around it have been redeveloped for the urban lifestyles of the future: this is the "Place du Grand Paris."

2 – Société du Grand Paris co-develops a real estate project with an investor or developer on the land it acquired to build the new metro.

3 – Beyond Société du Grand Paris's land, the Grand Paris Express gives the station district potential for urban development led by the local authorities.

- Place du Grand Paris public spaces
- Station building
- Real estate project co-developed by Société du Grand Paris
- District-level partner urban development project



In addition to the opportunities created by the new metro, Société du Grand Paris contributes to the development of urban planning initiatives around the stations by making use of the land acquired to build the Grand Paris Express. Its approach is based on local urban planning projects totalling a potential 1.5 million sq. m of urban and property development on over 750,000 sq. m of land on 125 sites around stations or technical infrastructure.

These developments are currently in the planning phase. The goal is to generate 500 million euros in revenue by the end of the programme, after 2030. Société du Grand Paris is already spearheading nine projects awarded to real estate developers in partnership with the local municipalities.



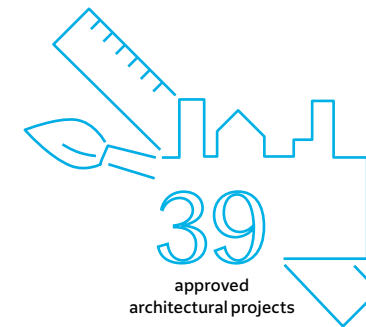
Exterior and interior architecture of the future Clichy - Montfermeil station, designed by Miralles-Tagliabue and Bordas+Peiro.

The projects represent over 2,150 housing units totalling 115,000 sq. m and 30,000 sq. m of business and retail space. It also plans to launch some ten additional consultations, including the Pont de Rungis and Arcueil-Cachan projects. Other projects will also be developed as part of the design-build contracts to be awarded for Lines 15 East and 15 West.

The station districts will be mixed-use areas, and Société du Grand Paris is committed to contributing to regional housing efforts by ensuring that as much housing as possible will be built. It is also committed to building business and retail spaces and hotels wherever economically viable. The goal is to create vibrant, resident-friendly neighbourhoods that are integrated into their surroundings and work for everyone. The focus on mixed-use development will build ties between future transportation ridership and urban activities. In practice, that means developing continuity between each station and its surroundings: neighbourhood retail, high-quality urban facilities that encourage safe, eco-friendly behaviour, services that meet residents' needs, etc. The districts will be planned in partnership with local urban planners and developers to ensure continuity of use between projects.

Building stations as flagship components of the heritage of the future

Société du Grand Paris aims to create a metropolitan cultural heritage that conveys an inclusive sense of belonging to Grand Paris, with a strong focus on usage. The quality and high architectural standards of the station projects will ensure that they blend into the surrounding environment and that these new mobility flows are sustainable and offer a positive experience for all users. Each station will be designed as a unique architectural project that reflects the identity of the area it serves and takes the site's distinctive features into account. Bringing these projects to life will entail regular meetings and dialogue with the local authorities, technical project managers, and architecture firms. Thirty-nine architectural projects have already been approved and more than thirty architecture firms are currently designing stations.



While every station will have its own identity, Société du Grand Paris is committed to ensuring that all the projects meet the same architectural quality standards and share consistent sustainability and user comfort objectives: choice of robust materials, lighting variation, and acoustic quality. All of these principles were defined in the Grand Paris station architecture charter written by architects Jacques Ferrier and Pauline Marchetti in 2013.

A new version of the charter was created in late 2019 to confirm the guiding principles and architectural ambitions of Société du Grand Paris. This updated charter highlights the need for sustainability and architectural optimisation (sobriety, harmonisation of certain sub-trade elements, volume optimisation, reduced material use) and reaffirms the original charter's stringent eco-design requirements (rainwater recovery, energy savings, optimisation of the construction materials used).

Société du Grand Paris has assembled a multidisciplinary team to design the station fit-out and passenger information. The team includes two big names in design and graphic design: Patrick Jouin for the furniture and Ruedi Baur for signage.

The furniture, signage, equipment, flooring and rolling stock will ultimately form the identity of the Grand Paris Express, tying together all 68 stations. To finalise the design of the station facilities and furniture, experiments and tests are currently being carried out to fully understand their ergonomics and how they are used. The first studies, done at the Fabrique du métro in 2019, involved cleaners, station staff, and passengers, some of them with disabilities. The future passengers explored full-scale models of the ticket windows, metro platforms, elevators, seats, waste bins, fire extinguisher housings, and call boxes.

This collaborative endeavour provides input for the dialogue between Société du Grand Paris, which is responsible for building the infrastructure and stations, and Île-de-France Mobilités, the transport organisation authority, which is responsible for quality of service on the new lines.

Testing will continue in 2020 with the support of university cognitive science research labs to assess the effectiveness of the passenger information and guidance systems, with the ultimate objective of developing recommendations to optimise graphic design and signage.

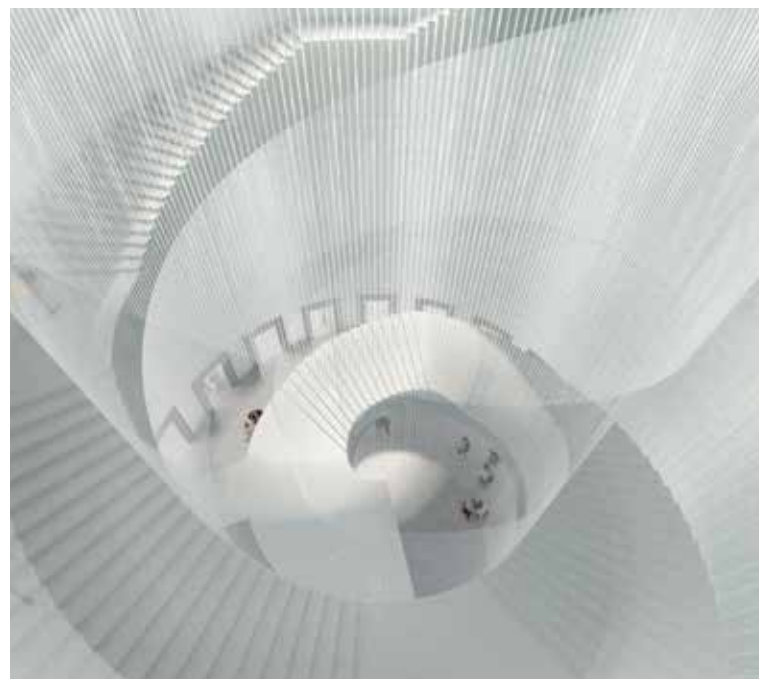


User tests of the Grand Paris station equipment and products by people with disabilities.



La Courneuve Six-Routes Station.
ARTIST Duy Anh Nhan Duc
ARCHITECTS Pascale Dalix,
Frédéric Chartier.

Société du Grand Paris has also invited an artist to design a lasting work of art for each station, as part of an original process of art integration. The artist works in tandem with the architect on this artistic project, a close collaboration developed over the course of the design of the station to ensure that the artworks are fully integrated into it. These works will make a lasting contribution to the stations' quality and the user experience. The programme was launched in 2018 and more than thirty artists, including young French creators (under age 35) and international artists (Japan, Italy, USA, Argentina, Spain, Netherlands, Chile...) are already at work on the new stations. When the programme is complete, the Grand Paris Express network will be home to a collection of 70 contemporary artworks. Funding for these works, expected to total about 30 million euros, is provided by private patrons, with the support of the Grand Paris Express endowment fund.



Saint-Maur – Créteil Station
ARTIST Susanna Fritscher
ARCHITECT Cyril Trétout.

FOCUS 3: Designing and building maintainable modern infrastructure for the long term

Société du Grand Paris's main goal is to deliver the Grand Paris Express, and to take all necessary measures to ensure that it is delivered on time and on budget, without cutting corners on performance, quality of service, or safety. The network's operational and maintenance needs are currently being defined based on the transportation system design developed by Société du Grand Paris, in partnership with Île-de-France Mobilités, the transportation organisation authority, and RATP Infrastructures, the future infrastructure manager. Their involvement, as well as that of the transport operators who have yet to be selected, requires developing a seamless, tight-knit organisation starting now.

Guaranteeing a maintainable, operable, sustainable network

As the programme manager, the Société du Grand Paris builds the infrastructure that will be operated and maintained by Île-de-France Mobilités, RATP Infrastructures and the future transport operators. It retains ownership of the infrastructure. Each of these four entities has a distinct scope of responsibility, as defined by law. This organisation requires extensive interaction and tight coordination to ensure that when it is commissioned, and for many years thereafter, the network will be maintainable, operable, and sustainable.



OPERATION AND MAINTENANCE OF THE GRAND PARIS EXPRESS: THE STAKEHOLDERS' ROLES AND RESPONSIBILITIES

Île-de-France Mobilités

Transport Organisation Authority

Defines the operating conditions and performance objectives of the transportation service for the transport operators and infrastructure manager.

Is responsible for (and finances) the maintenance and replacement of elements that fall outside the scope of the infrastructure manager (operational responsibility for maintenance will be assigned to the TO).

Owns the rolling stock after the transfer by Société du Grand Paris (operational responsibility for maintenance will be assigned to the TO).

Selects the transport operators.

Contracts with the transport operators and the infrastructure manager.

Finances the work of the transport operators and the infrastructure manager.

RATP Infrastructures (IM)

Infrastructure Manager

Is responsible for maintenance and replacement of some of the assets that make up the Grand Paris Express (Ministerial decree of 08/02/2019).

Contracts with Île-de-France Mobilités to define the operating conditions, performance objectives and remuneration mechanisms for its work.

Works with the Transport Operators to establish the procedures governing the IM / TO interfaces.

Société du Grand Paris

Programme manager and owner of the Grand Paris Express

Designs and draws up the blueprint for the Grand Paris Express.

Executes and finances the projects that make up the Grand Paris Express.

Purchases all rolling stock; transfers ownership to Île-de-France Mobilités.

Owns the infrastructure it builds, until its dissolution.

Transport Operators (TO)

Operators

Operate the lines for which they are selected as operators by Île-de-France Mobilités, in line with the operating conditions and performance objectives defined by contract.

Maintain the rolling stock and assets that fall outside the scope of the IM (included in the line operation contract).

Work with RATP Infrastructures to establish the procedures governing the IM / TO interfaces.

Since the earliest phases of the project, Société du Grand Paris has asked representatives of the future operations and maintenance providers to express their needs, and more broadly has involved Île-de-France Mobilités and RATP Infrastructures in designing the Grand Paris Express. That led to the development of the Maintenance Requirements Programme (MRP), which now serves as a joint repository for network maintenance management. In 2019, a roadmap of the contracts to sign was formalised ahead of Île-de-France Mobilités' launch of the initial calls to tender to select the operators for the different network lines. It will be used to prepare for and support the transfer of operational management from Société du Grand Paris to Île-de-France Mobilités and RATP Infrastructures once the lines are completed. This document identifies some ten agreements, contracts, and protocols between the stakeholders. It covers aspects such as each stakeholder's roles and responsibilities before and after the transfer of operational management, infrastructure and system maintenance, and Société du Grand Paris's involvement in the transport operator selection process.

To improve coordination with its partners Île-de-France Mobilités and RATP Infrastructures, Société du Grand Paris proposed the creation of a shared project platform, which now hosts 40 different activities and thirty employees from all three organisations.

The programme was formally launched in November 2019, and the teams now have a dedicated workspace on Société du Grand Paris's new site.

The tripartite project platform works on all the issues that require significant joint advance planning, such as defining the organisational structure that will govern the relationship among all three stakeholders, preparing for network operations and maintenance, and integrating operability and maintainability issues from the planning phase for Lines 15 West and 15 East, for which a design-build approach has been selected. It works under the close supervision of a steering committee that meets every two weeks and includes the operational managers.

Going digital to improve the user experience and promote local development

Société du Grand Paris aims to make the Grand Paris Express a digital network capable of meeting users' changing needs, supporting urban, economic, and social development in Île-de-France, and contributing to environmental transition in the region.

Its digital strategy is based on four key actions:

- creating, from the design stage, a data transmission network that mirrors the passenger transport network;
- rolling out the mobile communication infrastructure that will provide users and operators with Internet connectivity as soon as the lines open;
- making use of the free spaces created by work on the Grand Paris Express while freeing up technical hosting capacity in Île-de-France.
- enabling use of the data exchanged and generated by the Grand Paris Express (equipment, users, stations etc.).

The Grand Paris Act of 3 June 2010 requires Société du Grand Paris to "integrate devices to enable the deployment of ultra-high speed communications networks" into the metro infrastructure.

That network must be scaled to the exploding demand for data generated by the convergent development of mobile communications, the Internet of Things, and fibre. With access networks expanding across the Paris region, the collection network built by Société du Grand Paris will form a data transmission backbone and generate positive externalities and economic development (support for innovation).

The network's design is based on four key requirements:

- enhancing access across the Île-de-France region *with* multiple access points;
- a looped network structure and dedicated infrastructure on each line to enable a secure and redundant service offer;
- meeting changing needs over time, which entails overdimensioning compared to existing infrastructure;
- easy operability despite the inherent constraints of the Grand Paris Express.

Technical sites will be incorporated into the infrastructure to make it easier for technicians to set up connections.

In 2019, Société du Grand Paris began the process of selecting an operator to manage the ultra-high speed electronic communications network under a service concession contract.

The mobile communications services incorporated into the Grand Paris Express will enable users to make voice and video calls and access all their content, applications, and online services in stations and on the metro.

These existing uses have intensified since the roll-out of 4G, including in public spaces, generating exponential increases in data flows. According to the ARCEP observatory in October 2019, mobile data consumption continues to increase fast (approximately 140 GB in fixed usage on 4G networks when stationary and 8.3 GB on the go). Building mobile networks will also make the jobs of station staff easier, since their processes have changed dramatically with the rise of mobile communications (access to online tools, real-time monitoring of interactions, etc.), which will help decrease the impact of operational incidents for users and people in stations.

Developing this infrastructure will require taking a set of complex challenges including architectural and aesthetic concerns and constraints on the spaces available (limited space, dissipating heat from technical equipment, etc.) into account from the earliest phases, in addition to advance planning and organisation of the roll-out. In late 2019, Société du Grand Paris launched a call for applications for the implementation of a public land user agreement to enable mobile coverage on Lines 16 and 17.

Given the increase in data processing needs, Société du Grand Paris aims to make use of the open spaces created by the construction process to install small technical hosting sites that will supplement the existing local offer.

These sites, which will be connected to the fibre optic backbone, have the potential to become key resources for local communities and business by

offering processing capacity that meets the need for reduced latency. In 2019, Société du Grand Paris consulted businesses in the sector to listen to their perspective on the market and the constraints involved.



LA COURNEUVE SIX-ROUTES: A NEW METROPOLITAN CENTRE

Shifting transportation choices will play a major role in relieving congestion on roads in Île-de-France. 2 million passengers per day are expected to use the new metro, with a corresponding reduction in car use. Like the Grand Paris Express stations themselves, the public spaces around stations will be fully accessible. They must be designed to be upgradable, flexible, and a natural extension of their surroundings so they can change with the season, the time of day, and the neighbourhood.

Designing for intermodal use and developing high-quality public spaces capable of meeting residents' changing needs and expectations over the long term will also significantly reduce traffic and CO2 emissions. The La Courneuve Six-Routes hub,

which will include a new metro station for Lines 16 and 17 and a real estate development with a 55 m building overlooking the station with 125 apartments, 260 sq. m of retail space and an underground car park, will fulfil that promise. This new development will make the Six-Routes district a major transportation hub, with the T1 tram line, the RER B La Courneuve-Aubervilliers just 650 m from the future metro station, and numerous bus lines. The new Six-Routes intermodal hub will open the door to the emergence of a new local and metropolitan centre that will benefit La Courneuve, the surrounding towns, and greater Paris. To support that aim, the Six-Routes intersection will be redesigned and a business zone (ZAC) created at the initiative of the city of La Courneuve and Plaine

Commune. The Grand Paris Express will also be the main station serving the Parc Marville, an athletic centre and the planned site of the 2024 Olympic water polo competition. An accessibility study is slated to begin soon.



ALEXANDRE FRÉMIOT, DEPUTY GENERAL MANAGER OF THE SUSTAINABLE PLANNING AND DEVELOPMENT CENTRE OF THE SEINE-SAINT-DENIS DEPARTMENTAL COUNCIL

A study of the future hub and the redevelopment of the Six-Routes intersection in La Courneuve was finalised and adopted in May 2019. What is the framework for this process?

The study, which received 100,000 euros in funding from Société du Grand Paris, assessed development of the public spaces and roads around the station for a fully intermodal hub. The Six-Routes intersection site, which will have two new metro lines -16 and 17- in addition to the existing T1 tram, is one of the 68 Grand Paris Express hubs. That meant rethinking its layout with a hub study, as Société du Grand Paris proposed for all 68 stations in 2015, was key. The department of Seine-Saint-Denis offered to serve as the programme manager for the study, in partnership with the city of La Courneuve and the Plaine Commune public territorial establishment.

What were the key results of this study, which was the first Grand Paris Express station study to be approved?

The study, which was done by the Vera Broez firm, proposed a development plan for a 400 m radius around the hub. Our original goal was to demonstrate what we could do on numerous sites across Seine-Saint-Denis, which is currently highly car-dependent. Here, our priority is to recreate a genuine space for pedestrians, local life, neighbourhood businesses, and of course eco-friendly transportation like cycling. To achieve that, we took an ambitious approach where we significantly reduced the road surfaces available for car traffic and took back as much space as possible for other uses or for planting. The space occupied by motor vehicles will be at least halved, generating significant gains for non-motorised transportation.

What is the schedule through the completion of construction?

All of these developments were priced when a funding plan was drawn up. This is an ambitious project, requiring a hefty 25 million euro investment (43% provided by the department, 28% by the Société du Grand Paris, 15% by Plaine Commune, and 15% by Île-de-France Mobilités). We completed the public consultation at the end of 2019 and are currently working on the regulatory aspects. A project manager will be selected during the summer of 2020, and construction will start in late 2021.

“Recreating a genuine space for pedestrians and local life.”

€100,000

That's how much Société du Grand Paris invested in the Carrefour des Six-Routes study.

260

sq. m of retail space and an underground car park.

125

Housing units.

PILLAR 4 Working for -and collaborating with- local stakeholders

CONSTRUCTION ON THE GRAND PARIS EXPRESS WILL EMPLOY OVER 15,000 PEOPLE THROUGH 2030, IN ADDITION TO THE JOBS CREATED WHEN IT IS COMMISSIONED. SOCIÉTÉ DU GRAND PARIS HAS ADOPTED A PROACTIVE APPROACH TO ENSURE THAT IT GENERATES INCLUSIVE COMMUNITY BENEFITS IN THE FORM OF LOCAL JOBS AS WELL AS WORK INTEGRATION AND TRAINING.

TO MAKE THE PROJECT A SUCCESS WITH AND FOR THE AREAS THE METRO WILL RUN THROUGH, SOCIÉTÉ DU GRAND PARIS USES A METHOD BASED ON COOPERATION, LISTENING, AND DIALOGUE WITH LOCAL AUTHORITIES AND RESIDENTS, A PROCESS WHICH WILL CONTINUE UNTIL THE METRO IS COMMISSIONED.

FOCUS 1: Supporting economic and social development around the project

As the programme manager, Société du Grand Paris is responsible for ensuring that the project fosters regional business growth and boosts the appeal of the areas where the Grand Paris Express operates. In practical terms, that means implementing requirements for service providers, with social responsibility clauses included in its contracts, and close cooperation with local authorities and employment agencies. Partnerships with local organisations also make it easier for smaller and mid-sized companies as well as social enterprises to access opportunities on the worksites.



Fostering social and territorial innovation around worksites and future stations

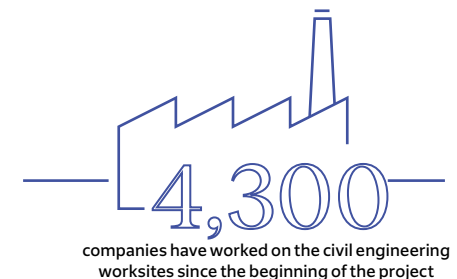
During the works phase, a social innovation clause in the public procurement contracts will encourage companies to form innovative partnerships with local stakeholders (public services, social enterprises, stores, SMEs, etc.). On one civil engineering lot on Line 15 South, for example, a “worksite concierge service” was developed in partnership with a social enterprise to offer workers catering and laundry services. Other projects are currently being assessed, including plans for recycling excavated material through the circular economy sector and shared service platforms.

Société du Grand Paris also works with local partners (businesses, universities, non-profits, local authorities) on local development projects, with a focus on employability and support for entrepreneurship among young people in high-potential fields. To name just one example, in 2019 it supported “Grand Paris: de l'emploi pour tous,” a project led by a temporary design office staffed by young people from underprivileged areas of Seine-Saint-Denis that helped local communities take advantage of economic and job opportunities. Société du Grand Paris also formed a four-year partnership with Paris-Est Créteil University and the non-profit Jinov for a series of field surveys, reports, and handovers, as well as discussions and events for residents

affected by the construction of four stations on the new Line 15 South. In 2019, two Master's degree students in Social Science performed a series of field surveys to assess community attitudes: how do residents experience the area, are they worried about the change, and can they anticipate what it will bring about? The survey results will support Société du Grand Paris in its work with local residents and decision-makers.

Including VSEs / SMEs and social enterprises in building the Grand Paris Express

Société du Grand Paris has included social responsibility clauses in its public procurement contract requirements for several years. In its works contracts, Société du Grand Paris also earmarked a minimum of 20% of the volume for SMEs working as joint contractors or subcontractors. To date, VSEs / SMEs have been contracted for a total of 1.327 billion euros across the 12 civil engineering procurement contracts for Lines 15 South, 16 and 17, which represent a total of 6.65 billion euros. These commitments are regularly tracked together with the trade associations, chambers of commerce and industry and the SME Observatory's DIRECCTE office, which was founded in 2017 at the initiative of the Société du Grand Paris. 4,300 companies, 2,414 of them from Île-de-France, have been active on civil engineering worksites since work started. 2,887 of those companies are VSEs / SMEs, 1,763 of them from Île-de-France. The amount earmarked for these companies currently stands at 856 million euros.



To ensure that a wide range of businesses can enter its calls to tender, Société du Grand Paris publicises them through several channels: by publishing a pre-information notice on its calls to tender (particularly in the *Official Journal* of the European Union and the *Official Journal of Tenders*); by partnering with chambers of commerce and industry to present its calls to tender and the formalities involved to companies; and working with embassies to notify foreign companies. When initiating contracts, it supports B to B events at which contractors can present their local sourcing needs, in partnership with local authorities, chambers of commerce and industry, and trade organisations. In 2019, events were held in the Paris Terres d'Envol, Grand Paris Grand Est and Paris - Vallée de la Marne territories.

During 2019, it also tested a sourcing initiative targeting social enterprises for three communications contracts, leading to direct and joint contractor bids as well as the inclusion of earmark clauses for social enterprises in certain contracts.



FOCUS 2: Promoting work integration and training through the project

Société du Grand Paris is committed to creating local jobs and providing work integration opportunities on all its sites for people facing marginalization on the job market, including the long-term unemployed, income support (RSA) beneficiaries, people under 26 with low educational attainment, and people with disabilities. That commitment translates into work integration and job creation clauses in its contracts and strong partnerships with local authorities. Information and awareness-raising campaigns for job-seekers and schools developed with its partners form another key component of its approach.

Fostering work integration for the long-term unemployed

A work integration clause requires companies awarded contracts for the Grand Paris Express to earmark a minimum of 5% of the volume of labour for the long-term unemployed.

To date, the companies selected for 18 civil engineering works contracts on Lines 15 South, 16, 17, 18, and 14 South, for which programme management has been delegated to the RATP, and the two systems contracts on Line 15 South, have earmarked a minimum of 2.3 million hours for work integration. These commitments will expand as work ramps up.

To support implementation of these commitments in the local communities around its worksites, Société du Grand Paris has signed 11 job creation agreements with local public territorial establishments and inter-council partnerships. These local authorities receive an annual subsidy of 60,000 euros for five years to support the job and business opportunities created by the Grand Paris Express and put job seekers in contact with local businesses and SMEs. The Grand Paris Express worksites marked their millionth hour of work integration in mid-2019, reaching 1,327,316 hours at the end of the year. 1,647 people have already signed work integration contracts since works started, up from 616 in September 2018 – a figure that more than doubled in just over a year. That increase was largely due to a strong trend on Line 15 South and the ramp-up of



Governance that unites businesses, territories, and the State

Governance bodies have been formed to monitor and steer initiatives to promote employment, economic development, and social innovation. A steering committee made up of businesses, public territorial establishments and agglomerations meets annually, and monitoring committees meet quarterly.

civil engineering works on Line 16. Temporary work and temporary work integration remain the main vehicles for professional integration. They give temporary hires the chance to move up within the company.

Developing training and promoting access to the skills used on the Grand Paris

Express for a diverse public Société du Grand Paris actively promotes the skills needed on its worksites to the public and employment organisations. It

also raises awareness in schools as part of its educational programme, "Classes du Grand Paris Express." These initiatives aim to break down stereotypes about construction and engineering jobs and to present industry job opportunities in the region. In 2019, Société du Grand Paris attended fifteen job and employment fairs in partnership with the businesses and territories affected by the Grand Paris Express and the public school system.



It also regularly organises events that bring together job seekers and construction companies, in partnership with Pôle Emploi and local stakeholders.

With the Fabrique du Métro, which offers special career-focused tours for job-seekers, influencers, and people on work integration programmes, it has taken that commitment a step further. The tours introduce visitors to the job opportunities available on the Grand Paris Express and the companies that are hiring.

Resources to help them with their job search are distributed at the end of the tour. Tours for middle and high school students are also offered several times a week. Entitled "Au boulot pour le métro," they introduce all the skills involved in building the Grand Paris Express. Participants also receive preparation and follow-up through the Société du Grand Paris employment and work integration department to ensure that the visit is a relevant step in their career paths. In 2019, these job-focused tours

accounted for a third of all visits to the Fabrique du métro.

Société du Grand Paris also develops support resources for job seekers. In 2019, it published a Grand Paris Express jobs map on its website. The map provides an up-to-date overview of all the jobs on the Grand Paris Express by timing and location, along with a description and the skills, training, and qualifications required.

Société du Grand Paris also worked with Onisep to develop an educational project about Grand Paris Express jobs entitled "Les métiers du Grand Paris Express en images." The project is intended to help students on the general, professional, and vocational tracks in the Créteil, Paris, and Versailles school districts discover unfamiliar but high-potential construction industry jobs through the Grand Paris Express and its construction. As an extension of this partnership, the publication of the magazine *Pourquoi pas moi?* is slated for 2020. *Pourquoi pas moi?* will feature profiles of 12 professionals working for the programme manager and on worksites and their unusual backgrounds. It will be distributed through the public education system and Onisep and at specialized events. Twenty-five science and careers workshops were also held in 2019 and 2020, with the Exploradôme museum of science and digital technology in Vitry-sur-Seine as part of "Trajectoires, l'expo qui interroge nos mobilités," its exhibition on mobility and society. These workshops gave children ages 8-15 a chance to discover construction jobs through hands-on scientific exploration (see page 98, 99).

FOCUS 3: Maintaining an uninterrupted dialogue with local stakeholders

The Grand Paris Express was the result of a broad public debate that ran from October 2010 to January 2011, involving over 15,000 people at 55 public meetings. Since then, the conversation with local authorities and stakeholders has continued uninterrupted to ensure that the Grand Paris Express is built with and for local stakeholders.

Société du Grand Paris has also implemented numerous initiatives to give residents the opportunity to discuss the new metro and its construction.



Working with local stakeholders

The dialogue between the programme manager and local authorities takes place in dedicated discussion bodies—technical committees, works monitoring committees, and steering committees—formed to involve local communities in the design and construction of the Grand Paris Express. Depending on the committee's purpose, Société du Grand Paris is joined by local authorities (elected officials and agencies), government agencies, Île-de-France Mobilités, transport operators, passenger and neighbourhood organisations, businesses, and managers of nearby facilities. With this structured dialogue, Société du Grand Paris aims to ensure project steering focused on operational effectiveness. Elected officials are directly affected by worksites and the new metro, and many of their planned developments and projects depend on the station opening and line commissioning dates.

In addition to these regular local meetings, broader discussions are also held at the line level. 2019 saw a series of line conferences, held in the spring in the areas through which the new lines will run.

These annual events are intended to provide an update on construction progress and the Grand Paris Express's local effects as well as a shared short- and medium-term vision of its objectives. These 6 events drew a total of nearly 750 participants, including local officials and representatives of government agencies and institutional and business partners, to join in the conversation.

Since the consultation and public utility study phases, which ran from 2012 to 2016, changes to the project have provided an opening to continue actively including elected officials and partners. For example, Société du Grand Paris carried out a targeted consultation on the 15 South / 15 East interconnection in Champigny-sur-Marne (see inset below) under the aegis of an independent guarantor from April to June 2019. On Line 18, in response to local concerns about the noise generated by the Saclay plateau viaduct and how it would fit into the landscape, Société du Grand Paris took the initiative of launching a feasibility study on bringing it down to ground level from the CEA Saint-Aubin station sidings to the Magny-les-Hameaux national golf course.

Interconnection of Lines 15 South and 15 East

The consultation, which was spearheaded by all the elected officials on both lines, was intended to clarify three issues related to interoperability between the two lines: local service coverage and the lines' appeal; station management and operations and their impact on operations and maintenance; the repercussions of the worksites in Champigny-sur-Marne and their impact on costs. Six workshops were held. They were attended by government agencies, Île-de-France Mobilités, and the departmental councils, public territorial establishments, and municipalities affected. A panel of transportation experts, including former automatic metro line operators, provided input for the discussions. User and neighbourhood organisations were also included in the process.

The consultation provided all the stakeholders with an overview of the issues in play and their stakes in terms of construction and operational complexity, costs, and the commissioning schedule. At the end of the process, the Société du Grand Paris supervisory board took all the statements and opinions expressed into consideration. In June, it approved the management board's proposal to continue construction of Line 15 East while incorporating construction of all the infrastructure required for interoperability into its investment plan. The Line 15 East schedule and apportionment were also subsequently adjusted.

This study could be done while keeping to the Line 18 schedule because the track section in question will be commissioned in 2030. Société du Grand Paris decided to support this study with a local consultation to examine all the effects of a ground-level line with the stakeholders on a granular level and assess the costs. A monitoring committee was formed on April 26, 2019, followed by three topical workshops on road interfaces, agricultural continuity, and environmental continuity. The final results of the study will be shared with the stakeholders.

Presenting a full picture of the Grand Paris Express

Société du Grand Paris is committed to sharing the story of the Grand Paris Express, its people and its technical achievements, with the public. Because it is keenly aware of the fact that to be a success, the project must be understood and accepted by Île-de-France residents, Société du Grand Paris has implemented a wide range of dialogue-based educational initiatives.

As a part of that drive, it created a unique and innovative space, the Fabrique du métro in Saint-Ouen-sur-Seine. This full-scale lab tests the furniture, signage, user information system, and other equipment for the network.

It has also been open to the public since 2018 and features models, panels, videos, interactive multimedia displays, and an immersive 3D image projection space to help the public understand the project and its implementation. Visitors can follow a passenger's path from the platform to a station plaza.

Free tours are offered daily for visitors of all ages: groups of adults, school groups, families, and more. Tours last 90 minutes, are available in French and English, and are led by a team of facilitators. Accessible tours are available for the visually impaired, deaf, and hard-of-hearing. Four open houses were held in 2019, one of them on 21 September for European Heritage Days. The European Heritage Days event focused on the underground portions of the Grand Paris Express, with special exhibitions, presentations, and events. Over 20,000 people have visited the Fabrique du métro since it opened, nearly 14,000 of them in 2019. Guided worksite observation visits were started for

14,000
visitors to the Fabrique du métro
in 2019

the general public as well as school and extracurricular groups in July 2019. These free tours keep participants outside the construction zone, watching from the edges of the site, and are led by guides. They are open to everyone ages 16 and up. Participants spend 90 minutes discovering one of the worksites on Line 15 South or Line 16 and the steps involved in building the Grand Paris Express. 1,600 visitors attended worksite tours in 2019. Société du Grand Paris also invites the public to discover this massive project with open houses on its worksites. These festive events, which are part of its artistic and cultural programme, invite Île-de-France residents to celebrate major construction milestones. They are called KMs, representing the kilometres to travel to the commissioning of the Grand Paris Express.



Tour guide Carmen Atias tells visitors about the Noisy - Champs station worksite at the field office.



3,500 participants, including local residents and visitors from across Grand Paris, attended the baptism of the tunnel borer Valérie in Saint-Denis.

Technical exploits and spectacular events like the launch of a tunnel borer are accompanied by live performances. More than 6,000 people attended the two KMs in 2019. The first, held on the Arrighi wasteland site in Vitry-sur-Seine on 29 June, celebrated Line 15 South's two new tunnel borers, Aby and Marina, with a project by the artist JR. The second was held in Saint-Denis on 12 October for the baptism of the new Line 16 tunnel borer, Valérie.

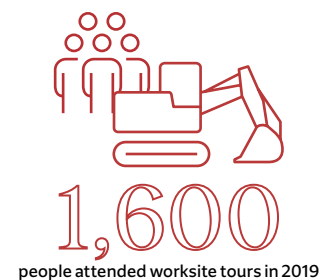
Société du Grand Paris develops and distributes educational resources to help the public understand the project on its website, through its media library, and on social media. The resources include 3D films on the key construction steps for tunnels, stations, and service infrastructure. A video series entitled "Tout ce que vous avez toujours voulu savoir sur" provides a lay person's introduction to topics like green finance, fire drills in tunnels, and disabled access on the Grand Paris Express.

More than 80 articles on the different aspects of the project and project news were published on its website in 2019.

The societedugrandparis.fr website had a total of 858,940 unique visitors and 1,250,518 visits in 2019.

The keen public interest in content on the Grand Paris Express is highlighted by the strong growth of its social media community, with average follower growth of 55% across all platforms (Facebook, Twitter, LinkedIn, Instagram) in 2019.

Young people are a major focus of the programme. Société du Grand Paris Express has created an educational programme for children and teens of all ages, the "Classes du Grand Paris Express" (see page 98). Since 2017, it has run a programme that publishes resources about the Grand Paris Express, its construction, and the skills involved and implements local educational initiatives in the areas



Exploring the Vitry Centre station worksite during a Classes du Grand Paris Express workshop.

through which the new lines run.

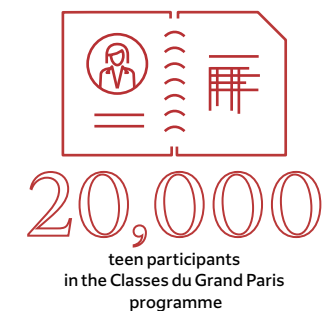
To create that content and involve the education community, it has formed close relationships with career guidance and discovery experts: local education authorities' career information and guidance departments, anti-dropout organisations, Onisep, General and Professional High School coordinators, vocational high schools, etc.

In 2019, Société du Grand Paris continued to roll out its local educational initiatives for children and teens. It was a banner year, with the number of children exposed to the programme doubling to 20,000 and approximately 60 local initiatives implemented, up from 25 in 2018. The programme, which is already operational in 86 towns across Île-de-France, will be further expanded in 2020. Société du Grand Paris will continue to expand its educational initiatives and projects throughout the network, particularly along Lines 15 East and 18.

Its educational programme, which currently targets elementary through high school students, will be extended to university students in architecture, engineering, and urban planning as the project ramps up.



Middle school careers workshop.





EDUCATIONAL PROGRAMMES FOR CHILDREN AND TEENS

The Grand Paris Express is the project of a generation: today's children and teens are tomorrow's metro users. That's why Société du Grand Paris created the "Classes du Grand Paris Express" to foster dialogue with young people and listen to their ideas.

The programme aims to raise pupils' awareness of the opportunities offered by the construction of the Grand Paris Express, in partnership with the public education system and career guidance services. Education and career guidance for students are just as vital to the public interest as the Grand Paris Express's arrival in underserved territories. The programme is based around three pillars:

– **Producing and publishing educational resources** to share the extensive and diverse body of knowledge related to the project, particularly in STEM. These resources include educational booklets and activity kits for primary through high school students, and fall into several categories designed to be incorporated into the public

education system's three key courses: Preparing for the Future, Citizenship, and Artistic and Cultural Education. They are intended for use in schools and extracurricular settings. They are distributed through the Paris, Créteil, and Versailles education authorities, scientific and technical education partners, and the network of towns through which the Grand Paris Express will run. In 2019, the launch of the "Ambassadeurs jeunesse" youth ambassador programme for Société du Grand Paris employees opened up another avenue to distribute these resources to local schools.

– **Developing cultural and educational community initiatives** in partnership with local education non-profits. These initiatives include tours and workshops linked to major events in schools and local communities and on the Grand Paris Express. One unique initiative in late 2019 was a giant dictation exercise during school-business week. 400 students from schools across Île-de-France took part in the first Grand Paris Express dictation exercise. The event, organised

jointly with Rachid Santaki, who was behind the concept, was held at the Fabrique du Métro. The dictation text used talked about the Grand Paris Express and the career opportunities it offers. Similar events are planned for 2020.

Popular votes, in which children helped choose names for the tunnel borers, have also been held. In 2019, the voting format changed to involve local children's representatives. The names Aby, Marina, Camille, Valérie, Inès, Bantan and Dorine were chosen in honour of well-known local women.

– **Promoting Grand Paris Express jobs to children and teens.** School awareness-raising programmes were developed, including tours of the Fabrique du Métro focused on worksite jobs and educational projects in partnership with Onisep (see page 93).

“A strong partnership with Société du Grand Paris.”

ALEXIS GESBERT, FACILITATOR / DESIGNER, EXPLORADÔME

Exploradôme, a science and technology museum in Vitry-sur-Seine, hosted the exhibition “Trajectoires, l'expo qui interroge nos mobilités” for several months, in partnership with Société du Grand Paris. What educational approach did this exhibition use?

The exhibition was designed as part of QSEC², a regional project on scientific and societal issues, which treats mobility as the sum of two concepts: movement (movements of bodies, of individuals, of populations) and society (history, economics, urban planning, culture, etc.). It is divided into three themed centres (individual, group-city, and planet) which explore the interactions between movements and society on different levels. The exhibition uses a wide range of formats, personal stories, hands-on interactive displays, infographics, and digital devices. It incorporates community contributions and uses modular furniture so it can be enhanced with contributions from local partners at its different stops. Our science facilitators are on-site to guide visitors and answer questions.



The exhibition is also supported by educational and cultural programming that brings it to life, both at Exploradôme and in other settings: workshops and special events for school and afterschool groups and the general public, events, partnerships with other local or topical stakeholders, etc.

So the exhibition explores and challenges all forms of mobility, including the metro?

Absolutely. The exhibition also takes a hard look at public transportation and asks visitors to think about how a metro line is designed for a given area, for example. The whole approach is fun and interactive, with lots of hands-on activities. That's one of the strengths of the Exploradôme, where our motto is “please touch.”

What did the Exploradôme's partnership with Société du Grand Paris on the exhibition look like in practice?

At Société du Grand Paris's request, we developed a one-hour workshop to go with the “Trajectoire” exhibition. The workshop was on the Grand Paris Express and its tunnels and construction work, with a focus on the skills needed on worksites. Each skill was associated with one phase of tunnel construction, which was then put into practice with an experiment. We held a total of 25 workshops, which were a major success. The Société du Grand Paris teams were there for us throughout the partnership: they were very present, down-to-earth, and had a lot of suggestions and advice. Thanks to that energy, our strong partnership extended to other initiatives including a presentation during an academy training session for teachers, distribution of educational documents to classrooms, and last but not most important of all, the loan of informational panels and a touchscreen table with interactive and immersive content on the Grand Paris Express, which we were able to display in the museum for 2 weeks as a supplement to the exhibition. The partnership was a great success and advanced our goal of anchoring the museum in the local community with the support of other local stakeholders.

Table of indicators

PILLAR 1: ETHICAL, PEOPLE-CENTRIC PROJECT MANAGEMENT

FOCUS 1: FOSTERING AND ENSURING SAFE, HEALTHY CONDITIONS FOR EVERYONE ON THE GRAND PARIS EXPRESS

Action 1: Prevent serious accidents on and around worksites as the programme manager	Unit	2017	2018	2019
Hours worked on all worksites	hours			8,959,104
Workplace accident frequency rate on worksites (number of lost-time accidents x 1,000,000 / annual number of hours worked on the worksites)	%			20.9
Emergency response unit activated (departmental)	number	1	4	4
Fatal incidents linked to Grand Paris Express worksites	number	0	0	0
Number of accidents without time lost	number			120
Number of lost-time accidents	number			187
Action 2: Protect all employees' health and safety	Unit	2017	2018	2019
Fatal workplace accidents (employees)	number	0	0	0
Workplace accident frequency rate for employees (accidents per million employee hours per year)	number	5.03	4.81	1.7
Employee accident severity rate (average number of days lost per thousand employee hours)	number	0.17	0.15	0.04
Employee absenteeism rate due to illness	%	2.40	3.84	3.22
Employee workplace accident social security contribution rate	%	0.90	0.84	0.78
Average number of days of sick leave per employee (including co-op students)	days		9.2	9.6

FOCUS 2: HIRING, ON-BOARDING, AND RETAINING EMPLOYEES AND CONTRIBUTING TO TALENT DEVELOPMENT

Action 1: Hire and appropriately on-board employees	Unit	2018	2019
Total Société du Grand Paris headcount at year-end (excluding employees on secondment)	number	236	419
<i>of which women</i>	number	117	216
<i>Women as share of total headcount</i>	%	49.6	51.6
<i>Women as share of managers</i>	%		47.0
<i>Women as share of non-managers</i>	%		87.0
<i>Women as share of the management committee</i>	%		27.3
<i>of which men</i>	number	119	203

<i>Men as share of total headcount</i>	%	50.4	48.4
<i>Men as share of managers</i>	%		53.0
Average employee age	years	42.4	39.8
Average employee seniority	years	2.9	2.6
Number of co-op students hosted during the year	number		20
Number of interns hosted during the year	number		40
New jobs created	number	30	200
Total incoming employees on permanent contracts	number		208
Total incoming employees on fixed-term contracts	number		14
Hiring rate - % of jobs created filled	%		85
Women as share of Permanent / Fixed-term intake	%		53
Men as share of Permanent / Fixed-term intake	%		47
Absence of job precarity at SGP (% of jobs held on a permanent contract as of 31/12 or headcount by contract type, excluding co-op students)	% of jobs held on a permanent contract	98.7	98.6
Number of fixed-term employees hired on contracts (consolidations)	number		5
Temporary employees hired on permanent contracts	number		6
Co-op students hired on permanent contracts	number		1
Interns hired on permanent contracts	number		1
Co-op students hired on fixed-term contracts	number		1
Interns hired on fixed-term contracts	number		3
Total number of dismissals (permanent contracts)	number		0
Number of resignations and trial period terminations initiated by the employee	number		16
Departure rate	%		9.71
Trial period departure rate	%		1.94
Jobs held under a secondment contract to Société du Grand Paris	number	62	65
<i>of which women</i>	number	30	27
<i>of which men</i>	number	32	38
Visits to the Fabrique du métro as part of the new employee on-boarding process	number		12
		On-boarding programmes implemented in 2019	
Number of new employees who visited the Fabrique du métro as part of the on-boarding process	number		155
		On-boarding programmes implemented in 2019	
Action 2: Boost employees' employability	Unit	2018	2019
Hours of training completed during the year	hours	1,841	5,389.15
Average number of days of training	days / person	2.59	Figure not available
Share of payroll dedicated to continuing professional development	%	2.77	Figure not available
Percentage of jobs created filled internally	%		22
		Internal mobility axis developed in 2019	
Jobs opened to internal mobility	number		402
		Internal mobility axis developed in 2019	
Jobs filled via internal mobility	number		59
		Internal mobility axis developed in 2019	
<i>By men</i>	number		37
<i>By women</i>	number		22
		Internal mobility axis developed in 2019	
Number of jobs filled via internal mobility / number of permanent-contract jobs opened during the year	%		15
		Internal mobility axis developed in 2019	
Number of management transitions following a transfer	number		6
		Internal mobility axis developed in 2019	

Action 3: Maintain equal treatment and balanced staffing	Unit	2018	2019
Promotions of women managers out of total manager promotions	%		37
Promotions of women out of total promotions	%		45
Women managers out of total female headcount	%		42
Over-50 hiring rate	%		10
Under-26 hiring rate	%		9
Women as share of merit pay rise recipients	%		59
Women as share of annual performance bonus recipients	%		54
Women as share of salary gap correction recipients	%		59
Disabled employment rate	%		1
Initiatives to support employees with disabilities	%		2
Equality index score for the year	Score /100	100	90/100

FOCUS 3: FOSTERING WELL-BEING AT WORK

Action 2: Promote work-life balance	Unit	2018	2019
Number of remote work contract riders signed	number	39	49
Share of employees who signed a rider during the year, including employees on secondment	%	13	10

Action 3: Encourage best practices in management	Unit	2018	2019
Number of workshops completed during the year	number	Workshops in 2019	4
Manager attendance at workshops on management attitudes at Société du Grand Paris	number	Workshops in 2019	24

FOCUS 4: HAVING APPROPRIATE GOVERNANCE AND ENSURING FAIR CORPORATE PRACTICES

Action 1: Apply a prevention policy for corruption, fraud, and conflicts of interest	Unit	2018	2019
Employees who underwent awareness-raising or completed a training on preventing corruption	number	Prevention policy defined in 2019	130
<i>of which did awareness-raising</i>	number	Prevention policy defined in 2019	70
<i>of which trained</i>	number	Prevention policy defined in 2019	60
Share of all employees trained	%	Prevention policy defined in 2019	25
Instances of corruption reported / of ethical breaches based on the values of Société du Grand Paris	number	None	None
Meetings of the anti-corruption programme steering committee	number	Formed in 2017, modified in 2019	2

Action 2: Have independent governance bodies	Unit	2018	2019
Supervisory board meetings	number	4	6
Audit Committee meetings	number	6	6

PILLAR 2: FACTORING IN THE ENVIRONMENT IN BOTH DESIGN AND IMPLEMENTATION

FOCUS 1: LIMITING THE PROJECT'S COMMUNITY AND ENVIRONMENTAL IMPACT

Action 1: Incorporate environmental guidelines and commitments into our public procurement contracts and ensure effective implementation	Unit	2017	2018	2019	Total audits performed
Environmental audits performed	number	12	43	41	96
<i>audits of project managers</i>	number	11	6	6	23
<i>audits of construction companies</i>	number	1	37	35	73

Action 2: Implement planting / replanting initiatives to foster biodiversity	Unit	2017	2018	2019	Total surfaces restored
Surfaces restored (forest offsets and ecological compensation)	Ha	8.77	24.27	9.04	42.1
<i>Surfaces restored for forest offsets</i>	Ha	0.00	17.70	6.48	24.2
<i>Surfaces restored for ecological compensation</i>	Ha	8.77	6.57	2.56	17.9
Cooperation agreements signed	number	2	4	4	

Action 3: Support residents around worksites	Unit	2018	2019	
Local outreach agents deployed	number		15	
Requests / contacts with local outreach agents	number		4,278	
Information on worksite barriers	number		47	
Communications documents distributed	number		442	
On-site contacts (door-to-door, office hours, dedicated public meetings)	number	100	300	
Claims filed	number	880	1,060	
Information requests filed	number	2,945	4,000	
Households and families supported	number	946 91% on Line 15 South and 9% on Line 16	1,175 85% on Line 15 South and 15% on Line 16	
Discussions with landlords and condominium committees	number	50	100	
Agreements signed with Île-de-France social housing authorities	number	22	25	
Individual protocols prepared	number	19	190	
Share of social housing in the files processed	%	90	75	
Percentage of Société du Grand Paris's proposals to local residents accepted	%	98	94	
Budget committed	€M excl. VAT		1	6,570

	Unit	2017	2018	2019	Total
Amicable compensation committee	number	8	9	5	33
Business compensation requests recorded under SGP programme management / all programme manager requests (SGP and RATP line 14)		51/51	45/50	39/40	185/187
Requests studied by the commission (programme manager SGP) / all programme manager requests (SGP and RATP line 14)	Number SGP PM / total number	35/35	36/38	21/22	128/131 Or 69% of SGP PM files studied
Local businesses compensated (programme manager SGP) / all programme managers (SGP and RATP line 14)		18/18 or 51% of files with SGP as PM studied	11/12 or 30% of files with SGP as PM studied	11/11 or 52% of files with SGP as PM studied	58/59 Favourable responses from the management board (45% of files with SGP as PM studied)
Compensation paid for economic damage suffered by businesses near the Grand Paris Express	€ excl. VAT	551,000	425,475	481,378	1,457,653

FOCUS 2: PROMOTING THE CIRCULAR ECONOMY

Action 1: Promote construction waste recycling	Unit	2018	2019
Percentage of spoil recycled	%	47	39
Amount of material recycled during the year	tonnes	1,377,200	2,132,275

Recycling research and project implementation agreements signed	number		5
Call for projects on recycling initiated	number	1	3
On-site reuse rate	%	2.2	3
Quantity of material reclaimed (cement, plaster, recycling)	tonnes	79,955	185,911
Action 2: Test the use of recycled materials in construction	Unit	2018	2019
Innovative projects supported	number	0	1
Number of agreements signed	number	0	2

FOCUS 3: TAKING CLIMATE AND ENERGY ISSUES INTO ACCOUNT

Action 1: Encourage greenhouse gas emissions reduction initiatives	Unit	2018	2019
Platforms created for worksites near waterways	number	1	3
Transshipment sites along waterways / railways used	number	13	13
<i>River transshipment sites</i>	number	13	12
<i>Rail transshipment sites</i>	number	0	1
Intermediate processing and sorting sites accessible by water / rail used	number	5	5
<i>Intermediate sites accessible by river</i>	number	5	5
<i>Intermediate site accessible by rail</i>	number	0	0
Outlets accessible by water / rail that accepted spoil	number	15	13
<i>Outlets accessible by water</i>	number	13	12
<i>Outlets accessible by rail</i>	number	0	1
Quantities of spoil shipped directly by river from worksites	tonnes	0	182,499
Percentage of spoil shipped directly from by river from worksites	%	0	3
Quantity of spoil shipped by river for part or all of the journey to its final destination (with or without pre- or post-road shipping)	tonnes	313,451	589,453
Percentage of spoil shipped by river for part or all of the journey to its final destination (with or without pre- or post-road shipping)	%	11	11
Quantity of spoil shipped by rail	tonnes	0	51,013
Percentage of spoil shipped by rail	%	0	0.5
Action 3: Anticipate risks linked to climate change	Unit	2018	2019
Worksites that initiated a flood risk monitoring programme	number	15	0

FOCUS 4: INTEGRATING ENVIRONMENTAL ISSUES INTO CORPORATE OPERATIONS

Action 1: Control and reduce the environmental impact of site operations and develop best practices	Unit	2018	2019
Share of employees who use public transportation (based on monthly pass reimbursement)	%	75.5	79.5
Performance and consumption indicators	- Monitoring of recommendations after the move planned for 2020		
Action 2: Integrate environmental and social criteria into the choice of internal service providers and ensure effective implementation	Unit	2018	2019
Consumption indicators	- Monitoring of recommendations after the move planned for 2020		

PILLAR 3: TAKING PART IN CREATING THE CITY OF TOMORROW

FOCUS 1: CONTRIBUTING TO THE TRANSFORMATION OF MOBILITY

Action 1: Encourage the development of intermodal transport around stations to promote the use of car alternatives	Unit	2017	2018	2019
Hub studies launched	number cumulative total	63	63	63
Hub studies approved	number cumulative total	0	0	1
Hubs delivered	number cumulative total		Works not yet started	
Budget allocated to hub studies	€/year total	6,150	6,150	6,250
Budget allocated to subsidies for public spaces	€/year total	No public space projects submitted		
Internal and external meetings to present the public space repository	number	Repository distributed in 2019		8

FOCUS 2: INTEGRATING STATION DISTRICTS INTO THE CITY

Action 1: Contribute to urban densification and diversity	Unit	2017	2018	2019
Adjacent real estate projects awarded to developers	number cumulative total	8	9	9
Square meters of urban and real estate projects produced	sq. m cumulative total	80,000	100,000	100,000

Action 2: Build stations as flagship components of the heritage of the future	Unit	2017	2018	2019
Artist-architect pairs formed	number cumulative total	6	20	32
Stations whose architectural design has been approved	number cumulative total	19	31	39

FOCUS 3: DESIGNING AND BUILDING MAINTAINABLE MODERN INFRASTRUCTURE FOR THE LONG TERM

Action 1: Guarantee a maintainable, operable, sustainable network	Unit	2018	2019
Agreements, contracts, and protocols signed	number cumulative total	List identified in 2019	
Number of activities involved in the joint project platform	number	JPP not implemented	40
Number of workshops held on the joint project platform	number	JPP not implemented	approx. 60
SGP / IDFM coordination committees	number	5	5
Tripartite SGP / IDFM / RATP steering committees	number	2	1
Action 2: Leverage digital to improve the user experience and promote local development	Unit	2018	2019
Kilometres of tubes installed in the network	km	Installation not started	2
Digital network operation consultations initiated	number	Consultation not initiated	2

PILLAR 4: WORKING FOR - AND COLLABORATING WITH - LOCAL STAKEHOLDERS

FOCUS 1: SUPPORTING ECONOMIC AND SOCIAL DEVELOPMENT AROUND THE PROJECT

Action 1: Foster social and territorial innovation around the worksites and future stations	Unit	2017	2018	2019
Agreements in force with local stakeholders (excluding spoil recycling agreements)	number	5	9	10
Projects identified and studied	number	1	3	3
Projects launched	number	0	1	3
Action 2: Include VSEs / SMEs and social enterprises in building the Grand Paris Express	Unit	2017	2018	2019
VSEs / SMEs that have worked on the worksites since the beginning of the project	number cumulative total	SME Observatory created in 2017	1,336	2,887
Total amount contracted to VSEs / SMEs	€M		1,087 (9 civil engineering packages)	1,327.5 (12 civil engineering packages)
<i>of which total amount contracted to Île-de-France VSEs / SMEs</i>	€M		547	865
Total amount allocated to VSEs / SMEs in the current contracts	€M		774	1,213
Progress on the VSE / SME goal (relative to the amounts committed to date)	% / objectives 20%		14.2	18.2
Social enterprises used by our contract awardees and Société du Grand Paris	number			13
Total amount earmarked	€M			6.17

FOCUS 2: PROMOTING WORK INTEGRATION AND TRAINING THROUGH THE PROJECT

Action 1: Foster work integration for the long-term unemployed	Unit	2018	2019
Target hours of work for the long-term unemployed (based on current contracts)	hours	1,871,702	2,364,001
Hours of work completed by the long-term unemployed to date (based on current contracts)	hours	483,008	1,327,316
People employed on worksites	number cumulative total	4,800	6,500
People on work integration on worksites	number cumulative total	788	1,647
<i>Sex (Men / Women)</i>	number	701/87	1,448/199
<i>Age (under 26 / 26-49 / over 50)</i>	number	197/458/133	496/915/236
<i>Reside in the area (EPT) where they work</i>	number	623	1,280
<i>Work integration status (disabled / under 26 / income support / over 50 / long-term unemployed / other)</i>	number	19/159/115/36/321/138	48/368/269/61/786/115
Adult "jobs" tours of the Fabrique du métro	number		42
Influencers and job seekers hosted at the Fabrique du métro	number		154
Monitored by the employment / work integration department	number		12
Action 2: Develop training and promote access to the skills used on the Grand Paris Express for a diverse public	Unit	2018	2019
Educational resources on careers created and distributed	number	3,000	6,000
Number of school awareness programme participants	number	2,693	2,300
Number of Société du Grand Paris educational youth programme participants	number	1,500	3,331

Number of children and young adults involved in community service through the project	number	500	1,853
Number of children who attended school field trips to the Fabrique du métro	number	1,000	1,180
Number of young people reached through exhibitions and tradeshow	number	7,000	7,344

FOCUS 3: MAINTAINING AN UNINTERRUPTED DIALOGUE WITH LOCAL STAKEHOLDERS

Action 1: Work with local stakeholders	Unit	2018	2019
Line conferences (excluding Line 14 South)	number		6
Steering committees with local partners	number		27
Works monitoring committees with local partners	number		43
Public meetings in municipalities	number		70
Meetings with elected officials / agencies	number		220
Worksite visits	number		43
Meetings with schools / labs / businesses	number		32
Other meetings with political and institutional leaders (members of parliament, senators, prefects, departmental council presidents)	number		101
Number of job committees in cooperation with local stakeholders and businesses	number	12	13
Action 2: Present a full picture of the Grand Paris Express	Unit	2018	2019
KM participants	number	16,200	6,000
Public information meetings	number		34
Participants at public information meetings	number		4,000
Total Fabrique du métro attendance	visitors	3,189	13,942
<i>School groups</i>	visitors	1,099	2,799
<i>local authorities</i>	visitors	372	766
<i>partners</i>	visitors	592	1,662
Number of worksite visits	Started in 2019		1,600
Number of groups that visited the Fabrique du métro	number	159	570
Number of social media followers			
<i>Facebook</i>	followers	15,377	17,536 +14%
<i>Twitter</i>	followers	17,236	19,570 13.5%
<i>LinkedIn</i>	followers	19,500	45,180 +130%
<i>Instagram</i>	followers	2,870	4,690 +63%
Number of visits to the Société du Grand Paris website	number		1,250,518
Number of visits to the interactive map	number of views		441,908
Questions and Answers in the Société du Grand Paris website FAQ	number		620

Sound Governance

As part of its mission in serving the State, Société du Grand Paris has structured its organisation to achieve operational efficiency in line with the new government roadmap published in February 2018.

Société du Grand Paris operates under French government oversight and reports to three Ministries: the Ministry for the Ecological and Inclusive Transition, the Ministry of Economy and Finance and the Ministry of Territorial Cohesion. Société du Grand Paris is structured around three main governing bodies, with elected officials at the heart of programme management.

The Supervisory Board

The supervisory board, which is responsible for approving the general Société du Grand Paris policy guidelines, is made up of 21 members representing the French government and the Île-de-France territories. Chaired by Patrick Braouezec, President of the Public Territorial Establishment of Plaine Commune, the supervisory board meets several times a year. It approves the public agency's policy guidelines and audits its financial statements and its development and construction operations. In 2019, the supervisory board met six times. To keep the supervisory board fully informed, the Audit and Commitments Committee is tasked with risk oversight and auditing the programme manager.

Chaired by Christian Favier, it examines topics and forwards opinions and comments to the supervisory board. In 2019, the committee coordinated an independent external audit ordered by the Supervisory Board and Management Board. The Audit and Commitment Committee's members are elected officials and government representatives who sit on the supervisory board as well as two qualified representatives with an industrial and financial background. The Audit and Commitment Committee met six times in 2019.

The Société du Grand Paris Management Board

Overseen by the supervisory board, the Société du Grand Paris Management Board is responsible for implementing the decisions and recommendations adopted, in keeping with the schedule. Chaired by Thierry Dallard, who was appointed by the President of the French Republic, the Management Board is made up of three members operating on a collegial basis. The Management Board notably decided to set up a contract procedures review committee to ensure compliance with the disclosure and competition procedures that apply to Société du Grand Paris and to assist the Chairman of the management board in awarding works, supply and service contracts. This committee is made up of 11 members, six of whom are from outside Société du Grand Paris. It is chaired by Francis Rol-Tanguy, Chief Counsellor at the Cour des Comptes. A representative of the transport economic and financial inspection mission also attends its meetings.

The Strategy Committee

The Société du Grand Paris strategy committee rounds out the governance structure. Chaired by Bernard Gauducheau, Mayor of Vanves and a member of the Île-de-France Regional Council, the strategy committee has 182 members – elected officials and social and business stakeholders in the Île-de-France region – who discuss and formulate proposals for the new metro and station districts. In 2019, the Strategy Committee met once.

Evaluation Board

An evaluation board also assesses the economic, urban, social, and regional effects of the project. The board, which was created in 2017, met twice in 2019. It expands the work of the Société du Grand Paris **economics board**, which is tasked with assessing the works and their social and economic benefits. This board, chaired by Dominique Bureau, chairman of the Autorité de la Statistique Publique, brings together ten economists, all of them internationally known for their research in geographical economics and the economic and social impact of major transport infrastructure projects.

Financial Data

The year 2019 saw the ramp-up of civil engineering works, particularly on Lines 15 South and 16, with 3 billion euros in spending, a 13% increase over 2018.

Société du Grand Paris has invested 15.2 billion euros in the Grand Paris Express and contributed 2.4 billion to several modernisation projects for existing metro and RER lines as part of its mobilisation plan.

The success of two more 15- and 30-year green bond issues reaffirmed the Grand Paris Express financing model, which is based on dedicated local taxes to enable long-term debt reimbursement.

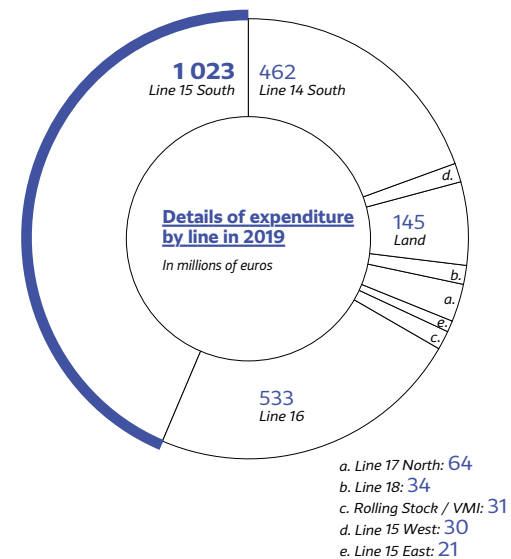
The model was strengthened in 2019 by a nearly 17% increase in tax revenue following new measures passed in the national budget, including the introduction of a supplement to the hotel tax, the full transfer of the IFR and the modernisation of the TSB.

The international finance committee hailed Société du Grand Paris's commitment to sustainable finance, which garnered several specialist media awards: "Green Bond Deal of the Year" from IFR, "Overall Most Impressive Green / ISR Bond Issuer" from Global Capital, and "Largest New Certified Climate Bond Issuer" from CBI.

Major acceleration in deployment of the Grand Paris Express

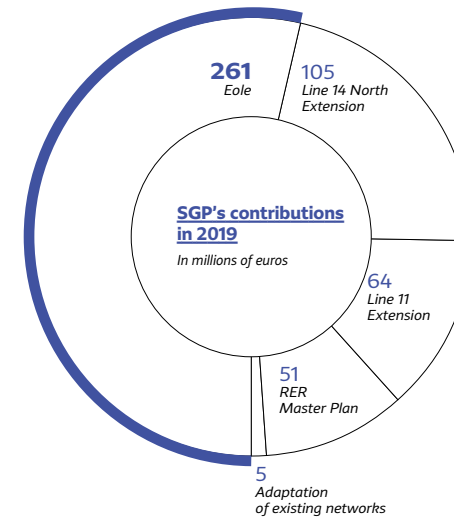
In 2019, 2.34 billion euros were invested in deployment of the Grand Paris Express, mainly due to the acceleration of work on:

- Line 15 South, with eight tunnel borers running simultaneously, the completion of work under the first civil engineering works contract (Noisy - Champs station sidings) and the start of work on the Champigny Operations Centre.
- Line 16, with the launch of the first tunnel borer, the set-up of four more, and the start of work on the moulded walls for the structures between Saint-Denis and Clichy - Montfermeil.



A major contribution to modernisation of the existing regional network

Société du Grand Paris continued its support for several modernisation projects on the existing metro and RER networks with 486 million euros in contributions as part of financing agreements with the Île-de-France region, the State, local authorities, and transport operators.



Increasing tax revenue

Île-de-France Region tax revenues directly assigned to Société du Grand Paris amounted to €672 million, consisting of:

- €465 million from the office floorspace levy;
- €117 million from the special infrastructure levy;
- €74 million from the flat-rate tax on network companies;
- €12 million from the supplemental hotel tax;
- €4 million from the parking space levy.

Other revenue for the year totalled €46 million, including €44 million from re-invoicing the rolling stock to Île-de-France Mobilités.

An established brand

In 2019, Société du Grand Paris launched two new long-term green bonds: 15-year bonds (SGP 1.125 % 2034 for 2 billion euros) and thirty-year bonds (SGP 1.70 % 2050 for 1 billion euros). Four very long-term private investments totalling 225 million euros supplemented these bond issues.

Société du Grand Paris raised a total of 3.225 billion euros in 2019 (at an average rate of 1.44%) from a diverse group of close to 300 international institutional investors.

At end 2019, net financial debt stood at 5 billion euros for a balance sheet total of 7.71 billion euros, up 3.1 billion euros for the year, with a net loss of 39 million euros.



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