

# MOBILITIES MOBILISED

2020 ACTIVITY REPORT



SYSTRA



# MOBILITIES MOBILISED

**T**he health crisis brought a world normally in constant and rapid motion to a grinding halt. It also shed light on our basic needs, one of which is to move around. If we wish to be active in society, and to assimilate and interact with the world, movement is essential, and individual motion conditions collective action.

This instance of global immobility, once completely unthinkable, underscored the importance of mobility at every level. When flow management becomes a critical issue, the language of mobility is on everyone's lips. From precautionary measures to travel restrictions, its regulation determines the exercise of our most basic rights.

Designing this mobility – so central, essential, and strategic – is what our business is all about. As paths to recovery begin to emerge, we felt it was important to question our role and our impact, now and in the future, and to include insights from people outside the company. Mobility is key to a broad ecosystem, and our actions are only relevant when connected to those of other stakeholders. To reach beyond the boundaries of their own experience and to provide the best solutions, engineers must be open to the world. This quality is also highly valued by the SYSTRA Group, and means we can take strides towards a sustainable and resilient future.

We hope you enjoy reading this report.

*This instance of global immobility,  
once completely unthinkable, underscored  
the importance of mobility at every level.*

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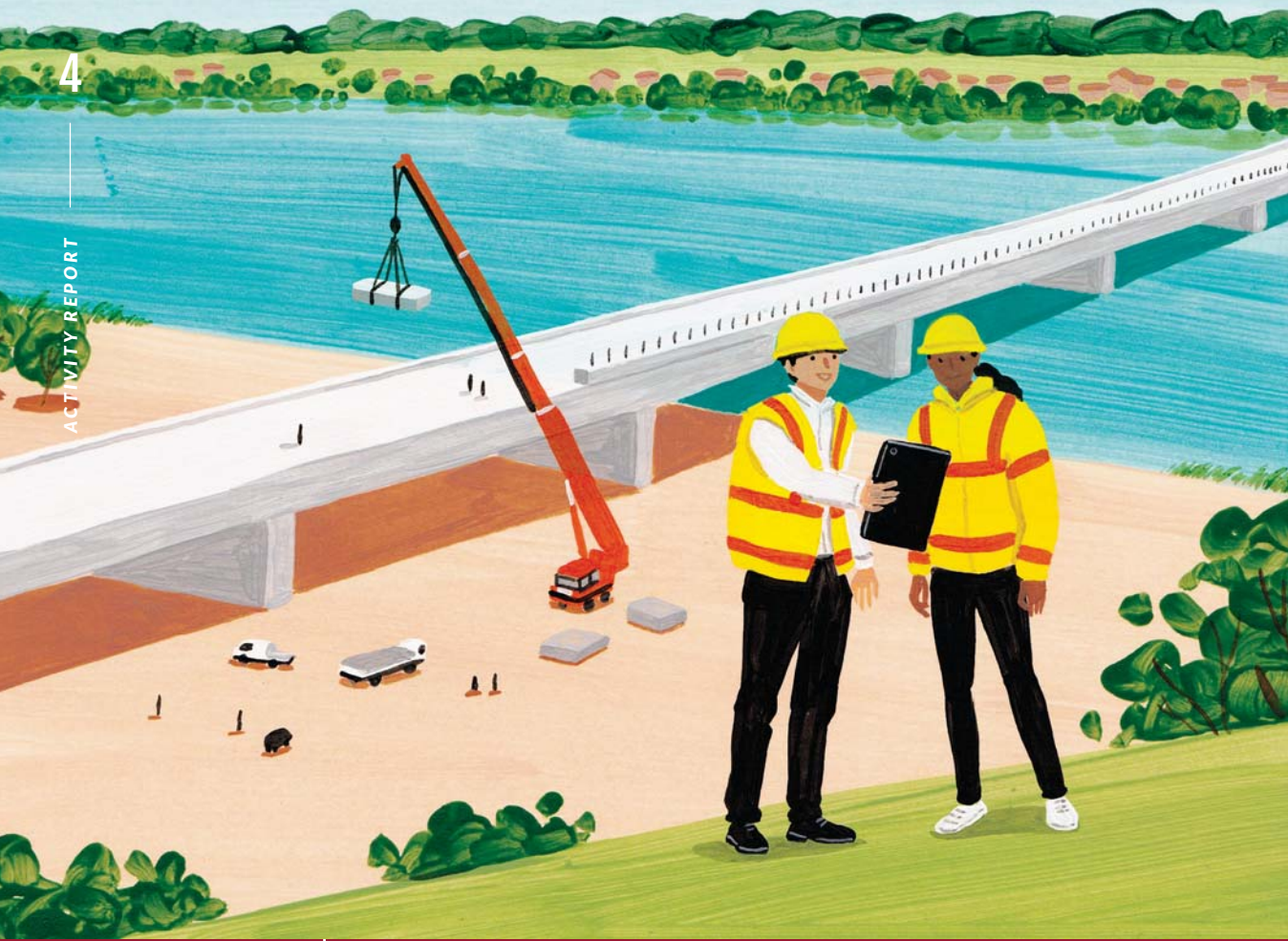
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# PERSPECTIVES ON MOBILITIES





# MOBILISED

## MANAGEMENT IN CRISIS OR MANAGEMENT CRISIS?



**BASED ON AN INTERVIEW WITH BARBARA Z. LARSON**  
Executive Professor of Management, USA

Far from revolutionising our relationship with work and management in companies, the health crisis has put the issues of trust and autonomy and the importance of communicating common values back at the centre of organisations.



## HS2: WHEN THE WORLD COMES TO A STANDSTILL, WE STILL HAVE PEOPLE

**This is one of the biggest projects ever undertaken by SYSTRA anywhere in the world. Mobilising 700 employees and seven production centres, High Speed 2 (HS2) is shaping the future of British rail and underlining the UK's ability to meet the challenge of climate change.**

Covid-19 could have had a big impact on a project of this size and scale if the organisation in place and the commitment of SYSTRA's teams in seven countries – Brazil, France, India, Korea, Poland, United Arab Emirates, and the United Kingdom – had not allowed the company to maintain its exemplary production rate. Resilience, solidarity, and team spirit were the main lessons learned from an extraordinary year by the people who ensure the success of this project every day. The reasons for this success are effective networking, which made it possible for centres to handle and iron out any problems between them; ramped-up technical support that allowed us to move rapidly to a paperless organisation; and the important role played by expatriate employees in streamlining work between entities.



***"A shared experience of extraordinary situations has cemented trust between teams. Suddenly, we were more than a mass of coworkers scattered between centres: we were the sum of individuals working under the same constraints."***

**Ludwig Cueff**  
PROJECT DIRECTOR



***"Our resilient and agile organisation strengthened solidarity between production centres. Behind our screens, we knew we were not alone in our task but part of a human collective."***

**Prisca Flattot**  
DIRECTOR INTERNATIONAL  
PRODUCTION

**W**hat is a crisis if not an external shock that forces change? A crisis does not create new realities. It reorganises, reveals, but always from what is already there. The current crisis is no different. The changes at work in the business world precede it: technological or managerial, these transformations took their time, depending on the culture and context. Then a crisis hit the world last March, forcing change.

For example, the adoption rate of telecommuting was around 5% to 10% in the US before the crisis, slightly less in Europe. At the height of the pandemic, during the months of April and May 2020, almost 69% of workers were at their home offices, which were often improvised.

Such a change in the way work is carried out necessarily pushes companies to initiate other, more profound transformations in their organisational methods, their priorities and even their identities. Suddenly, structural questions emerged: what role does the office play? Do we need so much space? How do we keep the corporate culture alive? Who are we to each other if we are no longer together?

Before the crisis, the main obstacles to telecommuting were cultural. One of the issues was how to ensure productivity at a distance. This is an age-old question, which was answered by the office space: what could be seen was controllable. With distance, new ways must be found to support this productivity, not just to control it but to encourage it. ●●●

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●●● This is where a long-standing recipe comes to the fore: autonomy. The link between autonomy, motivation and productivity is one of the most studied in the field of management science. Numerous studies have shown that a good definition of tasks and an adapted degree of autonomy are sources of appreciation; and therefore, of motivation of workers, with a definite impact on their productivity. The full-scale experiment in remote working during the pandemic has supported this. Of course, other factors come into play: elimination of commuting time, control of a more comfortable personal environment, a more flexible family context (provided that one can isolate oneself from it if necessary) are all elements of indirect autonomy that favour productivity.

The crisis has also provided an opportunity to experience trust and responsibility, two elements often less considered in traditional office culture. Here again, these are large-scale validations of good managerial practices that have been known for decades. Trust and responsibility, in a remote context, require the setting up of measurable and quantifiable objectives, more explicit communication of what is expected of teams, and a more detailed and often more understandable organisation of performance analysis.



**“THE CRISIS HAS ALSO PROVIDED AN OPPORTUNITY TO EXPERIENCE TRUST AND RESPONSIBILITY.”**

If the crisis has removed the unlocked productivity with the adoption of telecommuting, it has, on the other hand, put the question of corporate culture and shared values back at the heart of concerns. What makes us a team if we don't live in the same environment? The answer here is again a question of communication, which needs to be more intentional and precise, to express and bring to life common values.

It is therefore first an effort of reflection to understand what makes a company unique in its behaviour, ways of doing things, and processes. It is then an effort of projection to find ways of expressing it explicitly in daily communications, in the managerial stance, in formal or informal micro-interactions. Removing the non-verbal elements of physical communication creates a double emphasis on verbal communication around those cultural points to ensure that they are not just words that disappear into thin air.

Perhaps the most surprising lesson of this crisis has been the development of empathy and the humanisation of workers. Confronted together with a common reality, albeit experienced differently by each person, the human side of the function becomes apparent, and managers become aware of the importance of ensuring much more than the performance of their teams: their individual well-being and the expression of their uniqueness. If this ordeal allows us to put the human being back at the heart of the company, then we will really emerge from this experience stronger. ●







By **Hari Somalraju**  
MANAGING DIRECTOR  
SYSTRA INDIA

 PERSPECTIVE

**In an unprecedented context, SYSTRA's teams were able to draw on their core values to find solutions to complicated situations.**

→ **What challenges has the health crisis posed for SYSTRA's teams?**

**HS:** Like all companies, we had to move from the office to the home overnight. What makes SYSTRA special is that we work all over the world, in contexts where "working from home" covers very different situations. Suddenly, the working environment is no longer as controlled, the technical solutions are no longer the same... This is a real problem in terms of change management. Fortunately for us, we had the means and the culture in place to meet these challenges.

→ **What strengths did you rely on to meet these challenges?**

**HS:** Our Connected Teams value made the difference. In times like these, communication becomes essential. Being able to exchange information efficiently to maintain a production rate is mainly a technical effort. And our IT teams have been able to deploy remote working tools in record time. There is also all the informal communication, which is crucial in a crisis context, where mental health issues come to the fore. Spontaneously, initiatives emerged in

all countries to maintain the human link, and thanks to the sharing of best practices we were able to quickly adapt our responses to local contexts. Even if we were already living with these values, during this crisis they found a real embodiment.

→ **What lessons can we learn from this crisis?**

**HS:** First and foremost, trust in our employees and teams. This is an essential issue for a company, and I think that this involuntary life-size test has allowed us to take a step forward on this subject. Finally, and I think this is the most important lesson from a managerial point of view, we have demonstrated courageous leadership at all levels. From our "captain", Pierre Verzat, to the local managers, everyone has taken charge not only of the business aspects but also of the well-being of their colleagues. We are now stronger and prouder of all those people who make up SYSTRA. ●



# MOBILITY & URBAN TRANSPORT

INDIVIDUALISING THE COLLECTIVE:  
THE FUTURE OF PUBLIC TRANSPORT?



**BASED ON AN INTERVIEW WITH MOHAMED MEZGHANI**

Secretary General of the International Association of Public Transport (UITP)

Causing unprecedented disruption with far-reaching implications, the health crisis into which the world was plunged in 2020 has radically changed our relationship with public transport and mobility. From mistrust to trust and stigmatisation to innovation, we're experiencing a paradigm shift.



## WHAT ABOUT BICYCLES?

**The SPARK Challenge, which marked the launch of SYSTRA's intrapreneurship programme, this year awarded the "Employees" Prize to a multidisciplinary team from three countries for its cycle infrastructure planning solution. The idea emerged during the health crisis in response to the growing need for micro-mobility and better integrated systems.**

What concrete response can we give to decision-makers to plan and scale their cycle networks and integrate them into their transport solutions? At the intersection between environmental and public health issues, cycling led the pack during the health crisis and in many cities cycle paths were saturated as soon as the lockdowns were lifted, accelerating a movement that had already been gaining momentum for several years.

The project put forward by the winning team consists of a planning and decision-support platform which could expand SYSTRA's consultancy offering once the incubation phase is over. Building on an architecture capable of aggregating data and indicators as diverse as infrastructure costs, the saturation rate of current cycle paths, and estimated travel time on multimodal routes, the solution will simplify planning and provide decision-makers with an effective tool to imagine the sustainable city of the future.



**Guillaume Paix**  
SENIOR  
TRANSPORT  
PLANNER,  
AUSTRALIA

***"Our solution is a game-changer: the health and environmental crises have once again brought to the forefront the need to fund sustainable mobilities. Our user-centric and data-centric platform can take full advantage of our positioning as a signature team to develop adapted local responses."***

**A**t the height of the crisis, during the first lockdowns, when cities closed their gates and immobility became the rule, public transport was initially hit by a drastic drop in passenger numbers. In parallel, the authorities ordered services to keep running to transport essential workers. Public transport therefore played an essential role in the response to the pandemic. Operators have suffered a double whammy of collapsing business revenues and new costs imposed by disinfection, social distancing, and other obligations.

With the end of the lockdown and the return to communal living, public transport is now viewed with distrust as a place where people are in closer contact and therefore at a greater perceived risk from contamination. At the same time, personal mobility is reclaiming the public space with fleets of bicycles now competing with cars, the return of walking, and greater control over our ability to get from A to B.

Some amazing initiatives also emerged over the same period. The crisis upped the pace of innovation. Firstly, in terms of health, with the development of disinfection robots, the automation of train doors, even on conventional lines, and the widespread use of gel dispensers. Operational changes have also had an impact. An issue as old as the subway itself, staggered peak times have become an operational priority and given rise to new solutions which vary greatly from country to country, including free travel before certain times, the booking of time slots, and the availability of real-time passenger crowding data. Lastly, the crisis has pushed operators to be more agile by creating new bus lines, for example, to serve hospitals and efficiently transport medical staff. ●●●

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**“USERS WANT TO CHOOSE AND CONTROL THEIR MOBILITY IN A WAY THAT REFLECTS THEIR NEEDS.”**

●●● But ultimately what has actually changed? How is the city seen by the people who live in it and those who left it? During the lockdowns, when cars virtually disappeared off our streets, the silence spoke for itself, and we became aware of the very or even excessively large place they occupy in the urban environment. Since digital technology has allowed us to change our habits, particularly with regards to how we work, the crisis has also transformed how we see mobility. Lastly, our relationship with others has also changed, and with it the desire to choose if and when we are close to people, which has become a criterion for selecting shared mobility solutions.

More broadly, changes in habits and uses have led to a radical rethinking of the role of public transport, and we now need to think more in terms of “door-to-door” than “station-to-station”. Users want to choose and control their mobility in a way that reflects their needs. I also think we need to include all shared modes of transport in how we think about public transport and truly consider mobility as a service.

Under these changing circumstances, engineers need to be proactive as well as reactive in order to foster innovation and give all stakeholders food for thought when it comes to developing new approaches to mobility. Engineering professions will evolve, and rather than simply develop solutions in response to client requests, they will need to help them identify their needs upstream. The idea of resilience through design is going to become particularly crucial to anticipate new uses from the design stage, foresee the unforeseeable, and create adaptable infrastructures. Data management will play a key role and make it possible to tailor and individualise expectations within a collective system. Only then will public transport be able to meet the challenges of the future, when each individual is able to find a mobility solution in a system designed for everyone.

SYSTRA has a significant advantage in this new model: its global presence enables it to identify ideas and good practices throughout the world and to imagine how they can be applied to other situations. ●



By **Nicolas Massart**  
CHIEF TECHNICAL  
AND INNOVATION OFFICER



## PERSPECTIVE

**Crises do not necessarily give rise to revolutions. The current crisis has highlighted significant changes already underway in the world of mobility and seems to be reshaping the priorities of decision-makers, users, and engineers.**

→ **Is the health crisis causing a mobility crisis?**

**NM:** Not in a radically disruptive way. The crisis has not made the need for mobility to disappear; it has reshuffled the deck in terms of how those needs are expressed. We still need to move around, despite the growing importance of remote working, and some people are relocating outside major urban centres. The health crisis has highlighted the role of mobility within a more general context of social and environmental issues. The rise of micro-mobility is a perfect example of this, but I don't believe the share of public transport will drop. And I think we need to move towards more global mobility solutions at a city level. And in this regard, public transport remains one of the main levers in the fight against climate change and the decarbonisation of our economies. It is also an essential component of social equilibrium in that it allows everyone to travel and access urban services. In short, the crisis has accelerated changes in mobility that were already happening.

→ **What will be the impact on the design of post-crisis transport systems?**

**NM:** We should expect people to be more demanding about public transport. Users are now used to

health measures being applied to every aspect of their lives and will most probably require this same level of vigilance in the transport sector. From automatic opening of train doors to contactless payment, air quality and comfort in train carriages and passenger areas, people are going to expect more from public transport. We will also need to include resilience as design and evaluation criteria for transport systems because we can no longer say it was impossible to predict a crisis of this scale. We also need to be able to scale and plan systems capable of managing these risks.

→ **What do these developments mean for engineering companies like SYSTRA?**

**NM:** We're going to play a greater advisory role in helping clients navigate the still uncertain future. We've mastered the tools needed to model answers to the questions they ask and have begun to think about adapting the parameters of these tools to the new reality. Support is going to be just as important at the implementation stage and we've already demonstrated our ability to innovate in order to work with them to identify practical responses in the post-COVID era. ●





# MOBILITY & TERRITORIES

RETHINKING THE CITY-HUB  
AS A TERRITORIAL DRIVING FORCE



**BASED ON AN INTERVIEW WITH JEAN VIARD**  
Mobility sociologist

The issue of peri-urban mobility and the role of the city has been a catalyst for change in our societies for many years. The health crisis has made us think twice about these issues. Has the deck really been reshuffled? Will the city remain the hub that meets our mobility needs?





In the competition between different types of connections, the pandemic would seem to have established the supremacy of the digital connection, pushed to the forefront by the crisis. From work and leisure to socialising, digital technology has provided a means of survival and expression for human relationships, and the issue of the need to “really” see each other now governs all micro-decisions on mobility.

Until now, people have travelled to work, met, and taken part in social activities. Territorial movements were determined by these necessary migrations and each category of population determined its mobility needs according to its social needs. With the health crisis and its enforced immobility, we have found other ways to meet these needs: we can attend meetings by videoconference, make video calls to family and friends, and take part in remote gym sessions. Physical presence has become secondary to fulfilling a need, which can be met digitally in most situations. We must “fight” for the opportunity to meet each other and have a compelling reason to travel. Movement is now incidental whereas before it was a prerequisite.

These conditions have called into question urban and peri-urban mobilities and with them mobility networks and solutions. The city is a territorial hub. It is the place where people meet and realise social and economic goals – the hub around which territories are organised. If tomorrow this role becomes more secondary and diffuse, if we no longer need movement to meet, what role will the city play? ●●●

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## FROM INFORMAL NETWORK TO INTEGRATED NETWORK FOR ALL

**Some 775 independently operated minibus routes, without set schedules or regulated fares, cover half the territory occupied by the metropolis of Kochi in India. SYSTRA was chosen by the French Development Agency (AFD) to structure this informal network and connect it to the new public subway system.**

The territory occupied by Kochi is fragmented into a historic peninsula, an artificial island, and an economic centre on the mainland. Transportation is disjointed and only serves some passengers, making the day-to-day journeys of Kochi’s 2.5 million inhabitants more difficult.

The project team used the Group’s digital development studio, Qeto, to create a more efficient network architecture and meet the city’s environmental goals. We modelled demand and restructured the bus networks using our Quetzal and ItSim solutions. Beneficiaries will be able to reuse these useful shared tools, built around open-source maps, well beyond the end of the contract.



***“As the public management of transport grows in India, it continues to operate alongside entirely private small-scale paratransit services. Our ambition is to find ways of structuring these services in order to ensure the population is adequately served as part of a realistic economic approach.”***

**Neill Birch**

COMMERCIAL CONSULTANCY DIRECTOR,  
SYSTRA UNITED KINGDOM AND IRELAND



***“AFD has renewed its trust in us to successfully complete the restructuring of small-scale transport services. Digital technology has a valuable role to play in addressing this issue and means we can develop an innovative and adapted consultancy offer.”***

**Joan Serrano**

DEPUTY DIRECTOR OF CONSULTANCY  
& LAND USE, SYSTRA FRANCE



- This is a key question that policymakers must answer in the years to come. And mobility systems will depend on these answers.

We are not all equal in the face of these changes, and we do not all have the same relationship with the city, the territory, and the need for mobility. Knowing we can choose where we reside, based on where we want to live rather than where we work, depends a lot on our socio-professional category. For care professionals, those deemed essential during lockdowns, the question of mobility does not arise – it is a simple necessity. We need to ensure these workers can continue to live near their place of work, mainly in the city, which means devising local mobility systems that meet their needs. People with a “second office”, remote workers, can think about mobility in a quite different way. For some people, the city will be less essential, and the journeys we need to imagine may be connected to the emergence of “third places” – new places of social connection where people can work



### “THE CITY IS A TERRITORIAL HUB”

close to their homes. For other occupations, like those in industry, daily commuting from the workplace to home will be the mainstay, with an emphasis on individual or collective modes of transport organised by the company. Mobility could also be organised around micro-solidarities and shared resources – complex elements considered as part of an aggregative schema. There has also already been a considerable change in consumer habits with an increasing emphasis on home delivery, which has put pressure on mobility systems.

Multi-speed approaches to mobility with vastly different forms are beginning to take shape. We can think of them as mobilities of proximity, although the term “proximity” does not always cover the same realities. It is this complexity that decision-makers and engineers have to grasp in order to design a territorial mobility adapted to cultural change. Mobility must become a service based on individual needs and allow for a variety of forms that will determine the development of territories and the role of their cities. ●







By **Marc-Olivier Maillefaud**  
CEO SYSTRA  
BRAZIL



## PERSPECTIVE

**A slump in public transport revenues, the heterogeneity of travel, changing uses... The challenges facing operators and engineers in the post-Covid era will require agility and the integration of new professions.**

→ **What impact has the health crisis had on transport systems and territories?**

**MOM:** Mostly in two ways. Firstly, financing, following the collapse in incomes, which has placed some operators in an exceedingly difficult position, particularly in countries where public actors have provided a slow or limited response. This raises the broader question of operational funding models and the sustainability of transport systems that rely heavily on this mechanism. Then there is the question of the heterogeneity of demand, which we're beginning to see emerge along with the recovery. Commuting, previously the main purpose of peri-urban transport systems, has been undermined by the crisis and the mass-adoption of remote working. The offering will have to evolve and adapt to these new uses and include more customisable and diversified solutions. In this respect, the crisis has accelerated trends already underway.

→ **What do these changes mean for SYSTRA?**

**MOM:** Firstly, it means our positioning strategy in recent years has been on the right track. We've gone from focusing on mass transit to diversified mobility solutions and a more global vision of systems architecture. The emphasis on technological innovations, such as data integration and predictive models, puts us in a strong position to manage this heterogeneity and understand needs. Our professional profiles have also changed, especially at the analysis and research stage, as behaviour becomes more individualised and less mainstream. This has boosted the importance of data science, especially at the analysis stage, and the need to integrate more and more data into our models. SYSTRA's strength lies in the pooling of expertise and in its global positioning, which enables us to benefit clients with maturity on certain subjects and feedback from full-scale projects in other countries. ●





# MOBILITY & ENVIRONMENT

HAS THE SANITARY  
CRISIS SERVED THE  
ENVIRONMENTAL CAUSE?



**BASED ON AN INTERVIEW WITH MYLES MCCARTHY**  
Deployment & e-mobility Director, The Carbon Trust

Until the spring of 2020, humanity's biggest challenge was the environmental crisis. Then Covid-19 monopolised our attention, conversations, and investment. But the climate mountain still needs to be climbed. Has one crisis pushed out the other? Or can the lessons learned from one be used to better understand the other?



## CARBON REDUCTION

**Transport infrastructure projects are no longer limited to solving problems such as servicing, improved access, and regional planning. An integral part of action on the environment, they make a significant contribution to achieving the carbon goals of cities and countries. With this in mind, SYSTRA has devised an analysis tool integrated into project design from the earliest stages.**

Fully developed in-house, Carbontracker is both a tool to automate carbon footprint calculations and for optimising avoided carbon emissions, incorporated into BIM models. Building on our experience and the know-how of our technical teams, it considers the entire project lifecycle, making it possible to analyse and impact the carbon footprint of the construction and supply stages from design onwards. Each component of these stages is associated with a unit of work and a method of calculating the carbon footprint. The algorithm developed by our teams then retrieves all necessary data from the BIM model to perform calculations according to predetermined parameters. The app displays the avoided emissions relative to a baseline scenario. An analysis and decision-making tool, Carbontracker is an effective work aid for our engineers and helps our customers reflect on their choices. Carbon footprint is now one of the most important criteria in the design of mobility projects. Currently implemented on a handful of pilot projects, the solution is set to be expanded rapidly to integrate the complete project lifecycle and offer the possibility of fine-tuning calculations to consider local factors.



**Éric Pruvost**

BIM  
TRANSFORMATION  
PLAN  
MANAGER

***“Carbontracker is an example of how to use BIM data to build a bridge between business line engineers and ecodesigners in order to design more efficient infrastructure.”***

Until the spring of 2020, humanity’s biggest challenge was the environmental crisis. Then Covid-19 monopolised minds, debates, and investments. But the climate mountain to be climbed is no less present. Has one crisis chased the other? Or will the lessons learned from one be used to better understand the other? We have all seen it: when the world stops, the planet breathes. Carbon emissions are down, bird singing is up, fine particles are down... Is the environment the big winner in this global pandemic? That would be far too simple.

Should we stop moving to save the planet? Not so sure. What the health crisis has revealed is the inherent fragility of our systems, the incredible interconnectedness of our economies and the limits of our consumption patterns, starting with our modes of transport.

The link between mobility and the environment is more relevant than ever. The transport sector, all modes combined, is one of the biggest emitters of greenhouse gases, and its transformation towards progressive decarbonisation remains one of the main levers for environmental action. The life-size experiment represented by the health crisis has revealed the non-essential nature of some of our travel and the need for more sustainable local solutions. Having rediscovered our immediate environment, we are likely to think twice about taking our cars to go shopping, or to decide that our weekly team meeting can be held by video conference. ●●●

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- In this new environment in which we live and work differently, how can we develop the positive impact of mobility solutions? This consideration is firstly based on the dimensioning of the transport offer. Rather than thinking of infrastructure solely in terms of mass transport, we will surely see the emergence of intermodal systems connected to soft modes, designed not for commuting peaks but for a service spread throughout the day and consuming less energy.

The objectives of reducing the carbon footprint have not disappeared with Covid-19. On the contrary, they will intensify as the national plans of the signatory states to the Paris Agreement come into force. The demand for "greener" mobility will become more and more pressing. This is truer than ever as users themselves will be more careful about their choices, since they have realised, because of the pandemic, that their journeys must be more reasoned and reasonable.



### "ECODESIGN IS AN INCONVERTIBLE REALITY"

In the same way, ecodesign, which can be found today in all sectors, takes on a special meaning for the transport and mobility industry. It is a profound transformation that is taking place in the engineering professions. Sustainable construction materials, integration of environmental objectives in the measurement of the performance of a transport system, use of data in the predictive analysis of behaviour and therefore of dimensioning... Ecodesign is now unavoidable.

By profoundly disrupting our lives, whether in terms of our private lives or economic value chains, the health crisis has revealed their fragility and interdependence. Those involved in the fight against climate change have been trying for decades to raise awareness of these issues among the general public and leaders. The global health crisis has helped raise awareness of the risks to our systems and societies, and of the universality of the issues at stake, thereby reinforcing our commitment to address them. ●







**Christelle Chichignoud**  
SUSTAINABLE DEVELOPMENT  
DIRECTOR



**PERSPECTIVE**

**Problem or solution? As far as the environment is concerned, mobility has a vital role to play in our response to the climate challenge.**

→ **Sometimes seen as a cause of pollution, how can mobility be a solution to environmental issues?**

**CC:** Our response to the climate crisis cannot be to stop moving, but to move better. Properly designed public transport solutions can move large numbers of people while minimising their impact on ecosystems. We need to take a global approach, which systematically integrates the environmental and societal footprint into mobility design. We've chosen ecodesign as a means to integrate these parameters into design criteria on a par with economic or social criteria. Public transport is a sustainable form of mobility and part of a long-term strategy to respond to development issues responsibly and reasonably. It should also endeavour to preserve the environment in which it is located by organising flows and limiting human pressure on ecosystems. If we integrate micro-mobility and alternative mobilities into these systems, we can form networks capable of supporting the development of territories and cities, while at the same time helping countries achieve their carbon goals.

We need to integrate changing practices in cities and their impact on the future of urban planning.

→ **How has SYSTRA integrated ecodesign into its model?**

**CC :** Based on our strong convictions as engineers, we decided to take a comprehensive and integrated approach. It's not confined to teams working on environmental engineering subjects. It forms part of our projects, from responding to calls for tenders to their implementation, including our consulting role and innovation priorities. These sustainability criteria serve as parameters for scaling our responses and support. They take very practical forms, such as decision-making tools based on BIM to determine the carbon footprint of projects upstream. All our business lines contribute to this approach, and it's a key driver of commitment within the company as a whole. Since climate change is arguably the most important challenge of our time, we're putting all our expertise at the service of our clients to help them shape a sustainable future. ●

# The Group in 2020

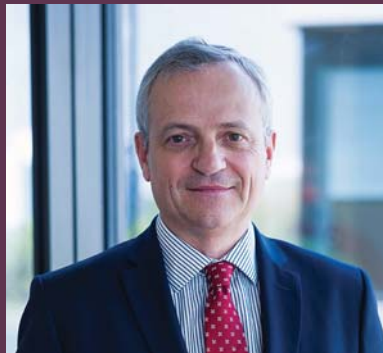


## Message from Pierre Verzat, Chief Executive Officer



### ENDING 2020 ON A POSITIVE NOTE

We gave a positive performance in 2020: SYSTRA is in good shape. Despite the health crisis, we continued to transform our business and move it forward. And it was precisely because of these transformations that we were able to forge ahead and weather the storm. The far-reaching organisational changes we initiated in 2019, which enhance the autonomy of our key countries, helped us make the right choices and respond to local needs. We made advances in vital areas, such as ethics, with the awarding of ISO 37001 certification for France and India, and sustainable development, including the implementation of the Syntec-Ingénierie climate charter. Our Connected Teams value played a vital role in helping us ride out this crisis, both in terms of our organisation and our culture. In 2021, we plan to carry on strengthening our organisation around our key countries and to complete the launch of our French affiliate. We also plan to press ahead with our acquisitions as part of a strategy of continued growth. Lastly, we are going to strengthen our ability to unite and connect international teams around a single project, as we are already doing with High Speed 2 (HS2), helping us build on this major competitive advantage in our sector.



### TEAMS UNITED THROUGH THE CRISIS

Although the year presented our teams with many challenges, we managed to successfully navigate our way through the pandemic. The Group has weathered health crises in the past, but never on this scale. Our fundamentals were sound, but most importantly, we made an effective connection between the Group's strength and its distinctive local needs. Openness to others, which comes naturally to our teams, rapidly gave rise to a strong sense of solidarity. Managers played a vital role in helping everyone stay in touch, remain vigilant, and build on established team rituals. More than ever, our projects strengthened our social fabric and enabled remote and solitary teams to feel part of a greater whole.



### ACCELERATING CHANGE IN THE SECTOR IN 2021

Infrastructure projects are an integral part of economic recovery plans, especially since they help drive environmental transition. These projects need to be viewed from a long-term perspective. The crisis has heightened awareness of the role public transport has to play and it will clearly be a central pillar of recovery policies. Questions will inevitably be asked about the resilience of systems to crises of this magnitude and the methods used to finance these projects. However, these changes did not begin in 2020 and SYSTRA is better prepared than ever to accelerate the transition, particularly in terms of infrastructure sustainability. The crisis has highlighted the fact that engineers have valuable perspectives to share on mobility choices. We need to be a powerhouse of ideas and play an active role in discussions around public transport.

***“The crisis has heightened awareness of the role public transport has to play and it will clearly be a central pillar of recovery policies.”***



## Messages from the Supervisory Board



***“Throughout a difficult year, SYSTRA demonstrated its resilience and solidity, and delivered a strong commercial performance and positive results despite the health crisis. The strategic directions chosen in 2019 and the transformations made have proven their worth in recent years. The Supervisory Board and shareholders will continue to support the Executive Board in driving SYSTRA’s development and profitable growth in the years to come.”***

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**JEAN-YVES LECLERCQ**  
CHIEF FINANCIAL OFFICER, RATP;  
CHAIRMAN OF SYSTRA’S SUPERVISORY BOARD



***“The Supervisory Board welcomes the growing number of initiatives in the fields of innovation and sustainable development. They naturally have a role to play in the offer developed by SYSTRA, which understands how to promote solutions to clients that set us apart from the competition.”***

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**XAVIER QUIN**  
VICE CHAIRMAN OF SYSTRA’S SUPERVISORY BOARD;  
INDUSTRIAL DIRECTOR OF SNCF VOYAGEURS



***“Our teams have done remarkable work on ethics and risk management. Good practices in these areas are now rooted in SYSTRA’s DNA. The awarding of ISO 37001 certification underlined the commitment of the entire management team and built a positive momentum that raised awareness and strengthened the involvement of teams at every level, as shown by the many initiatives taken by countries to celebrate Ethics Day on November 5.”***

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**PASCAL POIROT**  
INDEPENDENT MEMBER OF SYSTRA’S SUPERVISORY  
BOARD; PRESIDENT OF THE AUDIT COMMITTEE



# Review of 2020



**Despite the health crisis, we remained mobilised  
to support client projects and honour  
our commitments.**



## ISO 37001 CERTIFICATION

**FIGHT AGAINST CORRUPTION:  
SYSTRA STRATEGY  
RECOGNISED** 

**On October 30**, SYSTRA became the first French engineering group to have its anti-corruption management system certified in France and India. ISO 37001 certification, awarded by Eurocompliance, demonstrates the success of the initiatives implemented by the Group. Ethics, integrity, and vigilance are central to our mission to be a trusted partner and SYSTRA has once again shown that its anti-corruption policy meets the highest international standards.



## SUSTAINABLE INNOVATION

SAMUEL-DE CHAMPLAIN BRIDGE WINS MULTIPLE AWARDS IN CANADA 2

Since it opened in June 2019, the cable-stayed bridge proudly spanning the St. Lawrence River in Montreal has been showered with prizes and awards. From design to construction, the bridge represents a **major feat of engineering**. Designed to withstand the harsh Quebec winter, it combines leading-edge technologies to guarantee its environmental performance, mitigate the danger of falling ice, and strengthen its structure to withstand deicing salts.

Even before it was completed, it received the 2018 Envision Platinum Award for its sustainable design, and it has since been recognised with the Honour Award from the ACEC (American Council of Engineering Companies), the Honour Award from the IABSE (International Association for Bridge and Structural Engineering), and the International Transport Structure Award from the PCI (Precast/Prestressed Concrete Institute) among many others.



## OPENING OF NORTHBOUND LINE 14

REGIONAL EXTENSION OF THE PARIS SUBWAY 3

The extension of Line 14 to the north of Paris opened on December 14. The backbone of the Grand Paris Express, the capital's future transport network, the subway line now crosses the ring road to **serve many fast-growing neighbourhoods** and the new Tribunal de Paris courthouse, with four new stations. Work is continuing on the southern extension to link up Orly airport by 2024.

## GLOBAL LIGHT RAIL AWARDS

WINNING INNOVATION 4

The Global Light Rail Awards, which honour the best tramway projects, this year gave the "Highly Commended" award to SYSTRA in the "**Best Environmental and Sustainable Initiative**" category. The innovative grassed track watering solution for the T3 tramway line in Paris received the approbation of the jury. The innovative and sustainable solution, designed in conjunction with Netafim, is an underground drop-by-drop water distribution system that ensures controlled irrigation and efficient water consumption.







5

## ROUTE 2020

## A ROUTE TO THE FUTURE FOR DUBAI 5

Route 2020 adds seven new stations and 15 kilometres to the world's longest automatic subway line. Inaugurated on July 7 by His Highness Sheikh Mohammed bin Rachid Al Maktoum, this project is **an important showcase for Dubai**, which plans to welcome visitors from across the globe for its World Exposition in October 2021.

Built in record time, the extension meets the highest international safety and environmental standards. Fitting seamlessly into the cityscape and equipped with state-of-the-art technologies to deliver a unique travel experience, it is designed to carry more than 270,000 passengers daily between its residential and commercial districts.



6

## TERESINA BUS NETWORK

## INNOVATION FOR URBAN TRANSPORT 6

At the crossroads of collective intelligence and open innovation, the city of Teresina in northeast Brazil has transformed its transport network into a testing ground for new ideas, benefiting two million residents. As part of the Euroclima+ project funded by the European Union and implemented by the French Development Agency (AFD), SYSTRA is helping **improve Teresina's transport system** by giving priority to multi-stakeholder consultation through meetings with trade unions, user questionnaires, and design thinking digital workshops.

## AUTONOMOUS TRAIN

## ANOTHER STEP TOWARDS THE AUTONOMOUS TRAIN


In September, teams from SYSTRA, SNCF, Alstom, and IRT SystemX conducted a full-scale **test phase on an obstacle detection system for an autonomously operating train**. Equipped with two colour cameras, two thermal cameras and two lidar sensors, the test train travelled on a secure track with models of people, foam and resin animals, and a false rock dotted along the route. The data collected will be used to finalise a prototype short-range (300 metres) obstacle detection system for delivery in spring 2021.



## INAUGURATIONS ACROSS THE CONTINENTS

**In Cairo**, the opening of six new overhead stations and 7.5km of tracks on Line 3 provides users of the Egyptian capital's subway system with a reliable and fast service. It marks 50 years of SYSTRA's involvement in a project which, in 1987, was the first subway in Africa.

**Nagpur**, a metropolis in western India, inaugurated the first section of the East-West Corridor of its new subway, the "greenest" in India, with 60% of its needs supplied by renewables. The system will improve the daily travel experience of 2.4 million inhabitants in one of the world's fastest-growing cities.

**In Sydney**, the NorthConnex Motorway tunnel, opened in October, connecting the northern and western motorway networks on the outskirts of Australia's business capital. The new infrastructure avoids some 20 traffic lights and shaves 15 minutes off the average journey time. 



8

## BORDEAUX TRAMWAY

### 4 LINES AND 20 YEARS OF HISTORY WITH THE BORDEAUX TRAMWAY

The inauguration of the last few kilometres of the Cantinolle – Carle Vernet section of Line D of the Bordeaux tramway marks the completion of a partnership between SYSTRA and the Gironde metropolis spanning more than two decades. Opened in 2021, the tramway has more than 77 kilometres of tracks on four lines serving over a third of the conurbation. **The project has benefited from multiple innovations**, including the development of the GLPS (Ground-Level Power Supply), which eliminates the need for overhead lines – a world first tested initially in Bordeaux city centre. The arrival of tramway Line D at Cantinolle, on the outskirts of Bordeaux, makes it possible for residents of several neighbouring districts to travel to the city centre or Saint-Jean station by tram. This marks another milestone in the city's strategy to reduce automotive traffic while preserving its historical heritage.



7

# Contracts won



**In 2020, we continued to grow our activities in established markets and expand into new territories.**



1



2



3

## Urban

### UNITED STATES

#### SAN FRANCISCO BART

SYSTRA is working on CBTC (Communications-Based Train Control) automation for the Bay Area Rapid Transit (BART), the rail network serving the San Francisco Bay Area. The Design Services During Construction (DSDC) contract covers the modernisation of train control equipment as part of one of the most complex programmes ever undertaken in North America.

### DENMARK

#### COPENHAGEN S-TOG

A joint venture team consisting of COWI, Parsons and SYSTRA was awarded an eight-year framework contract chosen by Danish operator DSB to provide engineering and consultancy services for the automation of the Greater Copenhagen S-rail network. The new transit system will be one of the world's largest and fastest in its class.

### INDIA

#### MUMBAI SUBWAY

In Mumbai, SYSTRA was awarded the contract to deploy a CBTC system for three corridors of the suburban network. This represents half of the journeys made by the city's inhabitants and serves more than 450 kilometres of tracks. Our teams also created the brand image for all the stations on the subway network, which is set to be one of the busiest in the world.



## Railway Lines

### UNITED KINGDOM ELECTRIFICATION FOR NETWORK RAIL

In addition to the HS2 high speed project, SYSTRA is a major player in the modernisation of the British railway network. We are working in several consortia on behalf of the infrastructure manager Network Rail, for whom the electrification of lines will enable carbon neutrality to be achieved. In 2020, we extended our work on the East Coast Main Line and the Transpennine Route Upgrade programme in the centre and east of the country.

### UNITED ARAB EMIRATES ETIHAD RAIL

The *Design & Build* teams have won a second round of implementation studies for the largest rail project currently underway in the Middle East. The line will transport some 2 million containers and 30 million tons of construction materials every year to Abu Dhabi and Dubai.

### FRANCE NEW PROVENCE-CÔTE D'AZUR LINE

At the end of 2020, SYSTRA was awarded a single-contractor framework agreement, in a consortium with Egis, for this major rail project between Marseille and Nice. The companies will start by carrying out the environmental engineering design and implementation studies over a period of 13 months, for inclusion in a public inquiry file.

### THAILAND HIGH-SPEED RAIL LINKED 3 AIRPORTS PROJECT

Private concession-holder EHSR has entrusted SYSTRA with the concept design and project management assistance for the construction of a 220-kilometre line linking three international airports on the Gulf of Thailand coast.



4



5



6

## Underground structures

### ITALY GENOA MONORAIL

SYSTRA-SOTECNI will be the lead company of a joint venture responsible for the technical and economic feasibility study and the preliminary studies for the country's first-ever monorail line. It will connect the future Erzelli railway station at the top of a hill housing a university campus, a tech centre, a hospital, and residential areas.

### FRANCE/ITALY LYON-TURIN EURALPIN TUNNEL

SYSTRA was awarded a second project management contract for the Lyon-Turin tunnel, currently one of the largest rail infrastructure projects in Europe. The French and Italian teams are working on a 10-kilometre section, the only underground twin-tube section of this future cross-border tunnel.

## Consultancy

### BRAZIL STUDIES FOR THE NATIONAL BANK FOR ECONOMIC AND SOCIAL DEVELOPMENT

SYSTRA was awarded the largest consulting contract in its history in Brazil. Conducted in consortium with GPO, Cescon and Rhein, the project relates to modelling studies for public railway line concessions on several major urban networks: Natal, Recife, João Pessoa, Belo Horizonte, Maceió, and Porto Alegre.



# Ready to accelerate



**Jean-Charles Vollery, Chief Operating Officer**  
**Monica de Virgiliis, Chief Strategy Officer**

### How would you sum up SYSTRA's strategic positioning?

**MdV:** Our positioning is centred on our clients and closely reflects their priorities. Each transformation and its operational implementation is designed to anticipate and satisfy their expectations and needs. We have a strong core business built around transport and mobility, and an international footprint. The growth of our offer is intended primarily to meet these needs, but we're also able to spearhead proposals thanks to our detailed market knowledge and the pooling of our expertise.

**JCV:** Yes, as Monica says, our organisation is entirely focused on moving forward in response to the issues facing our clients. Providing this response is the first duty of any engineer. We're able to invent solutions within a pragmatic and operational framework. But our uniqueness lies in our cross-functional approach and unity, which makes all the difference in a year like the one we've just experienced.

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**MONICA DE VIRGILIIS**  
CHIEF  
STRATEGY OFFICER

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***"Far from being a setback, the crisis has accelerated the growth of our model."***

### How did this connection get us through the crisis?

**MdV:** SYSTRA's transformation, both in terms of its geography and expertise, is based on increased synergy. We've turned our home countries, the key countries which account for 85% of our business, into truly autonomous

entities which know their markets inside out and can help and inspire each other. This melting pot fosters the growth of global solidarity in difficult times, both around our projects and between teams.

**JCV:** I think the idea of autonomy is key. This formative movement, which we launched in 2019 to empower our affiliates, enabled us to implement a model that encourages local initiative-taking and promotes managerial development. In a crisis such as the one we experienced in 2020, this gives us the flexibility, agility, and reactivity to create responses tailored to local circumstances. Not all countries approached the health crisis in the same way, as we saw. Our affiliates have been able to care for their teams and support their clients in ways appropriate to them. But the big difference between autonomy and independence is that these autonomous structures are connected and talk to and help each other. We've seen some great examples of solidarity and our Connected Teams value during this crisis. I'm thinking in particular of our Chinese affiliate, which came to the aid of our American teams when they were short of masks, and the management of mental health issues in Brazil, which were inspired by initiatives shared as far away as the United Kingdom.

**MdV:** Yes, I think the crisis, far from being a setback, has accelerated the development of our model and underlined the importance of these transformations. What we've put in place is actually a sound operational philosophy.

### What are SYSTRA's main goals for the coming year?

**MdV:** The crisis has accelerated existing trends, particularly in terms of environmental transition. Public transport, which plays a fundamental role in these environmental issues, makes us a big part of the answer. We've already integrated sustainable

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**JEAN-CHARLES VOLLERY**  
CHIEF  
OPERATING OFFICER

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***"Our uniqueness lies in our cross-functional approach and our unity, which makes all the difference in a year like the one we've just experienced."***

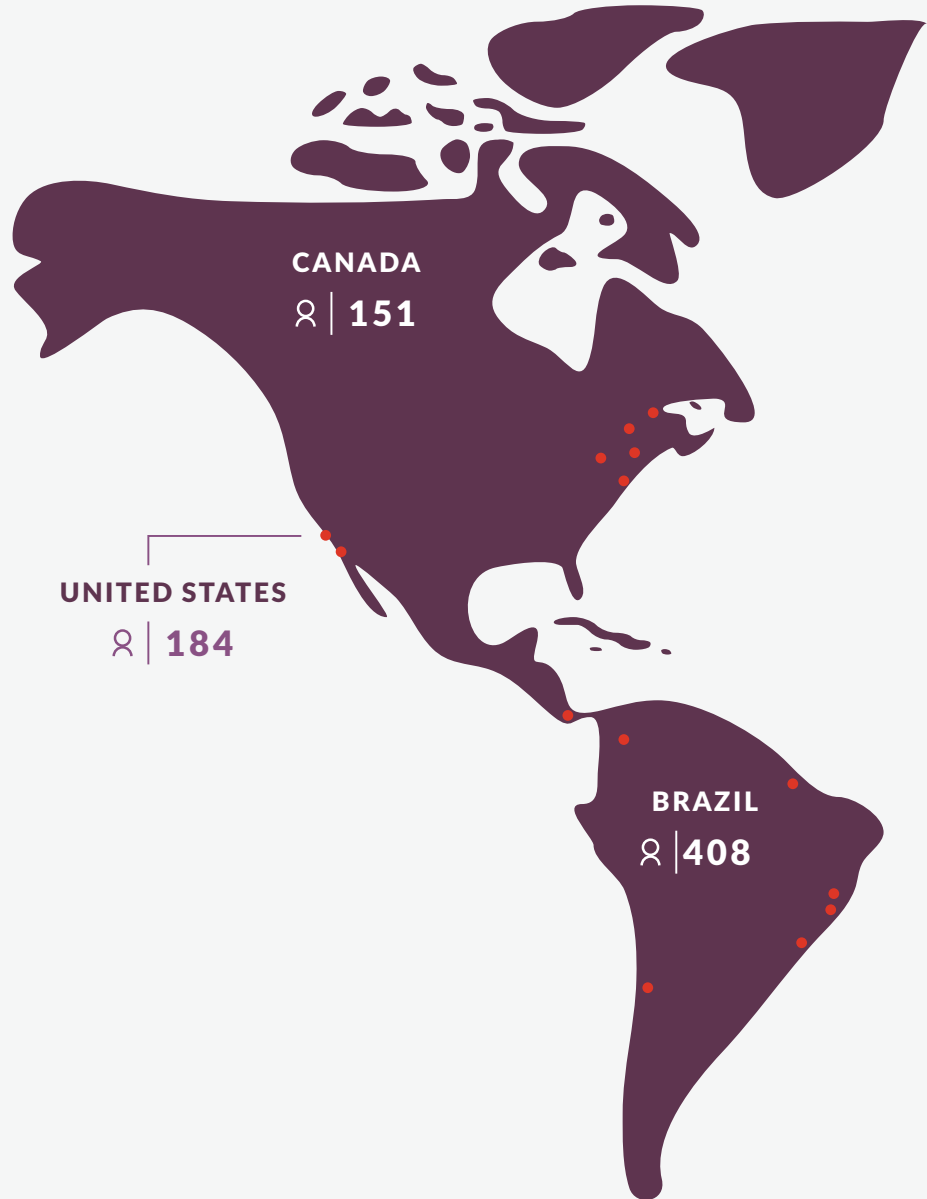
development criteria into our offer and we're drawing on our capacity for innovation to propose solutions adapted to these challenges. The health crisis has also brought to light interface and intermodality issues, where we're well positioned, and technological challenges around health issues. Since they're important issues for our clients, they're also important to us.

**JCV:** 2020 underlined the relevance of our choices and the appropriateness of our model for our markets. We're going to continue implementing this strategic plan, move towards even greater autonomy and accountability, and further develop cross-functionality to truly integrate each of our technical areas. We're also going to be able to resume our external growth, where the Group deems it necessary and relevant.

**MdV:** The year ahead will be crucial for many of our customers, especially since economic recovery plans are expected to put the spotlight on mobility solutions. We're ready to support them as the pace quickens.



# A global player



**Caption:**

- Main locations and main SYSTRA centres of excellence

Named countries: Top 12 SYSTRA workforce

**€668m**

Turnover 2020

**7,542**

Employees

**70%**

turnover achieved abroad

**40%**

growth in the workforce between 2015 and 2020

Ranking 2020 Engineering News-Record (ENR)

**#4** Mass transit and rail

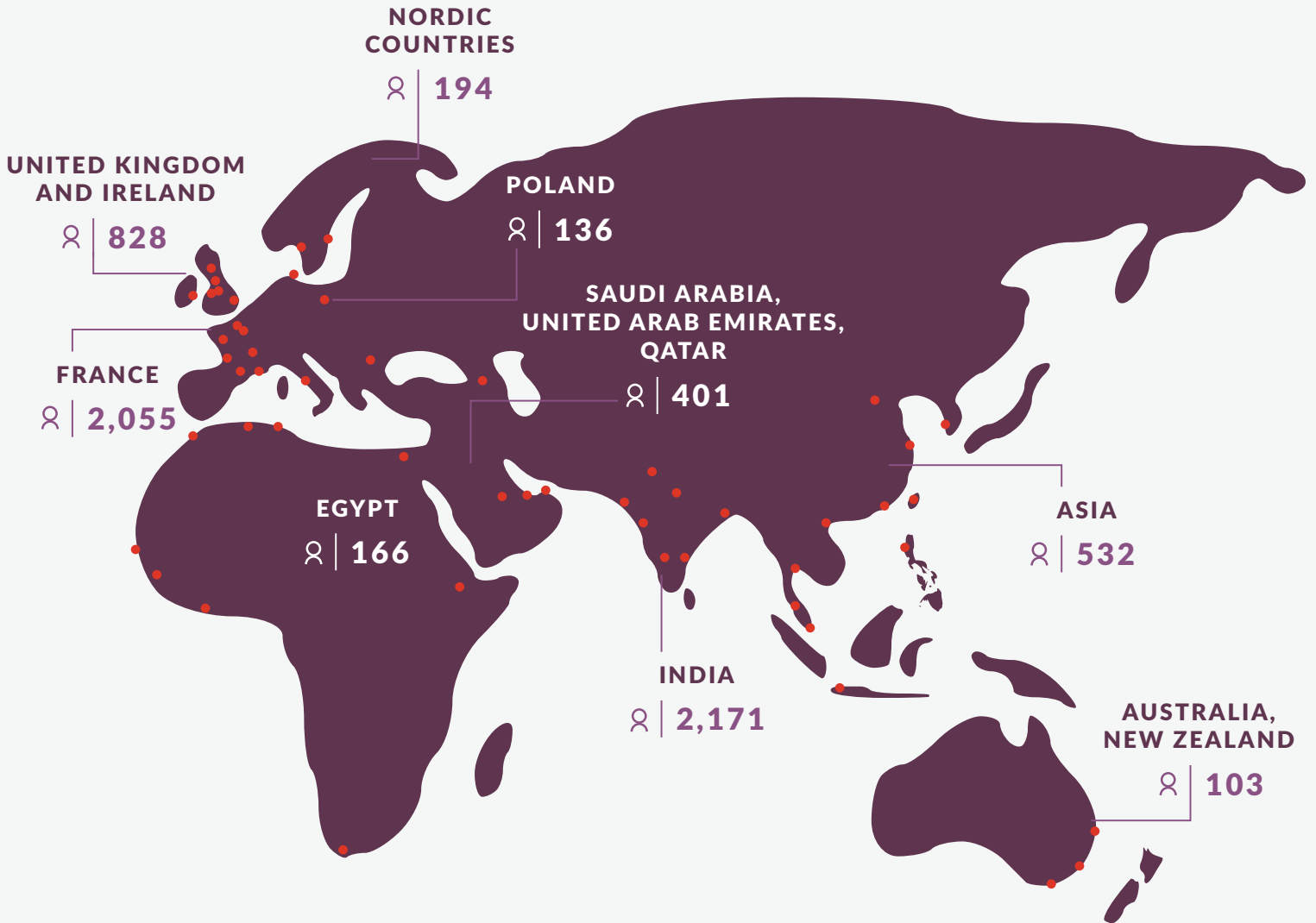
**#8** Bridges

**#10** Transportation

**#33** International Design Firms



**We enjoy an operational presence  
in 80 countries and all our teams are connected  
and ready for action across the world.**



**€726m**  
in orders

**60+ years**  
of expertise  
in transportation

**50%**  
of high-speed lines  
in service worldwide

**1 in 2**  
subways  
designed worldwide

The maps shown in this public document aim only to illustrate the organisation of operational activities specific to SYSTRA. They do not reflect any intention to express an opinion concerning geopolitical issues. SYSTRA, its subsidiaries and affiliates can in no case be held responsible for any interpretations that may arise.



# Mobilised to innovate sustainably



**Innovation is a state of mind – a combination of curiosity, initiative, and the determination to seek solutions in unfamiliar territory. As engineers, we combine inventiveness and technical skills to develop mobility adapted to future needs by drawing on the diversity of our business lines and incentivising our teams to continuously drive their momentum.**

**M**obility is rapidly transforming to keep pace with environmental, social, and territorial change. Technological developments enable and foster these transformations by opening up new avenues for transportation solutions. Performance, safety, sustainability, and technology increase our capacity to respond to these challenges and drive progress.

Innovation at SYSTRA helps us better serve our clients and users of mobility solutions. We constantly strive to transform our service offers to better meet their needs and challenges. Innovation, digital technology, and new services are

set to account for 25% of SYSTRA's turnover by 2030. By reconciling innovation and sustainable development, we are helping drive the environmental transition of our territories and industry. Our innovation programmes address four major challenges:

- strengthening social and territorial cohesion
- improving the performance and safety of transit systems
- designing and promoting sustainable solutions to tackle climate change
- taking advantage of digital transformation

## SPARK: THE IDEAS ARE FLOWING

Fielding 226 submissions and attracting 1,100 voters from 30 countries, the Spark Challenge, the first stage of the intrapreneurship programme launched by SYSTRA, has caught the imagination of people across the Group. Initiated in summer 2020, this challenge, open to all employees worldwide, was designed to generate new ideas for future mobility. Four initiatives were recognised in the fields of sustainable development, mobility solutions accessibility, project safety improvements, and cycling infrastructure planning. During the next stage – incubation – teams will be given support and resources to develop their project with SYSTRA.



## 1

### **STRENGTHENING SOCIAL AND TERRITORIAL COHESION**

Emerging new mobility services must serve everyone's needs. Public transport is a driver of reduced social and territorial inequalities. Innovation can help achieve these goals by changing the architecture of our transit systems. More coherent and connected, it needs to facilitate travel and the transition from one mode to another. The idea of Mobility as a Service (MaaS) brings together technology, planning, and data, and significantly boosts our consultancy role. The challenge is to determine the added value of transit solutions and how they can be integrated through technology. From automation to digital platforms, pricing policies, and shared autonomous vehicles, it's a social and economic equation with multiple factors.



2

## IMPROVING THE PERFORMANCE AND SAFETY OF TRANSIT SYSTEMS

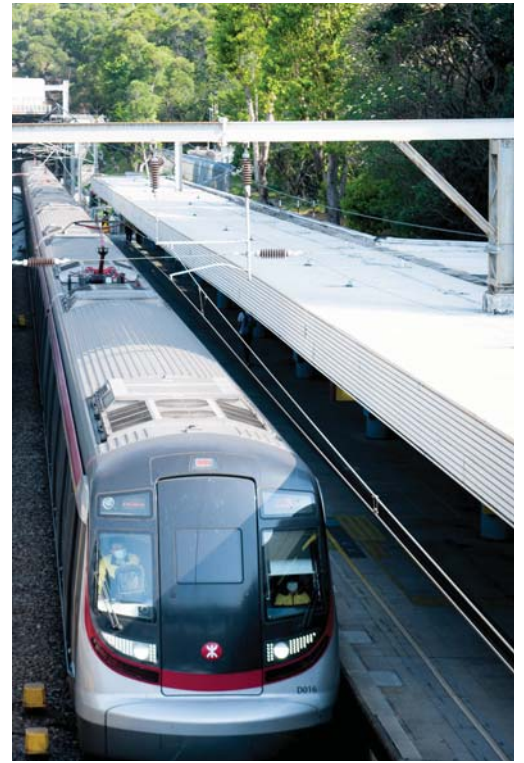
The demographic growth of cities is placing a strain on transportation infrastructure, which must do more and more within highly constrained environments.

Many of our clients are faced with ever-increasing passenger flows and complex traffic patterns caused by a diversity of uses. They also need to ensure the profitability of their infrastructure and quality of service. By innovating in these areas, we can strike the right balance between supply and demand, and between performance, availability, and security. The issues of cybersecurity, optimising the use of data for maintenance, asset data management, and the transformation of existing systems into data-driven technical architectures are especially important for our clients.

**LAURENT MEZZINI**  
FRANCE BUSINESS UNIT  
SYSTEMS DIRECTOR



***“Because we’ve got the big picture of the asset lifecycle, we help our clients sustainably maintain the performance level of a line or network, optimise costs, and control short- and long-term risks.”***







**THOMAS JUIN**  
CHIEF DIGITAL OFFICER



***“We take a client-centric approach to innovation and digital transformation. How can we serve them better and support their digital transformation? We created Qeto, the Group’s development and data science studio, to meet client needs as closely as possible. Qeto is a catalyser. It brings together multiple digital skills to accelerate the development of new services in every area of SYSTRA’s expertise.”***

### 3

#### **DESIGNING AND PROMOTING SUSTAINABLE SOLUTIONS TO TACKLE CLIMATE CHANGE**

Decarbonised mobility is a key driver in the fight against climate change and environmental challenges. It has become a core component of urban development and helps support regional growth. It is also one of the leading demands made by civil society and a central pillar of public investment and recovery policies. Innovation and technology are valuable tools for boosting the carbon performance of existing infrastructure and integrating environmental issues into project scaling and planning.

Solutions like our Carbontracker tool can be used to calculate the carbon footprint of a project at the design stage and help decision-makers make responsible choices.



### 4

#### **TAKING ADVANTAGE OF THE DIGITAL TRANSFORMATION**

Digitalisation is rapidly and profoundly transforming every aspect of mobility. The emergence of new technologies creates as many uses as challenges for our customers. Building on our existing business expertise, we help them implement new technologies to benefit their company. We put BIM at the heart of our engineering projects to strengthen collaboration and design quality but also to serve the needs of future operators or maintenance staff by structuring asset information at the design stage, ensuring digital continuity throughout the lifecycle.

# At the forefront of sustainable development



**Our concept of responsibility goes hand-in-hand with our primary ambition to be the signature team for transport solutions.**

**T**his ambition, which builds on the shared values connecting our teams worldwide, is a commitment to our clients and employees, and the communities and regions we serve. For over 60 years, SYSTRA has been providing its clients with solutions and services to improve their performance sustainably and in the public interest. But at a time when protecting the planet is a priority, the transport engineering sector is more than ever at the forefront of change.

Mobility is a transformative force. It is a vector of change, a reflection of contemporary practices, and helps us predict the future of travel. As an engineering and consultancy group, we have a role to play in designing virtuous systems. The value of these smart, intermodal, decarbonised, and ecodesigned systems with a reduced footprint will lie in their social utility.

That is why we are working to promote the positive impact of our actions. From transport systems to infrastructures and urban and territorial mobility, as early as the design stage of our projects, we do everything possible to select and recommend solutions with the smallest possible environmental footprint. We see it as our responsibility to implement this comprehensive approach to mitigating the impact of climate change in order to help our clients make the best decisions.

As a responsible company and a trusted third party we need to put ourselves beyond reproach by guaranteeing compliance with the most demanding ethical standards. Lastly, it means giving meaning to our employees by centring our model on people.

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**STÉPHANE BIRIEN**  
CHIEF HUMAN RESOURCES  
OFFICER

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***“The Group’s employees don’t join SYSTRA by chance: they believe in the important role people play in our projects and our positive contribution to the environment. Thanks to them, sustainability is integral to our mobility solutions.”***

# 40%

growth in our workforce between  
2015 and 2020



## 1

### PEOPLE: GIVING MEANING TO OUR ACTIONS

Our more than 7,500 employees work in a learning, multicultural environment. Their daily tasks have a positive impact and promote regional development. This is how the Group gives meaning to the actions of each employee and fosters commitment to our three core values: excellence, connected teams, and bold leadership. Our connected teams generate the collective energy necessary to the success of our projects by reaching beyond their distinctive cultures. The Group also encourages mobility and offers everyone the opportunity to change positions every two years. We are also committed to the fight against all forms of discrimination and have an active policy of inclusion around gender equality and people with disabilities. Lastly, SYSTRA continues to put the health of its employees first by providing our teams with dedicated support during the pandemic.

## 2

### CLIMATE: COMMITTED TO SUSTAINABLE MOBILITY

Together with our clients and partners, we help regions and communities rise to the challenges of environmental transition. We're convinced mobility has a key role to play in meeting the challenges of climate change, which is why we use our expertise to help reduce the carbon footprint of transportation infrastructure by putting ecodesign at the heart of our projects. We favour low-carbon mobility solutions, design resilient infrastructure, and promote a co-construction approach with stakeholders. Our teams fully integrate sustainable development issues into their consultancy missions. The Group also works to reduce its own environmental footprint by constantly questioning the way we do things, including the use of digital technology and waste and energy management, and our internal processes, such as travel and purchasing policies.



# 25%

reduction in CO<sub>2</sub> emissions  
between 2019 and 2020  
at our main sites in France

## 3

# 90%

of employees trained in  
our anti-corruption code  
by the end of June 2020

# 1.02

lost-time accident rate  
(vs. 1.87 in 2019)

### ETHICS & SAFETY: ACTING RESPONSIBLY

Being a trusted third party means setting an example through our practices and embodying our values to create lasting relationships with our clients, partners, and shareholders. SYSTRA has made ethics one of the pillars of its action by going beyond its regulatory obligations. In 2020, SYSTRA became the first French engineering group to obtain ISO 37 001 certification for its anti-corruption management system deployed in France and India. The health, safety, and security of all stakeholders has always been a priority for our company, which has made its employees key players in a rigorous policy, which is an integral part of the Group's operational performance. Positive and meaningful, this policy proved to be particularly crucial during the health crisis of 2020.

→ [Learn more](#) about our sustainable development approach and actions in our Sustainability Report.



# The Executive Committee

**1** **PIERRE VERZAT**  
CHIEF EXECUTIVE OFFICER  
CHAIRMAN OF THE EXECUTIVE BOARD

**2** **BRUNO SCHMITT**  
CHIEF FINANCE AND ADMINISTRATION  
OFFICER  
MEMBER OF THE EXECUTIVE BOARD

**3** **JEAN-CHARLES VOLLERY**  
CHIEF OPERATING OFFICER  
MEMBER OF THE EXECUTIVE BOARD

**4** **STÉPHANE BIRIEN**  
CHIEF HUMAN RESOURCES OFFICER

**5** **OLIVIER DEZORME**  
CHIEF FINANCIAL OFFICER

**6** **FRÉDÉRIC LEGUAY**  
SENIOR VICE PRESIDENT RISKS AND SUPPORT

**7** **NICOLAS MASSART**  
CHIEF TECHNICAL AND INNOVATION OFFICER

**8** **DIDIER TRAUBE**  
CHIEF EXECUTIVE OFFICER,  
SYSTRA FRANCE

**9** **ARNAUD VALRANGES**  
SENIOR VICE PRESIDENT,  
INTERNATIONAL WEST

**10** **MONICA DE VIRGILIIS**  
CHIEF STRATEGY OFFICER





**The Executive Committee of SYSTRA assists the Board in its task of general management of the Group. Its purpose is to develop the Group strategy and steer its growth while ensuring client satisfaction throughout the projects undertaken.**



# The Supervisory Board



Made up of business leaders, sector experts, and members elected by the staff, the SYSTRA Supervisory Board comes together at least four times a year to review the Group strategy, its performance, and commitments.



## JEAN-YVES LECLERCQ

CHAIRMAN OF SYSTRA'S SUPERVISORY BOARD; CHIEF FINANCIAL OFFICER, RATP



## XAVIER QUIN

VICE CHAIRMAN OF SYSTRA'S SUPERVISORY BOARD; INDUSTRIAL DIRECTOR OF SNCF VOYAGEURS



## MARIE-CLAUDE DUPUIS

SENIOR VICE PRESIDENT STRATEGY, INNOVATION AND DEVELOPMENT, RATP



## JULIE REINER

CHIEF FINANCIAL OFFICER, SNCF GARES & CONNEXIONS

## PIERRE FA

MEMBER APPOINTED BY SNCF PRESIDENT OF THE ENGAGEMENT COMMITTEE

## FRANÇOIS-ROCH DE MONTALIVET

PERMANENT REPRESENTATIVE OF BNP PARIBAS PARTICIPATIONS

## RÉGIS MONFRONT

PERMANENT REPRESENTATIVE OF CRÉDIT AGRICOLE CIB

## PASCAL POIROT

INDEPENDENT MEMBER PRESIDENT OF THE AUDIT COMMITTEE

## EVA RUDIN

INDEPENDENT MEMBER PRESIDENT OF THE NOMINATION AND COMPENSATION COMMITTEE

## FABIENNE FAYARD

EMPLOYEE-ELECTED MEMBER

## ÉRIC PRUVOST

EMPLOYEE-ELECTED MEMBER

## MOHAMMED-ZAKARYA RAOUNAK

EMPLOYEE-ELECTED MEMBER

## JOSÉ SIERRA

EMPLOYEE-ELECTED MEMBER

## BRIGITTE VERCHÈRE

EMPLOYEE-ELECTED MEMBER

## JULIEN MICHEL\*

OBSERVER, PERMANENT REPRESENTATIVE OF NATIXIS

## PHILIPPE DE VULPIAN

OBSERVER, PERMANENT REPRESENTATIVE OF SOCIETE GENERALE

\* appointed in 25/03/2021



# Financial results



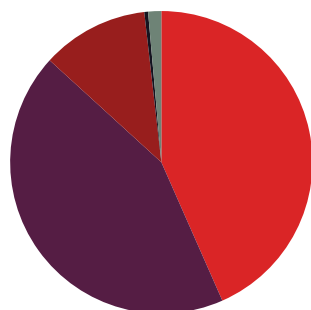
## SUMMARY

(as at 31 December 2020)

CONSOLIDATED ASSETS (IN €m)	2020	2019
Intangible, tangible assets and goodwill	252.5	282.3
Non-current financial assets and equity method investment	0.2	0.5
Other non-current assets	39.6	32.7
<b>TOTAL NON-CURRENT ASSETS</b>	<b>292.3</b>	<b>315.4</b>
Other current assets	394.9	438.4
Cash and cash equivalent	133.4	45.2
<b>TOTAL CURRENT ASSETS</b>	<b>528.3</b>	<b>483.6</b>
<b>TOTAL ASSETS</b>	<b>820.6</b>	<b>799.1</b>

CONSOLIDATED EQUITY AND LIABILITIES (IN €m)	2020	2019
Equity attributable to owners	185.4	203.1
Non-controlling interests	1.5	2.3
<b>TOTAL NET EQUITY</b>	<b>186.9</b>	<b>205.4</b>
Long-term provisions	54.4	45.3
Non-current financial liabilities	180.1	136.0
Deferred tax liabilities	1.9	2.8
<b>TOTAL NON-CURRENT LIABILITIES</b>	<b>236.4</b>	<b>184.2</b>
Short-term provisions	6.1	5.3
Current financial liabilities	130.7	135.8
Other current liabilities	260.5	268.3
<b>TOTAL CURRENT LIABILITIES</b>	<b>397.2</b>	<b>409.5</b>
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>820.6</b>	<b>799.1</b>

## SYSTRA SHAREHOLDER STRUCTURE



**43.4%**

RATP

**43.4%**

SNCF

**11.4%**

Banks

4.4% Crédit Agricole

3.3% BNP Paribas

2% Société Générale

1.7% Natixis

**1.4%**

Treasury shares

**0.4%**

Employees

## FINANCIAL INDICATORS

INCOME STATEMENT (€m)	2020	2019
Consolidated revenue*	668.1	631.2
TOTAL OPERATING INCOME	668.1	631.2
Operating expenses	-607.8	-578.6
EBITDA	60.2	52.6
Amortisation, depreciation and provisions	-39.0	-39.0
Share of profit (loss) from investments in joint ventures and associates	-0.0	0.2
OPERATING PROFIT	21.2	13.7
Net financial income	-10.8	-3.7
INCOME BEFORE TAX	10.4	10.0
Income tax expenses	-9.7	-9.9
CONSOLIDATED NET INCOME	0.8	0.1
NET INCOME – NON-GROUP SHARE	0.2	-0.2
NET INCOME – GROUP SHARE	0.6	0.3

\* Revenue according to the Group's management accounts

SALES INDICATORS UNITS	2015	2016	2017	2018	2019	2020
Order intake €m	609	542	642	585	855	726
Order book as months of revenue	19	18	18	17	21	19

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