TRANSDEV live

AT THE HEART OF MOBILITY

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transdev
MOBILITY INSPIRED BY YOU

TRANSDEV ***live*** AT THE HEART OF MOBILITY

Content Manager: Dominique Wood
Editorial Manager: Cécile Duval. **Editor-in-chief:** Isabelle Debergue. **Editorial assistant:** Leslie Papillot.
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OUR AMBITION IS BACK ON TRACK

JEAN-MARC JANAILLAC, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, TRANSDEV

After three years focusing on Transdev's recovery, we were proud to announce our very encouraging results for 2015. These results were achieved through team effort, dedication, and hard work from our employees. Today, not only can we operate from healthy, solid fundamentals, we can also lay the foundations for new ambitions in order to fulfil the needs of a market that is evolving at an unprecedented pace.

Permanent connections, real-time information, shared journeys, and more... To respond to these challenges and adapt to changes in the mobility sector, we have real strengths: a strong core business and expertise recognised worldwide, close and trusting relationships with public and local authorities, extensive experience in transportation on demand, renewed competitiveness and a capacity for innovation in public transportation as well as in new forms of mobility evolving out of the sharing economy.

Our ambition is now represented by our corporate project, Transdev 2020, which we drew up as a team over recent months. It is a plan to transform our Group and our business; it prioritizes customer relations, operational and commercial excellence, innovation, talent development, group-wide approaches and agile organizations. In Transdev 2020, we have the resources we need to assert our Group's role as a major player in reinventing mobility.

In a few days' time I will be leaving Transdev. I will be sorry to leave behind people who have become very important to me, but I will also leave with the memories of three incredible years, and pride in the work we've accomplished and the journey we've taken. I know that Transdev's employees will support our projects in every way they can, and that they will pursue the development process alongside our clients and partners with great enthusiasm.

> *"As a player in new forms of mobility, Transdev has all the necessary assets to offer innovative solutions and services."*

TRANS.CITÉ, 30 YEARS WORKING WITH **MOBILITY PLAYERS**

Created in 1986, Trans.Cité remains true to its original values and continues to work to bring together experts, professionals and elected officials to focus on mobility, and more generally, to look at how mobility can influence social issues in cities and regions. We look back, and look ahead, at one of the most unusual associations in transportation.

On April 7, the association Trans.Cité celebrated its 30th anniversary at the end of the theme day-meeting it staged in Paris. A hundred or so participants joined Pascal Bolo, the association's Chairman and Deputy Mayor of Nantes, as well as Jean-Marc Janaillac, Chairman and CEO of Transdev, and Pierre-René Lemas, CEO of the Caisse des Dépôts Group. The members of the association, transportation professionals, elected officials from all sides, and leaders of large cities and small communities, from mainland France and overseas, attended this day dedicated to the technical challenges of energy and digital transition. It was an opportunity for everyone to exchange views on real-life projects. Discussions were enriched by feedback from several transit systems, such as the work being undertaken on the new Busway in Nantes, electrical experimentation in Argenteuil, the Watt project at Nice airport, and the zero-emission expertise of Connexxion in the Netherlands. Two themes emerged: the public's eagerness for new and innovative solutions, and the lack of experience with new technologies, throwing into sharp relief the need for close communication between professionals and authorities. The day was an opportunity to reaffirm the association's vocation to continue to come up with ideas for increasing people's mobility.

"Taking part in conferences helps forge strong links through constructive dialogue. It's also an opportunity to take a wider view of one's own challenges and benefit from everyone else's experience."

SANDRINE LINQUÉ,
GENERAL SECRETARY
TRANS.CITÉ

Vocations and ambitions: a laboratory of ideas

What were the reasons for creating Trans.Cité in 1986?
Jean-Luc Frizot: In an increasingly competitive market, it seemed important not to position ourselves simply as a "traction operator" but as a key player in advising and sharing of expertise. This desire to make a difference was realized in the creation of Trans.Cité, an association that regularly brings together elected officials and public transportation professionals to discuss subjects such as fare evasion, intermodality, digital and more.

What were the organization's main characteristics at the start?
Pascal Bolo: The same as today! Right from the start, Trans.Cité has undoubtedly been one of the rare places, if not the only one, where people can set aside political loyalties and disputes and enjoy free, constructive, good-natured debate, without having to betray their principles. Another major quality of Trans.Cité is its practical, concrete approach. The association spends regular time on the ground, in France and elsewhere in the world, taking inspiration from the most innovative methods and feeding back this experience, which can then be used by its members. This hotbed of ideas is the association's real strength, and a major asset to the regions.

Trans.Cité stands out for its pragmatism. What does it offer its members?
Pascal Bolo: It offers a forum for high-level discussion covering the latest subjects through the prism of public policies and technical challenges. Today, elected officials know that public transportation is not simply a matter of moving people from A to B. As a driver of a sustainable policy, transportation represents social, urban, environmental, human and technical issues. Trans.Cité provides expert advice and modern, society-centered solutions to encourage new ideas and innovative projects.

More precisely, what topics are covered within Trans.Cité?
Jean-Luc Frizot: As a laboratory of ideas for the past three decades, the association has been through several phases. At the beginning, Trans.Cité was in a stage of building. We needed to lay the foundations for the creation of new transit systems and the modernization of existing ones. The second phase focused more on issues such as which pricing policies to apply, or the best contractual management model for transit systems. Following the introduction of the 1995 law, issues arose such as the accessibility of different means of transportation. During the 2000s, many questions were asked around the distribution of expertise. More recently, with the reduction in state subsidies and the diversification of services, Trans.Cité has entered a period that focuses on finance. How can we combine the investment required for development with the need to renovate equipment and transit systems? How can we increase commercial revenues and reduce fare evasion? How can we improve the internal and external productivity of transit systems?

Trans.Cité has just celebrated its anniversary. What does it see for the future?
Jean-Luc Frizot: With the challenges of energy and digital transition, Trans.Cité needs to play an increasingly important role as a partner to local authorities. Experiments carried out by Transdev's various transit systems also serve as real-life trials that allow others to save a great deal of time in their own development process.
Pascal Bolo: Digital and energy transition will not come about through a single approach, but with a mixture of innovative solutions that must adapt technologies to regions, and not the other way round. Trans.Cité is the ideal place to discuss these experiences. ▬

PASCAL BOLO
CHAIRMAN OF TRANS.CITÉ, DEPUTY MAYOR OF NANTES, CHAIRMAN OF SEMITAN AND VICE-CHAIRMAN OF NANTES-MÉTROPOLE

JEAN-LUC FRIZOT
EXECUTIVE OFFICER OF TRANS.CITÉ AND MANAGING DIRECTOR OF TAM (TRANSPORTS DE L'AGGLOMÉRATION DE MONTPELLIER)

Why join Trans.Cité?

- To discuss transportation problems and solutions.
- To save time by benefiting from experience in other regions.
- To exchange views with experts.
- To benefit from information that is always up to date.
- To be involved with key events.
- To build a new vision of mobility.

For further information or to join:
anne.girod@transcite.eu
sandrine.linque@transcite.eu

FRANCE

Growing confidence in Haute-Savoie

In recent months, Transdev has had three significant contracts renewed in Haute-Savoie. In October 2015, Transdev won the contract for the management of the urban bus network for the city of Thonon Évian-les-Bains. The BUT (Bus Urbains Thononais) network has been managed since 1997 under a public service delegation contract and carries more than two million passengers a year. In December 2015, the GLCT (Groupement local de coopération transfrontalière) confirmed that Transdev would continue to operate the cross-border lines T71, T72 and T73 that connect Annecy and Évian-les-Bains with Geneva. The T74 line linking Chamonix to Geneva is now included in the new contract. The latest contract to be renewed was in April 2016, for the operation of the Thonon funicular that links the town center and the port.

GERMANY

A major bus network in Hesse

Transdev Rhein-Main GmbH (TDRM) and its Alpina brand have won the contract to operate the urban bus systems for the neighboring cities of Bad Homburg, Oberursel and Friedrichsdorf. This eight-year contract, renewable for two years, will start on January 1, 2017. To cover the 38 lines that serve the three cities, Transdev will acquire a fleet of 50 buses, representing an investment of €11 million. These ultra-modern low-floor vehicles comply with the strictest emissions standards.

NEW ZEALAND

A significant rail contract for Transdev Australasia

In January 2016, Transdev won the contract to operate the rail system in Greater Wellington, the country's second largest city. Put together with the manufacturer Hyundaï Rotem, the bid stood out for its quality in terms of reliability, punctuality, safety, comfort and cleanliness. This contract, granted by the Greater Wellington Regional Council, will run for a duration of nine years, renewable for six years. It amounts to $50 million per year, and mobilizes a total of 450 employees to operate the rail transit system. With this new contract, Transdev has bolstered its presence in Oceania. Transdev already operates the Auckland rail system, and is also active in Australia, including in Sydney (tram) and Melbourne (bus).

CANADA

A substantial public-private partnership

The design, construction, operation, maintenance and funding of the first phase of the Light Rail Transit project on the Edmonton Valley line have been awarded to the consortium TransEd Partners (Bombardier Transportation, EllisDon, Bechtel and others) in a public-private partnership worth €1.8 billion. Transdev will provide its support services for the operation, which will involve taking part in the development of the plan and all operating procedures, delivering training, and managing the day-to-day operations of the system as an industrial partner in the consortium. This first phase involves creating 11 street-level stops along a 13.1 km line linking the south-east of the city with existing stops in the center of Edmonton. The construction of the Valley Line should be completed in 2020.

IN WASHINGTON, **SPLIT IS REVOLUTIONIZING TRANSPORTATION ON DEMAND**

Split launch instant transportation on demand service in Washington D.C. at the end of May 2015, featuring a high-performance app. A practical and affordable ridesharing service which offers a real advantage in multimodal transportation systems.

Dupont Circle, Washington. Monday, July 13 8:15 a.m. Jonathan, 32, is standing by the curb. He has just booked a two-mile ride to his office in Chinatown, using the new Split app downloaded to his mobile phone. It took him a second to connect to the app, place his order and promptly receive a message telling him that his car would be picking him up slightly over one minute later, half a block up the street, and that the trip would cost him four dollars. Jonathan decided a few years back to go carless and today travels to work by bus or metro instead of driving every morning. Increasingly, though, he has been using Split since its launch at the end of May 2015. *"With Split, it takes me 15 minutes to get to work. It takes three times as long by bus and twice as long by metro. And it doesn't cost all much more than a metro ticket, which can be as much as four dollars here in D.C.!"* he says. Like Jonathan, thousands of Washingtonians are switching to Split's transportation on demand (TOD) service. Split is competing head-on with Uber and Lyft, the other two prominent TOD providers in the city. The difference is that Split passengers heading in the same direction can share a ride and pay even less. •••

"Acquiring the algorithm that Ajelo developed in Finland will put Split in a position to provide practical and affordable transportation on demand services in several cities."

ARIO KESHANI,
CEO, SPLIT TECHNOLOGY

"It's a different passenger experience; sure, there might be someone else in the car or you might have to swing by somewhere to pick someone up on the way. But, on average, it works out at about half what you pay for a taxi or similar options, even if you're the only passenger," explains Split's CEO, Ario Keshani. Rides cost $2 to book plus $1 per mile, with 80% of the fare going to the driver.

A high-performance algorithm

The 75 or so private cars in Split's network (driven by owners who set their own schedules) and its 21 permanent employees handle several hundred rides a day in central Washington, D.C. Passenger numbers are growing 15% to 20% a week. In fact, 75% of people who use Split once use it again and customers use it to rideshare three or four times a week on average. Off to a promising start, the smartphone app has reached the 10,000-download mark. *"Our primary targets are 'millennials,' as we call them here in the U.S., meaning under-35 Gen-Yers. Increasingly, they don't have cars and they represent a growing portion of the city's population,"* adds Split's Marketing Director, Sara Pierce.

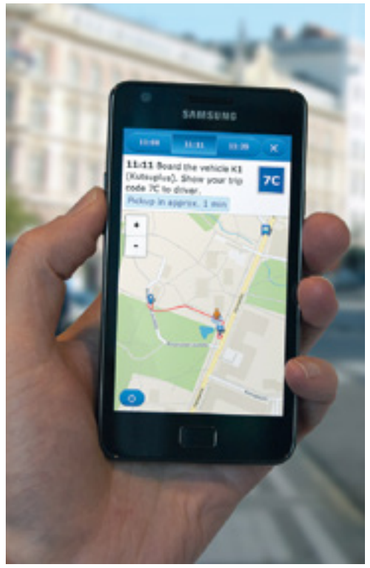
Split runs on a high-performance algorithm that interfaces a virtual map of the city with a grid of pickup and drop-off points, relaying ridesharing bookings from passengers' phones to the nearest car in seconds. There are thousands of points in Split's service area. The extremely complex algorithm's most distinctive feature, however, is the fact that it recognizes similar destinations along passengers' routes. That way, it can instantly identify all passengers heading in the same direction and thus enable carpooling. *"Apps have completely reshuffled the transport on demand business. The algorithm we use at Split unquestionably provides more value than the technology our competitors use: it's more efficient and the rides cost less,"* says Ario Keshani.

SPLIT IN WASHINGTON, D.C.:

More than
20
permanent employees

75
cars

300
rides a day



JAN HORSTMANN,
COO, ON DEMAND DIVISION,
TRANSDEV NORTH AMERICA

Ridesharing is a real advantage in multimodal transportation systems

"Transportation on demand apps have been gaining ground over the past few years. It would have taken us too long to develop our own algorithm so we decided to try and find the best apps already in use around the world. What we really liked about the one that Ajelo had developed for the minibus network in Helsinki, Finland, was that it supported ridesharing, so it enabled very price-competitive transportation. In November 2014, we acquired an 85% interest in Ajelo and used its state-of-the-art technology to finalize Split's instant transportation on demand project in Washington, D.C., around a Business-to-Consumer (BtoC) model using private cars. What we want to do now is adapt this app for the Business-to-Government (BtoG) market and increase our presence in public-sector markets. Today, there is no doubt that ridesharing offers a real advantage in multimodal transportation offers. "

With Rezo Pouce, the individual car becomes a shared car!

Transdev, in partnership with the association Rezo Pouce*, is enhancing complementarity between mass transit systems and new mobility services in the regions.
Based on the concept of hitchhiking, Rezo Pouce is offering a new, sociable, eco-friendly mobility solution in Midi-Pyrénées and Haute-Savoie, in areas with a minimal or no public transit system. Offering a viable alternative to individual cars, which are increasingly costly for many households, Rezo Pouce's app matches drivers and passengers who can meet at stopping points and travel together. The cost of each trip is based on a rate of €0.05 per km. The service also meets the needs of local authorities, facing financial constraints: Rezo Pouce's system is easy to set up and inexpensive, and only involves installing stopping points, which is much less costly than introducing a traditional public transit system.

* An association of local authorities that have set up the first organized hitchhiking network, introduced in 140 cities of France.

In the Netherlands, Abel gets customers together in the same vehicle

Inspired by feedback from the Cabster project and the success of Kutsuplus in Helsinki, Connexxion launched Abel at the end of 2015: an on-demand, real-time service giving passengers an affordable door-to-door transport solution via an app. Abel instantly connects people traveling in the same direction in real-time using its route-planning algorithm. There are no pre-determined fixed routes; Abel creates and adapts routes in real-time, as it receives requests for rides. The service has been in place since January 2016, with 10 cars (KIA and Nissan). The aim is to win 20% share of taxi rides in Amsterdam with an average of 1.92 passengers an hour.

IN NANTES, SEMITAN IS COMMITTED TO THE ENERGY TRANSITION

Electric light rail, buses powered by natural gas, hydrogen-powered boats, multimodality, park-and-ride services: since 1985, TAN, Nantes' public transportation network in which the Transdev Group is a partner, has said no to diesel and is breaking new ground in clean public transportation.

Nantes. Wednesday November 18, 9am. Standing on the platform of the multimodal light rail-bus-regional rail hub at Haluchère in the north-east of Nantes, 44 year-old Emmanuel is waiting for the next route light rail to arrive. Emmanuel parked his car a moment ago in the huge car park next to the station. Near him is a young woman who left her bike in the station's covered bicycle parking facility. Emmanuel lives in Vallet, a small village around a half-hour drive away. When he goes to Nantes, he now drives to the outskirts, then takes the light rail and bus to get around the city. *"Before, I'd drive into the city center. But it was always difficult to find a parking spot, it was expensive, and I wasted so much time sitting in traffic. Since the park-and-ride schemes were introduced, I come into Nantes more often, as the cost of parking is included in the* light rail *ticket. It saves money, it's faster, and of course it's less polluting,"* explains Emmanuel.

"If Nantes was voted Green Capital in 2013, it was particularly because the environmental performance of its transportation network gave it the highest score. This was its greatest strength."

ALAIN BOESWILLWALD,
CEO OF SEMITAN

Reducing the carbon footprint

Emmanuel is one of some 357,000 passengers who use public transportation in Nantes Métropole, which covers 24 districts and 600,000 inhabitants. This urban network is mainly operated by Semitan *(Société d'économie mixte des transports en commun de l'agglomération nantaise)* and by its subcontractors in partnership with Transdev, under the name TAN. It essentially comprises three light rail lines (44 km, 83 stations, 91 trains) and 60 regular bus routes. These include a premium bus route (Busway), seven rapid-transit and high-frequency routes using the latest-generation vehicles (Chronobus), four Express bus routes out of the city, and a shuttle bus serving Nantes Atlantique airport. But what characterizes the TAN network most of all today is the predominance of clean transportation modes. The goal is to reduce the carbon footprint to a minimum. Electric light rail, natural gas buses, hybrid buses, boat services, bikes, self-service cars and, in the near future, an electric Busway. Today, TAN is one of the most advanced networks in France in terms of combating pollutant emissions.

TAN has achieved this through the ambitious environmental policy for public transportation implemented by Nantes Métropole with Semitan since the end of the 1970s. *"It's no coincidence that Nantes was the first city in France to reintroduce the light rail in 1985, and was then one of the first, in 1997, to use buses powered by natural gas. Behind this lies a longstanding political drive. Today, Nantes is still leading innovation and will soon launch the first boats powered by hydrogen fuel cells,"* explains Alain Boeswillwald, CEO of Semitan. •••

NGVs: particulate emissions are negligible

PHILIPPE BÈGUE,
BUS ROLLING STOCK
DEPARTMENT MANAGER

"The use of natural gas vehicles (NGVs) and bioNGVs for bus fleets allows us to reduce pollutant emissions significantly in cities and urban centers. Polluting particulate emissions produced by NGVs are negligible compared with diesel and petrol. Noise levels are also substantially reduced. So why is it that not all French cities have adopted natural gas buses? The answer is simple: they require a high level of investment. It costs €40,000 more to buy a natural gas bus than its diesel-powered equivalent, and maintenance is 15% more expensive. However, the price of gas is half that of diesel. So over time, it balances out the costs."

THE TAN NETWORK:

300 BUSES OUT OF 400 POWERED BY NATURAL GAS

6 HYBRID BUSES

3 ELECTRIC LIGHT RAIL ROUTES

1 HYDROGEN-POWERED RIVER SHUTTLE

1,800 EMPLOYEES

>130 MILLION JOURNEYS PER YEAR

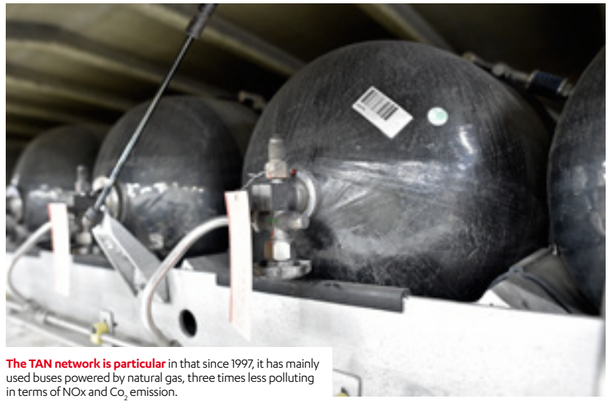
Encouraging modal transfer

In Nantes, the TAN network is particular in that, since 1997, it has mainly used buses powered by natural gas. At the time, this choice was driven by the local electorate's wish to combat urban atmospheric pollution, as well as to disengage from the oil industry and make use of natural gas supplied by LNG carriers that arrive in the port of Nantes Saint-Nazaire from Nigeria and Algeria. Out of Semitan's fleet of 400 buses currently in use, fewer than 100 are still fueled by diesel. This will not be the case for much longer, however, as the purchase of a new batch of 80 articulated buses is planned in 2016 and 2017. Lastly, to make public transportation in the city more appealing and therefore support sustainability, Nantes Métropole and Semitan have been working to diversify the transportation offer as much as possible since 2006, and continue to develop intermodality. So, in addition to three light rail lines and 60 bus routes, the TAN network also includes two river services on the Loire and the Erdre (Navibus), five sections of rail lines serving the Pays de la Loire TER network, an on-demand transportation service (Proxitan), a car sharing scheme (Marguerite), self-service bike hire (Bicloo) and 58 park-and-ride sites with spaces for more than 7,400 vehicles.
The entire system is focused on encouraging modal transfer throughout the network.

Designing future mobility

After signing up in September 2015 to the Ecology Ministry's "Objectif CO_2" charter, whereby transportation providers undertake to reduce their carbon emissions (see inset), Semitan made recently several voluntary decisions to fight global warming for future generations. First, the switch to electric, as of autumn 2018, of Busway route four, a seven-km bus rapid transit (BRT) route which, with 38,000 passengers per day, has become saturated. The city will invest €43.2 million in the purchase of latest-generation electric vehicles, 24 meters in length (compared to 18 meters at the moment), which charge in just a few seconds using an induction or combustion system that regularly tops up the charge at terminals and some stations. The result will be a 35% increase in capacity and comfort equivalent to the light rail. *"We chose this system as on-board battery and charging technologies has evolved considerably and now allow us to operate in the same conditions as other types of bus. Of course, electric buses are more expensive to buy than gas-powered buses, but the costs over the lifecycle are comparable. This also sends a strong signal in terms of energy transition,"* explains Stéphane Bis, Technical and Contracting Director, Semitan. And that's not all. Ten years after relaunching the river services, Nantes public transport authority will introduce another new service on the Erdre river, in 2016, a hydrogen-powered Navibus, renamed the "NavHyBus." It will be the first fuel cell-powered boat in France. The catamaran, which has a capacity of 25 passengers and 10 bicycles, sources its electricity from two fuel cells that consume only hydrogen and oxygen, and emit only water vapor. *"By operating the future NavHybus, we want to offer tangible proof that a hydrogen-powered vessel is a relevant mode of passenger transportation. If our experiment has positive results, it will also be an opportunity to create a sector of industry that will provide new jobs in the region,"* explains Pierre-François Gérard, in charge of the project at Semitan.

In service since 2013, six hybrid vehicles were added to the TAN network's bus fleet. This is one of them at Haluchère multimodal station.



The TAN network is particular in that since 1997, it has mainly used buses powered by natural gas, three times less polluting in terms of NOx and Co_2 emission.

Exchanging good practice with Transdev fosters innovation

PASCAL BOLO,
VICE-PRESIDENT NANTES METROPOLE,
DEPUTY MAYOR OF NANTES

"The population of Nantes has been growing by 1% every year for the past 30 years. To support this growth and provide mobility for every resident, our Urban Journeys Plan is a long-term approach to find a balance between cars, low-impact modes and public transportation solutions that are better for the environment and cost less. Today, the expansion of our fleet of natural gas buses, which was introduced nearly 20 years ago, alongside the light rail which was reintroduced 30 years ago, represents the progress achieved in urban transportation for Nantes. Our network is a key factor in the attraction of our city, and symbolizes its ambition and inventiveness. In this context, the exchange of good practice with Transdev fosters innovation and encourages us to experiment constantly to find new and more environmentally-friendly means of getting around."

WORKING TOWARDS ZERO-EMISSION TRANSPORTATION: THE LIVING.LAB ELECTRIC BUS

After the launch of the Living.Lab electric bus in June 2015 in Nice, at the pilot site for the Watt system, Transdev held its second edition in Eindhoven (the Netherlands) where it will operate a fleet of more than 40 electric buses starting in December 2016.

Over recent years, Transdev has become a benchmark reference in electromobility. Beyond its early experience based on the operation of electric minibuses in city centers (La Rochelle, Rotterdam, etc.), carsharing (La Rochelle, Nice, Lyon) and taxis (United States, United Kingdom), the Group now operates standard electric buses at 12 sites across six countries, with a total number of buses that will exceed 120 in 2016. All of these solutions are adapted to the specific geography, weather and passenger needs of each region.
To share knowledge and build on these experiences, the Living.Lab electric bus was created as a community to bring together transit systems and experts from transportation authorities, government ministries and agencies, and research centers.
The 90 participants who met in Eindhoven on May 17 and 18 learnt about the experiences of speakers from five countries. Topics covered included safety, the total cost of owning electric buses, charging infrastructures, the impact on operations of a zero-emission transition, funding energy transition projects and passenger comfort. Sharon Dijksma, Secretary of State for the Ministry of Infrastructure and the Environment in the Netherlands, spoke about her country's commitment to a major transition to zero-emission by 2025. She also encouraged public and private stakeholders to take action and work together.

"Zero-emission transportation requires collaboration between public and private sectors. I praise Transdev's efforts to create and share new knowledge. The Living.Lab is a magnificent initiative."

SHARON DIJKSMA,
SECRETARY OF STATE FOR THE MINISTRY OF INFRASTRUCTURE AND ENVIRONMENT IN THE NETHERLANDS

"For years, the Grenoble urban district has stood out for its commitment to environmentally-friendly transportation. Our goal is to completely abandon diesel by 2020. Our transportation network must become a showcase for electromobility. Transdev's Living.Lab will support us on this process."

YANN MONGABURU,
PRESIDENT OF THE SYNDICAT MIXTE DES TRANSPORTS EN COMMUN DE L'AGGLOMÉRATION GRENOBLOISE (GRENOBLE PUBLIC TRANSPORT AUTHORITY)

Île-de-France:
from COP21 to operation in real-life conditions

Since December 2015, Transdev has been testing an electric bus on the structuring line of the R'Bus transit system that links Argenteuil station to Sartrouville station. The batteries offer sufficient autonomy (between 250 and 300 km) to offer a full day's service without needing recharging. This is the vehicle that successfully transported the foreign delegates to Le Bourget (93) in December, at the last COP21.
Customers have had very positive reactions. They like its quietness, modernity and comfort. In October of this year, eight new vehicles will be delivered, and all drivers will receive training through a special module on operation, safety and recharging. Maintenance staff will attend a specific electrical accreditation program. The depot will be fitted with an "intelligent charging" system that matches requirements in terms of operation, charge level and battery temperature. This operation is part of the work being undertaken by STIF, the authority that organizes transportation in Île-de-France, to adapt the current fleet of vehicles to cleaner energy.

Sweden:
Eskilstuna and Umeå, vehicles recharged overnight

Transdev Sweden has decided to experiment the electric bus for the network of the city of Eskilstuna, an important industrial center west of Stockholm. After much research and discussion with the community, it was agreed to begin by field testing two electric vehicles. They opted for BYD vehicles made in China and distributed by the Netherlands. These vehicles have the advantage of being able to be recharged overnight at the depot and during service when they are not moving. The two buses were delivered in early December 2015, following months of research and testing. The initial feedback is already very positive.
In the north of the country, in the town of Umeå, Transdev acquired 9 electric buses with fast rechargeable batteries to a local manufacturer. This material is particularly suitable for extreme temperatures in northern Sweden. With 33 electric buses in 2019, more than half of the fleet will be clean in Umeå.

Eindhoven and its region:
zero-emission target

The transportation policy adopted by the province of Brabant is proactive. Reflecting the country's ecological goals, the government's Green Deal will place the Netherlands at the forefront of sustainable solutions.
Transdev's proposal for Brabant must be adapted to the region's exact needs and make use of all available modes (land and water). The province aims to have a completely clean fleet by 2025. In this context, Transdev won the bidding for the renewal of the Hermès concession at the beginning of 2016. By the end of 2016, the Group will operate a fleet of 43 articulated electric buses. Totaling 203 by 2024, these conductive-charging buses will make up the biggest electric fleet in Europe. This deployment will be closely monitored by TNO, Transdev Netherland's research partner, with which it has developed a toolbox dedicated to the electric bus. Observations and lessons learnt from the operation of this fleet will boost the progress of the Living.Lab.

DIGITAL **TRAVELERS**

Full integrated into everyone's daily life, the digital environment has an indirect effect on mobility and on the behavior of public transit users. A close-up on this new clientele with Transdev Explorer: the Digital Travelers.

With 83% of the French using the Internet and many connecting directly from their smartphone, the digital environment has become a crucial source of information and services for all transportation operators.

Highly diverse "digital traveler" profiles

Transdev wanted to find out more about these connected passengers. So it commissioned a major survey, which questioned more than 2,500 people in 10 regions, to understand people's perception and expectations regarding digital tools and services in mobility. Overall, the findings revealed a positive perception of widespread digital practices, especially services that improve the mobility experience. Thanks to digital tools and connections, time spent on public transportation is enhanced for passengers: they are no longer wasting time, but making the most of it! They can do everything while traveling: read, communicate, listen to music, get things done. And this gives public transportation a competitive edge over cars. The survey's findings will allow each network to provide a tailored response to passengers' needs, by drawing on the many solutions available with the Transdev Group. As well as gathering all these views, the survey highlighted socio-cultural differences with regard to digital, and defined three key profiles: the foot-draggers, the pragmatists, and the enthusiasts. Transdev Explorer will continue its journey, with two new stops planned for 2016: Blazefield in the United Kingdom, and Saint-Étienne in France, where Moovizy has just been launched.

Survey carried out with our partners Nova 7 and 15 Marches, in Beauvais, Marne-la-Vallée, Le Havre, Bayonne-Anglet-Biarritz, Caen, Nancy, Plateau de Saclay, Gironde, and Saône-et-Loire.

CLEARLY IDENTIFIED EXPECTATIONS

CONNECT

54% of connected passengers carry out between one and five activities during their trip. It is essential for them to have access to high-quality free Wi-Fi.

Transdev is answering this need by speeding up the introduction of Wi-Fi services in its networks.

STAY INFORMED

75% of connected passengers want real-time, comprehensive, seamless information on their journey and on the entire transport network (times, routes, traffic, etc.).

The Transdev Triplinx solutions in Toronto and Optymod in Lyon provide accurate information, all the time.

BUY

96% of smartphone users want to be able to buy and validate their tickets directly from their mobile phones.

Transdev offers a wide range of M-ticket, QR code and contactless payment systems in France, the USA, the UK, and Spain. There's a solution for every situation!

KEEP BUSY

76% of passengers use their smartphone for a variety of activities.

With Smart Trip, Transdev offers an online e-reading service so people can relax during their journeys.

Passengers on nearly 30 networks will benefit from this new service in 2016.

Foot-draggers

"The Internet! That's all anyone talks about! My grandchildren talk to me about Facebook and want me to create my own page. It's true it would be a convenient way to communicate with them. At the same time, it worries me a little... Online purchases, e-mails and even tax declarations! It's all going too fast for me. I can see that I will have to take the plunge but frankly I'm very much of two minds about it."

CURIOUS BUT LEFT-BEHINDS

They feel overwhelmed by technology and the digital environment or they don't have the means to access it, but still feel the need to use it more. They still haven't understood the advantages that these tools can provide for their travel.

DESPITE OURSELVES

Their knowledge of the digital environment is poor and their level of mistrust is quite high. Their use is limited to the strict minimum required for their job or daily life. They do not buy anything online, they are not members of any social network and are worried about protecting their personal data.

Enthusiasts

"Without the Internet or worse without a smartphone, I couldn't live normally. I'm never without it. It makes everything simpler. If I have question about general culture, Wikipedia has the answer. When is my next bus coming? I click on my app. I'm organizing a weekend with friends: I post the details on Facebook. I'm looking for a job: LinkedIn. Something shocks me: Twitter... In short, being online makes me feel that I am completely in touch with the world."

BROWSERS

They are in favor of the digital world and especially the Internet. They pick here and there depending on need or desire. While they sometimes happen to play online, they never overdo it. When they connect to social networks, it is to read their friends' posts rather than to post anything themselves.

ADDICTS

Their smartphone is their best friend and they do everything with it! Seeking out whatever is newest, they use a lot of specialized apps and push notifications to make sure they are informed in real time. Gaming online or on consoles, social networks: they are very focused on their areas of interest.

CONTRIBUTORS

Motivated to help others or engage in some collaborative work, they share information on the Internet, in open access. They post comments on TripAdvisor, publish analyses, and create tutorials or blogs around their centers of interest. Their default position is collaborative, serving a community.

Pragmatists

"People ask me how I manage always to be so organized. I always have a super-assistant in whom I have complete trust: my smartphone. Schedules, contacts, notes and alerts: it helps me manage my day efficiently. And that's not all. It enables me to quickly check Web offers, share my experiences and advise others."

EFFICIENTS

At ease with new technology, they use the Internet to manage their life and consider their smartphone is actually their personal assistant. Their approach to the Internet is above all practical: find a route or timetables, plan a meeting or work remotely.

SENTINELS

Alerts, complaints, tips, opinions and advice: they see digital services and the Internet as a way of helping others and improving the day-to-day. Their preferred tools are Twitter for its efficiency and immediacy and forums for discussions and information. Unlike contributors, their position is individualistic and they like to be the first to post an alert.

Method: program of surveys carried out over a year. Qualitative survey of transport customers and non-customers between November 2014 and May 2015, followed by a survey of a representative sample of 2,500 passengers questioned face-to-face and by phone in June 2015.

www.transdev.com

70%
OF RESPONDENTS HAVE A SMARTPHONE

93%
USE THEIR SMARTPHONE IN TRANSPORTATION

2/3
OF RESPONDENTS USE TRAVEL TO RELAX, WORK AND ORGANIZE THEIR DAY

AUTONOMOUS VEHICLES

A NEW MODE OF TRANSPORTATION THAT IS REVOLUTIONIZING MOBILITY

Transdev aims to offer the most innovative mobility solutions and the best service to its customers, and is naturally interested in autonomous vehicles. They are flexible in terms of timing and geographical coverage, and they are economical and clean. Autonomous vehicles offer many development opportunities. A look at a project for the future that is already having an impact in the present with Patricia Villoslada, Autonomous Vehicle Director, Transdev Digital Factory.

PATRICIA VILLOSLADA
AUTONOMOUS VEHICLE DIRECTOR, TRANSDEV DIGITAL FACTORY

When did Transdev start working on autonomous vehicle projects?

Patricia Villoslada: About ten years ago. In the Netherlands, we've been operating a fleet of autonomous shuttles that link a business site and a metro station via a 1.8 km route, carrying 700 to 1,000 passengers a day since 2005.

What are the benefits of this new mode of transport?

PV: There are many benefits with the autonomous vehicle. Firstly, they are extremely flexible. They can operate 24 hours a day, seven days a week, and 365 days a year if necessary, depending on customers' needs. Passengers are no longer restricted by a timetable. Being electric, these cars or shuttles are clean and quiet. With the most recent digital developments, autonomous vehicles offer even more benefits for passengers: with on-board connections, they can use mobile solutions to find out in real-time where each shuttle is, and even call one if necessary.

Which partners do you work with?

PV: Today, there are various autonomous vehicle manufacturers around the world. But most are working on individual transportation vehicles. In terms of public or shared transportation, the leaders are French, and can be counted on the fingers of one hand! So we're proud to be working with the best. At the moment, our autonomous vehicles come from start-ups Navya, for the Civaux (EDF) site, and Easymile, for the Ladoux (Michelin) industrial site. With these companies, we're planning to deploy these new modes of mobility much more widely, in France, but also abroad. •••

From left to right, **Christophe Sapet** (CEO of Navya), **Louis Bellegarde** (Director of Civaux' EDF power station), and **Yann Leriche** (Chief Performance Officer of Transdev Group).

"We're convinced of the potential that autonomous vehicles have to extend our current range of services. We're aiming high, and thinking practically. This means going through a key initial stage, on which we are focusing all our energy right now: consolidating our expertise by capitalizing on the success of the first operations such as Civaux with Navya and Ladoux with Easymile."

YANN LERICHE,
CHIEF PERFORMANCE OFFICER, TRANSDEV GROUP

What are the main examples of autonomous vehicles operated by Transdev?

PV: The very first one was in Rotterdam. More recently, we took part in the demonstration led by CityMobil2 in the French city of La Rochelle. Following the first pilot carried out with CityMobil1 between 2006 and 2011, La Rochelle repeated the experiment with CityMobil2 from December 2014 to April 2015. Six shuttles with a capacity of eight passengers were supplied by Easymile. These offered free transportation in the city. Operating like a bus service, the shuttles arrived every five or ten minutes, on two different routes. The demonstration was a great success. Another major project was the introduction of all-electric autonomous shuttles at the EDF site in Civaux. Supplied by Navya, these Arma shuttles look like minibuses, each with a capacity of 15 passengers. Covering 2.4 km, the route is mapped out with GPS units that communicate with each vehicle, and operate using a special algorithm. Thanks to constant improvements in the program, these Arma shuttles can take themselves to the induction stations to recharge their battery, or offer a more frequent service at peak times. The third example of the use of autonomous vehicles is at another business site, this time in Auvergne, with the Easymile shuttles serving the Michelin site in Ladoux. Two EZ-10 shuttles have been introduced at the R&D center. They can each carry up to 12 passengers and are accessible to people with reduced mobility. Customers can use our mobile solution to keep informed of the shuttles' locations and waiting times.

What plans does Transdev have for autonomous vehicles in the future?

PV: At the moment we're consolidating our current projects, and working constantly to improve the systems in place. We must also comply with current regulations, which require us to operate in an area shut off to public traffic, for obvious safety reasons. Further projects will certainly be carried out in France and internationally. The potential of autonomous vehicles offers us many opportunities for development."

Autonomous vehicle in Rotterdam.

Shuttle service at La Rochelle.

Easymile shuttle at the Michelin site in Ladoux.

CHRISTOPHE SÉBASTIEN
SUSTAINABILITY & SERVICE PROVIDER RELATIONS OFFICER – EDF

EDF

Daring to take action and collaborate for better mobility

"To replace the diesel bus that carried our employees on the Civaux site, we wanted to use autonomous electric vehicles. After an initial conclusive test in 2015, we launched an invitation to tender, which Transdev won with Navya. Today, we have six shuttles, and operations are being optimized in stages. Our aim is to work with Transdev over the long term to find the optimal solution in terms of efficiency and safety. The exercise has served as an example. We are delighted to be the 'showcase' for this ambitious project, which is attracting interest."

LUC BARTHÉLÉMY
PRODUCT MANAGER – EASYMILE

Easymile

A link to public transportation

"Created in 2014, Easymile started out by producing prototypes, most of which were used in the European project, CityMobil2. Today, we're benefiting from this experience to design short production runs. We have a complete assembly line which meets industrial requirements. Working with a group like Transdev allows us to see how our solutions perform in real life in terms of safety and efficiency, and highlights the complementarity between our autonomous vehicles and public transportation networks."

PREPARING THE FUTURE IN TERMS OF ENERGY AUTONOMY

Well before COP21 and totally in phase with the challenges of energy transition, the town of Locminé (in Morbihan, Brittany) embarked on an ambitious project to combine two biomass energies in order to generate electricity, heating and fuel. Overview of a local initiative that has already attracted nationwide and international interest.

MARC LE MERCIER, LIGER PROJECT DIRECTOR

How did the Liger project come about?
At the end of December 2010, in the course of a conversation with the Mayor of Locminé about the town's future swimming complex, the question was raised about whether the building of this infrastructure could become the cornerstone of a policy for reducing the town's CO_2 emissions. And how local energy resources could be harnessed for the benefit of all. As we were both sensitive to energy transition issues, we knew that Brittany, and particularly Locminé, could be a "laboratory" for clean and self-sufficient energy. Our specific geography as a virtual peninsula exposes us to climate change and the rise in sea-levels. Brittany, home to intensive farming and the agri-food industry and as such the ultimate organic region, produces a huge quantity of biomass, i.e. potentially recyclable waste material.

What are Liger's strong and innovative points?
Liger (Locminé Innovation et Gestion des énergies Renouvelables) is the first European site to combine two 100%-green energies exclusively using local biomass—wood biomass and methanization of organic resources—to produce four clean energies: namely electricity, heat, biofuel (bio-GNV), green gas, and also bio-organic fertilizer. In a spirit of permeability, a wood-fired boiler, a methanization unit and a conference center will all be housed on the same site. Liger's other benefit is that energy produced locally using local resources is destined for industries, local authorities and citizens in the same region. The heating network already warms Locminé's swimming complex, gymnasium and multi-function hall, but also the secondary and high-schools, a vegetable canning plant and a residential hamlet. This unique, 100%-clean, autonomous energy project could easily be duplicated. Moreover, it has attracted interest from other towns in France and across Europe, and also in China and Chili.

What is Liger's position with regard to mobility and transport?
In terms of transport, green energy efforts tend to focus on electricity. Our venture proves that other energies are just as effective. Our biomethane-based biofuel, KARRGREEN, is economical, ecological and totally impervious to variations in the price of fossil energies! The biofuel can be adapted to different types of vehicles—whether destined for transporting people or goods—and presents numerous benefits for transit operators.

Multiple stakeholders in a single project

For its development, the Liger project approached various financial backers with a view to setting up a funding pool.
Four institutions were selected, including Bpifrance (Banque Publique d'Investissement) and Caisse des Dépôts. These two entities are a perfect example of joint public-private cooperation. They share the same will to contribute to the development of an ecosystem that encourages enterprise, a strong grounding in local territories and the desire to build a sustainable future. Liger is fully in line with all of these objectives.

They are ***Transdev***

“Annual audits of our ISO 14001 and 9001 certifications show that we are making progress every year. Sharing good practices plays an important part in this.”

MARIANNE LINDBERG,
ENVIRONMENT MANAGER,
TRANSDEV SWEDEN.

“Champion of Brazilian Jiu-Jitsu, I proudly conveyed the values of sport everyday in my company, les Rapides Côte d’Azur.»

RÉDOUANE AIT SAID,
DRIVER AND CONDUCTOR AT RCA,
LES RAPIDES CÔTE D’AZUR, FRANCE

“Ticket inspectors aren’t just there to prevent fare evasion. They play an important role in the service offered to customers.”

ABDELALI BENOMAR,
TICKET INSPECTOR
ON THE RABAT TRAM NETWORK,
MOROCCO

“Thanks to quality, environmental and safety management, businesses can become more productive and improve the quality of work for their employees.”

EMMANUELLE TIBERI,
QUALITY, SAFETY AND ENVIRONMENT
MANAGER AT STDG NÎMES, FRANCE

EN 2016,
NOS BUS ONT DÉCIDÉ DE FAIRE MOINS DE BRUIT.

Le STIF et Transdev, acteurs de la transition énergétique, déploient de nouveaux bus hybrides sur leurs lignes :
une technologie qui permet notamment de réduire les émissions sonores.

transdev
INVENTONS VOTRE MOBILITÉ

stif

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In 2016, our buses have decided to make less noise.
STIF and Transdev, players in the energy transition, are using new hybrid buses on their routes: a technology that reduces noise emissions.