Capgemini

FUTURE-PROOFING INNOVATION x MOBILITY

How can the Mobility sector achieve sustainability through innovative services, technologies and infrastructures?

INTRODUCTION

Future-Proofing Innovation is a series of roundtable conversations hosted by Capgemini sustainability and business experts inviting clients, partners, academics, and influencers to discuss the general topic of sustainability in innovation. The global anchor for this series is James Robey, Capgemini's Global Head of Sustainability.

Each discussion focuses on a specific industry. The fifth roundtable took place in Paris on January 31st 2023, with a focus on mobility.

MOBILITY ROUNDTABLE

PARIS, JANUARY 31st 2023

This session was hosted by Guillaume Cordonnier, Executive Vice President in charge of mobility at Capgemini Invent. Attendees were Claire Baritaud, coordinator of the Transport Innovation Agency and Deputy Director of Multi-modality, Innovation, Digital and Territories; Arnaud Coiffard, Head of Strategy, Innovation and New Markets at SNCF Connect & Tech; Florent Andrillon, Vice President and Climate Tech Global Lead at Capgemini; Mickael Vilaca, Vice-President of Capgemini in charge of Smart Mobility; Anne-Claude Poinso, Business Development Manager for Mobility and Public Transport at Microsoft; and Laure Ménétrier, Managing Director of Ecov, which is an operator of carpooling lines.

Guillaume Cordonnier opened proceedings by welcoming our guests and introducing the topic on which they would be focusing. He said that as we all know, transport is at the heart of digital innovation, but he pointed out it is also at the heart of sustainable development issues.

The four key themes of the discussion, he said, would be: transport and sustainable development; new transport services; the relationship between new transport and infrastructure; and finally, the problems of scaling up and implementing innovations in this area, with regard in particular to financing.

MOBILITY AND SUSTAINABLE DEVELOPMENT

Florent Andrillon, Vice President at Capgemini Group, observed that transport accounts for about a third of greenhouse gas emissions worldwide. Addressing it was complicated, he said, first because any changes to other energy sources could not be allowed to compromise quality of service, next because the role of the state in mandating such changes would need to be agreed, and also because of the implications of taxation in this area. Finally, he said, the responsibilities of individual organizations needed to be determined. To what extent are they prepared to change their working practices so as to reduce transport-related carbon emissions?

Laure Ménétrier, Managing Director of Ecov, said that in pursuing sustainable transport, the main impetus was collective willpower. Everyone, she said, would need to commit to being more prudent, whether that be by traveling less or by sharing transport more often. Arnaud Coiffard, Head of Strategy, Innovation and New Markets at SNCF Connect & Tech, developed this point. He said that SNCF, which is France's national state-owned public transport company, aimed to double its share of the movement of both goods and passengers over a decade, and that the facilitating technology for which his part of the organization was responsible would be a critical success factor, because keeping passengers informed and making their journeys easier would encourage them to make greener travel choices.

Mickael Vilaca, Vice-President of Capgemini in charge of Smart Mobility, added that sustainability would also depend on joined-up thinking that addressed public and private transport alike. This was a policy area in which the French government was leading the way, said Claire Baritaud, coordinator of the Transport Innovation Agency and Deputy Director of Multi-modality, Innovation, Digital and Territories. Whereas in the past, the state engaged in the creation of physical transport infrastructure such as road, rail, and bridges, the effort now was in the creation of digital infrastructure that could be accessed and shared by all transport providers. She said France goes further than other European countries by sharing all static and dynamic transport schedules across not just train, bus, and metro services, but across carpooling areas and electric vehicle (EV) charging points. "This data hub can then be used by route planners," she said – and it also enabled the development of mobility-as-a-service (MaaS).

> "The notion of the common good is not opposed to the opportunity to create new business models: there is a complementarity."
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> **Florent Andrillon**
> Vice President and Climate Tech Global Lead at Capgemini

Anne-Claude Poinso, Business Development Manager for Mobility and Public Transport at Microsoft, talked about how the judicious use of data can make transport more sustainable. For instance, she said, businesses could be encouraged to stagger their working hours, reducing pressure on public transport systems at peak hours and also lowering pollution on the roads by reducing rush-hour traffic jams.

Sharing data, she said, was key. It would break down the silos that currently exist between transport systems such as car sharing, bicycle services, parking, and public transport. In France, the aim was to create standardized APIs that will then be made available in open source for reuse by all local authorities. However, she added, it would need to happen in a robust and regulated way, so as to avoid untrustworthy third parties taking unfair commercial advantage and possibly also defeating the object of achieving greater sustainability.

NEW MOBILITY SERVICES

Claire Baritaud described what are known as 'climate tickets' in some parts of Europe. In Austria, Germany, and Spain, for example, these tickets enable passengers to move across transport systems. In France, she said, there was a closed network, and creating a single ticket in this way was more of a challenge.

Florent Andrillon described a project that addressed this issue. In response to a call for projects from the French government a few years previously, Capgemini Invent worked with other organizations to create an innovative financing mechanism called energy saving certificates, enabling citizens and local authorities to gather in one place all their accessibility to their different mobility services, not just to create a universal log, but also allowing employers to pay for their workforce's transport vouchers. It's a scheme, he said, from which everyone benefits – citizens, employers, and communities alike.

Guillaume Cordonnier asked Laure Ménétrier to discuss the ramifications of carpooling. The basic principle, she said, was of course to put more people in fewer cars. This is easier to do in city centres, but in more sparsely populated areas it's more of a challenge. This is where digital technology comes into its own, she said: it can pool information and create connections for the 40% of French people who live far from city centers and who would benefit from sharing their journeys.

Backed by the French government, a national carpooling plan was launched in December 2022, with funding for energy saving certificates and for supporting infrastructure such as rest areas and signage.

THE RELATIONSHIP BETWEEN NEW MOBILITY AND INFRASTRUCTURE

It's not just the enabling technology that's evolving: so, too, is transport itself, and here too the evolution is driven by sustainability. Florent Andrillon pointed out that new vehicles brought with them their own infrastructure needs, such as electric charging stations and hydrogen outlets, and that establishing these in sufficient numbers and in the right places was going to take some time and effort. It would also require data analysis: understanding behavior and logistical patterns would enable planners to determine how best to extend and enhance the deployment of infrastructure. This was as true for commercial transport as it was for private car usage.

Autonomous vehicles would also be a factor, Florent Andrillon said. The convenience they may provide was one thing, but their implications for sustainability were another. If cars could drive themselves, they could be sent onto the roads empty, perhaps to fetch passengers – and wouldn't that mitigate against the very principles that schemes such as carpooling had been set up to support? As a result, public authorities would need to regulate their use. "If they are designed in an intelligent way and joined to an intelligent infrastructure," he said, "we could have a very interesting future for public transport."

"Don't say the electrification of all transport is the miracle solution. The miracle solution is self-restraint."

Claire Baritaud
Coordinator of the Transport Innovation Agency and Deputy Director of Multi-modality, Innovation, Digital and Territories

Changes are also taking place on the French rail network. Arnaud Coiffard said that as well as new competitors entering the market with differentiated offers, there are new train types. For example, he said that in 2024 SNCF and Alstom would be introducing the TGV M, which would increase the carrying capacity over current TGV services and that would also reduce the carbon footprint. Mickael Vilaca provided another example of railway innovation: new 'midnight trains' were being proposed in a bid to compete with carbon-heavy air travel on routes from Paris to other major European cities.

Claire Baritaud picked up on this point. She observed that on a per-kilometer basis, air travel and car journeys had the same carbon footprint – but because planes carry more people, emissions per person were lower. However, she added, train journeys would beat them both: the rail network in France is electrified, and the country's nuclear-generated electricity is carbon-free.

> *"We need to think of transport as a linked system that brings together infrastructures, services, digital infrastructures, physical infrastructures, and good practices. If we divide all that up, we end up with small measures that are useless."*

Arnaud Coiffard
Head of Strategy, Innovation and New Markets at SNCF Connect & Tech

The group agreed the focus shouldn't be solely on passenger transport. Mickael Vilaca talked about freight, and about the potential of transportation by canal. He said that Voies Navigables de France (VNF) was looking to introduce automated barges and lock systems and centralized control systems. One barge, he said, could carry the load of 200 to 250 trucks. He also talked of the reintroduction of sea freight transported under sail: acceptance, he said, would depend in part on whether consumers were willing to forgo the current trend towards instant fulfilment.
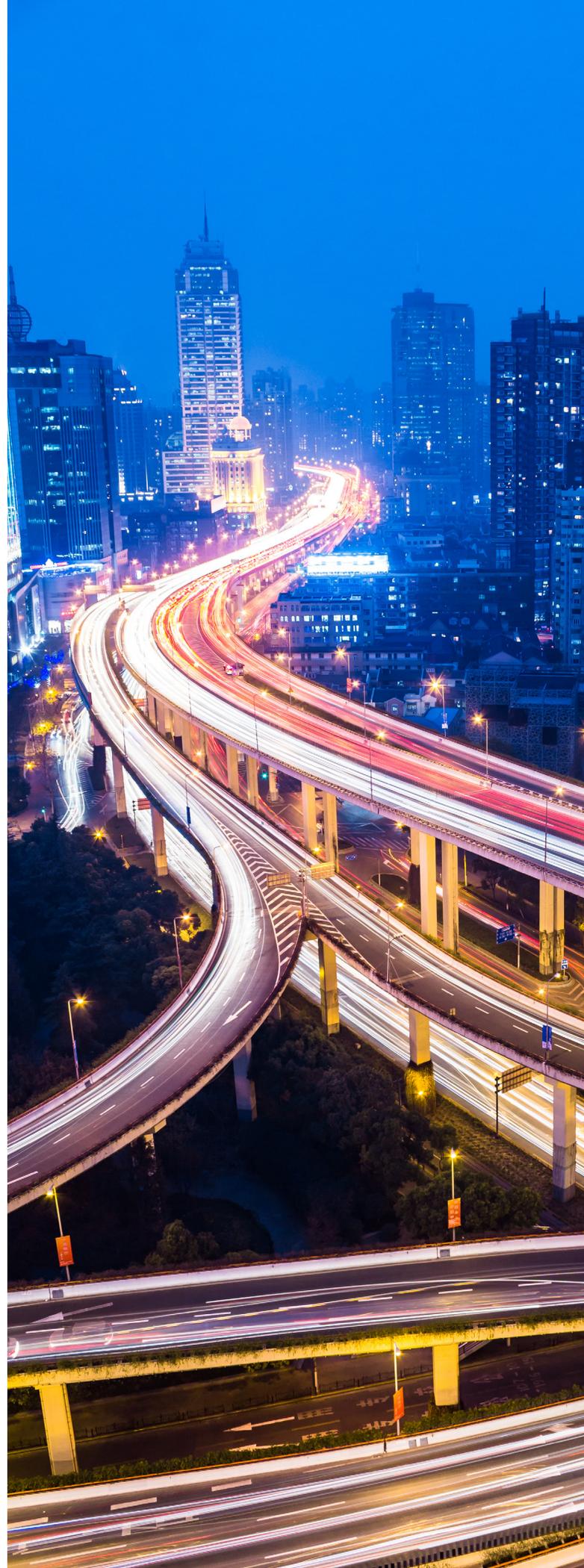
SCALING UP AND FINANCING

In the last part of the discussion, Guillaume Cordonnier asked people to talk about how the innovations under discussion could be made to happen, practically and at scale.

Claire Baritaud said that in France, the state could help with judicious regulation and standardization, and also with financing. Funding included contributions from France Relance, a €100 billion investment plan supported in part by the European Union, which aims to support businesses, rethink production models, transform infrastructure and invest in training. It is being used to finance high-service-level buses and mixed transport exchange hubs in more than 100 transport networks.

Claire Baritaud said her department had also created an acceleration programme for scaling up, which is called Propulse, focusing on four areas: sustainable transport; data sharing; multimodality and intermodality; and finally, entrepreneurship.

Florent Andrillon observed that implementation was to some extent conditioned by changing business models. We are growing accustomed, he said, to thinking of automobile manufacturers as service providers rather than vehicle producers, but that was also true for other forms of transport: trains too can be seen in this way.

He added that implementation was also conditioned by geography. For example, in Germany and the Netherlands, people travel more than in France, and so Capgemini was looking at how it can make more company vehicles electric or hybrid, whereas in India the company provided mass transit transportation to its sites and was putting mitigating decarbonization programs in place. Laure Ménétrier agreed. She said the international business model of her carpooling company Ecov was conditioned by different cultural attitudes to hitchhiking.

Anne-Claude Poinso and Claire Baritaud agreed that France had considerable strengths in the development of sustainable transport, and that it should do more to take an international lead in this area. To make it a cutting-edge sector, it was important to attract talent and to invest in training.

Wrapping up, Guillaume Cordonnier thanked the contributors for their insights. It's clear that with respect to innovation and sustainable development, transport is rightly a key and fascinating area of focus.

FUTURE-PROOFING INNOVATION:

The Mobility panel

Guillaume Cordonnier
Executive Vice President in charge of mobility at Capgemini Invent

in

Claire Baritaud
Coordinator of the Transport Innovation Agency and Deputy Director of Multi-modality, Innovation, Digital and Territories

in

Arnaud Coiffard
Head of Strategy, Innovation and New Markets at SNCF Connect & Tech

in

Florent Andrillon
Vice President and Climate Tech Global Lead at Capgemini

in

Mickael Vilaca
Vice-President of Capgemini in charge of Smart Mobility

in

Anne-Claude Poinso
Business Development Manager for Mobility and Public Transport at Microsoft

in

Laure Ménétrier
Managing Director of Ecov

in

About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 340,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2021 global revenues of €18 billion.

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