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Insights from the
Autonomy Mobility
World Expo in Paris

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April-2023

Introduction

This report is slightly different from the other reports we have posted so far. You might be used to our trend reports in which we show what design trends we found at a certain tradeshow. For this report however, we wanted to dive a little deeper and tell you about some interesting developments that will be shaping the mobility landscape of the future.

The 22nd and 23rd of march we attended the Autonomy Mobility World Expo. There were many interesting lectures and panel conversations to listen to, not to mention all the people from all over the world that were attending and showing their vision for the future. In this report we talk about five topics that stood out to us.

1. Inclusivity in mobility
2. Autonomous acceptance
3. The bicycle promise
4. Cargo bikes in Paris
5. Shared mobility for business



Inclusivity in mobility

Inclusivity in mobility

In the last decade, mobility has changed a lot. Mostly because of new technologies and changing consumer preferences. With the rise of ride-sharing services, electric vehicles, and autonomous driving technology, people are now moving around cities in ways that were unthinkable just a few years ago.

However, despite these changes, mobility is not equally available for everyone. The benefits of new mobility technologies are often concentrated in urban centers, leaving rural areas and low-income neighborhoods with limited options for transportation. In some cases, new transportation options may even exacerbate existing inequalities by pricing out low-income residents or perpetuating discriminatory practices.

People with disabilities often face significant challenges when it comes to accessing transportation. Many existing transportation systems are not designed with the needs of disabled people in mind, and, the cost of specialized transportation can be prohibitively expensive.

Women often face safety concerns while using public transportation, such as sexual harassment or assault, which can limit their ability to travel freely. In addition, women are more likely to be caregivers, which can limit their access to transportation when caring for children for example.

As we continue to innovate in the mobility space, it's crucial that we prioritize equitable access to transportation for all. This means designing transportation systems that are accessible, safe, and affordable for everyone, regardless of their gender, income level or physical abilities.

According to 'World economic forum', making mobility more inclusive is the gateway to an inclusive society - image from: weforum.org



Autonomous acceptance



Autonomous acceptance



People often do not recognize that they are already using autonomous vehicles in their daily lives. Many airport shuttles, trams, and metros do not have a human driver anymore. There is a general fear of autonomous vehicles, which prevents their widespread adoption. In fact, according to a panel organized by PAVE Europe at the Autonomy Mobility World Expo, 65% of people do not or would not feel safe in an autonomous vehicle, despite the fact that there are around 1,3 million fatalities in road accidents every year (globally), with 90% of those fatalities caused by human error.

To change the perception of unsafety and increase the acceptance of autonomous vehicles, we need to build trust and create a clearer picture of the benefits they offer and the impact on our infrastructure. The good news is that we are close to a general acceptance of AVs, according to Pave's panel. In the 'Gartner hype cycle', we would be on the 'slope of enlightenment', which means that we are moving towards the stage of mainstream adoption of autonomous vehicles.

As the demand for AVs grows, there is a need for design to help increase their acceptance and make people feel more comfortable using them. At Modyn we are interested in exploring how design can help achieve this goal. By considering the user experience and addressing the specific concerns people have about autonomous vehicles, we can design AVs that are safe, intuitive, and easy to use. Let's use design to make autonomous vehicles a viable and safe mode of transportation for everyone.

Easymile's autonomous bus /shuttle



Elmo remote has developed a road-legal remote-control system for cars. This could serve as a backup device for AVs. In case of emergency a remotely located driver could take over a vehicle and drive it to safety.





The bicycle promise

NL Pays-Bas

NL Pays-Bas

NL Pays-Bas NL Pays-Bas

NL Pays-Bas NL Pays-Bas

BNP PARIBAS
Le banque et son monde qui change

ABEL
BRUNO

NL NL

ALFEN
POWER TO GO

ALFEN
POWER TO GO

IMPAQED PRODUCTS

Allego

cleantron
cleantech batteries

EVBOX

CPS

StreetPlug

SMART EV CHARGING SOLUTIONS

Holiday Charging

COOPÉRIE des
TOIRES

Caisse des Dépôts
GROUPE

go

Allego

The bicycle promise

Improving cycling infrastructure has been recognized as a solution that can help improve equality and living conditions in cities. Bicycle-friendly cities allow children to be more independent at a younger age and elderly individuals stay active at an older age, improving their quality of life and health. Besides that, more bicycles instead of cars has the obvious benefit of reducing CO2 pollution and improving air quality in cities.

It is important to note that the bicycle will not replace the car entirely. In the future, cities will need to prioritize the coexistence of various modes of transportation, including public transport, bicycles, micromobility, and autonomous vehicles. Seamlessly switching between modes of transport, from taking a bicycle to transferring to a train or bus, is the challenge.

The Dutch are well-known for their cycling culture and other countries are keen to find out why cycling is such a successful part of Dutch infrastructure. Well, part of the reason

why the Dutch can use the bicycle so well is due to the availability of big mobility hubs, where people can store their bicycles and transfer to other modes of transportation. There are bicycle storage facilities at many train and bus stations in the Netherlands, the latest addition of which is under-water in downtown Amsterdam.

However, before the Dutch cycling culture can spread across Europe, there are still challenges to overcome. It takes time, for example, before bigger cities like Paris and London are truly bicycle-friendly and have enough safe cycling lanes. It is important to look at the specific needs of a certain country, city or area when designing bicycle infrastructure. According to a panel organized by the Dutch Cycling Embassy at the Autonomy Mobility World Expo, it is the challenge to take what is good about Dutch cycling infrastructure and translate that to the needs of other countries in the world. "Countries don't want to become the Netherlands, they want to be like the Netherlands".

Even though the transition to bicycle friendly cities is a positive change, The bicycle as a product might require some design attention. For example, the traditional bicycle requires a certain level of health and mobility, which leaves people with disabilities behind. Luckily there are companies like VanRaam, who offer good looking bicycle solutions for less-abled people. Additionally, as the rise of electric bicycles allows people to cycle further it does have a downside. The price of electric bicycles is higher than a traditional bike, limiting their availability to those who can afford them.



Cargo bikes in Paris



Cargo bikes in Paris



Last mile delivery in big cities such as Paris is a complex challenge for logistics companies. With increasing pressure to reduce emissions and congestion, many companies are turning to cargo bikes as a sustainable and efficient option. However, cities like Paris pose unique challenges for cargo bike delivery.

One major issue is the lack of available real estate for smaller distribution hubs near the city center, which cargo bikes require for effective delivery. This creates a barrier for smaller companies, as only large firms can afford the high cost of these hubs. Additionally, there is a lack of safe cycling infrastructure and there are concerns over the availability of delivery personnel that is willing to use a cargo bike instead of a van.

Despite these challenges, cargo bikes are being used successfully in other European cities such as Amsterdam and Copenhagen. However, in Paris, many companies opt for smaller electric delivery trucks or vans instead. This is due in part to the lack of government subsidies for cargo bikes in France. Until these issues are addressed, last mile delivery in Paris will remain a significant logistical challenge for many companies.



Vans are still preferred when it comes to last mile delivery in downtown Paris.

Image from: [electrive.com](https://www.electrive.com)

An illustration depicting shared mobility for business. In the center, a man in a dark suit and tie is riding a light blue bicycle. To his left, a woman in a dark blazer and skirt is walking. Further left, a man in a teal jacket and dark pants is walking. In the background, a white van is parked. To the right of the cyclist, another man with a backpack is walking away. The scene is set in front of a modern building with large glass windows reflecting a cityscape. The overall color palette is muted, with greens, blues, and greys.

Shared mobility for business

Shared mobility for business

As companies become more conscious of their environmental impact, many are shifting away from traditional lease cars and towards multimodal mobility solutions for their employees. By providing access to a range of transportation options, including public transportation, bicycles, and shared mobility services, companies can reduce their carbon footprint and support a healthier work-life balance for their employees.

Shared mobility services, such as car-sharing and bike-sharing, have been shown to reduce personal vehicle usage by up to 30%. By encouraging employees to use these services, companies can reduce traffic congestion and improve air quality in the communities where they operate.

Moreover, job seekers are increasingly looking for companies that align with their values and provide a sense of purpose beyond financial gain. Sustainable mobility initiatives can help companies attract and retain employees who are committed to making a positive impact on the environment. BNP Paribas found, 65% of their clients have already adopted alternative modes of transport for their employees, indicating that the shift towards sustainable mobility is gaining momentum.

However, it's important to note that the car will not be completely replaced by other modes of transport. Instead, by offering seamless multimodal transport options, companies can encourage employees to use their personal vehicles less frequently. By providing access to a range of transportation options, companies can help employees get to their destinations more efficiently and sustainably, without sacrificing convenience.



Weez - a small electric vehicle meant for shared company mobility plans



Close up of the Aike electric scooter



— The key take-aways

The key take-aways:

- The mobility sector is not as inclusive as many people may think. For example, the costs of public transport are often too high, which increases the gap between rich and poor. Furthermore, mobility solutions are not always easily accessible or comfortable to everyone and many people feel unsafe. Design for inclusivity seems to be the key principle for design looking forward.
- Self-driving cars are coming soon, and we are already using more of them than we realize. Slowly, people are starting to get used to them. However, good design could take away the fear and hesitation 65% of people feel towards autonomous vehicles.
- Bicycles are essential for building sustainable and healthy cities. Many cities around the world recognize this and are encouraging people to cycle by providing the right infrastructure. The Netherlands can serve as an example of clever bicycle infrastructure.
- Using cargo bikes for sustainable last mile delivery in big cities is turning out to be harder than expected. It's tricky to set up micro hubs in city centers to load the bikes, especially in expensive places like Paris. Plus, delivery companies worry they won't find enough people willing to ride the bikes, as it can be tough work compared to driving a delivery van or truck.
- Shared mobility options for workers show potential. Employers can save money on mobility plans by providing shared transportation that uses different modes of travel. Employees get access to more eco-friendly transport options beyond just driving cars. This could help people see the benefits of shared mobility overall.

After the AMWE we can conclude that the market is full of developments but also, uncertainties. This was underlined by the latest news that Parisian citizens have voted against rental kick-scooters, such as the ones from Lime and Dott, in a binding referendum. This could mean a ban on all rental kick scooters in Paris. We wonder, how will this impact micromobility in general? Paris is one of the front-runners on new mobility solutions. Will other cities, coping with the same safety, sustainability and public acceptance issues, follow? And what does this mean for other modes of micro-mobility?

Here at Modyn we love a challenge. We are constantly thinking about creatively about the future. And nothing inspires us more than working together with our clients. Do you feel inspired, enlightened, curious, or maybe scared? Please contact us for a low key, non-obligatory, sparring session. Let's find out the future of mobility together!

Drop us an e-mail at: hi@modyn.com



Thanks for meeting with us!

It has been a pleasure to attend the Autonomy Mobility World Expo in Paris. We thank you for all the inspiring presentations, the insightful talks and the wonderful conversations that we had. We are already looking forward to next year.

See you in the future!