

THE MOBILITY FACTORY: A EUROPEAN COOPERATIVE PROVIDING E-CAR SHARING SERVICES TO CITIZENS

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The climate emergency requires a comprehensive response at all levels. Collectively, public administrations and the different political strata must be pressed to encourage proposals to tackle it. These proposals must be integrated with towns and cities, where we have to rethink certain habits and decisions, such as our consumption model, the energy we use and how we move within the territory. The impact of the latter means it needs particular emphasis: a new mobility model is needed.

The concentration of CO₂ in the atmosphere has risen by 47% since 1790.¹ The climate consequences of this excessive increase are hard to predict, but their scale will undoubtedly depend on when we stop using fossil fuels (IPCC, 2014). With transport currently accounting for around a third of all CO₂ emissions, these unpredictable consequences are a key factor in understanding the importance of a new mobility model. The excessive use of internal combustion engine vehicles does not only lead to global warming, it also causes the emission of other polluting particles, such as NO₂, PM₁₀ and PM_{2.5}, that cause serious health problems in people, including increased mortality (Landrigan, 2017) and adverse effects on children's development (Salvi, 2007).

The ways we as a society approach this change can (and should) be diverse. Sustainable mobility cooperatives are a model that offers solutions to this problem by introducing the shared electric car that wherever possible is charged with electricity from renewable energy sources. The Mobility Factory (TMF) is a European cooperative that connects with local cooperatives to provide technological support and promote intercooperation between them. These contributions must enable European cities and towns to move towards a mobility model that is sustainable and based on citizen democracy.

This chapter is divided into four sections addressing what citizen empowerment platform cooperatives offer, how TMF is evolving and how it responds to the concept of sustainable urban mobility.

1. <https://www.esrl.noaa.gov/gmd/ccgg/trends/>

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I. Citizen empowerment to change the urban mobility model

Urban mobility and, in particular, its management are going through a period of profound change. The new platform cooperativism models contribute to making sustainable mobility possible in towns and cities. TMF represents a technological platform cooperativism model that influences urban mobility management by, for example:

- Encouraging citizen participation through local cooperatives, ensuring citizens are those who define and decide mobility needs. In the case of TMF, which is made up of local cooperatives, citizens' voices will shape the evolution of the platform and the new features to be developed in the software.
- Meanwhile, cooperatives are becoming more technologically empowered. All the knowledge shared via intercooperation is in their hands, and therefore in the hands of the citizens. The same applies to the personal and mobility data generated through technology platforms, which have great value and therefore great potential.

Platform cooperativism offers sustainable urban mobility solutions, and its models can be replicated in different cities. TMF is a flexible platform that takes the different mobility needs of each territory into account. Its work to improve mobility has a digital component that grants users facility and convenience when interacting with the platform. Finally, as our work is rooted in the cooperative world, synergies are generated with other actors in the field – European technological partners moving in the same direction and working on urban and sustainable mobility.

II. TMF as an example of technological platform cooperativism

Evolution of TMF

The Mobility Factory is a second-tier European cooperative. In other words, its members are other European cooperatives. TMF works in a platform cooperative environment and offers member cooperatives the technology needed to run their electric car sharing services.

The concern and motivation of two cooperatives – Som Mobilitat (SM), which is based in Catalonia, and Partago cv from Belgium – led to TMF's creation in 2018. Partago and SM worked together to develop a technological tool. Both were members of the REScoop.eu mobility network, the European federation of renewable energy cooperatives. REScoop.eu currently has around 2,000 cooperatives signed up, with over 1 million citizens forming part of the energy transition.

In 2018, eight cooperatives joined the TMF project and it has now grown to encompass 13 members in five different countries: Belgium, the Netherlands, Germany, Spain and the United Kingdom. The cooperatives account for around 200 shared electric cars, and the TMF application has approximately 2,200 users.

The three principles that define TMF are:

- **Sustainable mobility:** TMF works to achieve mobility that is sustainable and respectful of citizens and the environment. That is why we work with shared vehicles and use renewable energy. Contracts for supplying this energy are made with cooperatives in the Rescoop.eu network.

Interest is growing among the different cooperatives in sharing not only cars, but also bicycles. TMF will work to introduce this functionality to its app and make it extendable to all interested cooperatives.

- **Cooperativism:** TMF was created with the aim of working in a democratic, transparent and collaborative environment. To achieve this, the values and principles of the International Cooperative Alliance (ICA) are followed and adapted to a software platform context. In order to support the citizen-led energy transformation TMF also asks that all member cooperatives join the Rescoop.eu network.
- **Technological solutions for e-car sharing services:** Technology is TMF's focal point. As such, it may be defined as a technological cooperative that works to continuously develop and improve a platform that offers:
 - Technological solutions for cooperatives to establish electric car sharing services;
 - Solutions for end users to participate in the service via the app and all its features.

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The ecosystem shaped by TMF

TMF takes the form of an ecosystem in which each cooperative is an ecological niche. Each niche contains all the necessary elements to carry out its activity, but at the same time collaborates and networks with the other niches that make up the TMF ecosystem.

TMF seeks to provide the necessary technology, which can then be adapted to all the scenarios the cooperatives present. The following information is always borne in mind:

- The cooperatives are **co-owners of the software** and **jointly decide** what needs to be developed. As such, they have real influence over the software, but not complete control.
- This is what allows the members to **cooperate with each other and share knowledge and experiences**. For example, on business plans, pricing modules, growth strategies, and so on. Not only do they share technology, they cooperate with each other and share experience and knowledge – in short, they exchange good practices. All of this know-how is a very important asset for the TMF ecosystem.

However, in practice, the 13 cooperatives working with TMF face very different realities. All work in e-car sharing, but their distinguishing features vary.

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- There are **large cooperatives** like Partago cv, which operates in over ten municipalities in Flanders, and **very small cooperatives** like Nadder Community Energy in Tisbury in rural England, which has two cars and solar panels distributed across farms and schools.
- The starting points for each TMF member cooperative also vary greatly. Some were created to work directly towards **sustainable mobility** via an e-car sharing service, while others grew out of local energy transition initiatives to later become sustainable mobility cooperatives that incorporated electric vehicles.

This diversity is possible because the platform is built in collaboration and by using democratic and fair means to reach agreement on the range of interests and needs.

In this sense, it should be noted that the app has various modules and features, all of which are customisable. This allows each cooperative to make use of the modules that best suit its needs and interests.

Governance and organisation

TMF provides various spaces for debate and communication with cooperatives.

- Internally, in line with its statutes, an annual assembly is held in which a representative of each cooperative participates. Each representative has one vote, regardless of their cooperative's number of cars, members, activities or other differential features.
- TMF also provides **a common discussion space for cooperatives** through Basecamp, an everyday tool used to debate, select and jointly evaluate all aspects of the platform.
- It should be noted that the **cooperatives are completely independent** and make their own decisions on their fleet, brand, pricing model, financing and insurance, and that they own their data.
- Finally, at a more external level and, following one of the ICA principles, TMF forms alliances with other European cooperatives. For example, for enterprise resource planning (ERP) the open source software Odoo is used, while a technology cooperative, Coopdevs, helps in its implementation. An alliance has also been built with REScoop.eu, which has an extensive European network constructed around the energy transition.

III. Conclusions and future challenges

The road ahead for TMF and other similar cooperatives remains strewn with challenges. To bring new collaborators to the platform, it is necessary to keep innovating by offering improvements to the platform that favour its management by the cooperatives, without neglecting everyday needs.

Establishing good communication to address cultural differences and ensure attention is given to the interests of all members equally has always been the backbone of TMF's platform cooperativism. So has always respecting the diversity brought by each cooperative. To do this, common meeting spaces must be maintained, where everyone can make their point and where all voices are heard.

TMF also has technological challenges to face. Working on features like "roaming" between cooperatives is one example. This presents us with a new scenario in the European context by introducing obstacles that go beyond the technical, such as the differences between countries in terms of legislation, regulation, insurance and so on, and the fact that to make roaming viable a large fleet of vehicles would be needed.

TMF's road ahead is not defined – the member cooperatives will set its course. But it will continue to seek to bring more cooperatives and groups of organised citizens who want to make the change towards sustainable mobility and take a step towards the energy transition to its European project. The idea is to grow slowly, but solidly.

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References

IPCC. *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 2014, p. 151.

Landrigan, Philip J. "Air pollution and health". *The Lancet Public Health*, vol. 2, no 1, 2017, pp. e4–e5.

Salvi, Sundeep. "Health effects of ambient air pollution in children". *Paediatric Respiratory Reviews*, 2007, vol. 8, no 4, pp. 275–280.

Wieg, Andreas. "Plattformgenossenschaften: Eine Antwort auf die Herausforderungen der Plattformökonomie?" *Zeitschrift für das gesamte Genossenschaftswesen*, vol. 70, no 3, 2020, pp. 211–229.

