DREEM

Designing use**R** centric **E**-kickscooters & business models for **E**nhancing inter**M**odality

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REFERENCES

All references used in this document have been developed by DREEM. They are available and can be downloaded from: https://dreemscooter.eu/resources

SUMMARY

For recent decades, most of the European cities developed following a car-centred approach. Today, most of them are strongly dependent to this unsustainable mode of transportation, which has huge costs for our planet and society. To achieve the EU sustainable ambitions cities need to change this paradigm. Alternative and more sustainable modes of transport need to be implemented and established in European cities to support capacitive public transport as a strengthened backbone of urban mobility.

The solution is already around: public transport networks, together with walking and cycling, should be extended to fulfil the citizen needs of mobility and help cities overcoming car dependency. In the last years, new micro-mobility services have also arrived to provide alternative solutions to the last-mile but they have triggered polarized opinions amongst citizens. The e-kickscooters have invaded the centres of many European cities and put on the spotlight the lack of regulations existing to implement, manage and regulate the market of these new modes of mobility without conflicting with other modes of transport or deteriorating the quality of public space. With its lack of experience on the subject, and without European frameworks or policies that could help them, cities have approached micro-mobility very differently, depending on their own context. Cities need more guidance from regional, national and international level, in order to adopt assertively new green alternatives for urban mobility and reach climate neutrality quicker.

DREEM analysed different European markets, tested innovative vehicles and interviewed different European cities to highlight the current challenges that public administrations are facing when addressing micro-mobility and more specifically, e-kickscooters. The consortium conclusions of the results analysis are clear: public administrations need to collaborate more with the private sector to develop services and systems that are safe, efficient and inclusive. They also need to share responsibilities to address proper behaviour and compliance of rules. Also, cities need to redesign and plan accordingly public space to minimise the risks of accidents between micro-mobility users and other modes of transport. Finally, operator should focus on the safety and comfort of the vehicles in order to increase their market share and acceptance in society.

CONTENTS

INTRODUCTION

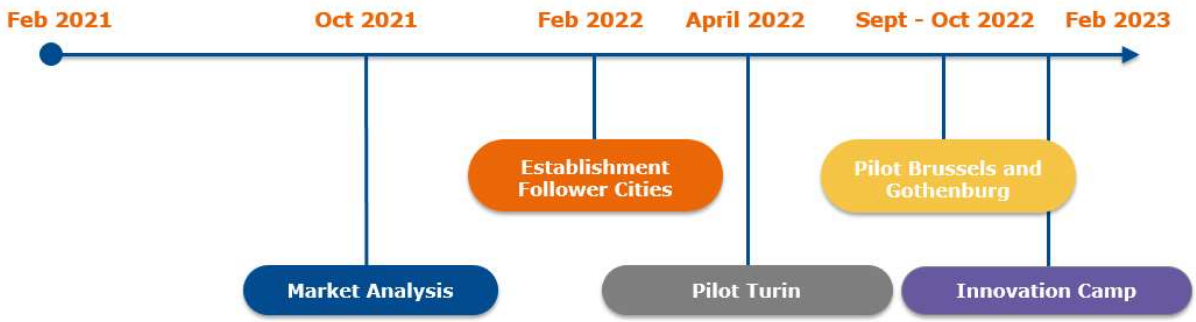
In less than a decade, e-kickscooters have spread quickly over almost all European cities, providing a sustainable mode of urban mobility for short ranges of distance. At the same time, cities have been forced to adapt regulatory frameworks in order to manage the business models and use of the e-kickscooters. Countries, Regions and Cities have adopted very different approaches on the e-kickscooters, from very open to very restrictive and until now, it doesn't seem to be a common European approach for e-kickscooters, and micro-mobility in general, that proves to be more efficient than another.

To understand which factors play a key role in the successful implementation and acceptance of e-kickscooter services in a city, the DREEM project carried out different research tasks. First, it analysed different European markets (Belgium, Italy and Sweden) to identify what are the main drivers and barriers to deploying e-kickscooters in urban areas (*see D5.1*). Secondly, it analysed three cities from these markets to identify specific indicators that make a city more prone to the use of e-kickscooters (*see D3.1*). The selected cities were Brussels (Belgium), Turin (Italy) and Gothenburg (Sweden). At the same time, DREEM tested different business models in these cities by organizing one pilot in each one (*see D5.4*). The users that participated in the pilots provided insightful feedback (*see D3.4*) regarding the business models tested and the DREEM gadget innovations: a new e-kickscooter developed to tackle the user's needs for a safer and more comfortable driving experience and an inflatable helmet for the driver, to increase the safety of the rider. Last but not least, DREEM expanded its research questions to a selected group of Follower Cities from different European countries. Representatives from Antwerp (Belgium), Brasov (Romania), Kadikoy (Türkiye), León (Spain), San Giuseppe Vesuviano (Italy) and Tirana (Albania), answered tailor-made surveys, participated in online webinars and attended in-person workshops and events during the project. They provided different feedback and shared their views regarding the opportunities and challenges that micro-mobility brought to their cities. The progress was followed by the DREEM External Advisory Board.

The results of all the above-mentioned research have been published in form of deliverables available for everyone at the dedicated DREEM website.[1] This document is a summary of all results to be disseminated to target audiences and related online platforms.

RESEARCH OVERVIEW

The main methods of research realised during the project and on which the conclusions of this document are based, are presented in the figure below. A more detailed description of the research methods can be found in each of the dedicated deliverables related to the project activity on the project's website.



The study on the market analysis was published in October 2021. It contains a detailed description of the three countries that hosted the three DREEM pilots: Italy, Belgium and Sweden. The host countries presented considerable differences regarding legislation, use and acceptance of micro-mobility services. At local level, the characteristics of the cities of Turin, Brussels and Gothenburg were also analysed to understand how the profile of a city has an influence on the use and acceptance of micro-mobility. These results helped prepare the ground for the organisation and implementation of the three pilots.

[1] https://dreemscooter.eu

A group of Follower Cities was established in February 2022 to expand the scope of the research to more European cities. Since then, the cities participated in 3 online webinars organised by the DREEM consortium, to learn about the project results, ensure their practical use and try to assess replicability of the pilot cases. Additionally, the cities were also invited to participate at the in-person event Innovation Camp, organised by DREEM at the TRA22 (14-17 November 2022 in Lisbon, Portugal), where they assisted, besides the TRA exhibitions and sessions, to one workshop dedicated to them and three DREEM pitch talks about the project.

The three DREEM pilots were supposed to start simultaneously but due to different circumstances in each of the cities, triggered mostly by the lack of clear legislation and city expertise, the start of each of the pilots was delayed. The lack of a common framework prevented also an efficient replication between the city pilots, as the experiences of implementation learned in one city, could not apply to the others. The pilot in Turin was the first one to be launched, in April 2022, followed by the pilot in Brussels, which started in September 2022, at the same time as the European Mobility Week and finally the pilot in Gothenburg, in October 2022. Through the pilots, the goal was to test the technical innovations of the e-kickscooters as well as the implementation of different business models in each of the cities.[2] The modifications in format and methodology of the pilots in Brussels and Gothenburg, focused the attention on the technical innovations and therefore, recommendations on business models are not included in this document. Nevertheless, this gave the opportunity to the pilot organisers to increase their attention on the special aspects of the e-kickscooter and gather more detailed feedback from the participants regarding this.

[2] A detailed description of the technical innovation can be found in the full report of the DREEM e-kickscooter (https://dreemscooter.eu/resource?t=DREEM%20e-kickscooter%201st%20release)

RESEARCH FINDINGS

The participants interviewed during the pilots have highlighted the importance of vehicle features and safety performance as the first key output. To establish successfully new e-kickscooter services, instead of focusing directly on the market share, the providers need to focus their efforts on improving the features of the vehicles and gaining the confidence and trust of the consumer. More range of battery, more stability and better performance regarding safety and drivability were among the reasons the surveyed population found important to consider daily use of a shared e-kickscooter. DREEM further intensified this research by adapting the prototype developed for the project, analysing the participants' feedback and modifying the DREEM vehicle, to achieve acceptance among the majority of participants.

The characteristics of a city also play a key role for a successful implementation of new e-kickscooter services, as the research on the three different cities has clearly shown. Size, density, urban infrastructure, other public transport services, driving restricted areas, intermodality and weather can determine whether a new e-kickscooter service will be successful. Some of these characteristics, like size, density and weather are inherent to the city, but a city can adjust existing systems and legislations to better integrate the new micro-mobility services. Urban infrastructure, public space, allocation of parking space, regulation for safety and intermodality, etc. should be appropriately considered and adapted to the new needs.

According to the research made on the pilot cities and the Follower Cities, the biggest challenges cities are facing when talking about micro-mobility are safety for users and non-users, parking allocations for the dock-less vehicles, lack of regulatory framework and lack of technical expertise from local governments. All the cities interviewed expressed interest in learning more about implementation of micro-mobility solutions in different European cities, best-case practices, lessons learned reports, and other knowledge transfer activities, as they all agree that their lack of resources and knowledge plays a key role when talking about new mobility services.

Regarding safety, all cities agreed that more space needs to be allocated to active mobility to make micro-mobility, cycling and walking safer and less vulnerable to cars, but at the same time, cycling and micro-mobility need to be properly segregated from walking areas or at least speed regulation need to be implemented. The cities also expressed the need to cooperate with the micro-mobility operators and share responsibilities, especially regarding compliance of rules and driving behaviour. Operators and cities should develop together educational campaigns to ensure a responsible use of micro-mobility vehicles via social media campaigns and information in the operators apps. The clearest result from the workshop was that dialogue has to be constant and open in order to keep progressing in the right direction.

CONCLUSIONS AND RECOMMENDATIONS

The DREEM project has shown the nuanced situation cities are facing when tackling micro-mobility. It is clear that new and more regulations are needed but legislation and restrictions risk to limit its attractiveness. To integrate safe and efficient micro-mobility services into the transport systems of European cities, **open and regular dialogue between cities and micro-mobility operators** needs to be enforced. Communication need to be strengthened at both local and national level to address strategic and operational issues. Both parties need to collaborate and **share responsibilities on awareness and education campaigns** to ensure safe driving behaviour, compliance of rules and reduce accidents. At the same time, and following the same trends as for active mobility, **more dedicated space and infrastructure** should be planned to accommodate the increasing needs of the citizens of the future. Not only walking and cycling should be considered for new public space but also micro-mobility. From the technical perspective, micro-mobility operators have to focus on **improving safety perception and comfort of the vehicle** in order to be attractive to a wider market share. Following these recommendations, cities could ensure a quicker and effective integration of new micro-mobility services and gain a more generalised acceptance of the population.

Policy Recommendations

- Open and regular dialogue between cities and micro-mobility operators
- Share responsibilities on awareness and education campaigns
- Include micro-mobility needs when planning new space and infrastructure
- Improve safety and comfort features of e-kickscooters

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E-KICKSCOOTERS

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