

Internationales Verkehrswesen

POLITIK

Verkehrspolitik nach
Corona im Fokus

INFRASTRUKTUR

Digitalisierung und
Regionalisierung

LOGISTIK INTERNATIONAL

Supply chain innovations
worldwide

MOBILITÄT

ÖPNV im Wandel:
Thesen und Strategien

TECHNOLOGIE

Automatisch besser planen

Die Krise als Chance?

**Wie die Corona-Pandemie den
Mobilitätswandel beschleunigen könnte**



Photo: tierapp, Berlin

The hour of the 4th shared mobility mode: Mopeds

Why moped sharing will continue gaining global relevance. Status quo, trends and challenges.

Moped sharing, Shared mobility, Market status, Mobility transformation, Urban mobility

Since 2012, moped sharing has made a substantial and sustainable development within the shared mobility landscape. Last year the market hit the 100,000 moped threshold for the first time. This article gives you an intro to how moped sharing has developed in the past years, where it stands today (market status quo and existing challenges), and moreover where it is heading (trends). The article argues that moped sharing has a bright future ahead. Moped sharing has become a solid complementation of the three existing shared mobility modes bike, car and kick scooter.

Enrico Howe

Shared mobility has been a successful model for many years. Carsharing and bike sharing have been around for decades. Additionally, kick scooter sharing was recently introduced to the market in 2017. In the past decades, the market has seen significant business model innovations such as the introduction of the smartphone as a key, free floating services and Mobility-as-a-Service (MaaS) integrations. Bike sharing accounts for more than 10 million vehicles, car sharing & kick scooter sharing for hundreds of

thousand vehicles. However, since its market start in 2012 moped sharing has made a slower, but substantial and sustainable development on the ground.

Market overview: More than 104,000 mopeds with a strong focus on Europe, India, Taiwan and the U.S.

The most comprehensive overview of the market development can be found in the Global Moped Sharing Market Report 2020 [1] by unu. Moped sharing was first intro-

duced in the U.S. in 2012 and moved to Europe quickly. Since then, Europe has grown to be the biggest market internationally. At a glance, moped sharing accounts for more than 104,000 mopeds (see Figure 1) in 22 countries and more than 120 cities (see Figure 2). Cities such as Barcelona, Bangalore or Milano can't be imagined without local services anymore. The past eight years since industry birth have been a story of constant growth. [1]

The industry is very Europe-centered. 15 out of the 22 moped sharing countries are

located in Europe and account for 54% of the deployed fleet. [2] But moped sharing spreads across the globe. In the past years, it has had huge growth rates. From mid-2019 to mid-2020 the market grew by 58%, the previous year it had expanded by 164% (compare Figure 1). Today, large active systems can also be found in Taiwan, the U.S. and India. Beyond Europe, cities such as NYC, Bangalore, Taipeh, Mexico City or São Paulo currently have fleets. India accounts for 24% of the global moped sharing fleet, Taiwan for 15%. This means that only 7% of the global fleet is distributed outside of Europe, India and Taiwan. A huge potential for all other markets and one of the main reasons why experts expect a moped sharing boom in the coming years.

From a user perspective, the industry eyes the 10 million user mark. Most users are male [3], and in their 20s or early 30s. Depending on the city and use case, typical usage is around 4 to 5 km per trip on average and takes 20 to 30 minutes. Therefore moped sharing can be seen as a link between the other micromobility options bike and kick scooter on the one side and carsharing on the other. Most of the moped sharing schemes are located in big cities. However, industry experts believe that moped sharing has the potential to grow beyond city centers. Moreover, the customer base has become more diverse in the past years (slowly rising women signup ratios and more elderly people).

Meanwhile, the industry has become very relevant to the global supplier industry. In mid 2020, the 76 global operators were supplied by 28 moped manufacturers, several telematic suppliers, and a couple dozen solution suppliers around services such as battery swapping, maintenance, booking

and billing software, automatic ID verification solutions, fleet management solutions and others. It became a multi-million-Euro business.

In a nutshell, the work of early innovators & drivers of the industry such as the operators Scoot Networks (USA), emmy (GER), Cooltra (ESP), Cityscoot (FRA), WeMo Scooter (TWN), and others are attracting a higher level of competition. Strong global competitors built up their portfolios in the past years. Among them are Bounce (IND), Acciona (ESP), Vogo (IND), Revel (USA), GoShare (TWN) and TIER (GER). All of these innovators as well as the supplier industry are working on revolutionizing the urban mobility landscape. The coming years will most likely remain dynamic in terms of market development.

Recent development: 2020 and Covid

2020 was the year of Covid-19. This holds true for moped sharing as it does for mobility and society in general. But despite Covid, moped sharing continued to grow. 38,000 mopeds were added from mid-2019 to mid-2020. After an initial shock in March/April 2020 for users and operators alike, the sector regained importance in many markets quickly and started to be seen as an mobility alternative during uncertain times. According to a study by Invers & fluctuo [4], the micromobility sector in general showed strong resilience in the recovery from the first lockdown. Moped sharing even outperformed the pre-Covid utilization rates during the post-lockdown summer 2020 in some countries such as France.

But 2020 also came along with a lot of uncertainty: painful city lockdowns, mobil-

ity behavior changes and activity reductions, fleet service pauses, pivots, business adaptations or free rides for health service personnel, to name a few corner stones which impacted moped sharing. Some fleets were basically inactive for several weeks. The pandemic hits most of the analyzed markets and continues to impact them. Despite the trust from users and investors alike, 2020 remained a year with reduced mobility intensity, which continues to put operators under stress.

What to watch out for? Existing challenges

Being a rather young mobility mode, the sector still has some challenges to overcome. Three of the most commonly named challenges include moped functionalities, bringing down operational costs, as well as service integration with other shared mobility modes and transit.

- **Ready-to-use mopeds:** The industry relies on, to a large extent, mopeds designed for the B2C market. Many manufacturers have increased their technical reliability and user experience with focus on the sharing market. Some moped manufacturers started to specifically design moped features for the shared mobility market. However, there is still room for improvement when it comes to providing different ready-to-use models for the use case.
- **Bringing down operational costs:** Operational costs are integral to successfully run a moped sharing scheme. Cost blocks include charging, maintenance, cleaning, relocation and asset recovery. All operators are currently working on making operations more efficient. The coming years will continue to see busi-

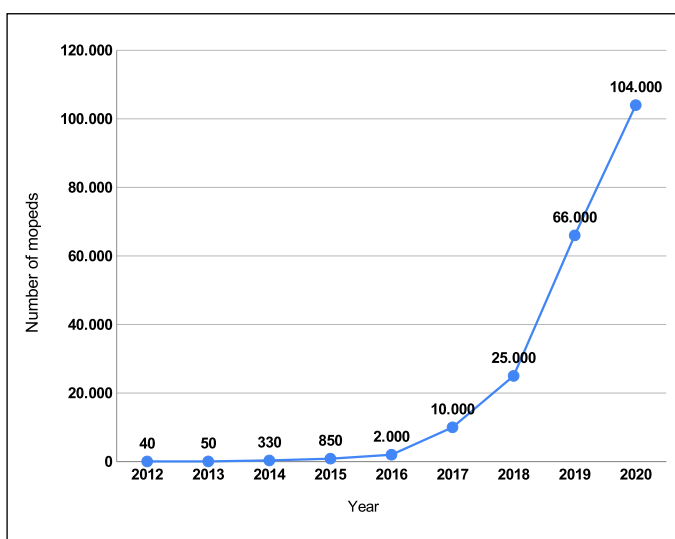


Figure 1: Growth of the global moped sharing market by number of shared mopeds per year [1]

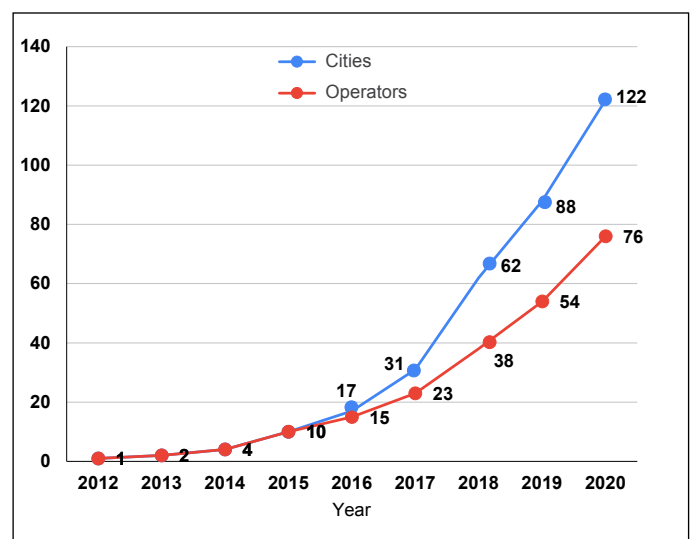


Figure 2: Number of cities with moped sharing and number of global operators [1, 2]



ness model innovations around operational challenges.

- **Deep MaaS solutions and paving the ground for higher acceptance:**

Many operators are offering stand-alone solutions. They provide a service, which is only partially integrated into the existing urban mobility landscape. Improving the ease of usage for the user by integrating moped sharing with transit and other shared mobility modes remains crucial to further improve user acceptance.

For deeper operator-based expansion-related challenges, the author recommends reading Lehmann [5], which identified several critical success factors (CSF), including fleet & business management, operational efficiency, cooperation with authorities, public transport availability, norms & regulation, weather and finally city layout. [5]

Trends: What will happen in 2021?

As mentioned above, the coming years will see a dynamic market development. The following section identifies eight trends of the coming years.

1. Beating Covid:

Managing & beating the Covid crisis is surely a societal priority of at least the first half of 2021. An increased overall travel volume is expected for the time after. [4]

2. Introduction of city regulation & tenders:

More cities than ever started tender processes and handing out licenses for operation, although the overall number of “license-cities” remains low. Barcelona,

Amsterdam and Groningen are examples which have done so or are planning to do so in 2021. Nevertheless, the acceptance for moped sharing by city regulators and users alike is high and also liberal forms of city access permissions have been successful. Licenses & tenders are therefore not the only option in the future, but likely to become more relevant (especially in bigger cities). [1]

3. Business model diversification:

In 2020, there were discussions around dynamic pricing, AI-based fleet balancing, food and parcel delivery as well as co-branding, among other aspects. But due to Covid, two major topics are quickly gaining ground: long-term rental and subscription services. [1]

4. Increasing industry competition:

The top five operators already own 49% of the global moped sharing fleet. The other 71 operators share 51% of the remaining global fleet. The total number of global moped sharing operators grew by 41% from the 2019 report to 2020. [1]

5. Strengthening rider awareness & safety:

Some of the central moped sharing markets have well-known moped cultures such as Spain, Italy or the Netherlands. In other markets, cars, transit or bikes might hold more importance. Building ridership awareness is therefore a crucial focus which operators have taken care of for years by for example, offering test rides, in-person lessons and other measures. The activities of operators in 2020 show that improving safety measures even further is a continuing trend. [1]

6. More multimodal fleets/service integration:

Moped sharing has to become a more integrated solution. All shared modes and most importantly public transport will increasingly grow together. Users will have the chance to easily choose and switch among mobility service solutions according to their needs. MaaS services such as Berlin's Jelbi will be key to this development. [1]

7. Strong volume growth:

The number of globally available mopeds in sharing services will continue to rise significantly. More new operators will start and moreover, existing mobility operators from outside moped sharing will continue to expand into the moped game.

8. Extended regional coverage:

Finally, regional expansion will bring the service to new country and city markets. Compared to higher investment and opera-

tional costs of car sharing for instance, moped sharing brings the chance to bring also motorized shared mobility to smaller cities and rural areas. An important step in transferring our mobility system.

Summary

To sum it up, moped sharing is leaving the niche. It has become a mature and equally relevant shared mobility mode over the past years. The industry is facing a high level of acceptance by cities and users alike and after the Covid crisis, the industry is set for a substantial growth impulse. Given the fact that moped sharing is very successfully operated, but more than 90% found only in Europe, India and Taiwan, a big moped sharing boom can be expected in a post Covid world beyond these core markets.

Some of the existing challenges to this are improving the moped quality and business model fit, bringing down operational costs as well as developing high-end MaaS solutions to reach further user groups.

Finally, the author described eight trends which will shape the industry in the coming years, including global volume growth, market reach, user base extension, developing regulatory systems and business model diversification. They are the base for arguing that we are currently witnessing the “hour of the 4th shared mobility mode” – moped sharing is on track to grow in future. ■

SOURCES

- [1] Howe, Enrico & Felix Jonathan Jakobsen (2020): Global Moped Sharing Market Report 2020. Online: <https://share.unumotors.com/global-mobility-sharing-market-report> (Access: 13.01.2021)
- [2] Howe, Enrico (2021): Global Moped Sharing Map. Online: <https://mopedsharing.com/moped-sharing-map> (Access: 13.01.2021)
- [3] Howe, Enrico (2020): Deconstructing the Gender Gap in Shared Micromobility Usage. Online: <https://invers.com/en/blog/deconstructing-shared-micromobility-gender-gap/> (Access: 13.01.2021)
- [4] Invers & fluctuo (2020): European shared micromobility in the face of a pandemic. White Paper. Online: <https://go.invers.com/en/shared-micromobility-report-2020> (Access: 13.01.2021)
- [5] Lehmann, Eric (2020): Moped sharing building sustainable cities : defining critical success factors that enable operators to develop efficient business strategies. University of Twente. <https://essay.utwente.nl/81042/> (Access: 13.01.2021)



Enrico Howe
 Founder mopedsharing.com, Berlin
enrico@mopedsharing.com