



EUROPEAN SHARED MOBILITY INDEX 2022



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THE FULL REPORT
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THANKS TO OUR PARTNERS



Fully owned by BNP Paribas, Arval is a specialist in full-service vehicle leasing and new mobility solutions. Through our connected solutions and tailored services, companies are able to optimise their employees' mobility and outsource the risks associated with fleet management. We also actively support and advise our customers in accelerating the energy transition, empowering them to be more sustainable.

arval.com



BAFANG

Bafang, is one of the leading manufacturers of e-mobility components and complete e-drive systems, developing customized solutions for a wide range of electric vehicles since 2003. The company operates worldwide and focuses on all global e-mobility trends of the future: whether for individual concepts for e-bikes, e-scooters or public bike-sharing systems. Bafang's comprehensive product portfolio includes motors, sensors, batteries, HMI's, controllers, connectors, and innovative IOT results.

bafang-e.com



drover

Drover AI specializes in AI-based IoT solutions for last-mile transportation, elevating the performance of fleets while exceeding the regulatory requirements of cities. Drover's PathPilot delivers features like sidewalk detection and parking compliance even in the absence of GPS or cellular connectivity, allowing for unmatched control of fleet and user behavior in real time. Drover pairs its edge-based tech with its management platform, Corral, to deliver a variety of unique and valuable insights to operators and cities alike.

drover.ai



INVERS

INVERS, inventor of automated vehicle sharing, enables mobility service providers to launch, operate and scale their offerings with integrated telematics and software solutions, specifically designed for developers of shared mobility services. The company acts as an independent and reliable partner for operators such as SHARE NOW, Clevershuttle, Miles, Getaround, Flinkster, Tier, and Emmy. The development takes place entirely in Germany.

invers.com



SHARENOW

SHARE NOW is the market leader and pioneer of free-floating carsharing. The company is operating 11,000 vehicles in 16 European cities. More than three million customers are already using the on-demand service that offers rentals from 3 minutes to 30 days and a variety of car models from brands such as BMW, Mercedes-Benz, MINI, smart and Fiat.

share-now.com



Wunder Mobility

Wunder Mobility is the leading software and hardware provider for vehicle sharing. Our highly customizable and deeply integrated software solution is complemented by a sharing-ready vehicle program built in partnership with leading manufacturers. Operators of bike-, scooter-, and car-sharing systems in >200 cities on five continents are relying on Wunder technology to complete millions of trips per month. Wunder Mobility was founded in 2014 by Gunnar Froh and is headquartered in Hamburg, Germany.

share-now.com



POLIS

POLIS is the leading network of European local, regional and transport authorities committed to transport innovation. Our focus is on innovations that make urban mobility more sustainable, safe, affordable and equitable. We actively support constructive dialogue with shared mobility operators to shape together solutions that serve the public good and drive the shift that we all need to achieve this decade.

polis-network.eu



2022: A YEAR OF CONTRASTS

Since 2018, nearly **600,000 dockless scooters, bikes and mopeds** have been deployed, taking the total to 850,000 shared vehicles by the end of 2022. Over the course of last year, nearly 200 new shared mobility services were launched, contributing to a record **550 million trips** being made across the continent, creating some €3.1 billion in revenue from end-users.

Despite the evident appetite for these new mobility services, the future of the industry remains uncertain. The huge influx of capital between 2018 and 2021 allowed operators to expand rapidly to new markets and to set aside concerns of financial sustainability.

2022 saw the invasion of Ukraine and economic downturn, making it much harder to secure new funds. As operators have had to streamline operations and focus on profitability, **93 services were paused or stopped**. Several operators were recapitalized in a hurry, others were acquired or went through mergers.

At the same time, cities are voicing their concerns over safety and the occupation of public space. In April 2023, the people of Paris will vote on whether or not to continue with shared scooter services, a decision that may have implications beyond the French capital.

Challenges lie ahead in 2023, but there is good reason to remain optimistic. The EU recently announced a 17-point plan to double the number of kilometres cycled by 2030, making cycling and riding safer, and giving shared mobility services room to grow.

Cities now have the power to give operators 'goldilocks' conditions to run economically-viable services for many years to come. Despite vehicle fleet caps, the optimization of unit economics should allow operators to get close to the ultimate goal: **making services financially & environmentally sustainable**.

EUROPEAN MARKET 2022 EU27 + UK, Norway & Switzerland

850,000
VEHICLES ⁽¹⁾

550 million
TRIPS

€3.1 billion
GENERATED BY RIDES ⁽²⁾

(1) Average (+/-10% variation due to seasonality)

(2) VAT included

ANALYSIS OF 100 CITIES AT A GLANCE

To size the European market, we collected and analyzed data from 100 cities in 25 countries.

How were the 100 cities chosen?

The primary factors for consideration were population and the number of shared mobility services (and vehicles). Where possible, we tried to overlap as many of our city selections with the EU '100 Climate-Neutral and Smart Cities by 2030'.

What kind of data has been collected?

In these 100 cities, we collected and processed data on the number of vehicles, the number of trips and the average end-user pricing. When we could not source data directly from operators, we used industry averages and data extrapolation.

How are the fleet sizes calculated?

The fleet sizes in this section of the report are accurate as of December 2022. However, in cities that observe 'wintering' (when the city is unsuitable for shared mobility trips on bikes and scooters due to extreme temperatures - e.g. Helsinki) the fleet sizes are accurate as of October 2022.



100
CITIES
MONITORED

751
SERVICES

82
VEHICLES
PER 10K INH.

CITIES WITH AT LEAST ONE SERVICE

2022 | Out of 100 cities

Station based bikes  **74**

Free-floating bikes  **57**

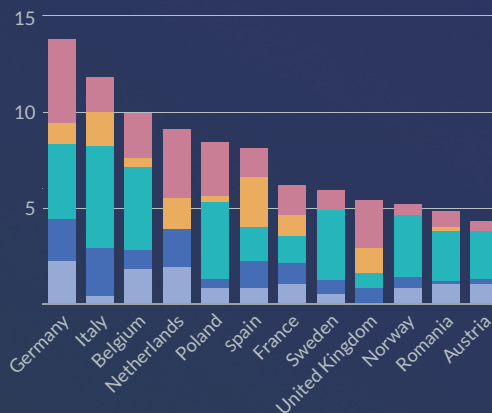
Scooters  **87**

Mopeds  **37**

Cars  **62**

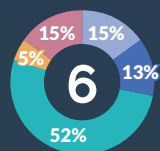
AVG NUMBER OF SERVICES PER CITY IN EUROPEAN MARKETS

2022 | Countries with more than 3 cities analyzed

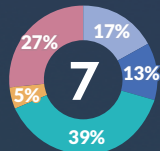


AVG NUMBER OF SERVICES PER CITY BY POPULATION SIZE

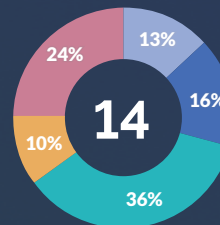
2022 | Average number of services displayed in the middle of each pie chart



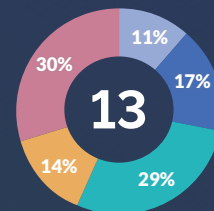
<0.25m INH.
26 cities



0.25m-0.5 INH.
26 cities



0.5m-1 INH.
29 cities



>1m INH.
19 cities



FOCUS ON BIKES

The growth of shared bike services persisted in 2022. Operators and device manufacturers keep pushing to bring bikes with improved comfort, safety attributes and enhanced sustainability elements.

Station-based bikes continued to outperform all shared micromobility services in ridership. Their performances were particularly noticeable in major cities such as Paris with Vélib, Barcelona with Bicing and London with Santander Cycles. Whilst the number of station-based bikes kept more or less steady, free-floating continued growing. In a year, fleets grew by over 118% on the streets of European cities.

Bike operators have tried to take advantage of some cities' preferences for shared bikes over scooters. They viewed this situation as an opportunity to develop their business and enhance their relationships with municipalities.

Simultaneously, the latter have been thinking of ways to alleviate the inflation pressure on citizens caused by energy shortages. For instance, the City Council of Lisbon has decided to make the municipal bicycle-sharing network, GIRA, free of charge for residents. Similar initiatives could be seen in European cities in the coming months.

TOP 5 TRIPS PER CAPITA 2022

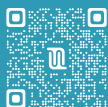
1 st	 PARIS
2 nd	 BARCELONA
3 rd	 ANTWERP
4 th	 MILAN
5 th	 LONDON

TOP 5 TRIPS PER VEHICLE 2022

1 st	 BARCELONA
2 nd	 PARIS
3 rd	 BUDAPEST
4 th	 LISBON
5 th	 DUBLIN

YEAR-ON-YEAR RIDERSHIP

Base 100 | 2021 Average



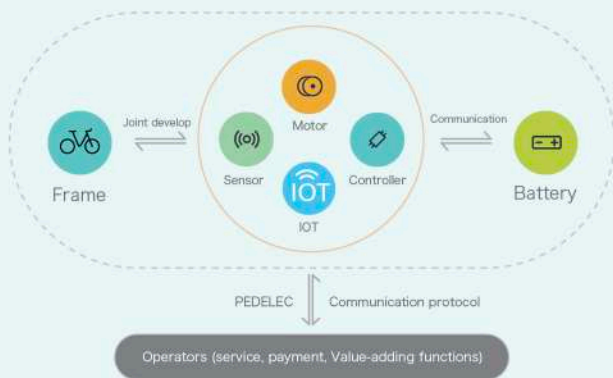
**EXPLORE DATA
ON SCOOTERS AND MOPEDS**
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BAFANG

POWER YOUR LIFE

Bafang Sharing eBikes Drive Solution

e-Bike drive solutions for sharing vehicles - Bafang is the right choice here! Bafang has been dedicated to the eBike market for over 20 years and has mature, ready-to-use, powerful and practical eBike sharing solutions. Bafang is already involved in over 20 sharing projects in Europe with its know-how.



- ✓ Cost-effective
- ✓ Stable property
- ✓ Reliable quality
- ✓ Complete supply chain system
- ✓ Secure delivery time



- Motor: H305
- Sensor: SR PA112.32.S
- Battery: BT C01.498.UC
- Controller: DP C10.CAN

- Motor: H405
- Sensor: SR PA162.32.S
- Battery: BT F020.B504.C
- Controller: DP C220.CAN

About the company

Bafang, is one of the leading manufacturers of e-mobility components and complete e-drive systems, developing customized solutions for a wide range of electric vehicles since 2003. The company operates worldwide and focuses on all global e-mobility trends of the future: whether for individual concepts for e-bikes, e-scooters or public bike-sharing systems. Bafang's comprehensive product portfolio includes motors, sensors, batteries, HMI, controllers, connectors, and innovative IOT results.



8
CITIES MONITORED

90
SERVICES

TURIN | January 2023

Turin awards 3-year permits to Bird, Dott, Helbiz and Superpedestrian

NAPLES | December 2022

Issues continue with Napoli's bike sharing system

ROME | December 2022

Rome postpones scooter tender results for 3 months

FLORENCE | December 2022

RideMovi launches scooters in Florence

TURIN, MILAN & ROME | November 2022

Zig Zag lands in Turin with 1,000 electric bikes and 400 scooters, and Voi launches pilots in Rome and Milan with Drover AI computer vision technology

ROME | June 2022

New rules for scooters in Rome and tender announced

PALERMO | May 2022

Voi launches 500 scooters in Palermo

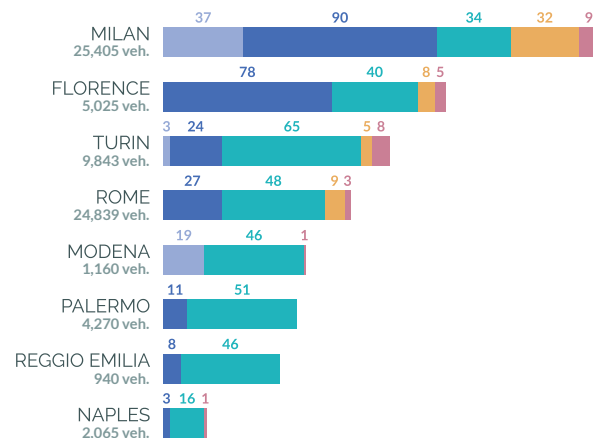
ROME | March 2022

TIER launches 800 electric bikes in Rome

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON **ridemovi**

5.8M
TRIPS

16
ACTIVE
CITIES

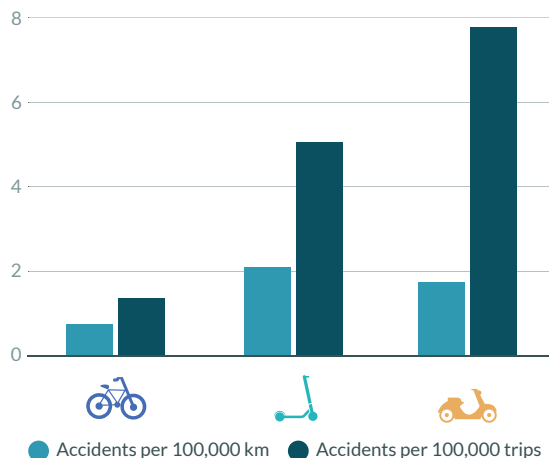
Ridemovi's fleet in Italy grew 60% in 2022, spanning 16 cities. Users racked up a total of 5.8 million trips nationwide, with 80-90% of all users rating the service as very good (a score of 4 or 5 out of 5).

For the first time, a survey on shared micromobility accidents in Italy was carried out.

Data collected from 2021 by the Italian Shared Mobility Platform shows that shared scooters had an accident rate (2.07 accidents every 100,000 km) slightly higher than shared mopeds (1.72), and much higher than bikes (0.74). When we compare the number of accidents to the number of trips, however, the story is not the same: mopeds recorded 7.77 accidents every 100,000 trips, scooters 5.01, and bikes 1.35.

ACCIDENTS ACROSS MODES

2021

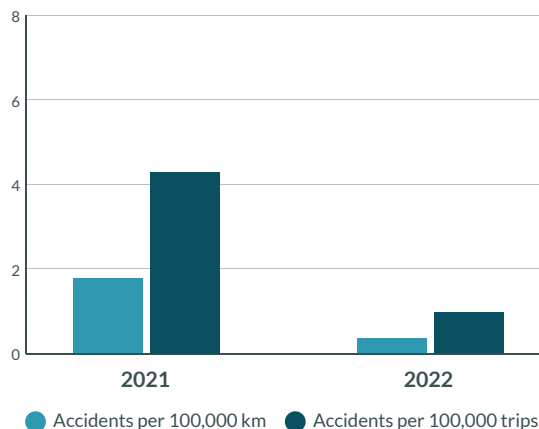


Scooters are getting much safer

In 2022, an analysis was carried out with a group of 5 operators (representing 74% of the Italian market). Both accident rate per kilometre and per trip has significantly fallen. In fact, the number of accidents for every 100,000 km travelled has fallen 80% between 2021 and 2022.

SCOOTER ACCIDENTS

2021 vs 2022 | Analysis carried out on group of 5 operators
(74% market coverage)



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6
CITIES MONITORED

48
SERVICES

WROCLAW | December 2022

Public bike-sharing scheme announces its best season in its 11-year history

KRAKOW | November 2022

City Council adopts new scooter parking regulations

WARSAW | October 2022

City introduces "Green Vision" plan to foster the development of shared mobility (micromobility, car-sharing, mobility hubs & MaaS)

POZNAN | July 2022

Public bike-sharing scheme temporarily suspended in 2023 due to budget constraints

WARSAW, KRAKOW, BYDGOSZCZ & OLSZTYN | June 2022

Bolt launches 800 electric bikes across 4 cities

POLAND | June 2022

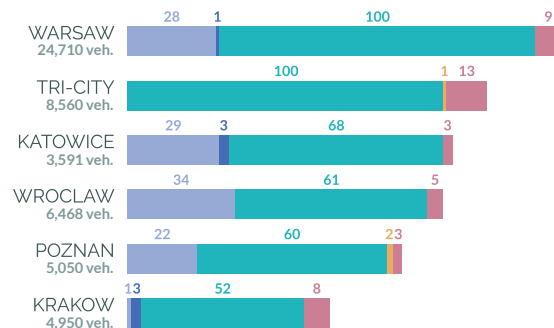
Council of Ministers adopts the draft of the National Urban Policy 2030, which indicates the need to legally define shared mobility

POLAND | April 2022

GZM Metropolis opens tender for bike sharing scheme, which will be one of the largest systems in Europe (8,000 bikes, 900 stations)

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON **dott**

95%
INCREASE
IN RIDERSHIP
VS 2021

12
ACTIVE
CITIES

Dott's fleet in Poland reached 11,500 in the peak of 2022. They are the first operator nationwide to use electric cargo bikes to perform battery swaps in daily operations. Their crowning achievement was in Poznań (launched in Sept. 2021), which saw 2.3 times more trips in Q4 of 2022 compared to Q4 2021.



When comparing the peaks of 2021 and 2022, the Polish shared mobility market grew by almost 69% in terms of nationwide available vehicles.

Bike sharing grew by almost 10% year-on-year with 15,900 bikes available on average in some 94 cities, which constituted over 19% of the domestic shared mobility market. This can be perceived as quite a rebound, as municipal bike sharing schemes were significantly affected by the pandemic. The challenge today is the business model. Schemes are almost completely financed by municipalities; services have become more expensive to run, causing pauses and closures (e.g. Poznan, who have decided to temporarily suspend the service in 2023).

The shared scooters account for 74% of the national shared mobility landscape, with 62,300 scooters available on average in 160 cities. With the growth in trips, Polish cities also increasingly decided to regulate the cooperation with operators locally, most often with vehicle parking and public safety.





Shared moped fleets actually decreased in size in Poland in 2022. Available vehicles fell by 47%, leaving just 435 mopeds in 11 cities. However, mopeds are gaining popularity for use in the booming last-mile food and grocery delivery markets.

Shared car fleets grew by over 22% to a total of 5,500 vehicles, accounting for close to 7% of the entire shared mobility market. The three most important observations were further consolidation of the market (95% is shared between the two largest operators), emphasis on the largest cities, and the development of new pricing structures and new use cases, e.g. intercity traveling.

Looking into 2023, there are at least two key initiatives worth mentioning with regards to the regulatory side of the shared mobility market in Poland. The National Urban Policy 2030 states that “shared mobility and the concept of MaaS should be considered in a multimodal transport system as support for sustainable mobility”. The second is the industry’s New Mobility Development Strategy, which is proposing a set of 17 recommendations for fostering new mobility in Poland.

SHARED MOBILITY IN POLAND

2022 | All cities in Poland

	CITIES	VEHICLES
	94	15,900
	160	62,300
	11	435
	8	5,500



INTERESTED IN GERMANY?

UNLOCK MORE COUNTRY SPOTLIGHTS

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NETHERLANDS

7
CITIES MONITORED

61
SERVICES

EINDHOVEN | November 2022

Cargoroo launches in city

AMSTERDAM | October 2022

Inside the Bicycle's Conquest of Amsterdam

UTRECHT | October 2022

NS begins trial of 30 public transport e-bikes at Driebergen-Zeist station

GRONINGEN | September 2022

GO Sharing launches bikes in Groningen and Tilburg

AMSTERDAM, ROTTERDAM & THE HAGUE | June 2022

NS travellers can now extend their journeys with shared scooters.

UTRECHT | February 2022

Hyundai's Mocean mobility arrives in the Netherlands with residential car-sharing

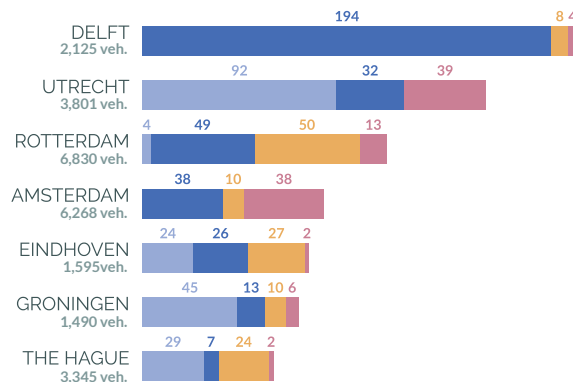
GRONINGEN | February 2022

Bird bike growth in Netherlands continues with exclusive Groningen pilot

TOP NEWS

VEHICLES PER 10K INHABITANTS

December 2022 - data from 8 cities



FOCUS ON felyx

1m
REGISTERED
USERS

12
ACTIVE CITIES

Felyx successfully expanded into 5 new cities in 2022, which means they are now present in 12 cities nationwide. They reached two major milestones last year; 1 million registered users 50 million kilometers driven.

NETHERLANDS Analysis

The Netherlands is known for having the highest number of bicycles per inhabitant in the world, 1.3 bikes per capita on average, but the country also has a high number of shared bicycles. Despite the popularity of cycling, the usage of personal bikes has neither cannibalized nor impacted the growth of bike sharing services (24 bike sharing schemes in the 5 largest Dutch cities).

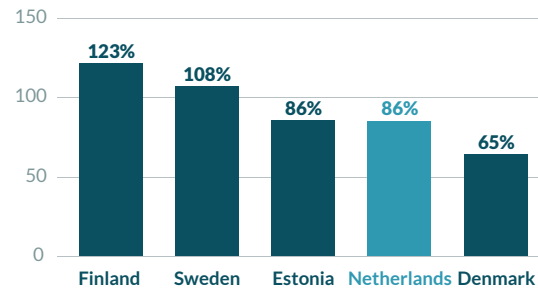
The Dutch have long been avid cyclists and have developed one of the best cycling networks in Europe with more than 86% of main roads being equipped cycling infrastructure (more than double the average of the countries featured in this Index). These dedicated bike lanes and paths have made it safer and easier to cycle in cities. Bike sharing services have leveraged this infrastructure - and the Dutch cycling culture - to offer a convenient and sustainable alternative mode of transport.

Furthermore, bike sharing services often cater to different users and use cases than personal bikes. Station-based and free-floating bikes can be a more convenient option for occasional riders, one-way trips, spontaneous trips, or tourists. Bike sharing services also have different pricing models which can be more cost-effective for shorter trips. Attracting riders is easier since shared scooters are not legal in the Netherlands.

The popularity of personal cycles in the Netherlands does not hinder the usage of bike sharing. Instead of competing, this additional mode of transportation is beneficial for the overall safety of active mobility: according to "safety in numbers" studies, the more walkers and cyclists there are in a population, the lower the risk.

RATIO OF CYCLING INFRASTRUCTURE OVER THE MAIN ROAD NETWORK

2022 | Top 5 countries Europe



42% AVG Ratio
of cycling infrastructure
over the main road network
in the 25 studied countries



23.4M

Bicycles in the Netherlands
i.e. 1.3 bicycles per inhabitant



FOCUS ON CARS

Having analyzed the top cities for trips per capita, it's clear that citizens in German cities continue their love-affair with car-sharing. With strong links to the German automotive industry, car-sharing operators continue to be pioneers in electric mobility. About a quarter of car-sharing vehicles are electrically powered; by contrast, this is much more than privately owned cars.

Car-sharing can promote the use of electric vehicles and increase familiarity with the technology leading to a greater demand for EVs in the future. As more car-sharing providers adopt electric vehicles, the overall carbon footprint of the transportation sector can be reduced, contributing to efforts to combat climate change.

The best-performing cities in terms of ridership are relatively spread out in Europe. This should not come so much as a surprise since every local context is unique and car sharing schemes' successes seem to be very dependent on the mobility patterns of the cities and their socioeconomic conditions.

TOP 5 TRIPS PER CAPITA 2022

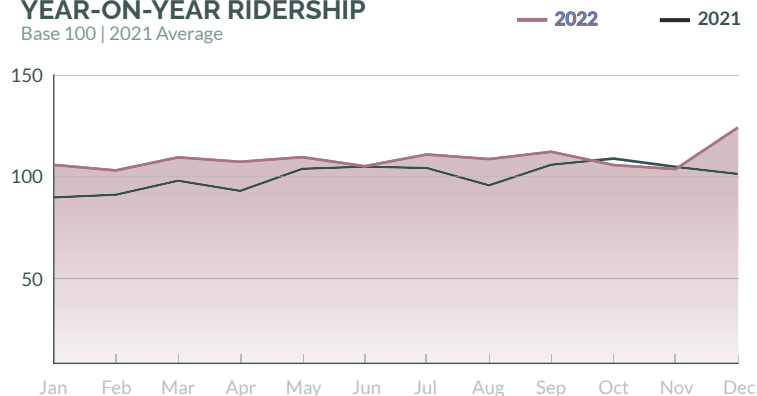
1 st		COPENHAGEN
2 nd		BERLIN
3 rd		MILAN
4 th		HAMBURG
5 th		MUNICH

TOP 5 TRIPS PER VEHICLE 2022

1 st		VIENNA
2 nd		TURIN
3 rd		RIGA
4 th		BUDAPEST
5 th		HAMBURG

YEAR-ON-YEAR RIDERSHIP

Base 100 | 2021 Average



Accelerate your shared mobility business

Wunder Mobility, is the leading one-stop-shop solution for shared multi-modal operators that offer a developer friendly API-first SaaS platform, best-in class hardware, and customizable white label app.

HumanForest



- Operated in London
- 1.5 million trips in 2022 alone
- Received a B corp accreditation
- 250 tons of CO₂ saved

GreenMobility



- Operated in 11 cities - in 6 countries
- Fleet expansion in 2022 with a total of 1,600EV's
- +2,000 tons of CO₂ saved

As a proud shared mobility provider, we serve all kinds of vehicle operators whether they offer e-scooters, mopeds, bikes or cars. In 2022, two of the most mature operators Green Mobility and Human Forest leveraged our services to propel their businesses into new markets, expand their fleets and contributed to building a more sustainable future for us all.

Get in touch with us to find out how we can work together to take your business to new heights.



ABOUT FLUCTUO

Shared mobility is essential for building cleaner, more livable cities.

Fluctuo is the leader in mobility enablement. We provide key stakeholders with the most exhaustive, accurate data on the market to accelerate the growth of shared mobility.

Dive into shared mobility

Everyone speaks about the importance of being data-driven. Well, trying to make data-driven decisions without all the facts is like trying to do a jigsaw puzzle with all the edge pieces missing.

City Dive allows users to make decisions based on the big picture. Our team of mobility experts combine innovative data-collection methods with sophisticated algorithms to produce the most exhaustive and precise data on the market.

Every day, we analyse 250+ services in 180+ cities, giving operators the means to improve the performance of their operations, and cities the opportunity to benchmark their mobility ecosystems against others.

THANKS TO

ARVAL (Amélie Phelipp & Simon Coppenolle)
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INVERS (Michael Blecke & Julius Walczynski)
SHARE NOW (Patrick Dillenberger)
Wunder Mobility (Arne Lumme & Rosa Cruz)
POLIS (Karen Vancluysen & Pedro Homem de Gouveia)

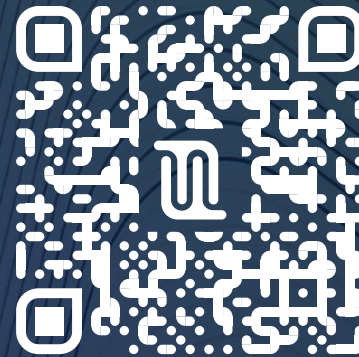
Mobilne Miasto (Adam Jędrzejewski)
SUSDEF (Sofia Asperti)

Acciona, Bird, BIT Mobility, Bolt, Cityscoot, Cooltra, Donkey Republic, Dott, Enterprise Car Club, Felyx, GreenGo, Lime, MEC Sharing, MILES, Ridemovi, Ryde, Superpedestrian, TIER, Voi

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Analysis on 10 European countries



Focus on 4 modes



Ridership statistics