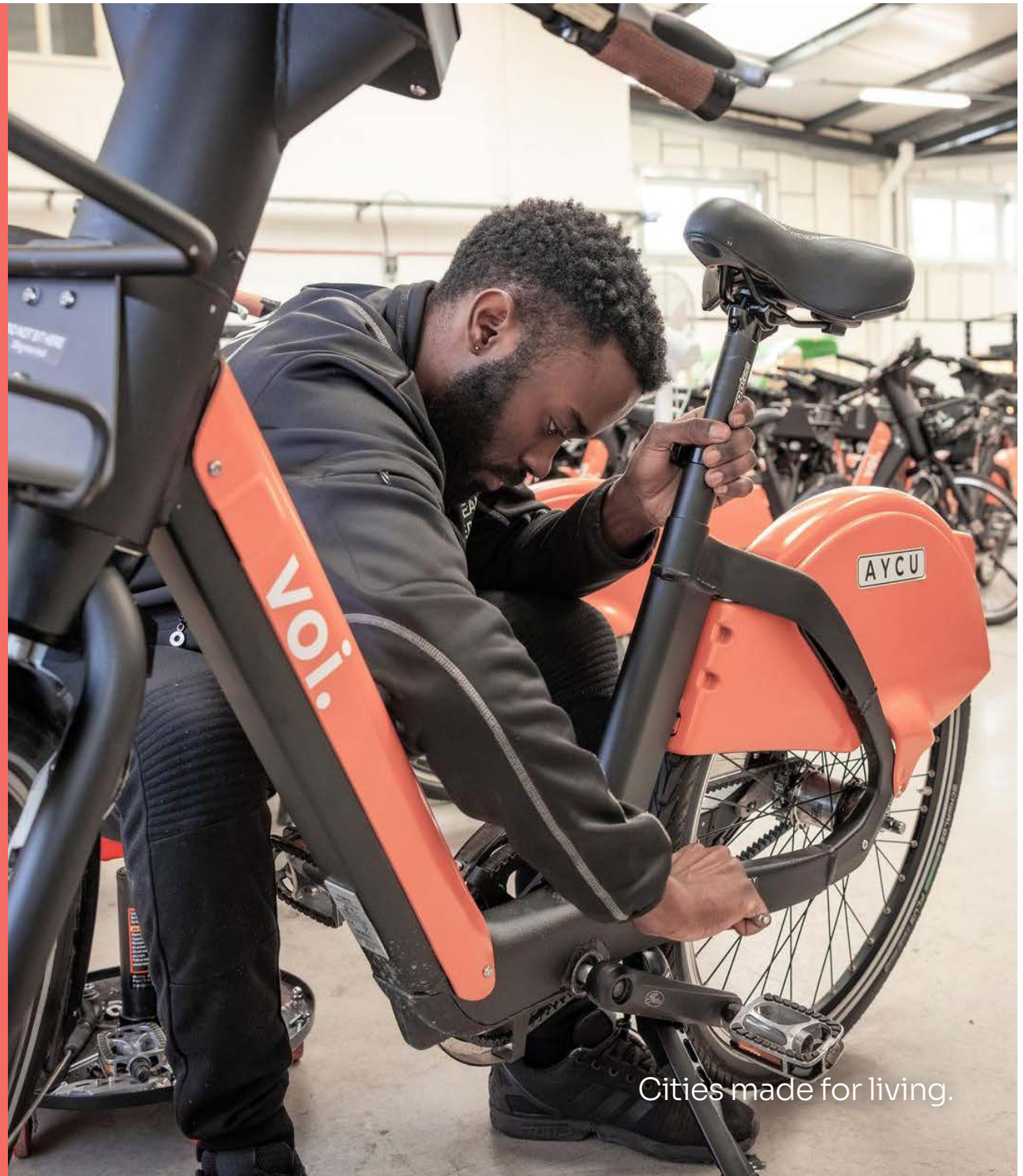


Towards circular micro- mobility

Environmental Report
June 2022

voi.



Cities made for living.



Letter from our CEO

As you know, from day one four years ago, we set out to make a positive impact on the cities we operate in. Back in March 2020, we published the industry's first certified life cycle analysis by EY (Ernst & Young). That back then was a milestone and since then we have again come a long way. Our sustainability journey has not always been easy but the progress achieved makes me enormously proud and while the path ahead is ambitious I believe we can make it.

I am pleased to now inform you about our Environment Action Plan. This has been built from the ground up, focusing on reducing all negative impacts our service has on the environment. Be it climate change, air pollution, biodiversity, energy, we're working to map these impacts and understand them.

Equipped with this knowledge, we have set ambitious targets and rally our entire company to get behind them and make them reality. Our sustainability journey cannot be top down, it has

to be bottom up and bring everyone along. The people that make Voi make it clear to me that we're up for the challenge and will continue doing great things.

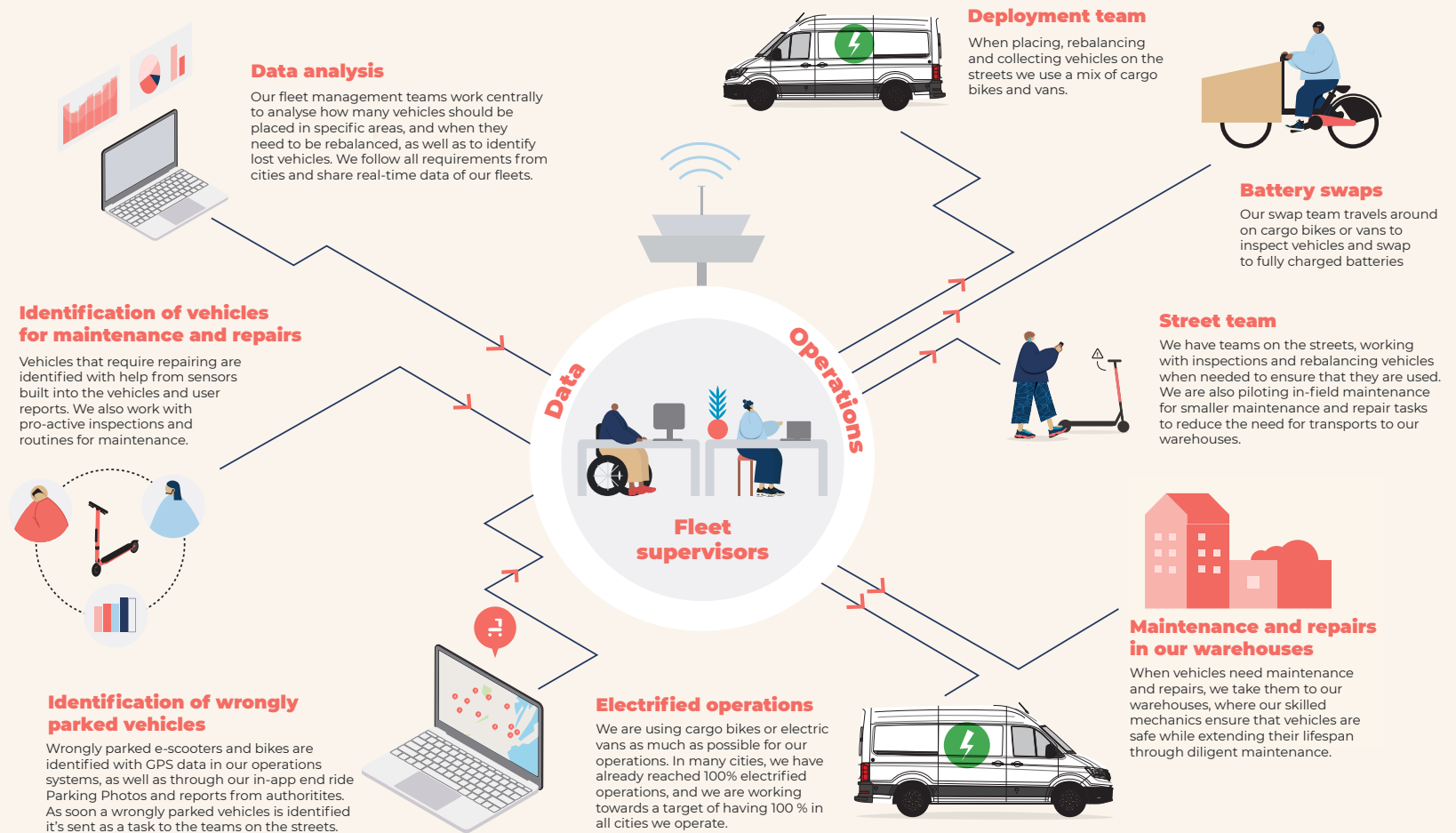
These same people made all the milestones we've reached possible including transitioning to a fully swappable fleet, attaining 72% renewable energy and designing a world class and durable e-scooter that lasts 5 years which has tripled the use of recycled materials.

Going forward, we will continue on our path towards circular supply vehicles and operations, working to move production to Europe and focus on renewable energy and energy efficiency.

Given the unpredictable times we live in, marked by energy and economic uncertainty, shared micro-mobility can more than ever help our cities be more resilient and green. Thanks for taking the time to read this report and I hope you join us on our mission to create cities made for living.

“Our sustainability journey cannot be top down, it has to be bottom up and bring everyone along.”

Behind the wheels on the streets. Responsible operations and service design.



Here are some of our partners and certifying organisations

ISO certification. Our Environmental Management System is certified according to [ISO's](#) 14001 standard.



Science Based Targets initiative. Our climate targets are verified by [SBTi](#) for SME:s. We're in the process of verifying for large corporations.



UN Global Compact. Voi is a signatory of the UN Global Compact: our business practices and [Supplier Code of Conduct](#) abide by its 10 Principles.



International Transport Forum. Voi is a member of ITF's Corporate Partnership Board, which is supporting policy-makers in solving transport challenges.

We also have a negative impact on the environment. But we do all we can to take it down to zero.

We have conducted a full mapping of our environmental impacts. Engaging with stakeholders across the organisation and external partners, we mapped our activities and their interaction with our environment. All impacts considered significant are monitored and improved via our Environmental Management System (EMS).

Voi's environmental aspects

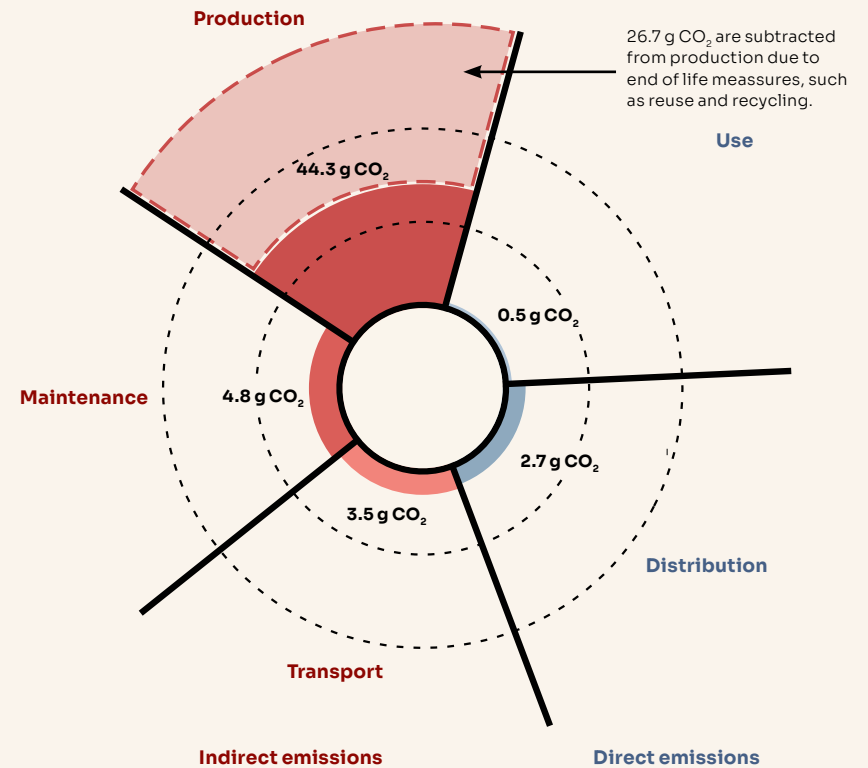
Our EMS covers the following environmental aspects, which we impact to varying degrees: emissions to air, energy use, water, material use, waste including hazardous waste and chemical use. Together these impact climate, air quality and biodiversity.

What is measured is improved

■ **Life Cycle Assessment.** [Voi's Life Cycle Assessment](#), which was independently performed by EY (Ernst & Young) in accordance with ISO 14040 and ISO 14044 standards, has formed the basis for our sustainability strategy. It is updated for new vehicles, most recently by Electric Avenue.

A Life Cycle Assessment maps all emissions linked to a product or service. In this sense, it includes areas of both scope 1, 2 and 3 emissions.

■ **Carbon footprint assessment.** Voi is in the process of finalising a carbon footprint assessment in all of its services which will map all of our scope 1, 2 and 3 emissions.



Emissions per trip with a Voi e-scooter (grams CO₂e/km)

The diagram illustrates the average grams CO₂e emissions per ridden kilometer with a Voi scooter when taking the whole lifecycle into account. The calculations are based on data from all Voi markets, summing up to 29 grams CO₂e per kilometer on average during 2021.

The climate impact of our service

is mainly a consequence of vehicle production. Almost half of those emissions related to resource extraction and processing of materials are subtracted. We are able to subtract these emissions thanks to an ambitious work to extend the second life of vehicles, batteries and components.

Our ambition is to have a fully circular service.

Voi's Environmental Action Plan tackles the whole lifecycle

Based on our eco-mapping and life-cycle assessment, we have developed a holistic Environmental Action Plan that tackles all environmental impacts along our services' lifecycle. The Environmental Action Plans' North Star is to operate fully circular vehicles, produced in Europe with renewable energy by 2030.

Voi's Environmental Action Plan is governed by our ISO 14001 certified Environmental Management System. Voi's EMS is designed and implemented to govern and continually improve our environmental performance.

ISO 14001 certified:



ISO 14001 certification in progress:



1. Production

- 30% recycled materials in the V5. Assembly in Europe for Voi's e-bike.
- European production and 60% recycled materials in Voi's vehicles.

2. Transport

- Partial transition from train to marine shipping
- Shorten supply chains to reduce shipping emissions by 85%

3. Operations

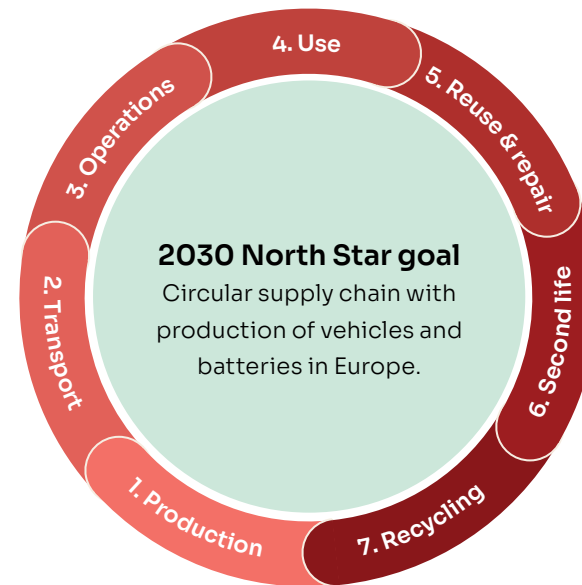
- 77% renewable energy used at warehouses and 72% electric vehicles.
- Net zero operations in all towns and cities by Q1 2023.

4. Use

- Ongoing safety education for responsible riding. Fleet optimisation for maximum fleet utilisation and accessibility. Service design for sustainable adoption.

5. Repairs

- Repair frequency reduced 12 fold. Spare parts reused for repairs.
- Track and reuse all spare parts by 2023.



- 2018-2021 accomplished progress and improvements
- Environmental targets

7. Recycling

- Local partnerships to ensure top recycling, recycling set up and training for employees.
- Zero-waste and circular warehouses by 2024

6. Second life

- 71% of vehicles not in use anymore have received a second life with their batteries via Voi Resell.
- Reconditioning for damaged batteries by 2023

Vehicles built for being on the streets for years to come.

Estimated lifespan of Voi's scooter models



Source: Electric Avenue's Micromobility Vehicle Lifespan report (forthcoming)

Making products and services more circular is key to ensuring we respect our planetary boundaries. We need to ensure that Voi products use recycled materials, that they last a long time and are used for as long as possible. This applies during their first, second and further lives, thanks to repairs and repurposing. At end-of-life, materials should be recirculated rather than going to landfill or energy recovery.

At Voi, engineering teams, supply chain and operational and repair teams come together to make our vehicles more circular. We work with a definition that researchers and experts use, for example at the Research Institute of Sweden. The definition focuses on three areas to improve: product endurance, product utilisation and material recirculation

1 Product endurance (vehicle lifespan)

As micromobility vehicles are still quite new, how long they will last in operation can be tricky to assess. Our later generations of vehicles have only been in use for 12–24 months and will likely last much longer.

How can we estimate vehicle lifespan? Voi worked closely with micromobility

4.6

...years is the verified lifespan for Voi's Voyager 4, launched in 2021. Voyager 5 is expected to last 5 years.

experts from Electric Avenue and their panel of experts to develop a third-party validated methodology for estimating vehicle lifespan. The results show that, with each generation, great strides have been made in terms of durability and sustainability.

2 Vehicle utilisation

We're proud to achieve high vehicle utilisation with our service. This means that each vehicle we put on the streets and the urban space it occupies provides more rides to people. Our Fleet Optimisation team works wonders ensuring that each vehicle is placed where it can provide the most value to the community and make sure that they are more accessible to all.

3 Material recirculation & recycling

Our vehicle engineering team works closely with our suppliers to use recycled and recyclable materials in the vehicles.

We have doubled the amount of recycled materials with our latest scooter, Voigaer 5. The proportion of recycled materials used in the scooter now stands at over 30%, more than double what it was previously. Furthermore, over 91% of the vehicle is recyclable. Thanks to recycling partners in each of our markets, we can achieve top recycling rates.

A focus area for us is to get better insights from our recycling partners of the total volumes of recycled materials and to improve the recycling traceability.

Extending vehicle lifespan through repairs and second life.

1 Designing for repairability

Our latest vehicle, the V5, was built with circularity and repairability in mind. Based on large data sets, our Quality Assurance and Engineering teams work to identify the components leading to frequent repairs, new spare part use and safety concerns. Using these insights they were able to work together with our supplier to design improved components and more durable materials.

2 Repair excellence

Excellence in predicting, identifying and addressing repair needs are central to our every day operations. Voi currently has over 340 trained mechanics working to ensure the vehicles are always safe and remain in use as long as possible.

A focus area for improved repairability is our battery packs. We are working

to design more repairable batteries and collaborate with partners that can identify and repair battery issues.

3 Second life

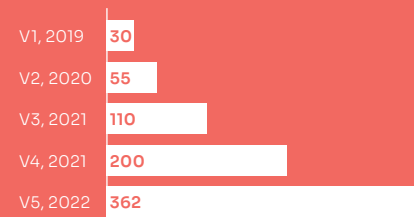
Resale of the entire scooter, including the battery, is the best way to ensure that all materials are reused. Vehicles and batteries are given a holistic second life via Voi Resell, our platform for selling used scooters. A holistic second life, where both the battery and the vehicle are used makes sure both components are used to their maximum capacity. 71% of decommissioned scooters have been given a second life since April 2020.

Together with our partner Nortical, a battery analytics and machine learning expert, we provided second life batteries as power banks for journalists covering the war in Ukraine in March 2022.



Rides between repair

For each new scooter model, we've seen a consistent improvement in how many rides, on average, are taken before a vehicle needs any kind of repairing.



Industry-first lifespan report

This international team of experts reviewed Voi's fleet and repair data to verify lifespan and develop recommendations for continuing to improve it.



Melinda Hanson,
Principal at Electric Avenue
Co-founder of Electric

Avenue, a US consulting firm specialising in light electric transport. Former Head of Sustainability at Bird.



Matt Chester,
Affiliate at Electric Avenue

A data analyst with expertise in energy policy, transportation technology and sustainability.



Chris Cherry, Professor at the University of Tennessee

A professor in Civil and Environmental Engineering at the University of Tennessee and an internationally recognised expert in electric micromobility and sustainable transport.



Pierpaolo Cazzola,
Independent Consultant

Pierpaolo is a transport researcher and lifecycle assessment expert who led the seminal report "[Good to Go? Assessing the Environmental Performance of New Mobility](#)" for the International Transport Forum.

Partnering with suppliers to ensure responsible sourcing of materials.

We are happy to have close relationships with our suppliers. We work to select suppliers who work on their environmental and social impact and are committed to improving.

Our e-scooter is produced by Ninebot. It's ISO 14001 certified and we are working closely with Ninebot to increase the rate of recycled and recyclable materials in our vehicles.

Our e-bike is produced by Sital in Italy, making it a truly European vehicle. This also shortens our supply chain which reduces shipping emissions. Our product and engineering teams are working hard to source European-made scooters.

In parallel, we are also working on sourcing our battery packs from Europe. A pilot will start soon with a producer based in Denmark.

We are working to have all of our

suppliers sign and comply with [our Supplier Code of Conduct](#) that is based on the UN Global Compact's 10 Principles. These cover human rights, labour rights, environment and anti-corruption.

Responsible battery sourcing

Lithium-ion batteries are everywhere today. They are compact, portable and equipped with fast-charging and great storage capacity. And they are safer to human health than lead or cadmium batteries. They're used in our phones, solar energy storage, portable charger, electric cars, e-bikes and e-scooters. Li-ion batteries will power the transition to decarbonised, electric mobility.

But we need to make sure they're safe for everyone one along the supply chain. A main concern around Li-ion



Voiager 5. Thanks to close collaboration between our engineers and suppliers the V5 is our most circular and repairable vehicle yet. It features 30% recycled materials and over 90% recyclable materials. It provides 12 times more rides between repairs than our V1 model.

E2B. Voi's e-bike, the EB2 is made in Italy and has been designed with equitable access, safety and sustainability in mind. The EB2 features an ergonomic unisex saddle and adjustable seat, making it comfortable and suitable for all riders of varying shapes, sizes and abilities.

batteries is their reliance on minerals like cobalt that are at risk of containing conflict minerals.

We source our batteries from LG and Samsung who both operate mineral management systems in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals

from Conflict Affected and High-Risk Areas. [The OECD's guidelines](#) involve inspection, due diligence, risk assessment and improvement plans from smelters (mineral extractors) and refiners in the supply chain. They both disclose the audits and origins of minerals through their website and sustainability reports.

Working towards fully green operations.

Since 2018, Voi has been working to roll out green operations to all of our towns and cities. We first achieved this in April 2020 in France. Today, we've been able to electrify some countries fully and are still working on this in other places.

Green operations defined

Operations run exclusively with electric vehicles and powered by renewable energy.



We're proud to have achieved fully electric operations in Denmark, Norway, Spain and France. We are working to do the same in other countries. In some places, e-vans are less readily available so we need to work with suppliers and along the supply chain to secure electric vehicles.



Sweden

Launched: 2018
Number of cities: 14
Voi electrification: 100%
3PL electrification: 75%
Renewable energy: 100%

Highlight: We are making progress to reach 100% electrification, and use cargo bikes for battery swapping.



Norway

Launched: 2019
Number of cities: 7
Voi electrification: 93%
3PL electrification: 100%
Renewable energy: 100%

Highlight: First Voi market to be ISO 14001 certified. Voi's recycling processes have been certified by Stena.



Denmark

Launched: 2019
Number of cities: 6
Voi electrification: 100%
3PL electrification: No 3PL
Renewable energy: 75%

Highlight: First market to have 100% in-house operations and 100% electric operations.



Finland

Launched: 2019
Number of cities: 8
Voi electrification: 43%
3PL electrification: 0%
Renewable energy: 75%

Highlight: Has introduced electric vans in our major cities Helsinki, Tampere and Turku.



France

Launched: 2019
Number of cities: 2
Voi electrification: n/a
3PL electrification: 100%
Renewable energy: 100%

Highlight: Marseille to become 100% electric by Q4 2022. Discounts on days of high air pollution provided.



Germany

Launched: 2019
Number of cities: 22
Voi electrification: 20%
3PL electrification: 6%
Renewable energy: 70%

Highlight: Multiple pilots with cargo bikes, and introducing electric vans. Close to 100% Ökostrom in our warehouses.



Switzerland

Launched: 2019
Number of cities: 6
Voi electrification: 100%
3PL electrification: 33%
Renewable energy: 100%

Highlight: In several markets, for example, Bern and Frauenfeld, both Voi and 3PL are using 100% renewable energy.



Italy

Launched: 2019
Cities: 6
Voi electrification: n/a
3PL electrification: 25%
Renewable energy: 100%

Highlight: All three Voi warehouses in Milan, Rome and Palermo use 100% renewable energy.



UK

Launched: 2020
Number of cities: 17
Voi electrification: 86%
3PL electrification: 100%
Renewable energy: 86%

Highlight: Highest car replacement rate at Voi reaching 39% replacing a total of 3.2 million short car trips in 2021.



Spain

Launched: 2021
Number of cities: 3
Voi electrification: 25%
3PL electrification: 100%
Renewable energy: 100%

Highlight: Madrid has Voi's first Circular Warehouse. In Seville we are using cargo bikes for battery swaps.



Belgium

Launched: 2021
Number of cities: 2
Voi electrification: 0%
3PL electrification: 0%
Renewable energy: 100%

Highlight: Will receive our first e-van in July. On our way to 100% electrification by the end of this year.

Company-wide

Launched: 2018
Number of cities: 93
Voi electrification: 72%
3PL electrification: 39%
Renewable energy: 89%

Our street teams consists of both Voi employees and sub-contracting businesses (3PL in Voi lingo). When working with sub-contractors we choose professional companies who abide to good work conditions and minimum wages.

We search for and rescue lost vehicles to ensure that waters stay clean.

We are committed to protecting bodies of water in the cities and towns we serve. We have partnered with NGOs and governmental partners to ensure that waters stay clean. For example, we partnered with Rena Mälaren in Stockholm, Os Om Havet in Aarhus and Copenhagen, Isarrettung in Munich and a joint water rescue action with other operators in Cologne through the Association of Shared Mobility Providers in Germany.

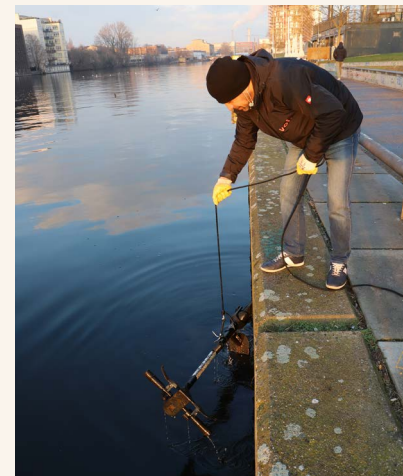
Preventing vehicles from ending up in water and quick retrieval is important for promoting vehicle durability and lifespan but also for protecting biodiversity.

Our Clean Waters Programme builds on the following four principles:

- 1 Prevent:** We place No Parking Zones near bodies of water to minimise the risk of vehicles ending up in water due to vandalism.
- 2 Identify:** We have a dashboard which our operations team uses to identify vehicles that are at risk of being submerged in water.
- 3 Rescue:** In some cases, vehicles can be rescued by our own Search and Rescue team. We also partner with local partners in towns and cities to retrieve submerged scooters as quickly as possible
- 4 Report:** We track hotspots for submerged scooters, to continually improve our clean-ups.



Aarhus. Voi's Operations Manager, Elisabeth Wurmser, organised and participated in a water rescue operation with our partners Os Om Havet in Aarhus and By & Havn in Copenhagen. Over 1.2 tonnes of rubbish were collected from the canals.



Berlin. Retrieval of a submerged scooter during one of our routine water checks, as a part of our our Clean Waters Programme.



Stockholm. Our CEO, Fredrik Hjelm, and VP Communications, Kristina Nilsson, together with the founder of Rena Mälaren, during our first search and rescue exercise in 2020.

Reducing the climate impact for each trip

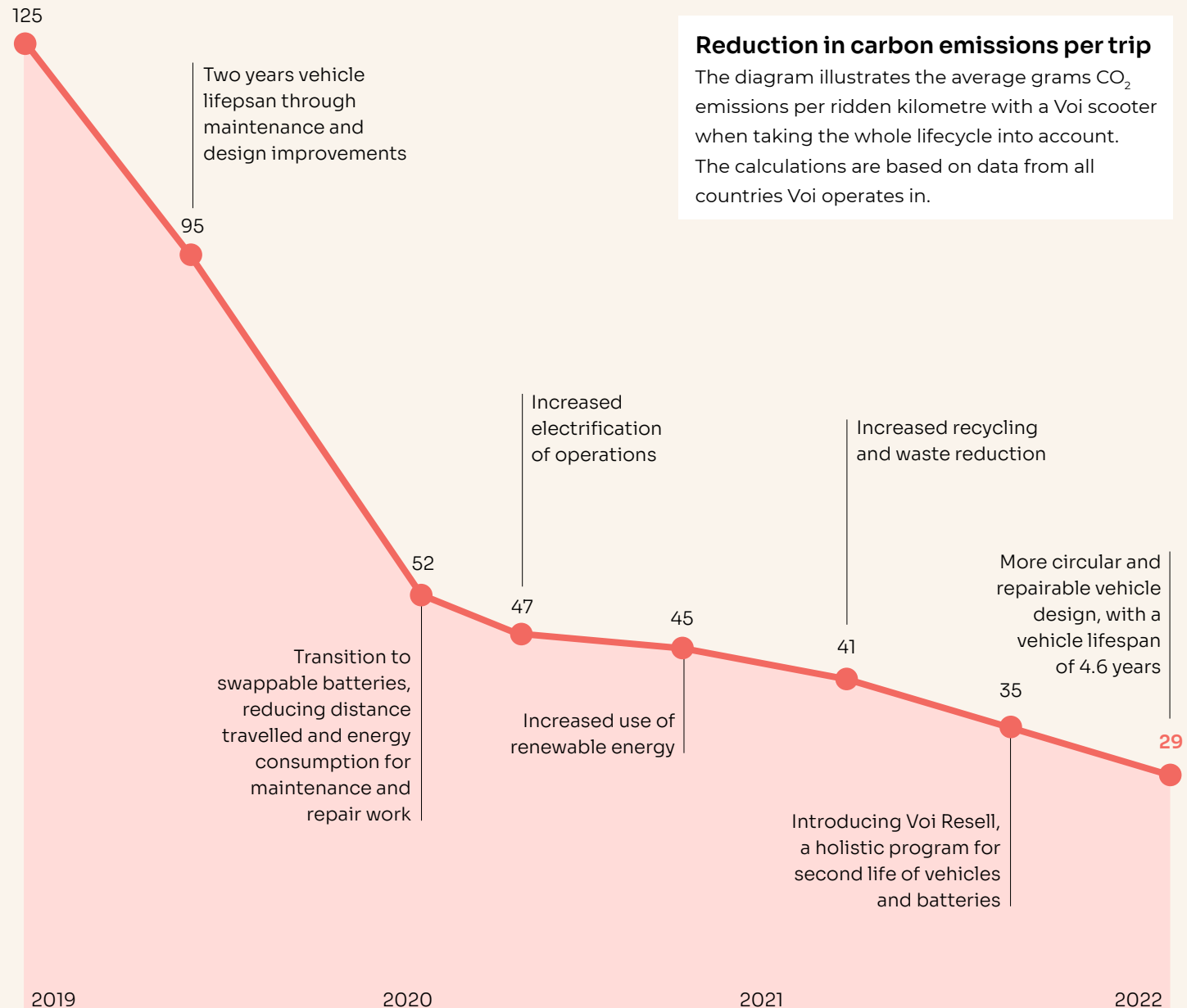
Thanks to our [lifecycle assessment](#), conducted for Voi's service by EY (2020) and updated by Electric Avenue (2022) in accordance with ISO 14040 and 14044 standards, we can measure the emissions linked to our service in each city.

On average across Voi cities and towns, each ride emitted 29 grams CO₂ equivalents per kilometer ridden in 2022.

On a ride basis, emissions have been significantly reduced since 2019. Improvements like the increased lifespan of our vehicles, adopting green operations in multiple cities and improved recycling have reduced emissions by about 75% since 2019. We are continuously working to find ways to even further decrease the lifecycle emissions for each trip.

Reduction in carbon emissions per trip

The diagram illustrates the average grams CO₂ emissions per ridden kilometre with a Voi scooter when taking the whole lifecycle into account. The calculations are based on data from all countries Voi operates in.



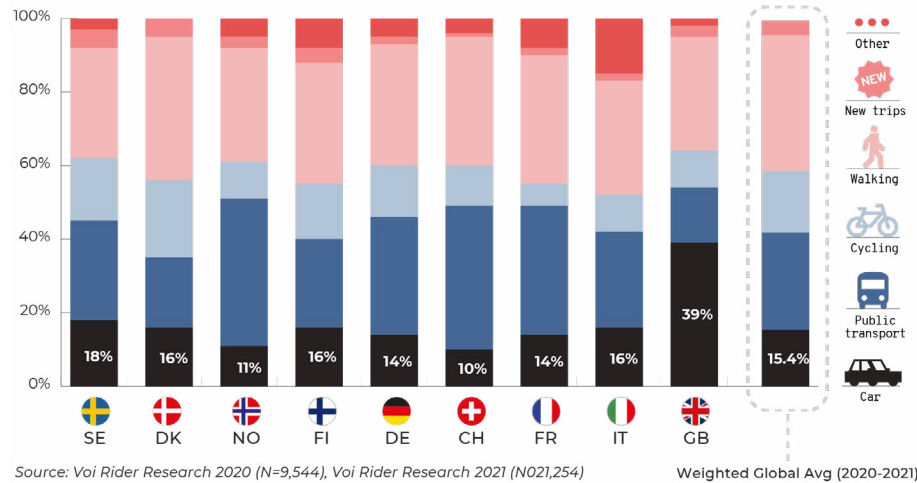
Carbon neutral service

Our service is carbon neutral since January 2020, meaning that we offset emissions we cannot yet avoid. We do this by purchasing Verified Carbon Standard carbon credits linked to renewable energy projects in Asia, through our partner [Ecoact](#).



Car replacement rate

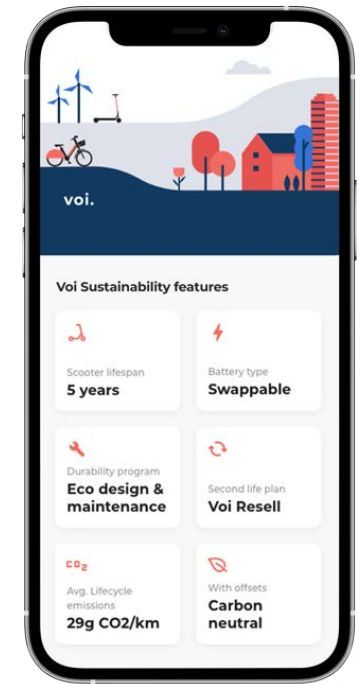
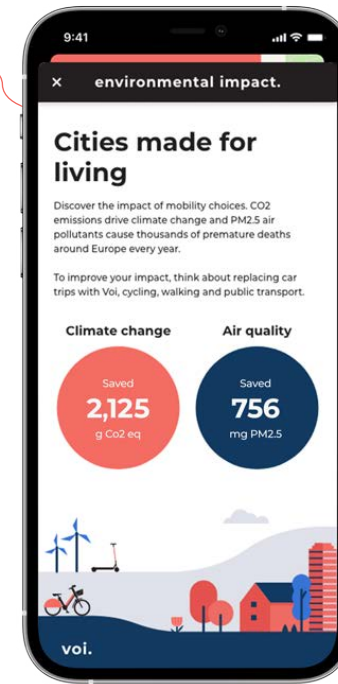
We know from surveying over 30,000 riders across Europe and the UK that, on average, 15.4% of Voi rides have replaced car trips since January 2020. When asked what mode of transportation they would have taken if they had not taken a Voi, this diagram shows what riders in different countries said:



Source: Voi Rider Research 2020 (N=9,544), Voi Rider Research 2021 (N021,254)

Our in-app Impact Dashboard, nudging users to ditch car trips

9.3
...million short car trips were replaced by Voi's service in 2021.



...and yes, we are already replacing short car journeys

How riders travel varies across towns and cities, depends on the local mobility mix, infrastructure and the micromobility offering. Our mission to provide safe, sustainable and reliable micromobility to all helps diversify the mobility mix, enhancing alternatives to cars.

We regularly ask riders about how they use our service to understand how we can nudge people towards more

sustainable habits. It's important to keep in mind that these survey questions don't fully capture whether the availability of shared micromobility has impacted the need to own a car, or whether a replaced active travel trip actually served as a first/last-mile solution to access public transport.

In 2021, 16.3% of our trips replaced car trips on average. This is 26% higher

than in 2020, showing that as micro-mobility services improve, mature and become more reliable, the potential for car replacement increases. 47% of riders combine Voi with public transport serving as a first or last mile option.

To nudge riders towards greener mobility habits, we partner with public transport agencies and have recently launched our in-app Impact Dashboard.

Our Impact Dashboard is designed to show riders the impact they're having on climate change and air pollution. It works by calculating the harmful emissions that have been avoided by riding with Voi, so riders can understand their impact – and how making conscious mobility choices contributes to reducing emissions and the fight against climate change.

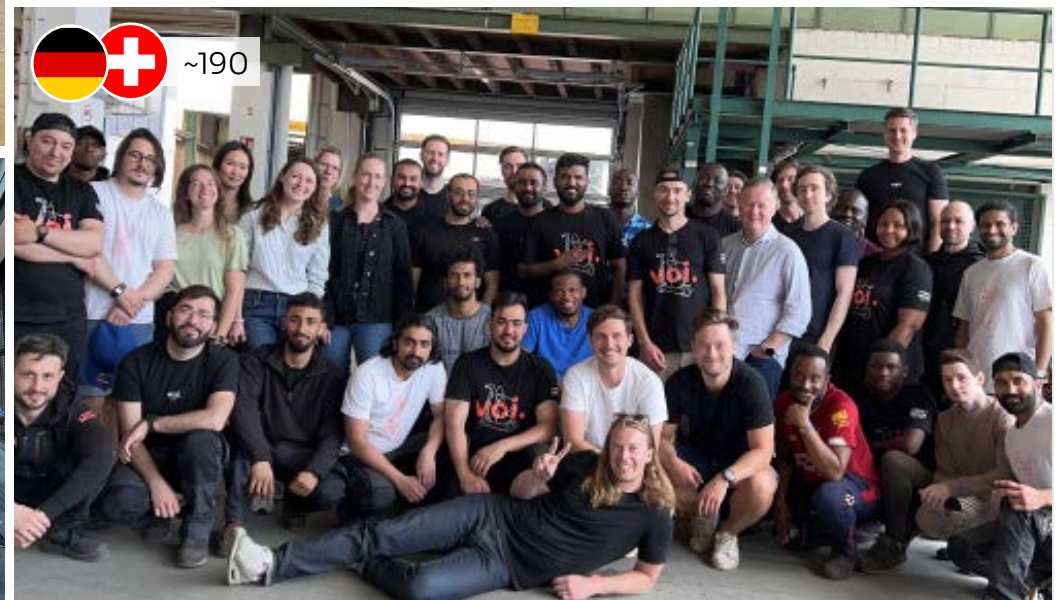
Our workforce. A diverse and growing team of changemakers

760 employees (FTE) work at Voi at our headquarter and in our local markets. Data from end of 2021.

33% of our leadership positions are held by women. We are working to increase this share.

77 different nationalities are represented in our diverse team of changemakers.

33 is the average age of our workforce. Note: this figure also includes consultants.



SUMMING UP

The sustainable impact we strive to have for people, communities, cities and our planet



Healthy and liveable cities

Reducing reliance on cars helps decrease air pollution, noise and congestion while enabling a redistribution of space for more green and social areas.



Nature positive business impact

Shared micromobility is resource efficient since it increases the utilisation of vehicles, with clear incentives for us as a company to increase the vehicle lifespan.



A just and fast climate transition

We strive to quickly scale up access to sustainable transport modes for all and, by doing so, we contribute to strengthening the public transport system.



Supporting the targets taking us closer to the goals

The SDG targets we are contributing to

- Direct impact
- Indirect impact



- **3.6.** By 2020, halve the number of global deaths and injuries from road traffic accidents.
- **3.9.** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



- **5.5.** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.



- **9.1.** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- **9.4** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.



- **10.2.** By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.



- **11.2.** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
- **11.6.** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- **11.7.** By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.



- **12.2.** By 2030, achieve the sustainable management and efficient use of natural resources.
- **12.5.** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.



- **13.3.** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



- **17.17.** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships Data, monitoring and accountability.



voi. Cities made for living

Learn more about Voi's sustainability impact in our Safety Report and Vision Statement

