Superpedestrian

2020 - 2021

BUILT BETTER, FOR CITIES

How Superpedestrian's LINK scooter is moving 50 cities through COVID and beyond

ANNUAL REPORT

Superpedestrian

For more information, visit
superpedestrian.com

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INTRODUCTION

Built Better, For Cities

It took us several years to develop the LINK Scooter, which we carefully designed to be the safest and most reliable small electric vehicle on the planet. As fate would have it, our planned Spring 2020 unveiling of LINK, and our plan to offer it as a shared fleet service for cities, coincided with the emergence of COVID.

Cities quickly began entering lock down. It looked like our LINK scooter's big debut would fall flat. Yet we pressed on, convinced that if city leaders had the chance to ride and experience LINK's inherently safe and stable engineering, they would be willing to give us a chance. We scheduled innumerable socially-distanced live test-rides to give city leaders a chance to experience LINK scooter's unique on-board geofencing and patented Vehicle Intelligence (VI) auto-maintenance system. And, in city after city, we won permission to operate.

Throughout COVID's darkest days, we provided vital frontline transportation, offering free rides for essential workers and anyone heading to vaccine appointments. As our fleets grew, so did our reputation as a different kind of micromobility company - one that never treats our vehicles — or our workers — as disposable commodities.

Today, a year and a half later, our fleets of LINK scooters have served 50 cities in 8 countries — from Seattle, to Hartford, to Madrid. Cities large and small found that they can rely on us to provide safe, non-disruptive service to their communities, especially those with few transportation options. In Seattle, for example, 15% of our total trips start in equity zones - nine times more than our nearest competitor.

Now, as we all try to turn the page on the pandemic, we are preparing for our next 50 cities. As we do, we understand that we must do more than just help cities survive. We must help them thrive.

LETTER FROM ASSAF BIDERMAN

CEO & FOUNDER OF SUPERPEDESTRIAN

I remember the first time my wife and I rode one of Superpedestrian's prototype scooters in 2018, for a short ride around the MIT campus. It was an exhilarating experience, combining the on-demand independence of bicycling with the ease and civic engagement of a great public transit journey.

Since the spring of 2020, when we launched our first LINK fleets, more than a million people in 50 cities have enjoyed a safe, reliable shared e-scooter journey. Many of these people used our LINK scooters to travel to their jobs as frontline healthcare workers. Others used LINK to get to their COVID vaccination appointments, check in on friends, or just enjoy some fun and fresh air.

In our first year of operation, we helped cities move through COVID, and now we are helping them recover. Recovery is not just from the impacts of COVID -- we're also helping cities overcome decades of over dependence on automobiles. Instead of encouraging people to linger and interact, our city streets are currently built to move cars - inefficient self-contained pods that isolate people from one another. This stifles the city's natural superpower as an engine of human connection and creativity. When people are free to move, free to make connections, and free to pursue their potential, the City is at its best.

This is our dream: Cities where everyone can move freely between their chosen destinations. Cities that absorb more carbon than they emit. Cities where density is desirable because the space between buildings is no longer merely glorified car storage. Cities with high-quality, affordable transportation offering people easy, flexible access to their local parks, schools or jobs. This is the world I want for my daughter, and for the 6.7 billion people who will inhabit cities by 2050.

Small electric vehicles are key to realizing this dream, but only if we, the operators, get it right. This means honoring our contracts with cities, and our unwritten — but just as binding — social contracts with every other street user, especially pedestrians.

Over the past year, in partnership with the cities we serve, we strove to get it right. The evidence, presented in this report, indicates that we are succeeding in showing what micromobility can do when it is powered by high-quality engineering, a dedicated labor force, and a genuine spirit of cities-first collaboration.

Now, with COVID in retreat, many more people are taking their first scooter trips on streets bustling with more pedestrians than ever. What kind of experience will they have? Will they have a transformative, safe experience that leads them to do it again and again? Will other people on the street see that trip positively? If the answers are yes, then we're well on our way to fulfilling the promise of micromobility and the promise of cities as places where everyone can reach their full potential. I hope you'll hop on a LINK and join me on that journey.

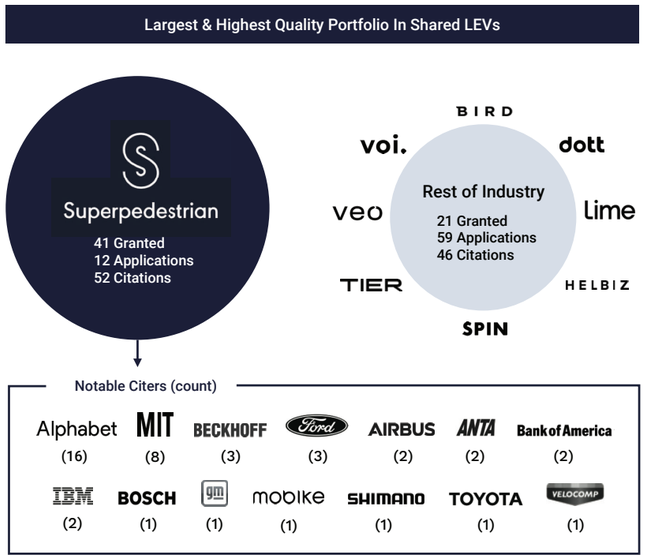
Sincerely,

Assaf Biderman
CEO & Founder

ABOUT

Superpedestrian

Spun out of MIT in 2013 with headquarters in Cambridge, MA, Superpedestrian is **a global leader in human-scale mobility and transportation robotics.** Our team is passionate about shaping the future of cities.



Superpedestrian holds **over 40 patents** in electrified vehicle technologies and artificial intelligence - many times more than any other operator. We launched our shared mobility division in 2020, using our proprietary shared scooter, LINK, which has been **operating in 50 cities worldwide**. Our pioneering active safety operating system, **Vehicle Intelligence (VI)**, sets the standard for our industry.

CITIES WE SERVE

North America

Alexandria, VA
Asbury Park, NJ
Austin, TX
Baltimore, MD
Cleveland, OH
Columbus, OH
Detroit, MI
Emeryville, CA
Fairfax, VA
Hartford, CT
Jacksonville, FL
Knoxville, TN
Los Angeles, CA
Manhattan, KS
Oakland, CA
Orem, UT
Provo, UT
Red Deer, Canada
San Diego, CA
San Jose, CA
Seattle, WA
Springville, UT

EMEA

Abruzzo Coast, IT
- Giulianova
- Silvi
- Tortoreto

Alcalá de Henares, ES
Aprilia, IT
Bordeaux, FR
Canary Islands, ES
- Fuerteventura
- Lanzarote
- Tenirefe

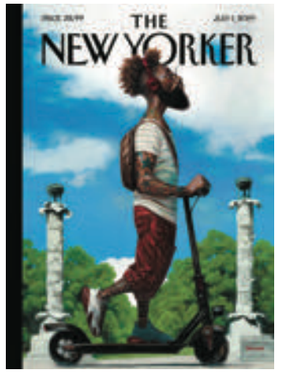
Caicais, PT
Faro, PT
Isola delle Femmine, IT
Lazio Coast, IT
- Nettuno
- Santa Marinella

Lisbon, PT
Madrid, ES
Málaga, ES
Modena, IT
Moncalieri, IT
Palermo, IT
Pomezia, IT
Puerto St. Maria, ES
Rome, IT
Stockholm, SE
Teramo, IT
Turin, IT
Vejer de la Frontera, ES
Vienna, AT

50
cities
in 15 months

FULFILLING MICROMOBILITY'S PROMISE

In just over one year of operation, we won the trust of 50 cities. Much of our success derives from the **painstaking design and engineering** of our LINK scooter.



"As a result of [VI's] regimen of automated self-care, LINK scooters require maintenance once every two hundred fifty trips, versus the industry standard of once every fifteen to forty trips."

-- The New Yorker, April 19, 2021

BY THE NUMBERS

How are our fleets performing? Have we solved the aforementioned challenges that stifle the growth of micromobilty? The answer is **YES**. The proof is in the numbers:

0 carbon

Certified net zero carbon (carbon-neutral) across our whole company

0.7 seconds

The industry's most reliable, fleet-wide geofences are triggered within 0.7 seconds

9x as equitable

Exceeded equity requirements in leading cities.15% of our trips in Seattle start in equity zones - nine times more than our closest competitor

0 recalls

Zero recalls or systemic vehicle safety issues, after millions of trips

0.4% loss rate

Our unprecedentedly low monthly scooter loss rate of 0.4% (<5% annually)

70% lower costs

Superpedestrian has a 70% lower cost of operation vs. the industry average

Working in close cooperation with cities, we brought the LINK scooter to **millions of people in 50 cities around the globe**, including cities like Oakland, California; Malaga, Spain; and Hartford, Connecticut, where other operators previously failed to establish compliant, safe, city-wide services.

Our Values:

Safety, Equity, Sustainability, Accessibility, Compliance, & Fair Labor

These values are foundational to all aspects of our business. They inform both the robust mechanical design of our LINK scooters, and the advanced Vehicle Intelligence (VI) operating system on which they run. We put these values in practice in how we operate as partners to cities and to the earth rather than disruptors.

Foundational Research

Way back in February 2013 we began to investigate what it would take for micromobility to work, safely, at scale. Our research evolved with the micromobility landscape, shifting from e-bikes to e-scooters when they hit the scene in 2018. We found that common issues with safety, sustainability, equity and city compliance challenges always led back to the design of the vehicle itself - whether for e-bikes or scooters. Some of our key findings:

An alarming high number of injuries from systemic electrical issues, poor vehicle design and lack of autonomous maintenance capabilities.

Porous and inaccurate geofences due to the vehicle's inability to store the geofence information directly on-board, and lack of additional positioning strategies that compensate for the inherent inaccuracies of GPS.

Operators shun equity zones in favor of more affluent areas, due to the high-cost fleet operations and high vehicle loss rates.

Expensive depreciation, vehicle maintenance and spare parts replacement costs associated with poorly designed vehicles caused companies to cut corners, skimping on important elements like labor and fair wages.

A fear of riding scooters by many older and inexperienced riders, and riders of different body types, because of "twitchy" and unstable scooters not designed with their needs in mind.

High carbon footprints from disposable scooters with short lifespans and inefficient maintenance, charging, and rebalancing operations.

These findings informed the development of the Superpedestrian LINK scooter, the most advanced small electric vehicle on the planet. But developing the world's smartest, safest scooter was one thing; making it available to millions of people around the world was another.

LESSONS LEARNED

"Together, Superpedestrian and Populus engineering and city-supporting teams have been working to deliver to city planners and policymakers the data they need for effective shared mobility oversight."

- Regina Clewlow, PhD, CEO and Co-Founder, Populus

THE COMPANY THAT UNDERSTANDS CITIES

We define success by the degree to which we are helping cities achieve their goals. Our **urban planning team** leads our efforts to complement transit services, apply best practices, and improve accessibility for all.

*"Superpedestrian seems to understand that their job is to **serve the city**, not disrupt and dominate it."*

- Edith Prentiss,
Disability Rights Activist

APPLYING BEST PRACTICES

City Partners - *Hartford, CT Mayor Luke Bronin (second from right) with local safety advocates and the Superpedestrian team*

Operating in the precious public right-of-way is a privilege that must be earned and then re-earned. Every. Single. Day. As we strive to fulfill the promise of micromobility, this key principle is our guiding star.

We've operated in 50 cities around the globe. While each city is different, we've learned that all cities want the same key outcomes: compliance, safety, responsiveness, orderly fleets, and sustainable operations. We've found that innovations that work in one city can almost always be applied in another. These innovations include:

New Rider Mode
After analyzing local data, the City of Seattle found that first-time scooter riders were more likely than experienced riders to incur an injury. To address this concern, Superpedestrian created "New Rider Mode" - a feature that reduces the top speed for first-time riders in order to allow for a safer onboarding experience.

Location and Time-Targeted Curfews
In Hartford, CT, Superpedestrian and city officials worked together to balance the needs of riders with the challenges of late-night micromobility service. When city officials started receiving some complaints about loud, impolite behavior in a few specific locations, Superpedestrian stepped in and implemented several time and location-based slow zones. This targeted approach allowed program managers to target problematic areas while preserving service for second and third shift workers with limited access to overnight public transit.

"We don't replace transit, we integrate with it."

Some of the early MIT research that led to the founding of Superpedestrian clearly indicated that as more people move to cities, short car trips become increasingly unsustainable as they amplify congestion and emissions while decreasing productivity. The solution is twofold: 1) Increase mass transit use, and 2) increase access to smaller vehicles (micromobility).

Our goal is to achieve synergies between transit and micromobility. Our routine practice of locating e-scooters in areas with limited public transport, for example, is an effective way to bridge public transport deserts by providing first and last-mile connectivity. In addition to deploying our fleet to maximize transit connectivity, we use the following strategies to ensure that we complement, not cannibalize, transit:

Infrastructure
We facilitate transit use and multimodal trips by working with transit agencies, our city partners, and private organizations to identify opportunities to build mobility hubs and/or co-located scooter parking zones at transit locations.

For example, we have partnered with Oonee to create a vision for docked parking facilities that are located at major transit hubs in US metropolitan regions. Our vision includes free, secure, and tidy private and shared mobility parking options.

Geographic Availability & Strategic Deployments
To encourage ridership, we deploy in areas with a high likelihood of short car trips, and in areas with the strong potential for mass transit trip linkages.

Promotions
By working with transit agencies and 3rd party platforms, we can offer incentives and promotions that support multimodal travel.

For example in New Jersey, we have teamed up with NJ Transit to provide LINK scooter discounts to bus and train passengers to bridge the first and last mile.

Public & Private MaaS Integrations
We actively engage with public and private mobility as a service (MaaS) platforms because they help drive mode shift and support public transit connections.

For example, we are integrated into the BART mobile app in the Bay Area, helping riders with the first/last mile legs of their trips to the regional train system. We are also integrated into Pivot (Smart Columbus), Citymapper, Transit app, and Urbi.

Data Sharing & Analysis
Data sharing and analysis performed by our team of urban planners helps city partners better understand our fleet's dynamics in relation to mass transit utilization. We provide insights so citywide transportation services can better support one another.

INTEGRATING WITH TRANSIT

Hands-on Training - *The Automobile Club d'Italia, ACI is one of many local organizations that we work with to deliver digital and in-person safety education.*

Safety is the number one priority for cities and for Superpedestrian. We believe that safety education is a long term investment, and our approach is guided by our belief that effective safety programs must meet people at many points along their micromobility journey.

Global City Partnerships
In the United Kingdom, we partnered with Scoot Fit, an organization that is teaching 9,000 children and teachers in over 40 schools how to safely ride human-powered scooters. To advance the curriculum, Superpedestrian shared lessons and data from our global e-scooter fleets to refine Scoot Fit's science-based safety syllabus. These hands-on lessons improve children's balance and cardiovascular fitness, and also teach students how to avoid hazardous situations and follow the rules of the road. In time, this early education program aims to inspire a long-term shift to sustainable modes of transportation and a new generation of safe, courteous and responsible e-scooter riders.

In other regions we operate, we have teamed up with several traffic school associations in Italy (Automobile Club d'Italia, ACI) and Spain (Confederación Nacional de Autoescuelas, CNAE) to boost safety through e-scooter driving lessons. These in-person training programs acclimate to driving, braking and balancing on an e-scooter with the guidance of an instructor, and offer practical on-road driving lessons.

In the United States, we have teamed up with several leading local, regional and national safety organizations such as Bike New York and Asbury Park Complete Streets Coalition, to ensure that our safety priorities and Level Up educational programming are aligned with local laws and conditions.

Level Up for Safety! *- Superpedestrian's safety programming is always formulated and delivered in partnership with leading local traffic safety organizations*

LOCAL SAFETY PARTNERSHIPS

ACCESSIBLE VEHICLE LENDING LIBRARIES

Electric E-trike

Three-wheeled Electric Scooter

Our scooter was designed with an accessibility-first mindset. Our LINK scooter underwent rigorous R&D to ensure that it is ergonomically optimized for 97% of the adult population and can accommodate users up to 297lbs. However, we know that we must do more to ensure mobility options are available to individuals who aren't able to use our standard scooters.

That's why we developed LINK Access, a program that provides two types of accessible vehicles via a lending library: **an electric e-trike, and a motorized wheelchair attachment**, the Rio Mobility Firefly, that transforms a manual wheelchair into a three-wheeled electric scooter. **LINK Access** provides free, accessible vehicle rentals for people with disabilities that preclude them from riding a stand-up LINK Scooter. This program is currently available in Oakland and Baltimore, and we plan to expand to many additional markets in the coming year.

THE KEY TO COMMUNITY

Doing Right by Our Workers

Delivering on the promise of micromobility at the most local level takes more than engineering a superior vehicle. It means **treating fleet operations and management as an important vocation**, not just a gig.

"This is probably the best company I've worked for. I've never had a starting pay as high as I have received, and I've never been offered benefits and a raise at the same time."

- Buddy Del Ray,
Lead Operations Associate

BY THE NUMBERS

Our practice of only hiring dedicated, W2 employees in every city where we operate (not just doing this selectively in markets that require it) has actually boosted our compliance. Our dedicated teams charge and rebalance our scooters, all while keeping sidewalks and access ramps free and clear, since treating our employees right helps them feel a strong connection to our mission and vision. Our awesome community workers help Superpedestrian win the support of neighborhood leaders, and helped us reach the below service milestones:

30,000

The number of people our support team has helped so far in 2021 (via calls/emails/app)

50

Average time, in seconds, that most calls and complaints are resolved (60% of tickets are resolved within this timeframe, most of the remainder are resolved within one hour)

"When I found out that Superpedestrian made scooters that were safety-focused and basically indestructible, I was already excited. Then I heard the company was helping cities get through the COVID-19 pandemic and I said okay, that's a winner. Superpedestrian is probably the best company I've worked for. I've never had as high a starting wage, and I've never before been offered benefits and a raise at the same time.

- Buddy Del Ray
Lead Overnight Operations Associate in Austin, Texas

Superpedestrian gives everyone a voice - my ideas are always welcome. The company is super supportive and realizes that our employees are our greatest assets. The sense of teamwork is something I really enjoy. I love the fact that the company as a whole is oriented toward working with cities.

- Denise Schiattarella
Lead Technician in Seattle, Washington

When COVID struck, it rocked the micromobility industry to its core. Some operators abruptly laid off hundreds of workers. Others pulled out of markets due to falling demand or strict COVID protocols.

New to the industry, we wanted to show that we could cooperate with cities, adhere to protocols, and provide vital service, even during a pandemic. More than just providing basic service, we also provided hundreds of thousands of dollars worth of free rides to essential workers, and anyone heading to a vaccination appointment.

At the same time, we instituted strict COVID cleaning protocols, ensuring that our fleet operations were keeping transmission at bay.

In our U.S. operations alone, we used 52 cases of masks, 148 large bottles of hand sanitizer, 53 gallons of cleaning solution and 45 cases of hand wipes!

Weathering COVID in Knoxville, Tennessee
Knoxville mandated that all micromobility operators adhere to strict COVID prevention protocols. We thoroughly sanitized our scooters no fewer than 28,000 times, and devoted an extra 400 labor hours per week to ensure that we adhered to Knoxville's high standard of prevention. Ultimately, we measured our success in rides provided during the height of the pandemic - 40,000 - proving how vital our service was to keeping folks moving during the pandemic.

COVID Protocols - *Seattle, WA Ops team member sanitizing scooters in the field*

CHARGING THROUGH COVID

THE SCOOTER WITH A BRAIN

and a Penchant for Pedestrian Defense

"We have a lot more capability on board the scooters than really anyone else in the industry, and that's by design."

- Goss Nuzzo-Jones,
VP of Software Engineering

DETECTS TIP-OVERS

CHECKS SYSTEM HEALTH 1,000X PER SECOND

WIDE & LONG DECK FOR STABILITY

LONG-RANGE BATTERY (60 MI/98 KM)

THREE INDEPENDENT BRAKES

REINFORCED CHASSIS

HIGH-VIS COLORS & REFLECTORS

DETECTS & PREVENTS UNSAFE RIDING

Rather than deploy first - treating riders and cities as guinea pigs- and refine later, we did the opposite, only deploying our scooters after years of rigorous research, development, and testing.

With its patented, autonomous safety features, our LINK scooter was quickly dubbed **"the Volvo of e-scooters"** by The Boston Globe for its unique real-time maintenance and safety verification capabilities. LINK's reputation spread quickly and today, Superpedestrian's scooter fleet is providing safe mobility for riders of all ages and abilities.

LINK E-SCOOTER v2.0

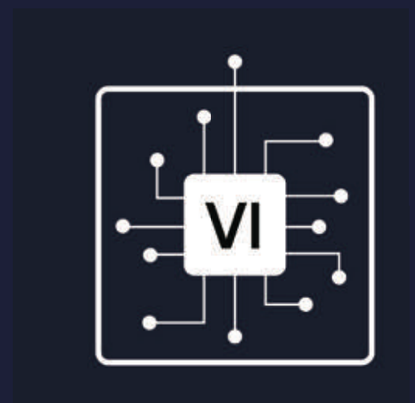
WHAT IS VEHICLE INTELLIGENCE (VI)?

LINK is the only e-scooter powered by Vehicle Intelligence (VI), a patented onboard safety system that combines artificial intelligence, 73 sensors and five microprocessors. VI runs more than 1,000 vehicle health checks every second during a ride, and monitors, governs and fine-tunes vehicle performance in real-time to detect issues and prevent problems from occurring. VI is as big a step-change in scooter safety as the seat belt was for automobiles.

Many days or even weeks before a safety issue inside the scooter arises, there are small precursors - tell-tale electrical anomalies - that Vehicle Intelligence can detect.

Detection is only the first step. Scooters equipped with VI can also automatically fix many of the detected issues. For example, VI can detect an imbalance in power flowing to the motor controller, and automatically lower the voltage from the battery to the motor controller, without impacting the scooter's performance. VI also averts safety issues relating to the brakes and motor, thus preventing small issues from turning into expensive mechanical repairs.

What does VI have to do with Equity?
VI's detection and self-protection capabilities protect riders and allow Superpedestrian to save on fleet maintenance costs. Maintenance, depreciation, spare parts and related costs are the biggest expense of running a shared e-scooter fleet. Because of VI, our costs of operation are 70% lower than the industry average. These savings are enormous, especially when added over time. In practice, this means that we can operate our service more like a public transit service, serving a whole city, including equity zones and the more sparsely populated and "tough" neighborhoods that other operators shun.



2021 VI OPERATING SYSTEM UPDATE

In February 2021, **we debuted LINK's newest VI operating system - "Briggs."** This updated version of LINK's unique operating system slashed geofence reaction time to 0.7 seconds, tripled the storage for geofence zones to enforce no-ride areas, and boosted battery life by two days to almost triple the life of other popular scooters.

In June 2021, Superpedestrian acquired Navmatic, a startup that helps micromobility operators locate vehicles and correct their movements in real time. Shortly after the acquisition, we announced the integration of Navmatic's core technology into our fleet, heralding the arrival of Pedestrian Defense, a breakthrough active safety system that accurately detects — and corrects — unsafe riding, making roads safer for riders and pedestrians alike.

Just as Vehicle Intelligence keeps riders safe by preventing vehicle malfunctions, Pedestrian Defense keeps riders and pedestrians safe by preventing sidewalk riding, wrong-way riding and other unsafe riding behaviors.

The patented technology behind Pedestrian Defense is Super Fusion, which combines several sources of real-time dynamic scooter data to reveal not just where a scooter is located with a high degree of accuracy, but also how it is being ridden. Sidewalk riding, wrong-way riding, dangerous swerving, stop sign violations and other unsafe behaviors are detected, then immediately corrected by slowing or safely stopping the scooter, as appropriate.

Through alerts and safety ratings, riders are given specific feedback that helps them understand how to ride more safely.. Through a Civic Insights Dashboard, cities can access aggregated safety information to track overall safety progress, and inform geofence parameters, safety investments, and policy changes.

Pedestrian Defense will be on all our new scooters, fleetwide by 2022. Unlike other approaches to deliver on pedestrian safety, this solution is scalable, because it's actually built into the scooter itself.

PEDESTRIAN DEFENSE

COMMITMENT TO SUSTAINABILITY

Superpedestrian's Environmental Policy

Our commitment to sustainability has pushed us to provide a service with the lowest possible environmental impact. This intention has led us to think about our impact at all levels of our business: from the LINK scooter design to its manufacturing, supply chain, ongoing operations, and corporate practices.

CLIMATE NEUTRAL CERTIFIED

SUPERPEDESTRIAN'S PROMISE

Our Environmental Policy applies across our business as a testament to our active stewardship of our earth and its finite resources. Superpedestrian's policy states that we will:

Maintain Carbon Neutral Status
Superpedestrian has offset all emissions since 2020 and is a certified 100% carbon neutral company. We partner with Climate Neutral, an independent non-profit, to measure and fully offset all company emissions.

Use Circular Economy Design Principles
Our design process extends hardware lifetime and minimizes component disposal using circular economy principles. Over eight years of research, engineering and development has produced a unit that can operate for over 5 years.

Continually Minimize Our Operations Footprint
We minimize the environmental impact of our operations through the use of long-range embedded batteries, which require less frequent charging than smaller swappables. We aim to source renewable electricity for recharging, and are shifting to electric and low-emissions operational vehicles for collection and distribution.

Implement Effective Programs to Minimize Waste
Each LINK scooter is precious to us so we never simply scrap scooters. Instead, we prioritize waste reduction, parts reuse, vehicle repairs and component recycling before responsibly disposing of any remaining materials.

Measure Progress Toward our Environmental Goals
We work with Chester Energy & Policy, an independent consultancy with deep experience in energy analysis, to produce and continuously update localized Life Cycle Assessments (LCAs) for our scooter. LCAs account for all aspects of the scooter's carbon footprint and we use them as a benchmark for future design and operational changes.

Be Accountable
Superpedestrian is committed to transparency and accountability. We track the impact of our scooters via LCAs, which are shared with city partners. We are also committed to reporting sustainability metrics such as trip replacement rates and recycling rates.

In 2021, Superpedestrian partnered with the UK-based visual artist **Hannah Radenkova** to produce a series of images that portray micromobility at its best: joyous, inclusive and safe.

Superpedestrian

For more information, visit
superpedestrian.com

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