[BIKE] SWARM

Innovative technology to incentivize and promote the use of sustainable transit while increasing the safety and joy of riders.

A system for bikes and scooters to synchronize light across riders

Light

When riders are alone their lights stay steadily on.

When riders come near each other their lights gently pulsate in **synchrony**.

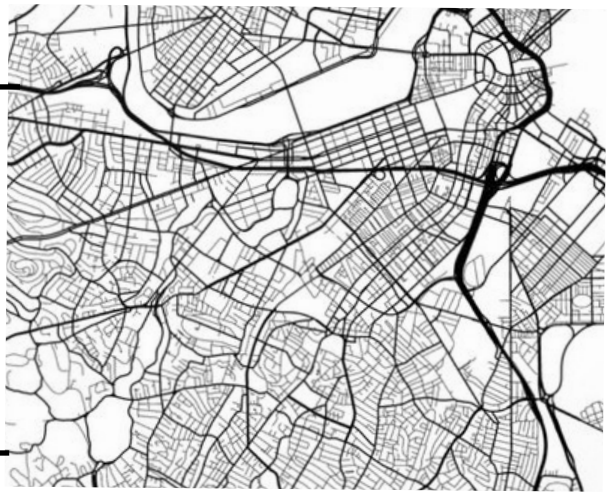
Allowing riders to **effortlessly** and **collaboratively** enhance their collective **presence** and **safety** on the road, while creating a visual representation of the rider **community**.

Synchronization occurs via a peer-to-peer broadcast protocol and algorithm, using short-range radio and low-cost technology.

Watch our demo video: http://swarms.city

[*] for bikes, scooters, skateboards, consumer bike lights and helmets, and any other lightweight personal vehicles or accessories

PROBLEM



Cities need sustainable alternative transit

Cities need to provide and promote sustainable transit and reduce reliance on cars, while at the same time efficiently using resources. They also need flexible transit options that can help them resiliently adapt to crises such as the COVID19 pandemic.

Cities need to promote bikes and scooters

Personal micromobility, such as bikes and scooters can be key to helping cities address these problems. Many cities have bike and scooter share programs, and they need to increase their usage as well as use of personal bikes and scooters. They also need to increase the safety of riders.

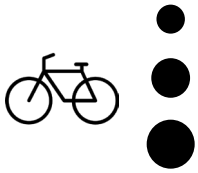
SOLUTION LANDSCAPE

- Subsidized bike-share and scooter-share programs
- Bike lanes and bike infrastructure
- Bike lights and safety accessories

UNIQUE [BIKE] SWARM SOLUTION

Our technology provides digital infrastructure that adds value to existing solutions.

Provides **safety** in numbers and enhances riders' collective **presence.**



Illuminates the rider **community.**

Incentivizes ridership and creates a **fun** reason to ride more.

Automatic and **effortless** for riders with privacy-preserving technology.

WOLDWIDE MARKET*

bike-share

Estimated market size
$10 billion
by 2025

Estimated vehicles
35.8 million
in 2024

scooter-share

Estimated market size
$300 billion
by 2025

Estimated vehicles
4.6 million
in 2024

PRODUCT

There is a crowded market of bike and scooter share providers.

We work with cities and private bike share and scooter share providers to embed our low-cost technology into their vehicles.

Revenue sources are vehicle integrations and add-on services such as analytics.

value to bike and scooter companies:

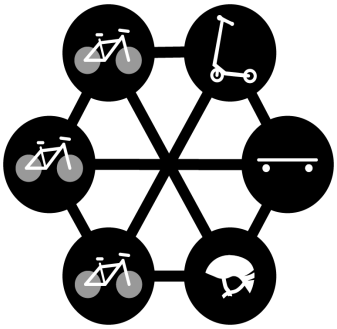
- Increase use to improve margins
- Increase safety to better appeal to cities
- Differentiate product

at a low marginal cost

Embedded — **OR** — **Wearable**

Ideal for bike-share and scooter-share systems

Designed to be built into frames of bikes and scooters to synchronize across a shared network

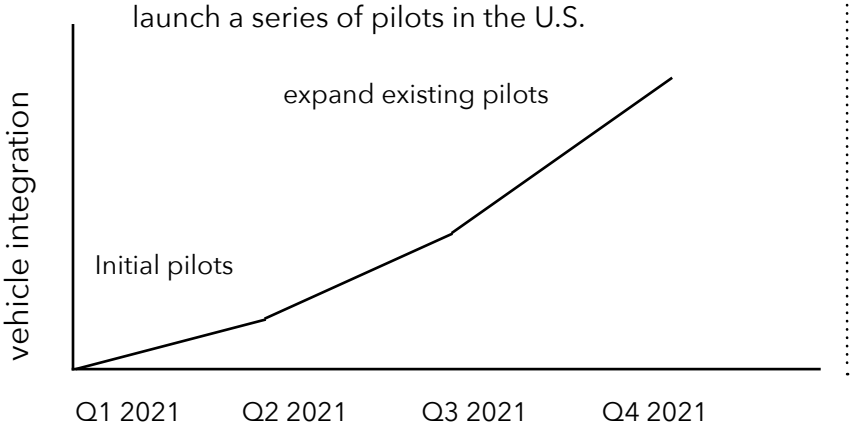


Integrated into personal accessories to synchronize with the swarm network

A front light for your bike, a side light, a light for your helmet

GROWTH PLAN

2021
launch a series of pilots in the U.S.



2022 and beyond
expand to global scooter market,
bike-share programs,
more vehicles
+ consumer accessories

* https://www.gminsights.com/industry-analysis/bike-sharing-market
https://www.psmarketresearch.com/market-analysis/scooter-sharing-market
https://cities-today.com/scooter-sharing-expected-to-bounce-back-from-covid-19-crisis/

PROGRESS & ROADMAP

2020 *Beyond prototype*

Incubate
MIT DesignX accelerator, strategy and business development, discussions with potential partners

Development
Mini module for integration with any bike or scooter

Pilot events and marketing
Deploy at events to test & circulate concept

2021 *Expansion*

Pilot
Implement 2 small pilots

Expand
Expand pilots, implement larger deployments and develop add-on services

2019 Built prototype and successfully tested


Boston, MA


Hamburg, Germany


Austin, TX

We tested our prototypes over a series of nights with our local bike-share in Boston, MA, and in Austin TX, and Hamburg, Germany.

Along the way gained traction with academic, maker, and sustainable transit communities.

TEAM

Alex and Thomas met as researchers in the MIT Media Lab's City Science group. They connected over their share fascination for the intersection of art and technology as well as their passion to make cities more sustainable and equitable.

Their collaboration started with [bike] swarm as a research project and has extended into a mission to transform how we move on city streets.

aberke@mit.edu
thomassl@mit.edu

Alex Berke

Alex has degrees in math and computer science from Brown University and is a PhD candidate in the City Science group at the MIT Media Lab. Before the Media Lab she worked as a software engineer

Thomas Sanchez

Thomas holds a Master in Science from MIT Media Lab and he currently is a researcher at MIT. He has worked in different creative industries as a technologist, creative coder and as a researcher.

mit media lab

city science

MIT DESIGN X

Watch our demo video:
http://swarms.city