# Bike Sharing and eScooter Sharing Systems

#micromobility

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CIVITAS National Network

Slovenia-Croatia-SEE

Krešimir Dvorski I City Mobility I Belgrade I 01/10/2021

# City Mobility Challenges

**authorities struggling to provide sustainable eco-friendly solutions to satisfy various needs of their citizens**

Growing CO2 emissions and pollution

Lack of last mile mobility options

Need for new sustainable solutions

# Dockless NonSolutions


**Littered Public Space**

**Chaotic Operations**

**Poor relationship with cities**

# SUSTAINABLE
# Micromobility

**Completing the transportation mix**

| Micromobility | Medium distance | Long distance |
|---|---|---|
| 0-8 km | 8-25 km | 25+ km |
| 60% of trips | 25% of trips | 15% of trips |

**Station based or hybrid bikes, e-bikes and e-scooter sharing systems as a well proven last mile solution across Europe**

# Best Practice Example #1

Courtesy of Mr Peter Žnidaršič
Micromobility Manager, Nomago bikes

#bikesharing

# Areas of developing the future of mobility

***a greener approach to transportation***

PUBLIC TRANSPORT


SMART CITY

SUSTAINABLE MOBILITY

SLOVENIA GREEN


Fast & Easy
**Multi-Platform access**


**Card Payment** via Mobile app, web page and Info point

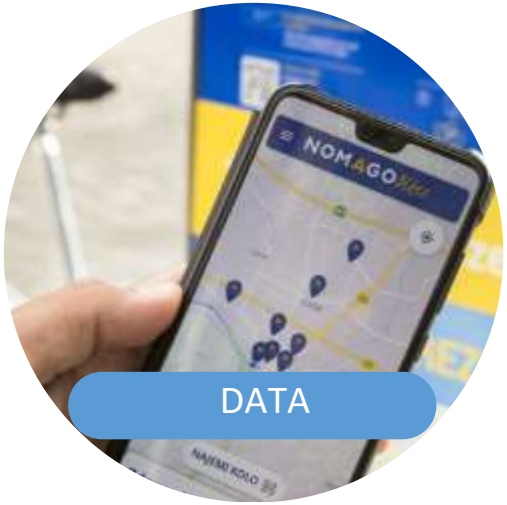

User **friendly** rental process


**Flexible return** at the station

## The components of bike sharing today


International References & Easy **Integration**


**24/7** Maintenence, Customer support and Administration




Real-time system **data**

# Nomago Bikes powered by nextbike

**1 registration – 1 UX in 300 cities, 28 countries**

10 Years

Possible lifetime

Sustainable

Service

Partly with e-transporters and cargo bikes


11Mio

0.9

Nextbike saves

10.1mio

Kilogramm of $CO^2$ Emission per year

+0,68 €

Social benefits per km

-0,37 €

-0,29 €

2.2 Mrd.

Burnt calories in 1 year (100 Kcal per Trip)

44 mio.

Km driven on nextbikes per year

NOMAGO Bikes powered by nextbike

nomago.si

NOMAGO

# Micromobility

**Nomago Bikes powered by nextbike**

**Complete and integrated Micromobility offer in Slovenia**

System of Electric and Regular bicycles build to share

**Flexible & Innovative platform**

Multi-language app and web for registration, rental and reservation

**Smart & Hybrid system**

Smart bikes with GPS locating, zone geofencing and virtual stations

2021 - Bike-sharing system in 12 cities around Slovenia with more than 450 bikes and 85 stations.

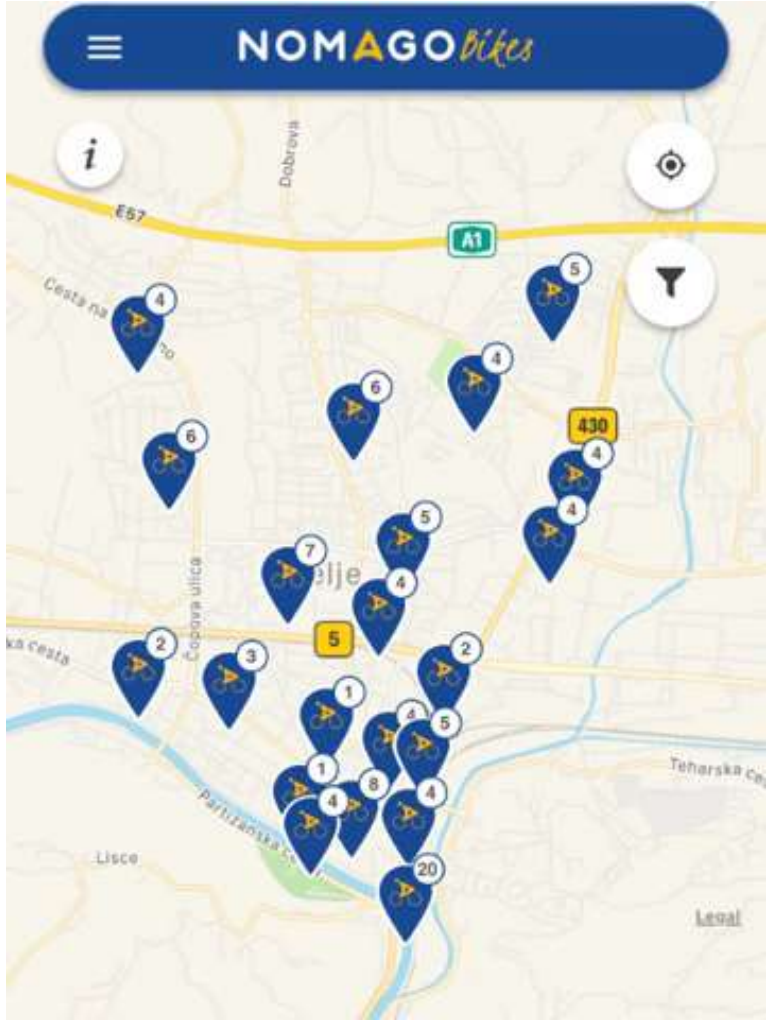
# Regional bike sharing

**KolesCE bike sharing**

- 8 municipalities in Savinjska region
- 1 registration – same pricelist, same UX
- 68 stations, 337 bikes: 52% electric – 48% classic
- 75 thousand km driven per year
- Daily trips between cities in the morning & afternoon
- 90% rentals via mobile app

**Average rental**

- 15 min
- 1,5 km



# Smart bike

Height-adjustable ergonomic saddle for persons of 1,50-2,0 m; with theft protection

FrameLock

- Enables parking feature in the app
- Anti theft alarm
- Precise localisation via Wi-Fi, GPS, GLONASS or BEIDOU
- Average 40 day battery life
- Recharable via solar basket

RFID reader for smart card integration

Front and rear light with built-in reflector and parking light

Shimano Nexus Hub


Basket with solar module for charging the FrameLock

Covered wiring reduces vandalism

Air tires with puncture protection and reflectors

ISO 4210 CERTIFICATION

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# E-Smart bike

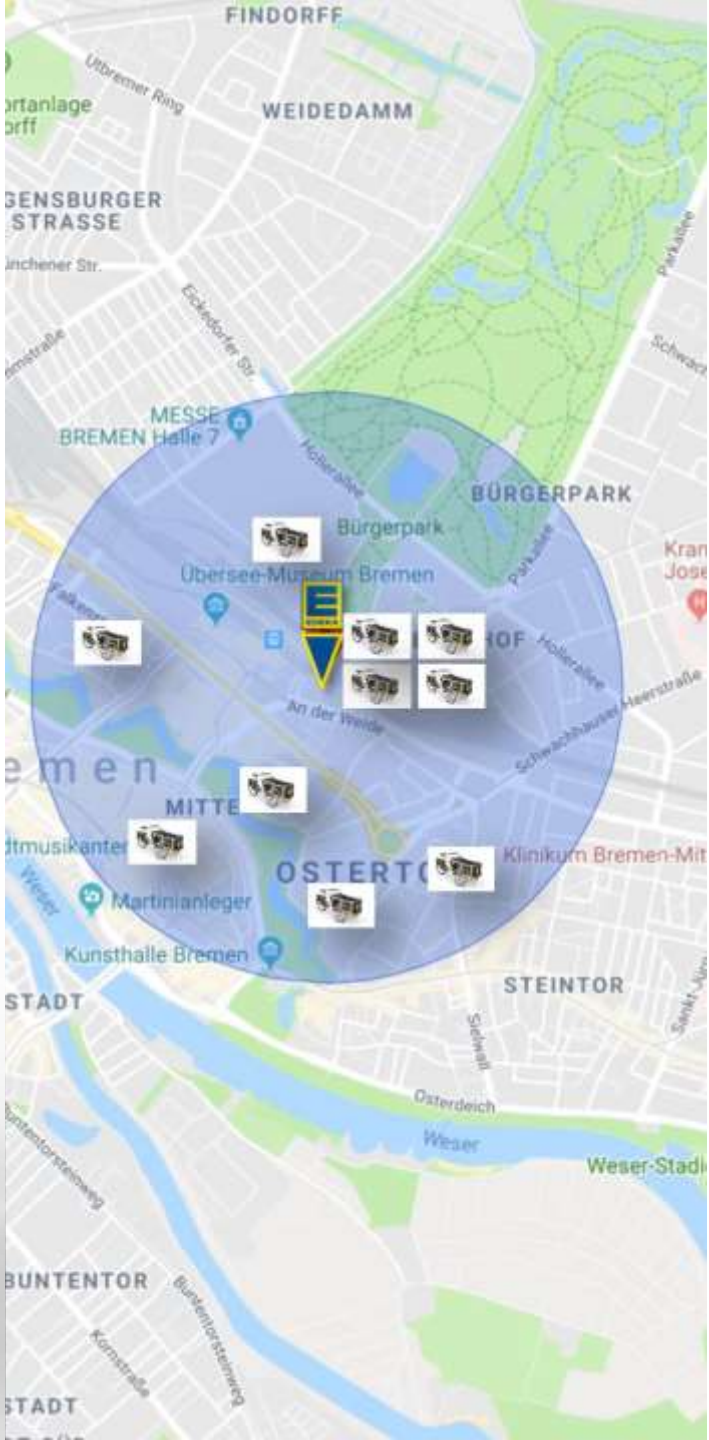

## Lithium ion battery

- Designed for durability
- Encapsulated into the downtube
- Capacity of 14 Ah, 500 Wh, 36 V
- Charge level display integrated in the frame

## Engine

- Natural driving experience due to mid-mounted engine
- Made in Germany
- Supports up to 25 km/h
- Stepless boost feature for fast acceleration

# Cargo & E-Cargo bike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# Station with terminal

For electric & classic bikes

**Multimedia Kiosk with charging infrastructure**

- 7 inch touch screen with interactive map
- Customer channel for registration, rental and return
- Smart Card reader
- Large surface for additional information or advertisement

NOMAGO Bikes
powered by nextbike

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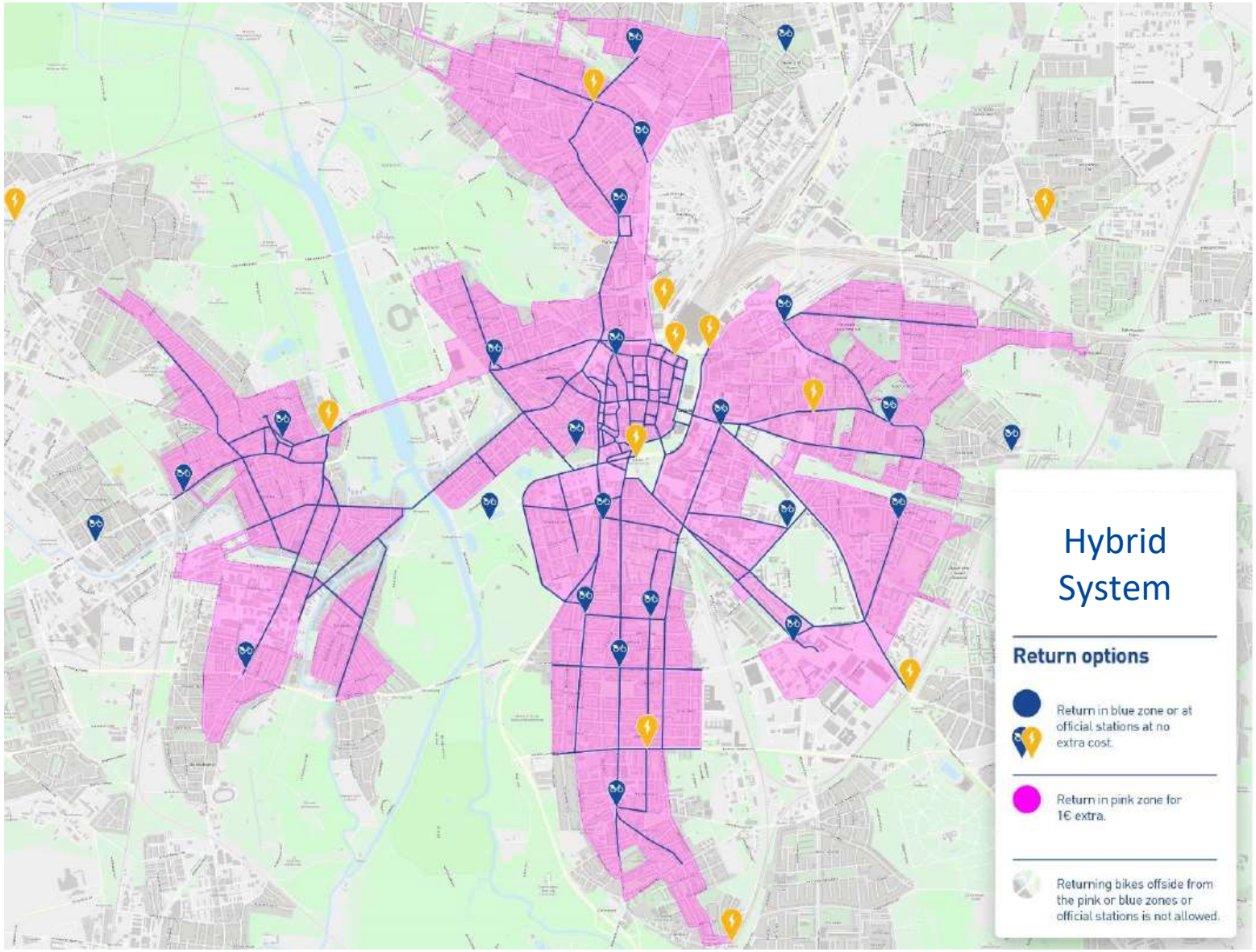
# Docks & Sign station

**Flexible, prominent, easy to install**

- No cabling, grid connection or wireless signal
- Cost-efficient
- Operations security
- Best user experience
- Different variations

# Hybrid system

- **Dockless system with designated stations** with docks & **Charging stations**
- **Virtual stations** with infrastructure - Corral type
- Integration into seamless **network** – guiding the users with different pricing
- **Micromobility stations** at Mobility Hubs
- Involvement of the community
- Collaboration with the City and private land owners



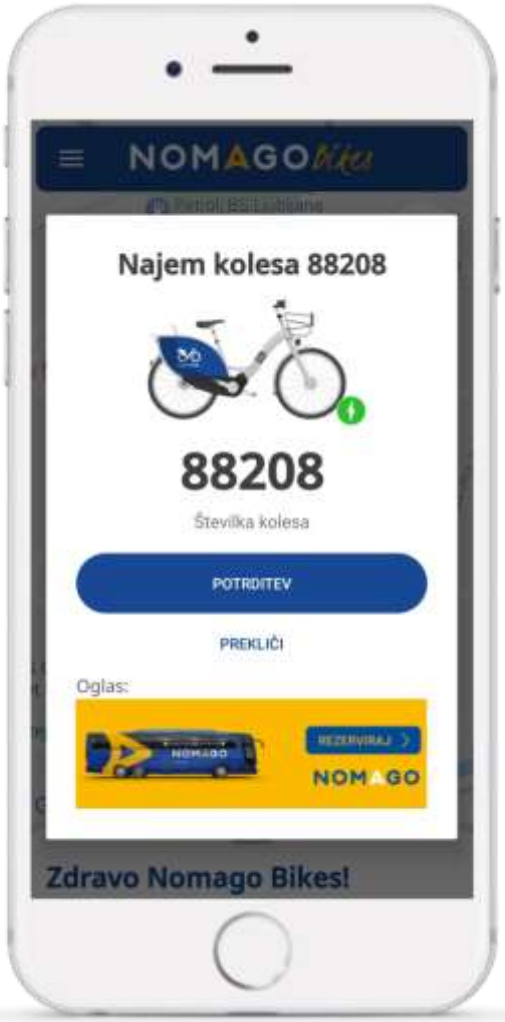
# Mobile app

Key benefits of the NextBike mobile app

**Overview of real time availability** of bicycles and docks at the stations

**Rental history** along with distance travelled and CO2 savings

**Comments** on the rental and provide **feedback**




**Registration,** user account settings and rental history

**Easy bike rental process via bike number or QR code in less than 3 seconds**

It works in **Slovenian, English, Croatian, Italian** and more than 10 foreign languages

NOMAGO bikes
powered by nextbike

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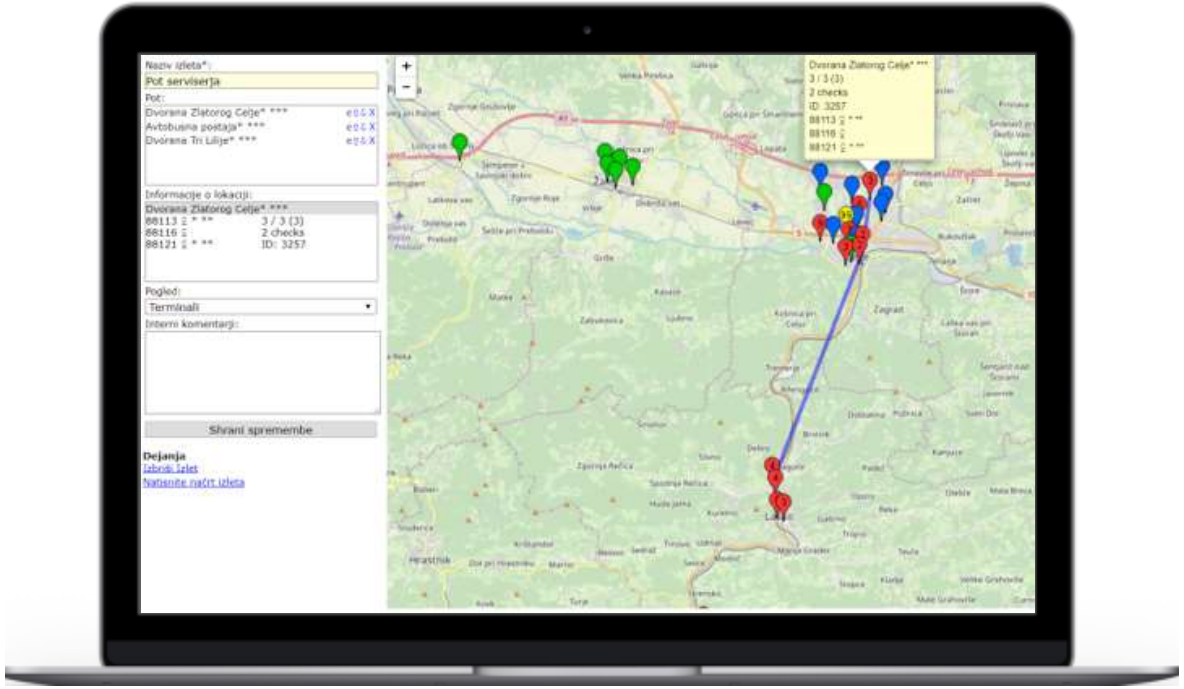
# System Administration

Backend office

- **Cloud based system, multi-user access**
- Comprehensive overview of the database (users, rentals, bicycles, stations) on visual **Dashboard**
- **In-depth analysis** (access to detailed analytics with more than 50 data categories, daily / monthly report interval, number of registrations, leases, returns, new and regular customers, average rental duration, movement reports, servicing, bicycle inspections, rental amounts, payments with credit cards and cash)
- Provides support for customer relationship management (**CRM**) and content management (**CMS**)
- **System control via backend 24/7;** monitoring the movement of wheels and the operation of stations and the condition of batteries on wheels, etc.
- **24/7 call center** available via phone, e-mail and app support, with access to the functions of the back-end system for quick help to users
- **Compliance with all necessary legislation!**



# System integration

Worldwide references


**System integration via already developed input and output API connection – RFID/NFC cards**

- Public Transport
- Smart city services
- Hotel and destination cards
- Workplace contactless cards

Support for employers in promoting a healthy mode of transport to work and after work

**Numerous references from more than 200 cities from 30 countries around the world** (EU, USA, NZ, India):

- Cologne - integration with KVB (public transport)
- Stuttgart - integration with a smart public transport card
- Budapest - integration with BKK (public transport)
- More than 20 cities in Croatia and Bosnia and Herzegovina

# Mobility hub – space for integrated public and shared mobility

- different and connected transport modes
- facilities and information features to attract and benefit the traveller
- areas providing services to connect people through sustainable travel

**Components:**

- **Public transportation**: bus, rail, on-demand ride sharing
- **Shared Mobility**: bike share, cargo bike share, car share, scooter share
- **Mobility related**: digital pillar, journey planning service, registration and ticketing, customer services, electric car charging, bike parking and charging, last-mile delivery
- **Non-Mobility**: Package delivery, cafe shops, waiting area, Wi-Fi, phone charging

nextbike

# 031 grad

# Best Practice Example #2

#eScootersharing

DASH

The World’s first docked eScooter sharing platform

**150x** LOWER CHARGING COSTS

**3x** LESS MANPOWER REQUIRED

**0** SCOOTERS LITTERING SIDEWALKS


50 TONS
LESS ANNUAL CO2 EMISSIONS
DASH

# Performance

**100+**
STATIONS

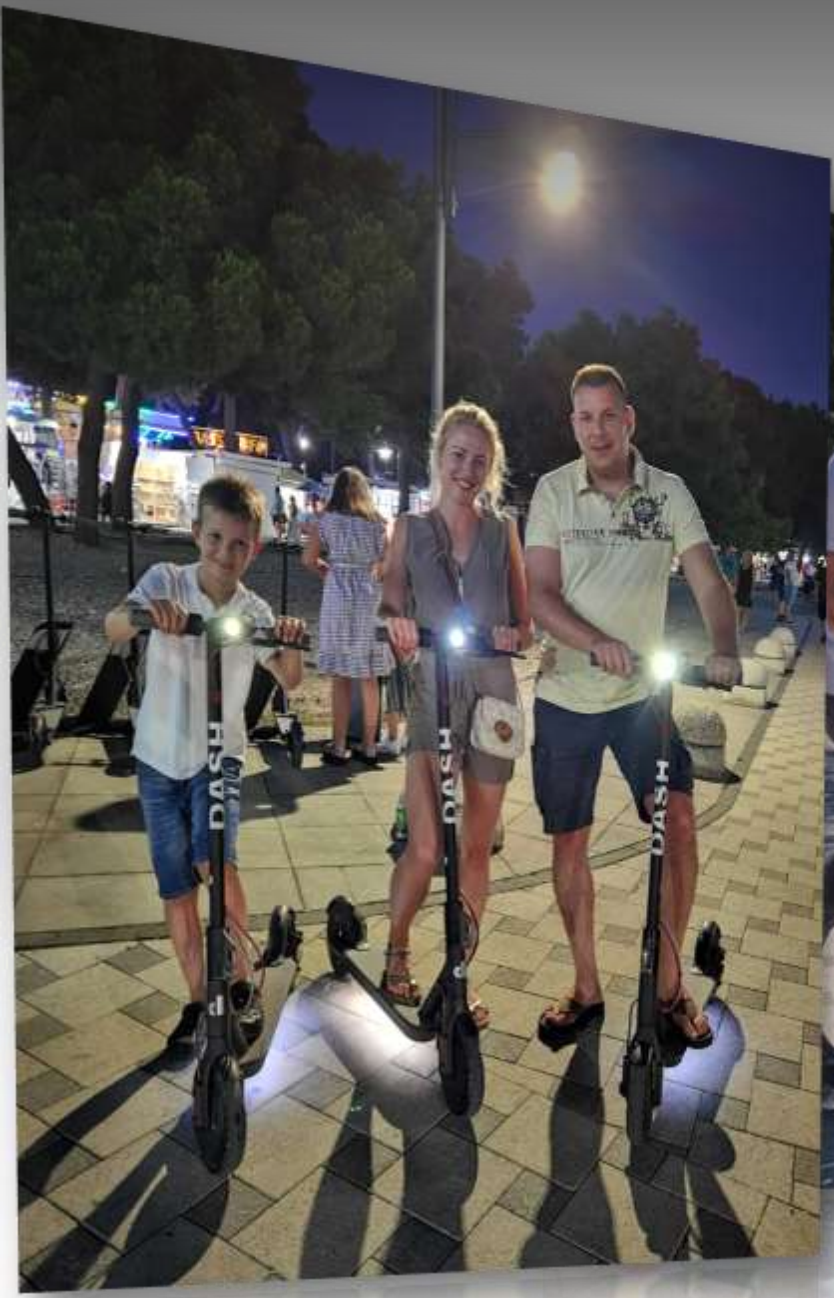
**600+**
DOCKS

**500+**
SCOOTERS

**100,000+**
USERS

Meet the

# USERS






# Dash - Docked Scooter Micromobility

**Electric scooters at docking stations**

Always charged, available and keeping the streets clean 24/7

**Mobile App**

Simple registration, credit card payment, rental and return of the scooters at the docks or dedicated geofenced virtual stations

**Customer Support**

Available 24/7 via App, email or phone

**Local Service Staff**

Always on standby to help and repair

# Working Together

### Investment to support the city

- Electric scooters
- Charging stations
- Implementation
- Operations
- Customer service
- Data sharing
- Promotion of sustainable mobility

### The City needs to provide

- A little space for the stations to get more space for everyone

**1 car parking = 3 escooter stations!**

www.nextbike.me www.dash.city

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#citymobility #dashcity #nextbike

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