A NEW PULL FOR MOBILITY TRANSITION:

INTEGRATING AUTONOMOUS ON-DEMAND SHUTTLES INTO PUBLIC TRANSPORT

Minister Dr. Anjes Tjarks

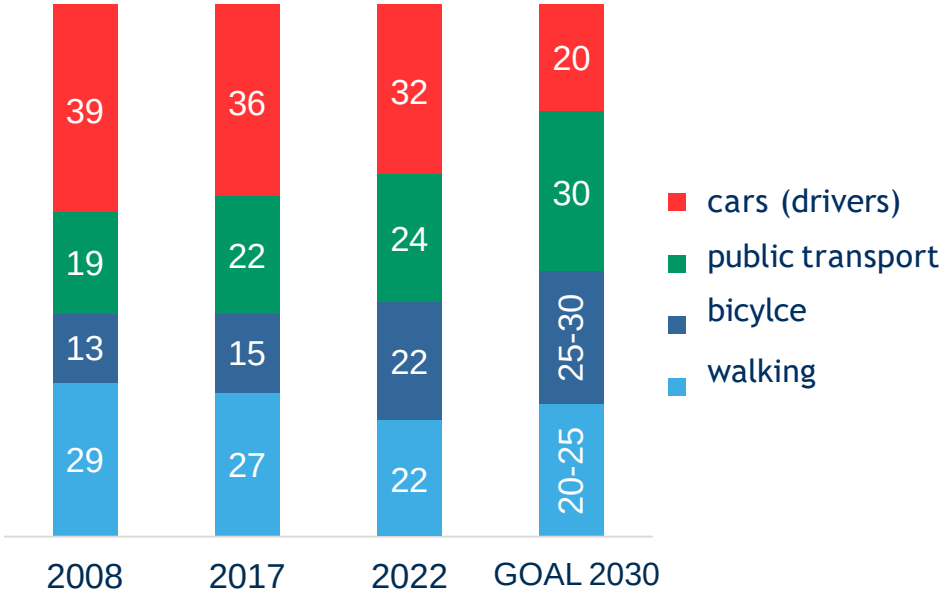
Ministry of Transport and Mobility Transition

Hamburg

CLIMATE AND MOBILITY DEVELOPMENT GOALS

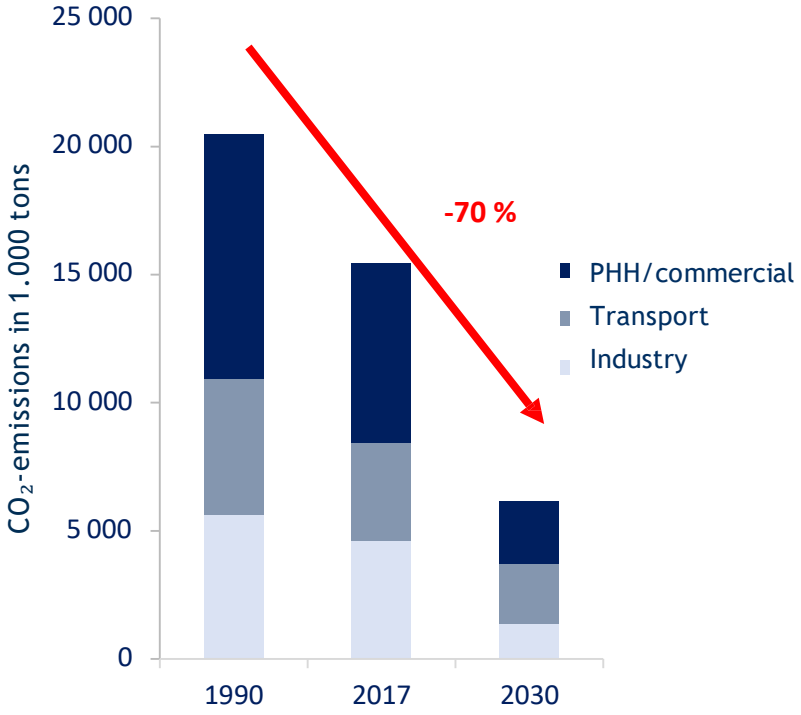
Modal Shift until 2030

Share of all trips made by Hamburg residents per day in %



Source: infas, MID Hamburg 2017

CO_2 Reduction until 2030



“DEUTSCHLANDTICKET” (GERMANY TICKET)

Valid on local services all over Germany!

Not valid on tourist transport (museum railways etc.); can also be valid on cross-border services if local transport areas/fare systems include it

Issued per calendar month – from 2024 flexible validity

Valid per calendar month in 2023 – starter ticket as onboarding option.
From 2024 valid for a one-month period – flexible times like online subscriptions as in Netflix, Spotify & Co.

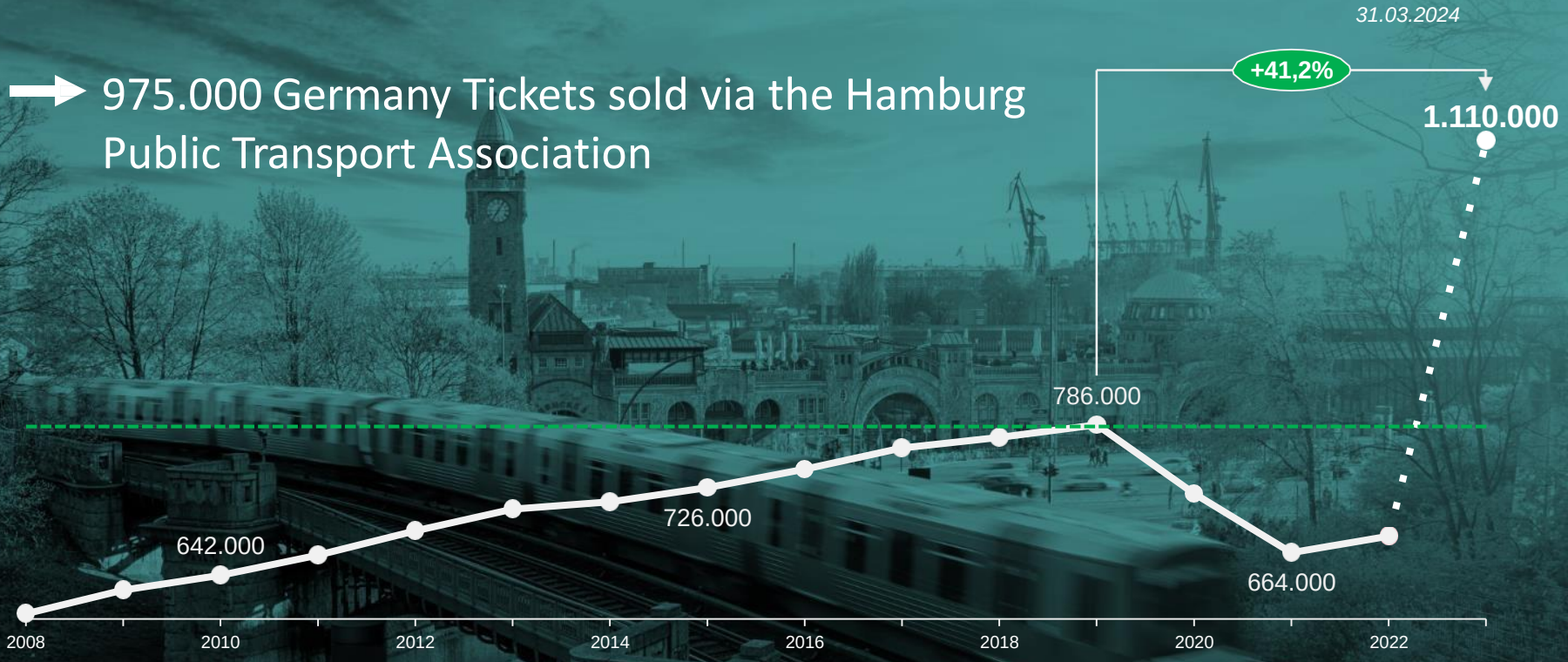
A fully digital product

Issued on paper only for a transitional period till chipcard sent by post
Paper tickets permitted till end of 2023

cancellable monthly

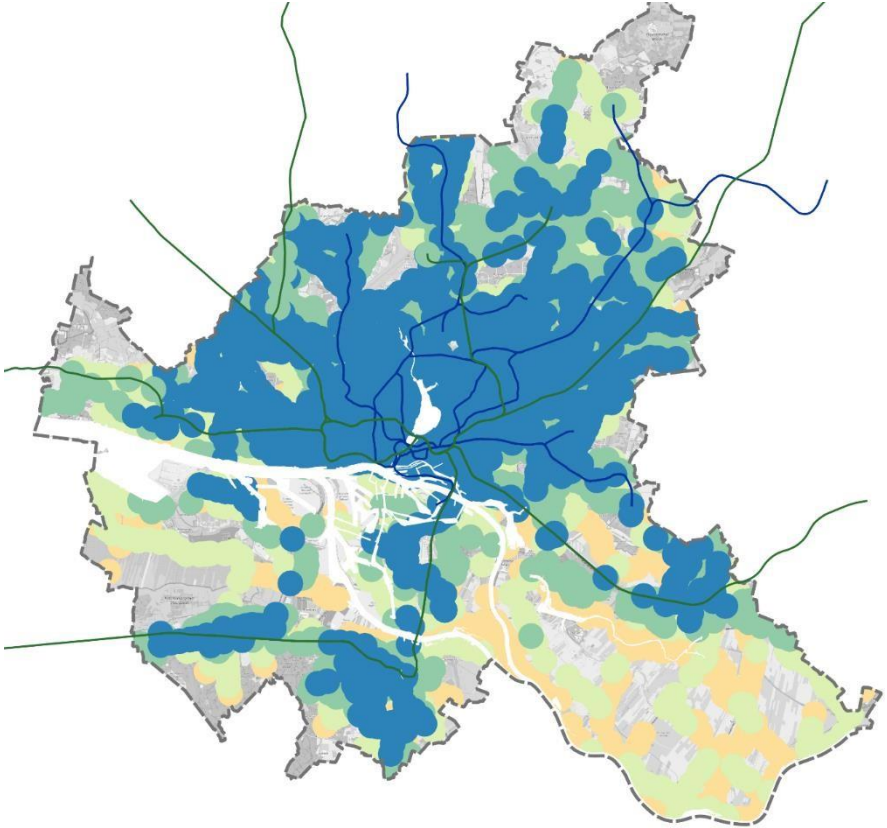
Total subscriptions

- 975.000 Germany Tickets sold via the Hamburg Public Transport Association



hvv

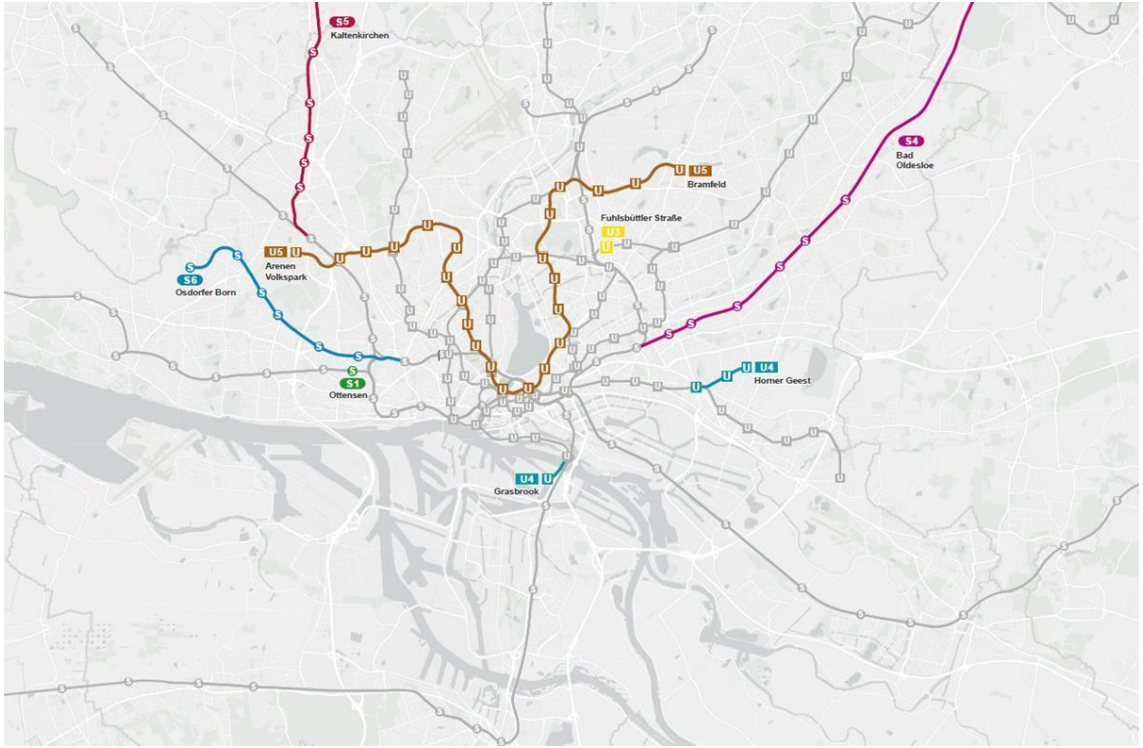
“HAMBURG TAKT” = HAMBURG FREQUENCY



The expansion of the classic public transport network will give appr. **85 % of Hamburg‘s population** a service every 5 minutes within a walking distance of 5 minutes.

- The remaining 15 % could complete 2/3 of their rides via **on-demand shuttles** to existing public transport stations while the rest uses on-demand direct connections.
- The „Hamburg-Takt“ in the entire city is only possible with an intelligently operated on-demand service that is fully integrated in the public transport system.

RAPID TRANSIT EXPANSION (UNTIL 2030)



Goal: expansion of regional rapid transit system to reduce private motorized transport, especially commuting

- New suburban trains, longer trains, larger buses, denser intervals
- Capacity expansion
- Increased frequency on S-Bahn and U-Bahn trains at peak times
- New Expressbus, Metrobus and neighborhood bus lines
- Night bus network to be relaunched

Further expansion plans beyond 2030:

38 new stations until 2040

Night bus network to be relaunched

HAMBURG DEVELOPS A NEW URBAN MOBILITY SYSTEM

Classic **public transport** is combined with **autonomous on-demand traffic**

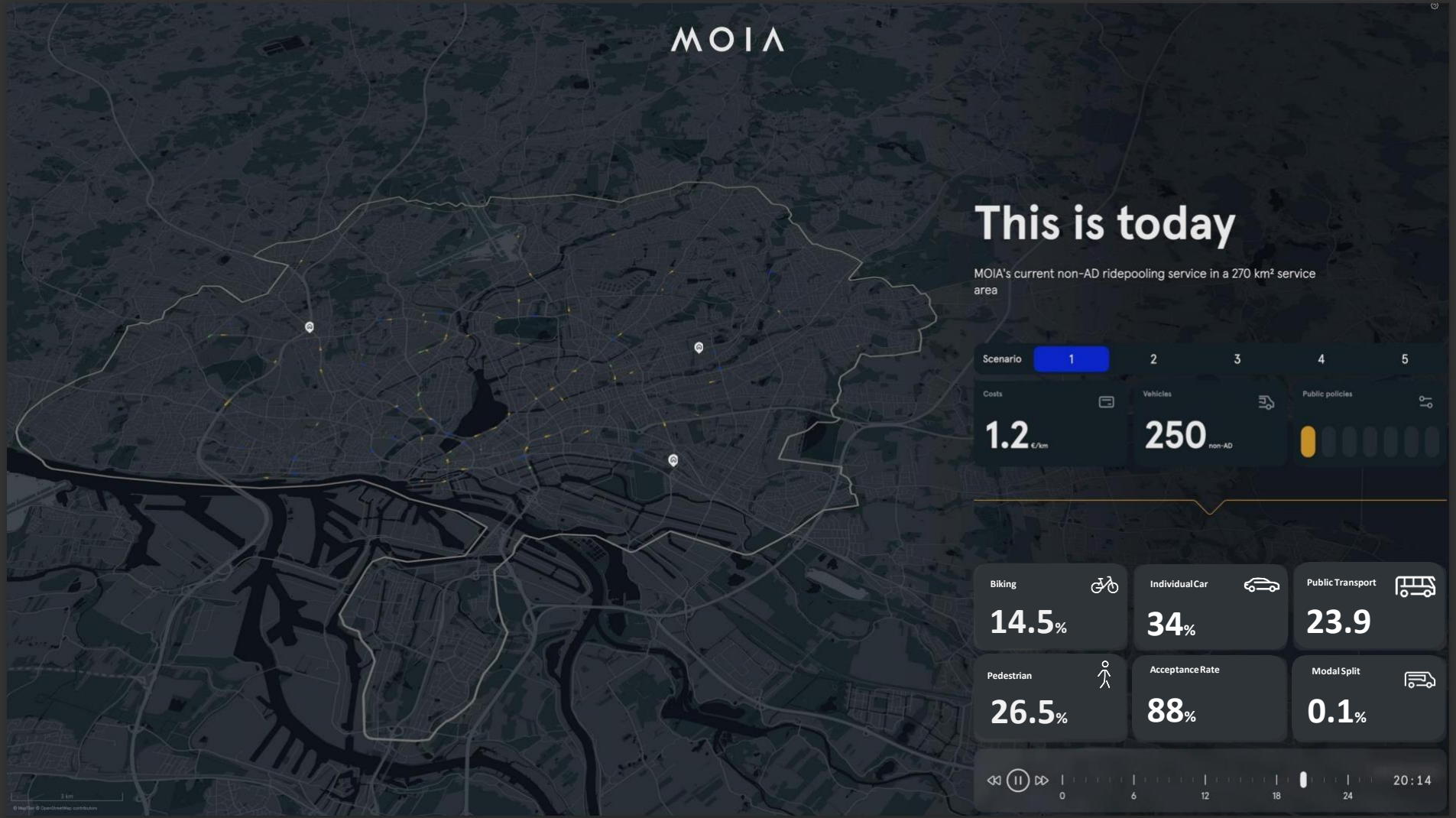
+

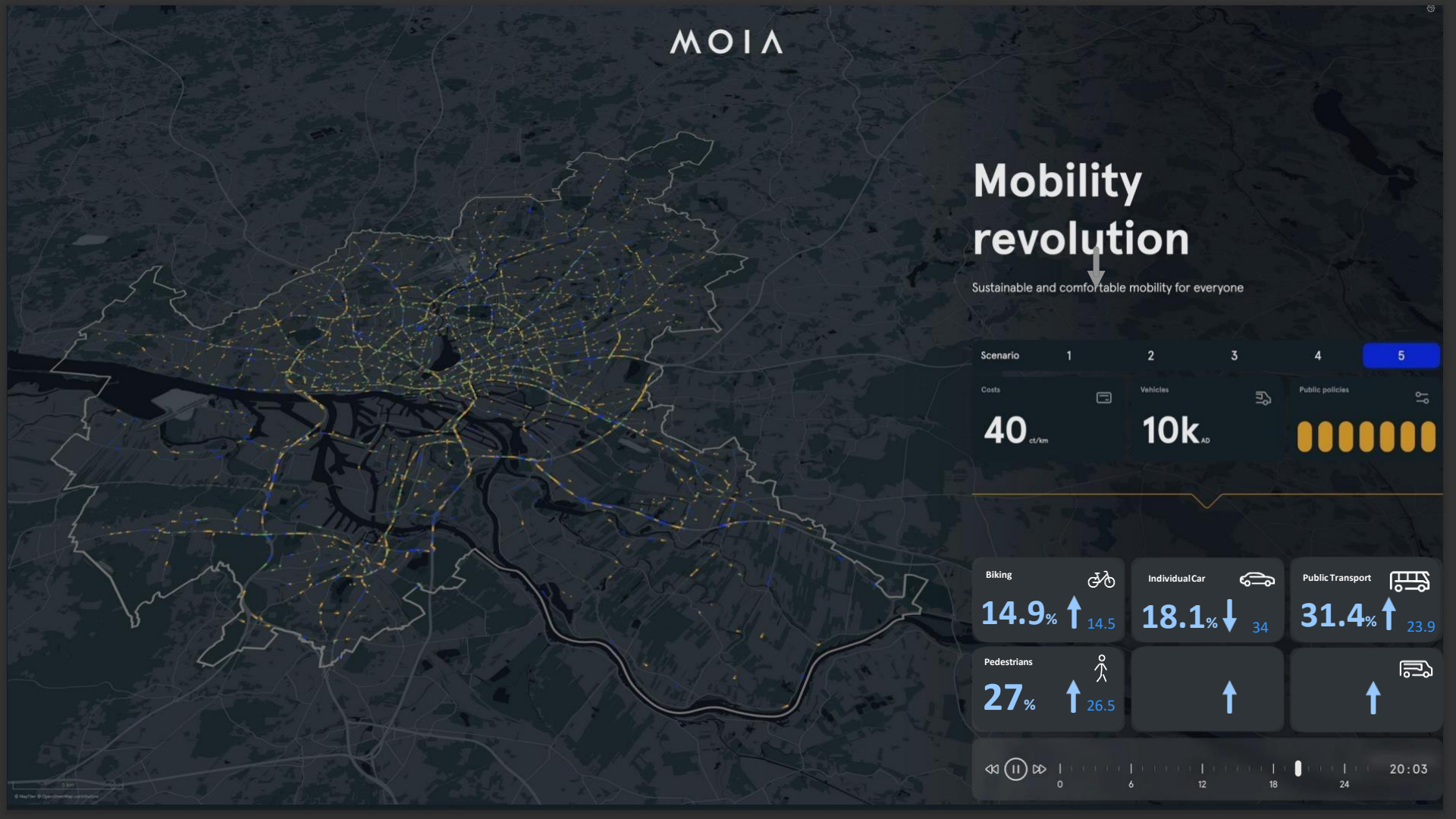
+

hvv switch

=

Automated, digital and interconnected mobility system of the future for a sustainable mobility transition with noticeably less car traffic

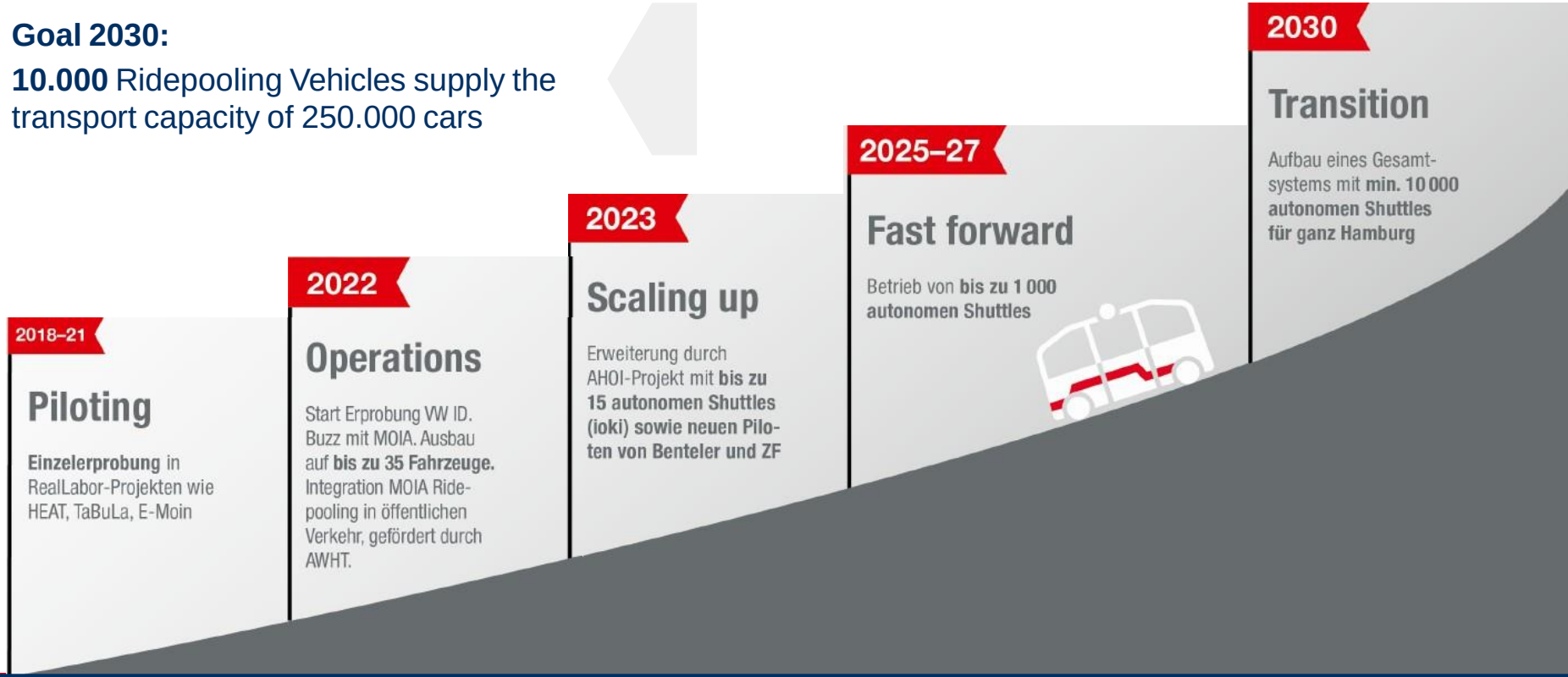

MOIA
This is today
MOIA's current non-AD ridepooling service in a 270 km² service area
Scenario
1
2
3
4
5
Costs
1.2 €/km
Vehicles
250 non-AD
Public policies
Biking
14.5%
Individual Car
34%
Public Transport
23.9
Pedestrian
26.5%
Acceptance Rate
88%
Modal Split
0.1%
20:14
0
6
12
18
24


MOIA
Mobility revolution
Sustainable and comfortable mobility for everyone
Scenario 1 2 3 4 5
Costs
40 ct/km
Vehicles
10k AD
Public policies
Biking
14.9% 14.5
Individual Car
18.1% 34
Public Transport
31.4% 23.9
Pedestrians
27% 26.5
20:03
0 6 12 18 24

AUTONOMOUS ON-DEMAND TRAFFIC IN HAMBURG

Goal 2030:

10.000 Ridepooling Vehicles supply the transport capacity of 250.000 cars



Hamburg

UITP SUMMITS HAMBURG 2025 & 2027

15. - 18. June 2025
We look forward to seeing you in Hamburg!

- **> 17.000** visits
- **> 400** exhibitors from **> 40** countries
- **> 40.000 m²** of exhibition space
- **> 2.800** congress delegates and approx. **250** speakers
- **43 %** female speakers at the last UITP Summit in 2023
- **250** press representatives at the last UITP Summit in 2023
- Side events throughout the city

Thank you!

Minister Dr. Anjes Tjarks

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Efficient & Green **MOBILITY**

The European pathway for Sustainable, Smart and Resilient transportation Mobility goals towards 2035 and the role of cities and regions

Eddy Liégeois

#MobilityStrategy #EUGreenDeal

European Commission | Mobility and Transport

Policy and regulatory development for smart and sustainable and resilient mobility in 2019-2024?

- 2019 European Green Deal: a 90% cut in greenhouse gas emissions from transport by 2050
- 2020 Sustainable and smart mobility strategy
- 2021 Fit for 55 package
  - Proposal Alternative Fuels Infrastructure Regulation
- 2021 launch of the mission : 100 Climate-Neutral and Smart Cities by 2030
- 2021 Efficient and Green Mobility Package – proposals:
  - Revision of TEN-T Regulation
  - Revision of ITS Directive
  - New urban mobility framework
- 2024 signature of the Declaration of cycling

#MobilityStrategy #EUGreenDeal

Focus on the EU Urban Mobility Framework

More than 70% of Europeans live in cities and expect solutions for:

- Better and safer mobility (road injuries and fatalities)
- Congestion
- GHG emissions (urban areas: 23% of the EU's GHG transport emissions)
- Air and noise pollution (from transport)

➢ Need for truly safe, accessible, inclusive, smart, resilient and zero-emission urban mobility in the EU

#MobilityStrategy #EUGreenDeal

EU Urban mobility policy – key milestones

2013 – EU Concept for Sustainable Urban mobility Plan (SUMP) in the urban mobility package

2019 – new version of the SUMP Guidelines (on the process)

2021 – New EU urban mobility framework + Proposal for a revised TEN-T Regulation (urban nodes) + proposed revision of the ITS Directive

2022 – Reformed Expert Group on Urban Mobility (EGUM)

2022 – Revision of the Delegated Regulation for the Provision of EU-wide real-time traffic information services

2023 – Commission recommendation on National SUMP support programmes

2023 – Updated EU Concept for SUMPs (incl in the Comm. recomm.)

2023 - Revision of the Delegated Regulation on multimodal travel information services and creation of a common European mobility data space (EMDS)

2023-2024 – EGUM delivers recommendations

2024 – Inter-institutional cycling declaration

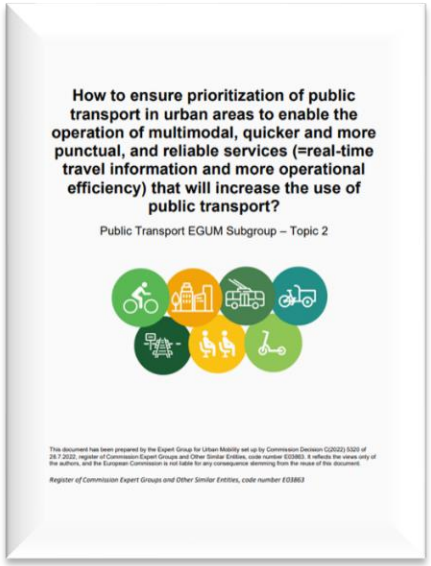
2024 – Entry into force of the revised TEN-T Regulation

2027 – 431 urban nodes should have a SUMP and deliver data related to accessibility, safety, sustainability

Evolution of Response Framework

#MobilityStrategy #EUGreenDeal

What do we do with cities and regions? Expert Group on Urban Mobility (EGUM)



Sub-groups
1. SUMP monitoring and implementation
2. Urban vehicle access regulations
3. Public transport and shared mobility
4. Urban logistics
5. Active mobility and safety of vulnerable road users
6. Future of urban mobility and inclusive and sustainable urban space

#MobilityStrategy #EUGreenDeal

What do we do with cities and regions?

Examples of collaborative European projects

C-ROADS

Platform: C-Roads

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

CCAM - European Partnership on Connected, Cooperative and Automated Mobility

CIVITAS 2030

Projects | CIVITAS

SHOW
AUTOMATED URBAN MOBILITY

show-project.eu |

DIT4TraM FRONTIER Orchestra TANGENT

#MobilityStrategy #EUGreenDeal

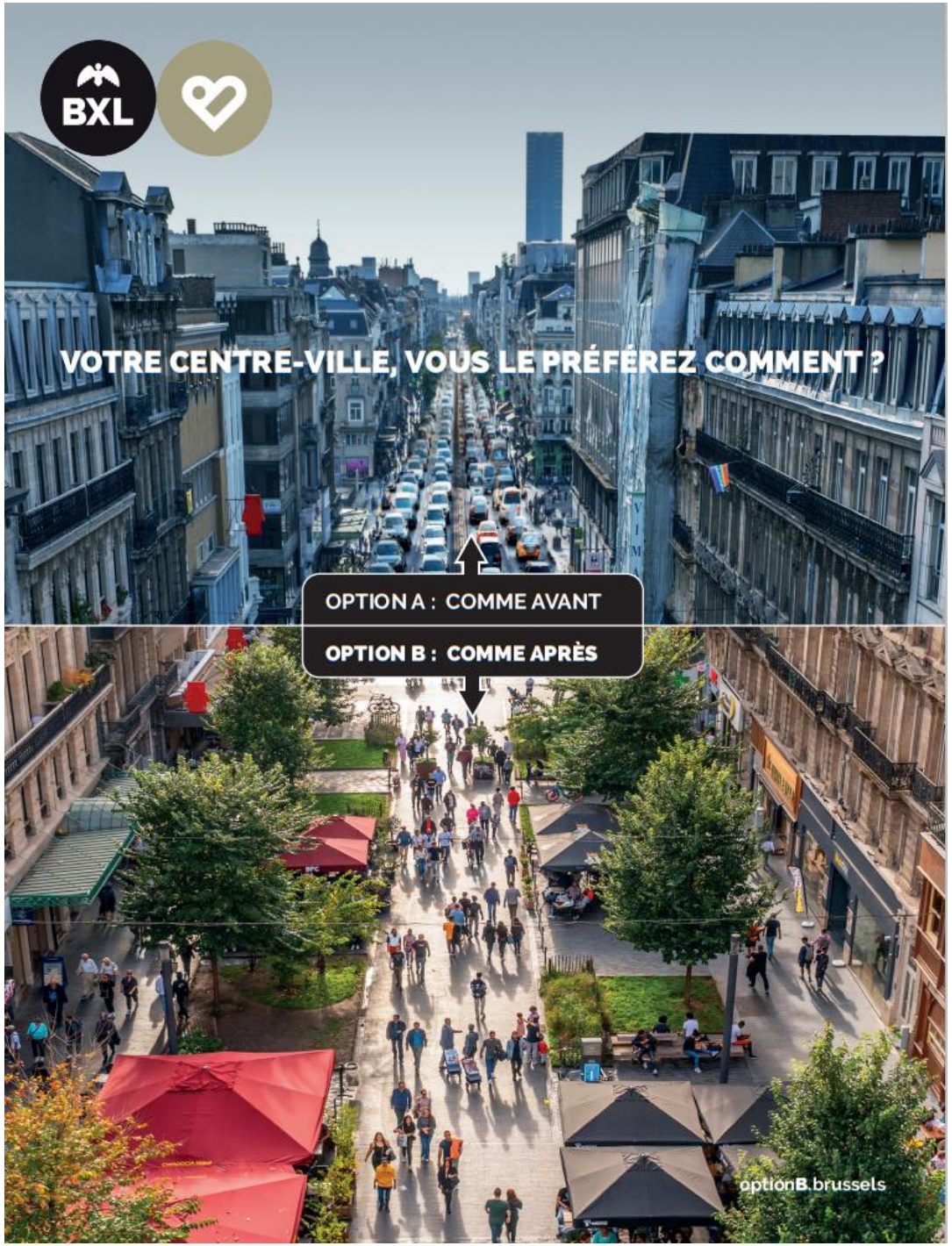
European Commission | Mobility and Transport

What are the challenges for the future?

- SMART: Harnessing the potential of digitalization and data-driven innovation to make intelligent transport choices and efficient urban mobility planning
- SUSTAINABLE AND RESILIENT:
  - Sharing urban space, management of urban air mobility, management of urban deliveries
  - Rural mobility: How the better ensure an urban-rural linkage
  - Climate change vs Europe competitiveness
  - Crisis/disruption management
- GOVERNANCE: A greater role for cities at the EU table vs subsidiarity
- BUDGET

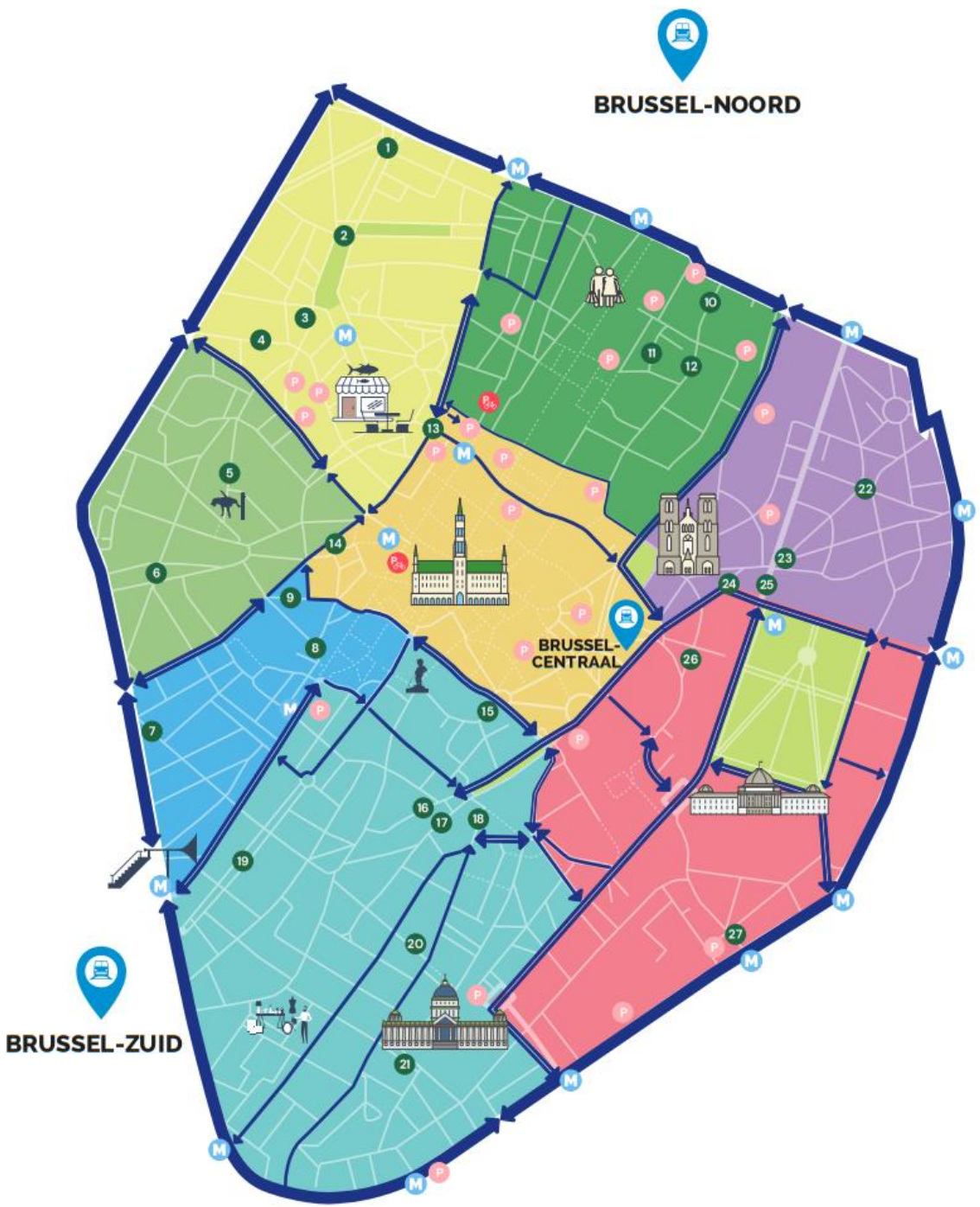
Bart Dhondt – Deputy Mayor of the City of Brussels, responsible for mobility and public works

Good Move : successes and challenges



Pedestrian zone

Boulevard Anspach



Plan of the Pentagon

- Through traffic discouraged
- Only destination traffic
- Major axes
- Division per neighbourhood


FOCUS OP JOUW WIJK
Veilige straten
GOOD MOVE KOMT ERAAN IN DE VIJFHOEK


BXL
good move
Une rue de la Senne agréable ? Ça aussi, c'est Good Move !
Good Move, c'est quoi?
Des espaces publics de qualité
Partagez vos idées !
Plus d'info ou des questions ?
www.bruxelles.be/goodmove
0800 35 230
ou scannez le QR code

Z-Cards

Iconics

Social media

Posters

August 16 2022: Implementation

Marché aux Porcs

Skatepark - Chapelle

Wave of protest

PÉTITION

CONTRE LE PLAN GOOD MOVE BRUXELLES-VILLE

2.665 signatures

Encore **2 335** signatures pour que cette pétition soit plus susceptible d'atteindre son destinataire !

'Start from scratch': Anderlecht mayor wants to completely redesign new traffic plan

Friday, 23 September 2022

By Maïthé Chini

Credit: Jean Benjamin-Moreira/Belga

Following days of persistent vandalism, threats against local politicians, and an MP colliding with road furniture, Anderlecht mayor Fabrice Cumps wants to completely start over with the Brussels 'Good Move' traffic plan in his municipality.

Schaerbeek Good Move protests: Two police officers and firefighter injured

Wednesday, 26 October 2022

By Maïthé Chini

Credit: Belga/Nic Quevatar

On Tuesday, two police officers and a fireman were injured during the second consecutive night of protests against the implementation of the

WE ♥ good move
BRUSSELS
#welovegoodmove

#welovegoodmove

WE LOVE BRUSSELS
#WeLoveGoodMove

8,253 have signed. Let's get to 10,000!

At 10,000 signatures, this petition is more likely to get a reaction from the **decision maker**!

WE LOVE BRUSSELS

#WeLoveGoodMove

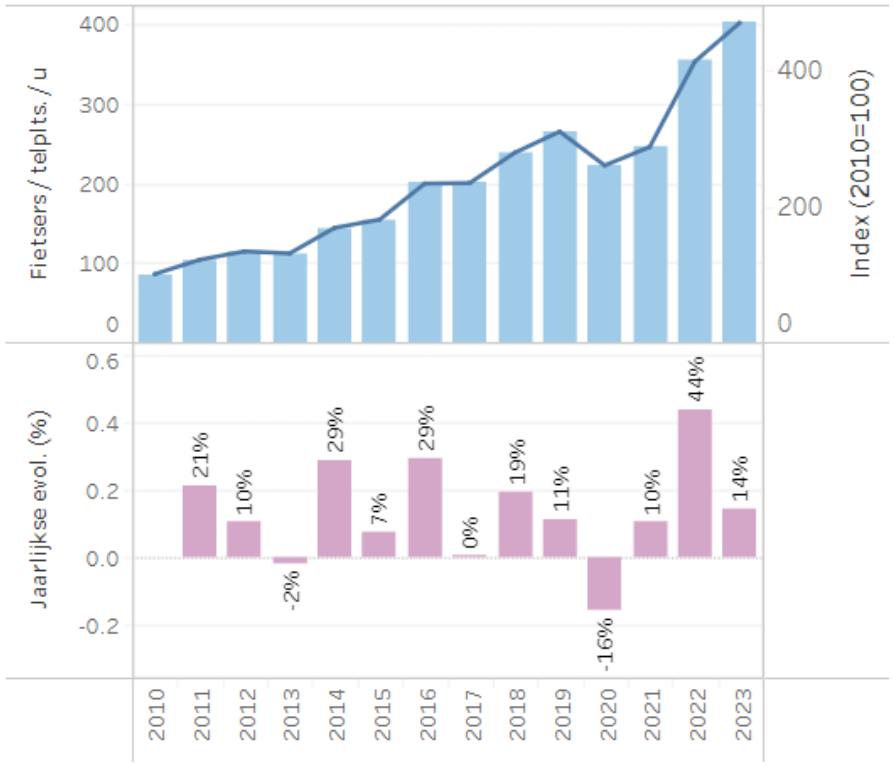
-27%

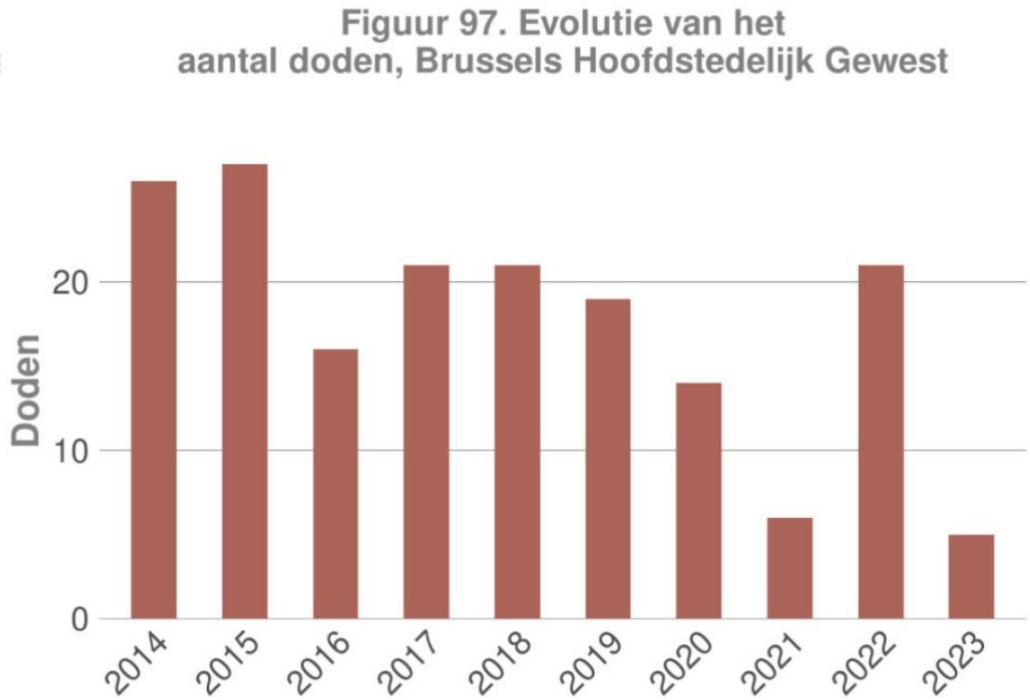
+34%

+ 6km bikelanes

speed ↑
= trams 10-30% faster travel times
= bus 10-50% faster travel times

+ 1 600 m2 (pedestrian zone, sidewalks, closing of streets,…)





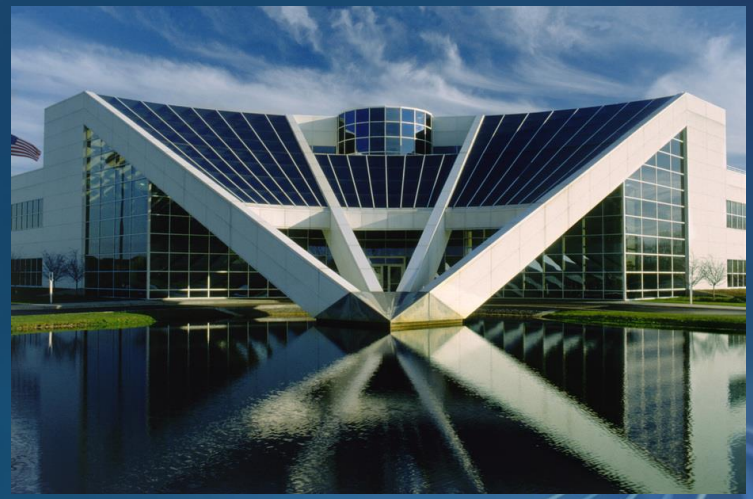
PERSPECTIVE ON AUTOMATED-DRIVING

A Nissan in Silicon Valley Perspective

Maarten Sierhuis
Nissan Advanced Technology Center – Silicon Valley

NISSAN
MOTOR CORPORATION

Nissan R&D Centers *(R&D Budget ~$3B)*

	RESEARCH & ADVANCED ENGINEERING	*ENGINEERING*
NML JAPAN	**NATC - Atsugi** 	**NTC - Atsugi** 
NNA USA	**NATC-SV, Santa Clara** 	**NTCNA, Farmington Hills** 

NISSAN
MOTOR CORPORATION

Silicon Valley Automotive sector 2020

NATSV-SV
Santa Clara office

Onboard

Cloud

Offboard

AD

User Experience

AI & ML

Intelligent Services

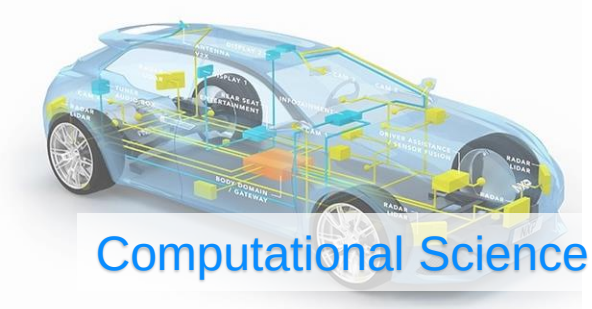
Data

Data Science + AI Algorithms

Sensors

AD

IVI



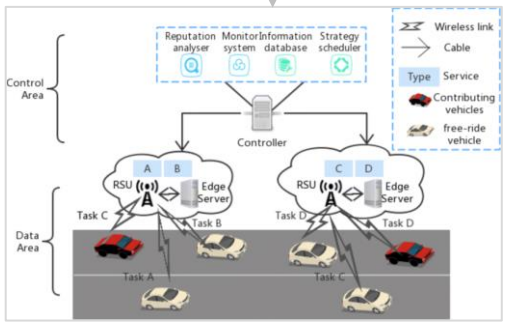
Computational Science

SDV

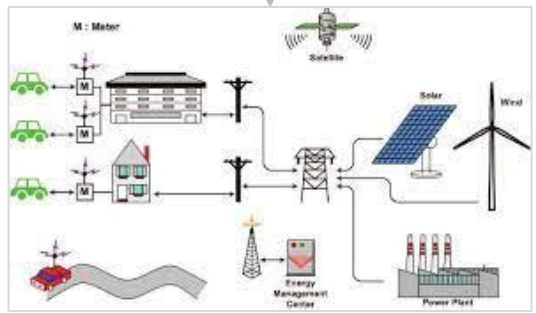
Battery

BMS

Remote Supervision



Connected V2X



Vehicle-2-Grid

NISSAN
GROUP OF NORTH AMERICA

VEHICLE INTELLIGENCE TECHNOLOGY

Evolution of driver assistance technology

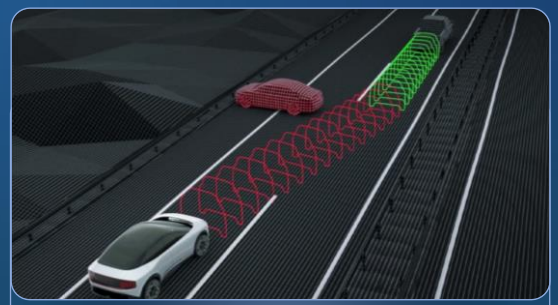
FY23

ProPILOT 2.0

For confident and fatigue-free drive

- Camera and Radar sensing
- In-house control software

FY27

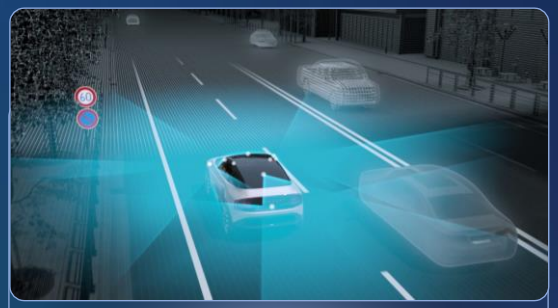


Next gen ProPILOT

Expanded to door-to-door driving

- Ground truth perception with LiDAR
- Cloud-based AI

FY30



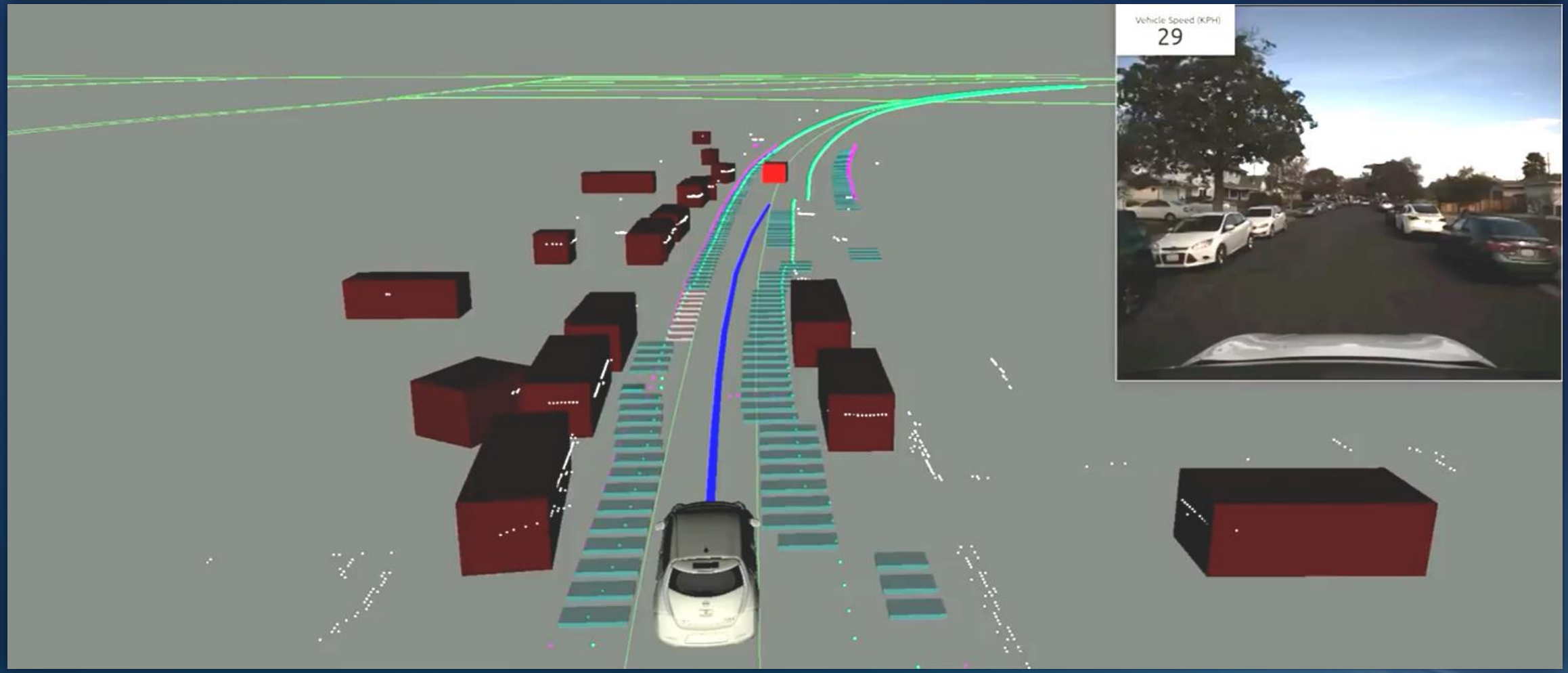
Future ProPILOT

Towards goal of zero fatalities

- Fusion of active safety and generative AI technologies

Evolution of driver assistance technology

Evolution of driver assistance technology



Toward commercialization of driverless mobility services

Mobility needs vary by region

Mobility for regionally different transportation infrastructure and mobility needs are desired

Public transportation ⟵ Mobility ⟶ Car