



The launch of the biggest e-bus fleet in Northern Europe

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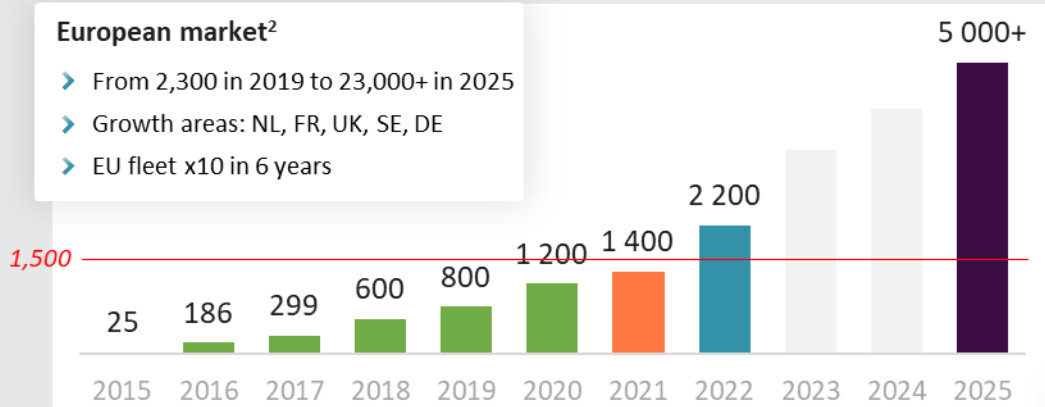
MOBILITY

Electromobility at Transdev, from scattered pilots to full fleet transformation

ZE bus fleet current and prospective evolution¹

European market²

- > From 2,300 in 2019 to 23,000+ in 2025
- > Growth areas: NL, FR, UK, SE, DE
- > EU fleet x10 in 6 years



- > About to exceed our commitment to operate 1,500 e-buses by 2024
- > Acceleration is ongoing with higher demand for complete transformation
- > The pace could increase even more given stimulus packages and new regulations
- > To be noted: very country-specific due to different energy mix orientations

¹ Data is based on existing contracts, vehicle orders and ongoing deliveries to date

² Source: Accuracy analysis, March 2019

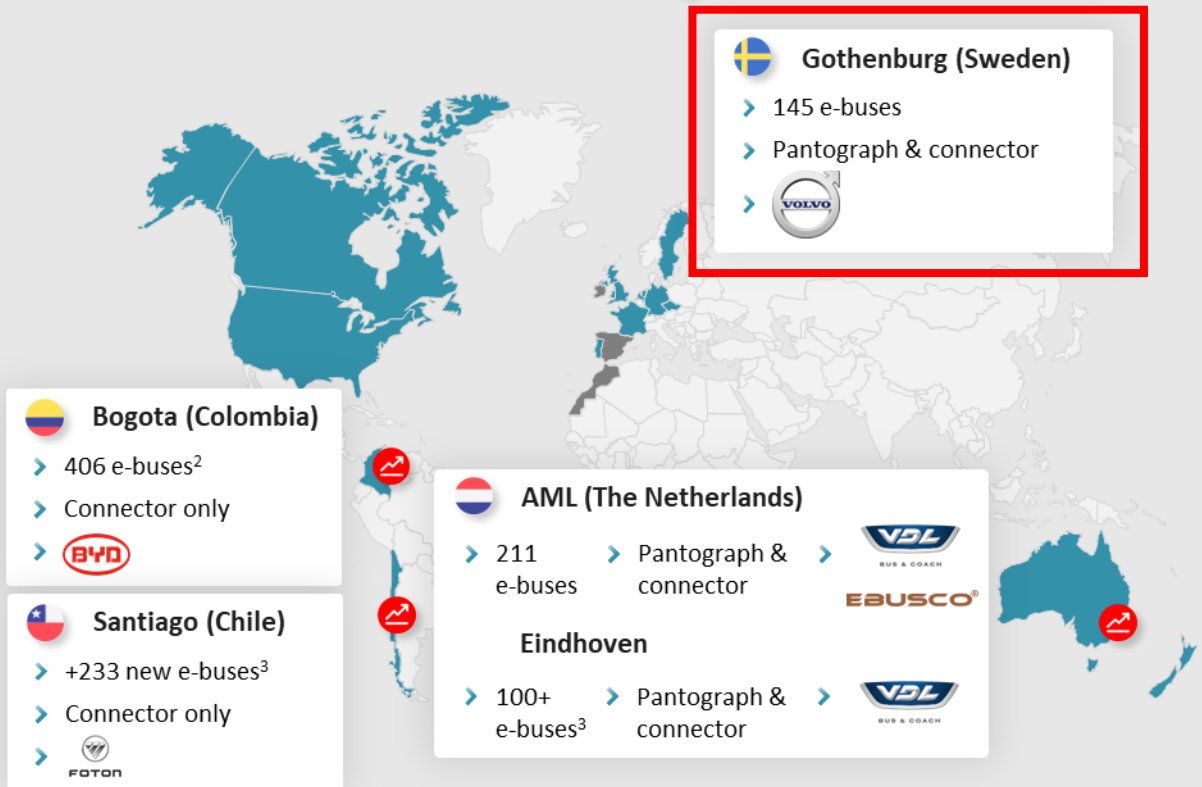
² Operation to start in February 2022

³ Operation to start during the 2nd semester of 2022

⁴ 43 units as of today. More VDL e-buses will be in service in January 2022

100+ e-bus operations worldwide

- Transdev presence
- ZE bus operations
- 📈 Recent movers



The project in a few figures

1,5 year

4 depots

5 contracts

13 charging stations

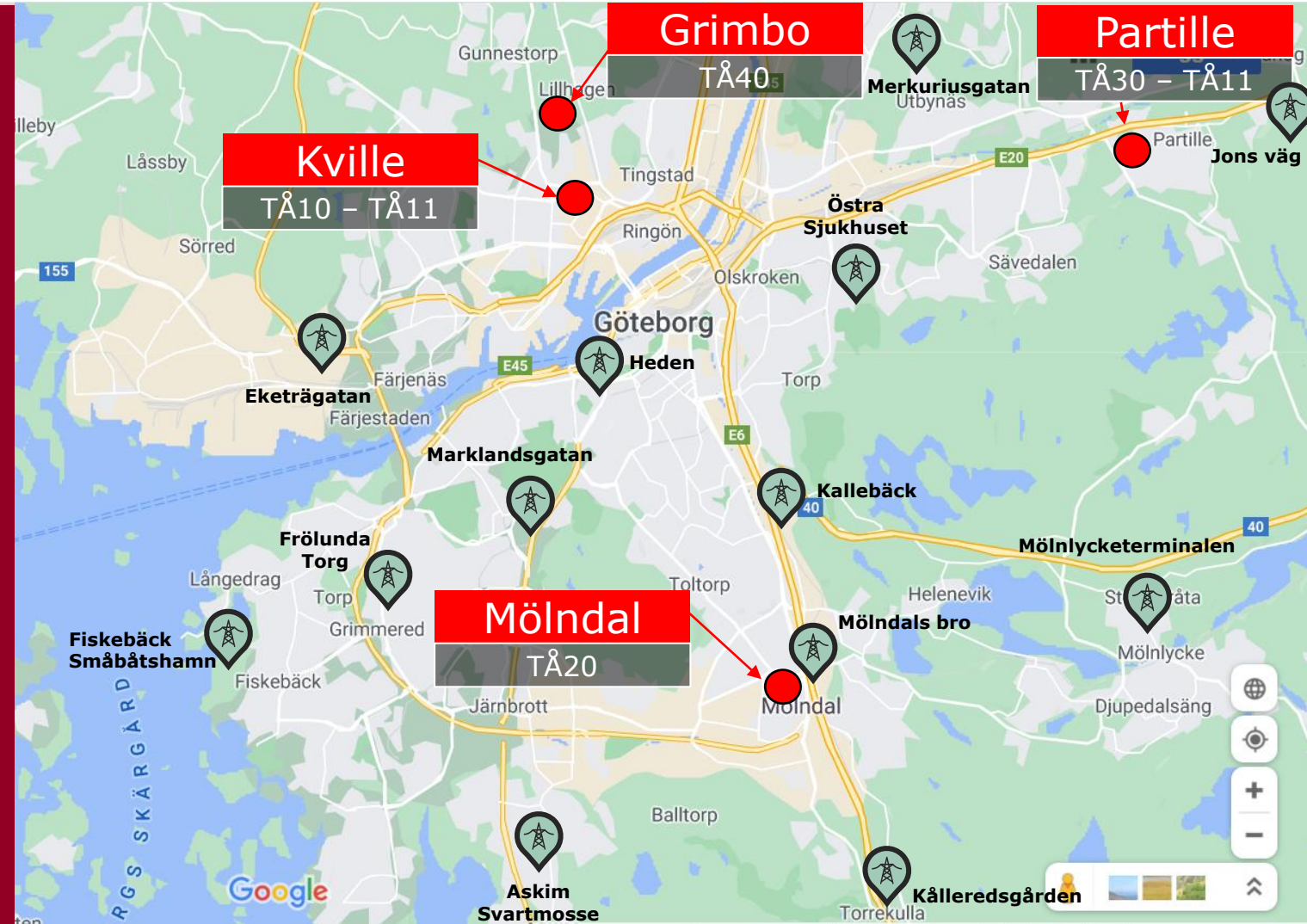
19 pantographs

145 electric buses

141 biogas buses

86 hybrid buses

1000 drivers



Challenges

Project team:

- Planification: Higher complexity in term of planning, infrastructure and optimisation
- Technology: E-buses live longer then the batteries
- Pantographs: different cities and different building permit processes

Bus drivers:

- New buses = training
- New employer and new way of work

Traffic management:

- New buses
- Many depots and a bigger area



Our resources

TECHNICAL COMPETENCES

- Own workshop
- Volvo and ABB had experts "on site"
- Great co-workers!

OPERATIONAL SUPPORT

- 40 trained "support persons" in depots and at pantographs - guidance and start-up help
- Extended traffic management (both internal and external)
9 driver reserves / depot (shift)
- Transdev IT - on site

SYSTEM SUPPORT

- Redundant traffic management locations (radio and GPS)
- Redundant communication system and hardware
- Remote monitoring of charging points and SOC
- Back-up for internal information systems

PLAN B

- Developed "plan B" available digitally and analogue
- Planning
Communication plans and contact information
- Succession scheme

A CLEAR VISION AND A GOOD PARTNERSHIP WITH ALL THE PARTIES INVOLVED

The result

Launch of Northern Europe biggest e-bus fleet on time December 13th 2020, during the pandemic.

Some concrete environmental improvements:

- 88% less CO2-emissions
- 97% less NOX-emissions
- 65% less energy consumption
- 50% less noise

Happy passengers, bus drivers and inhabitants in Gothenburg, Mölndal and Partille



The project in short

