

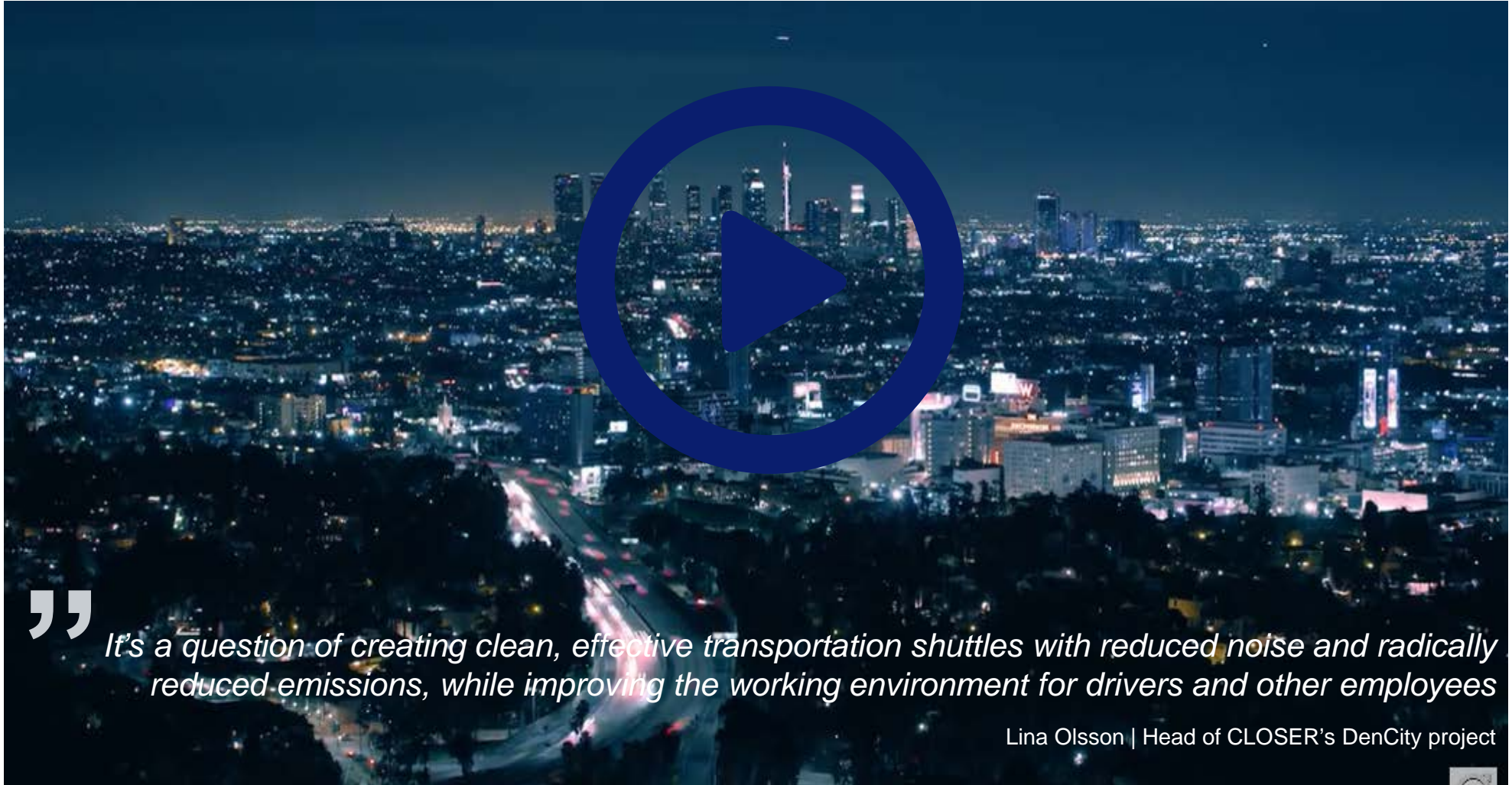


Electrified food distribution and waste handling (DenCity) Volvos' perspective

Fredrik Cederstav, Volvo Group | Oslo | 2018-09-24

Picture source Volvo Trucks

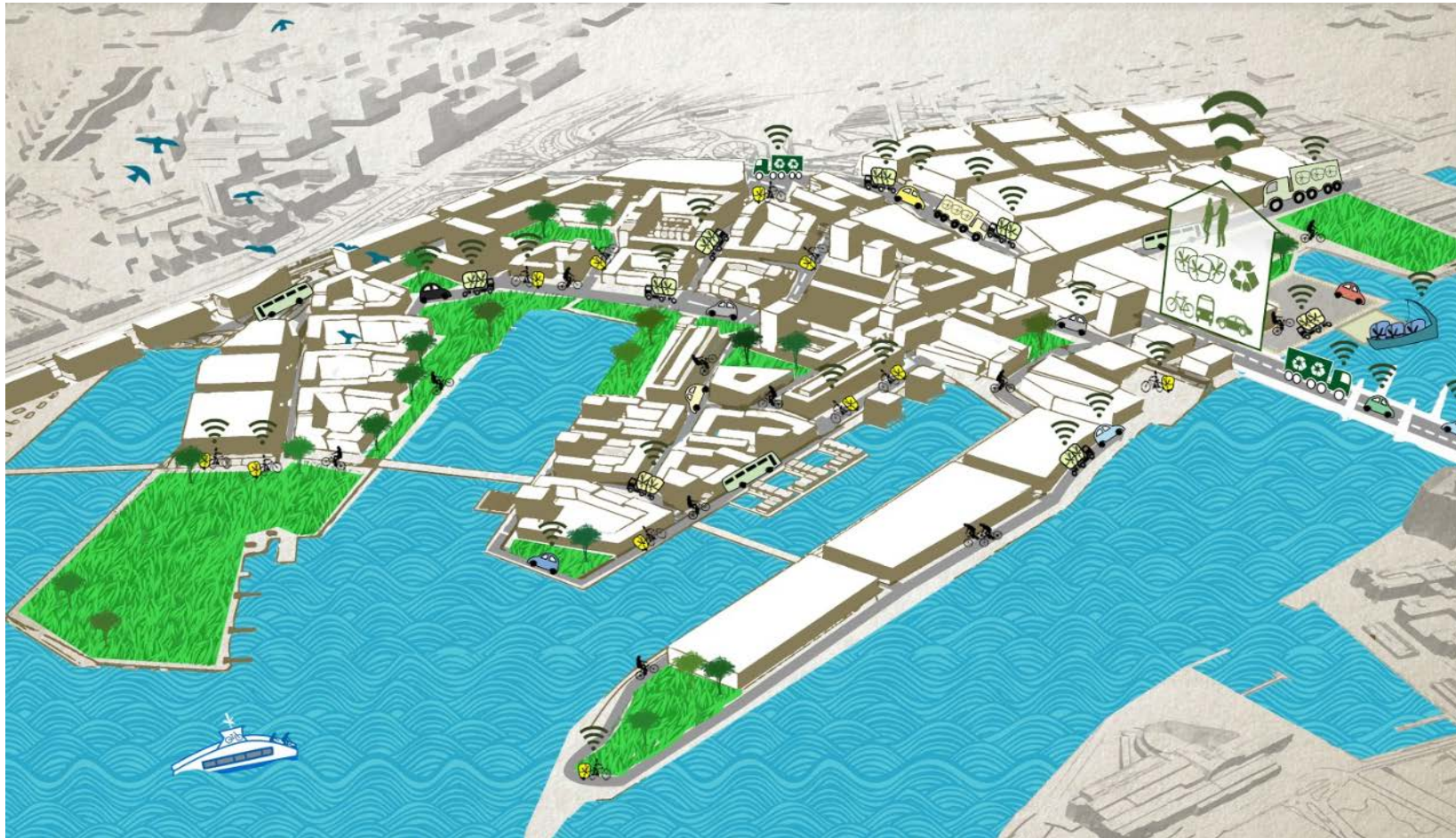
Meet the first known battery driven heavy truck in commercial traffic



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It's a question of creating clean, effective transportation shuttles with reduced noise and radically reduced emissions, while improving the working environment for drivers and other employees

Lina Olsson | Head of CLOSER's DenCity project



The project investigates new innovative transport modes for goods, people and waste in a dense, modern city with narrow streets and few parking lots.



	FL	FE
GVW(t)	16	27
Load capacity (t)	4-7	10-18
Charge time (h)	1-2 DC 150kW 10 AC 22kW	1-2 DC 150kW 10 AC 22kW
Charge system	CCS type 2	CCS type 2
Engines	1	2
Transm.	2-speed	2-speed
Cont. Output (kW)	130	260
Max torque	425	850
Markets	Europe	Europe
Launch	SP 2019	SP 2019

Specifications new FL/FE electric

Fredrik Cederstav, Volvo Group | Oslo | 2018-09-24

Picture source Volvo Trucks

Areas of operation 2019



Electricification gives new challenges for OEM's and also new business models need testing



Challenging conventional business

- The challenges for Volvo Group and all OEMs with this technology are different compared to combustion engines
- Focus will shift from driveline, service contracts and spare parts to optimal specifications, **range** predictions and new business models
- The truck generates **zero emissions** and is significantly more quiet than a diesel truck
- The silent driving enables **off-peak deliveries** which means more space for people during the day
- Even better business models with **Opportunity** charging and weight/cost saving.

Short facts

- Electric truck for distribution or waste
- Total weight of 16 ton
- Electric motor driveline with 200 kW ¹
- Two shift gearbox, propshaft, rear axle
- 2-6 lithium ion batteries with 100-300 kWh
- Range up to 300 km
- AC-charging via grid (22 kW)
- Fast charge via CCS/Combo2 up to 150 kW

¹ 275 Hp

Picture source Volvo Trucks

DenCity: A collaborative work between several parties have enabled a sustainable solution for society



The importance of collaboration

- Different professions involved are traditionally working in “silos” with little or no interaction
- The arena of collaboration is a way of opening up borders and increasing knowledge sharing
- Collaboration makes the process faster



To obtain a commercially practicable solution, this project was conducted in consultation with the city, the carriers, the end customers and the hauliers.

Fredrik Cederstav | Project manager | AB Volvo

A commercial solution

- We have developed, tested and evaluated innovative delivery solutions for dense cities
- The vehicle is thanks to the collaboration optimized for its purpose

End of this year two BE Trucks will start operating in Gothenburg



Next steps and future possibilities

- Business model for electric truck fleets. Battery vs. infrastructure.
- Off-Peak, two-shifts and opportunities with indoor stores and terminals
- New services such as configuration tools, Fleet Management and driver support
- Space for **charging infrastructure** in the city with available services for truck drivers while charging
- Are there commercial actors willing to **invest** in public charging infrastructure
- Where in the largest Nordic urban areas are the heaviest **goods flows**.
- Criterias for placement of **the first few charging** stations such as natural breaks, restaurants, commercial center, workshop service center etc.

Thanks!

