


# SUSTAINABLE CITIES

## A manufacturer's perspective on geofencing

Göteborg, May 2019

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# Driving prosperity



**Volvo Group**

Peter Kronberg, Safety Director

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**VOLVO**  
VOLVO GROUP

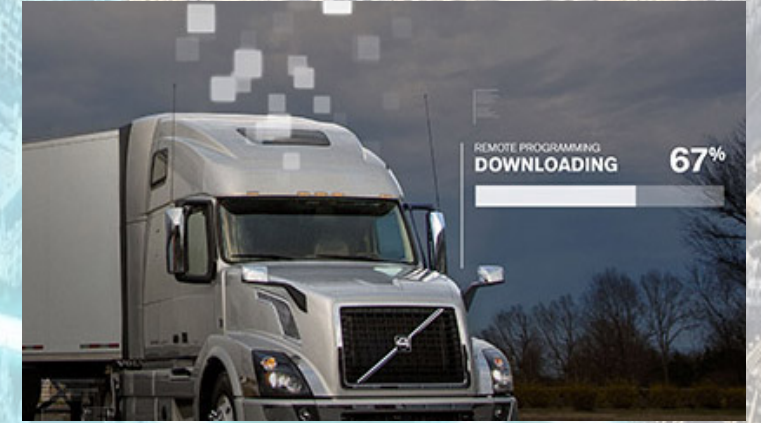
# Transformative technologies



ELECTROMOBILITY





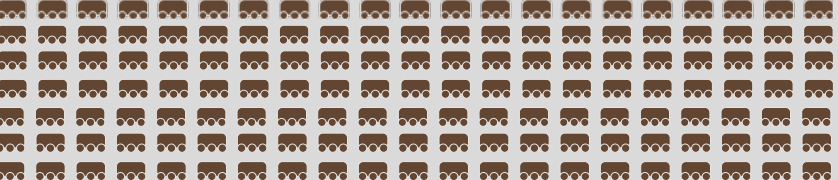


AUTOMATION



CONNECTIVITY

# Transport Efficiency – the importance of consolidating transports

GVW	Load Capacity	No of Vehicles	Street Utilization	Fuel Index	
26 t	17 t	1	22 m	100	 <span style="float: right;">Reference</span>
12 t	7 t	2,4	43 m	179	
3,5 t	1,5 t	11,3	180 m	544	
Cargo Bike	125 kg	136	250 m	0	
Robot	9 kg	1900	950 m	0	

# Drottninggatan, Stockholm, April 2017



A driving force for geofencing?

# Klara-tunnel, Stockholm, March 2019



Can human error be mitigated by timely info via zone management?

# Driving Forces and Enablers



# What is geofencing?

“To define a virtual boundary around a geographic area”

The geofenced area may be used to trigger a response in the vehicle

With or without active control of the vehicle

Zone management or location-based services

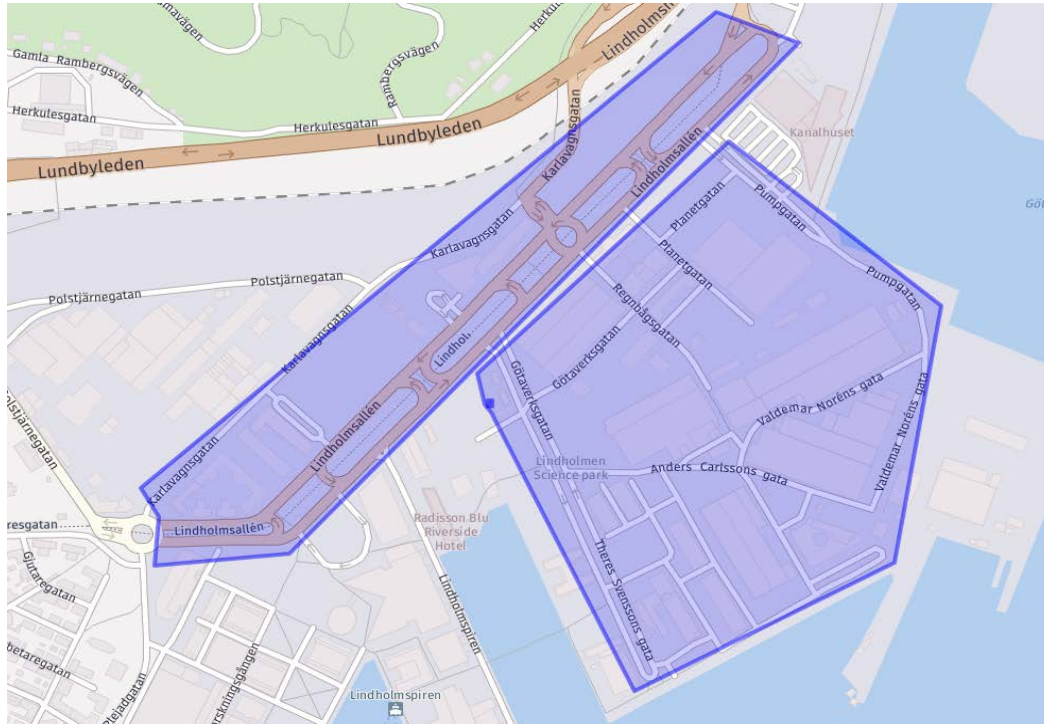
Info-based systems widely used in today's telematic systems





# Volvo Buses Zone Management

- Enables vehicles to automatically adjust to recommendations or restrictions defined for the current geographical location when entering a zone



# Applications and use-cases

## Transport companies



Manage speed, improves safety and fuel  
Reduce wear and tear  
Follow-up driver performance  
Excessive Idling  
Comply with access regulation  
Protecting cargo

## Businesses



Branding  
Reliable deliveries  
...but only with improved logistics

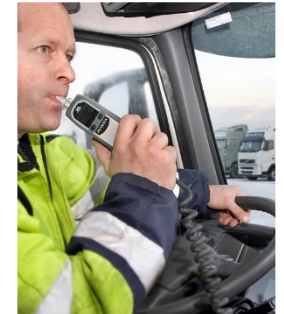
## Cities

Low speed zones  
Silent zones  
low-emission zones  
access restrictions



## Drivers

Real time information  
Comfort/less stress  
...but privacy?



# Issues and obstacles

Remote vehicle control

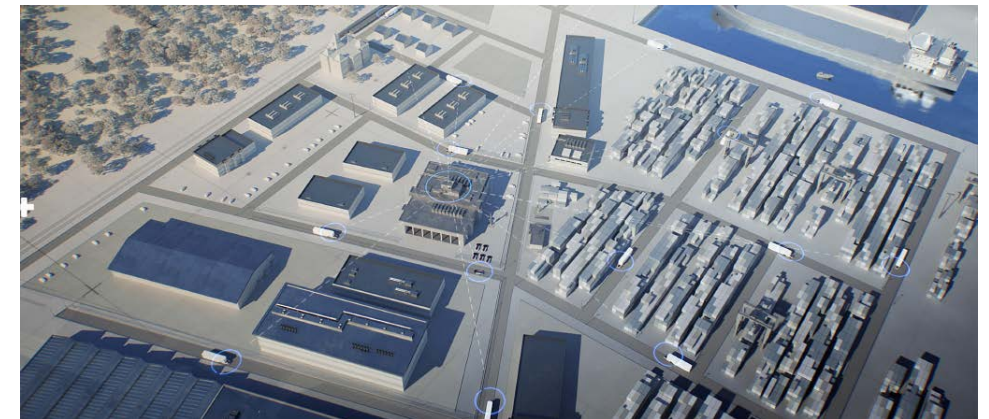
Interface standards and protocols

Maps and positioning

Cyber security (who and how)

Legal and privacy

Business cases



# Conclusions

- Geofencing is not a single technology
- Location based services are available already today
- Cyber security and integrity issues need to be addressed
- Work together to develop harmonized protocols, standards and digital interfaces across Europe
- Geofencing is not protection against malicious use and overrideability is likely needed for safety reasons
- Consider the transport operators driving forces and benefits, to create a demand for these types of solutions

