

Drive Sweden

A coordinated national effort towards
an Automated Transportation System

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DRIVE SWEDEN

Sweden in a nutshell

- 9.5 million people
- Three leading vehicle OEMs (2 * Volvo, Scania)
- Solid track record in traffic safety – “Vision Zero”
- One major telecom player (Ericsson)
- Global center for automotive winter testing
- Strong sustainability agenda
- Successful transformational startups (Skype, Spotify etc.)



”The way people and things move around will change significantly the next few years, and that change will be as dramatic as the switch from horses to automobiles”

Bill Ford, Executive Chairman of Ford Motor Co, Feb 2016

Automotive megatrends shaping our future mobility





Drive Sweden drives the evolution towards a transport system based on automation, digitization and servification; which creates a sustainable society and strengthens Swedish industry

Watch this animation at www.drivesweden.net/en

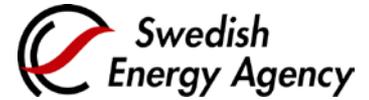


Strategic Innovation Programs

- The Swedish government has initiated 16 Strategic Innovation Programs (SIP), jointly financed by three government agencies plus a 50% industry contribution
- The purpose of a SIP is to
 - to find sustainable solutions to global challenges for societies
 - create conditions for international competitiveness



Forskningsrådet
Formas



(Automated) Mobility-as-a-Service

Digitized

Electrified

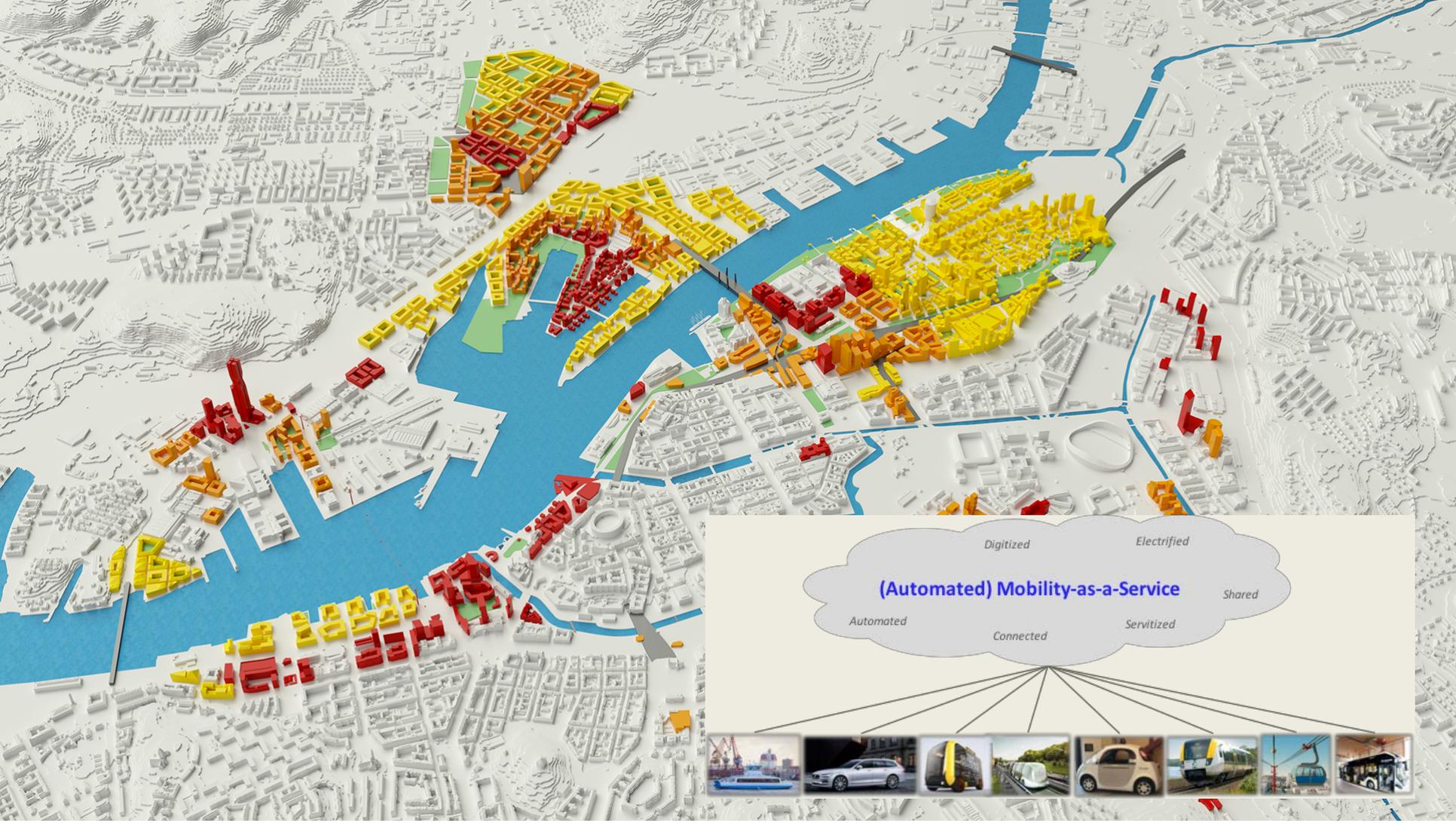
Shared

Automated

Connected

Servitized





DRIVE : SWEDEN





National Electric Vehicle Sweden



ERICSSON



Autoliv



MINDCONNECT



carmenta superior situational awareness



ACTIVE SAFETY TEST AREA



True testing since 1973



Samtrafiken





TRAFIKVERKET



TRANSP
STYREI

Government

Academia

Industry



Göteborgs
Stad



Stockholms
stad



kista
SCIENCE CITY

or | connexior

E2

Telia

Norconsult



ATKINS



KTH
VETENSKAP
OCH KONST

VU

li.u LINKÖPINGS
UNIVERSITET

CHALMERS



SWEDISH
ICT



SP
your
Science Partner

ERIC



TOIV

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Samtra

biGo

postnord

ASTAZERO

ACTIVE SAFETY TEST AREA

ICE MAKERS

True testing since 1973

LINDHOLMEN
SCIENCE PARK

DRIVE SWEDEN

Overview of current projects & activities

- World-first project on public roads
- 100 self-driving (L4) Volvo cars in real traffic, with real commuters
- \$100 million investment
- Co-operation with Swedish authorities
- Project started 2013, real pilot in 2017



Drive Me

SELF-DRIVING CARS FOR
SUSTAINABLE MOBILITY



CHALMERS

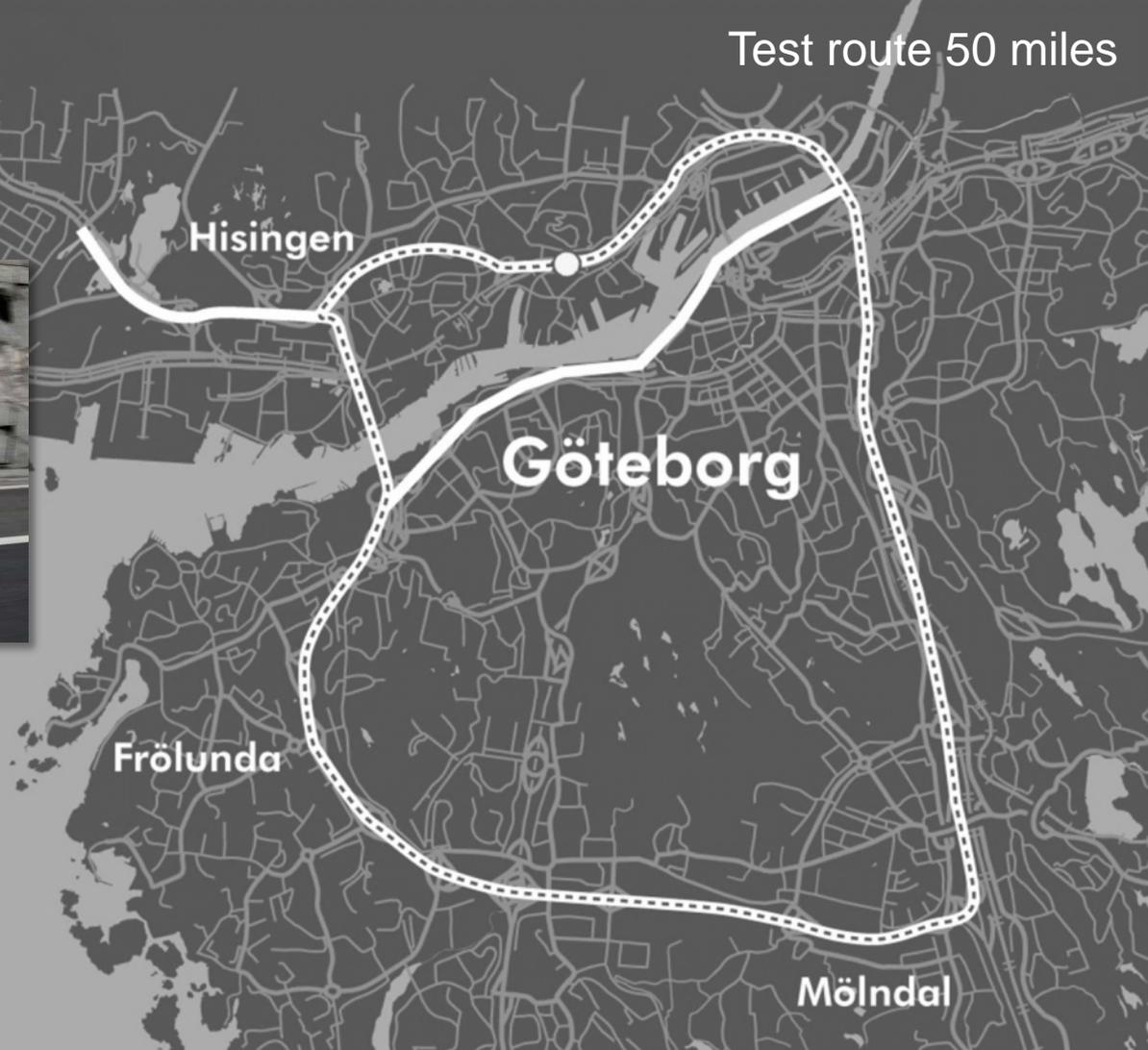


Test route 50 miles



Drive Me

SELF-DRIVING CARS FOR
SUSTAINABLE MOBILITY



Drive Me sub-projects

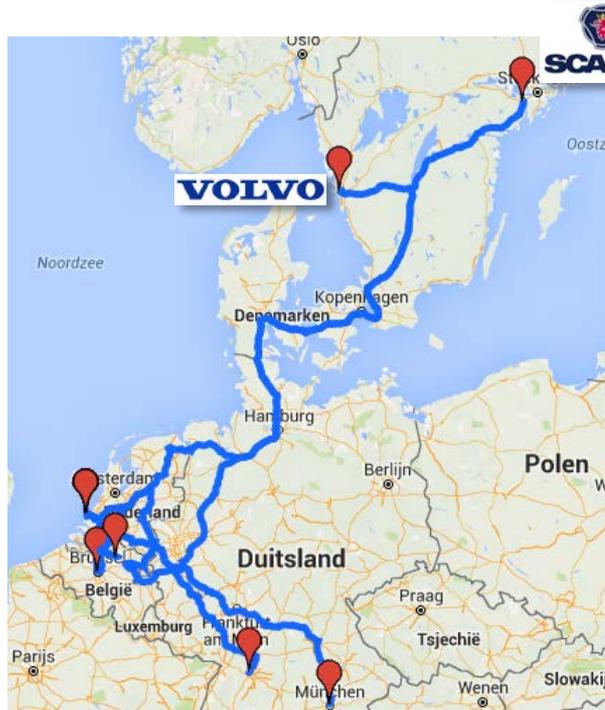
- The actual 100 car pilot
- Traffic flow analysis
- Safety analysis
- Energy efficiency analysis
- Parking use case
- ...



- Two additional public pilots recently announced, in China and London
-



European Truck Platooning Challenge



Automated Construction vehicles



Kista Mobility Week



- During five days in April, 3,300 people took the self-driving shuttles between the transit station and their workplaces

The road to self-driving vehicles - trials (SOU 2016:28)



Task

- **Submit proposals for the regulation of trials using self-driving vehicles on roads. To be reported no later than April 1, 2016.**
- **Submit proposals for an introduction of fully or partially automated vehicles on the road. To be reported no later than November 28, 2017.**

Sweden's ability to act as host country for trials using self-driving vehicles is very good!



A specific act for trials

- Includes buses, trucks, cars and other types of self-driving vehicles
- Trials using self-driving vehicles at all levels of automation (even without a physical driver in the vehicle)

Trial permits

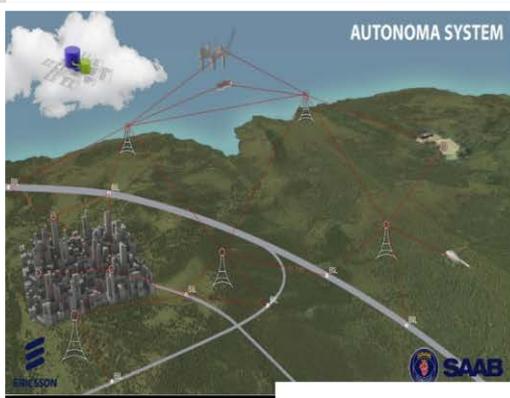
- The test organisation shall, in its application, indicate how road safety will be ensured when the trials are taking place
- The Swedish Transport Agency shall be responsible for authorising permits to carry out trials
- A decision on permits may be combined with a number of conditions

The issue of liability

- When the vehicle is in self-driving mode, criminal liability shall be borne by whoever applied for the permit
- When the vehicle is driven manually it is the physical driver who bears the criminal liability

WASP

A new effort on basic research (225 MUSD)



Software!

Wallenberg Autonomous Systems Program

Eleven year program 1800 MSEK*

KAW 1300 MSEK!

Univ 200 MSEK!

Industry 300 MSEK!

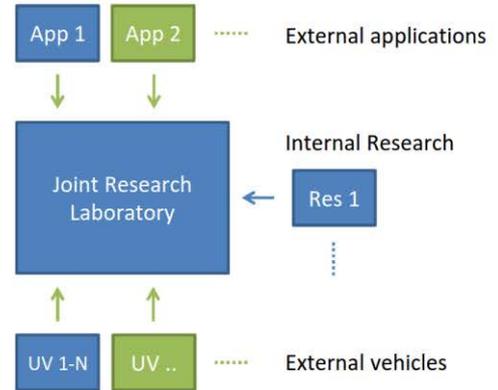
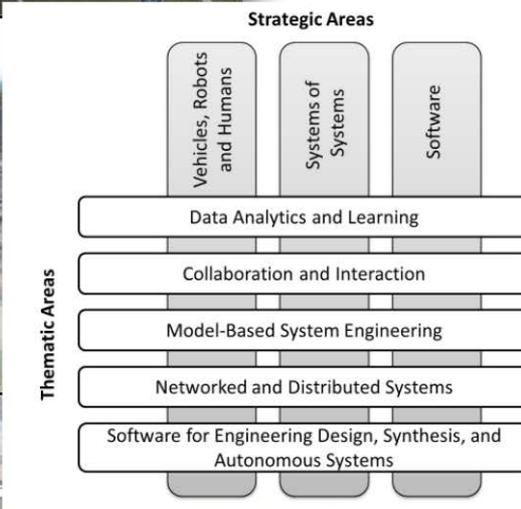
!!!!!!

Recruitment program*

!!!!!! Internally (competitions) (offers)!

Graduate School*

!!!!!! Ambitious program, Industrial PhDs!



Born To Drive - Self-driving cars simplify logistics

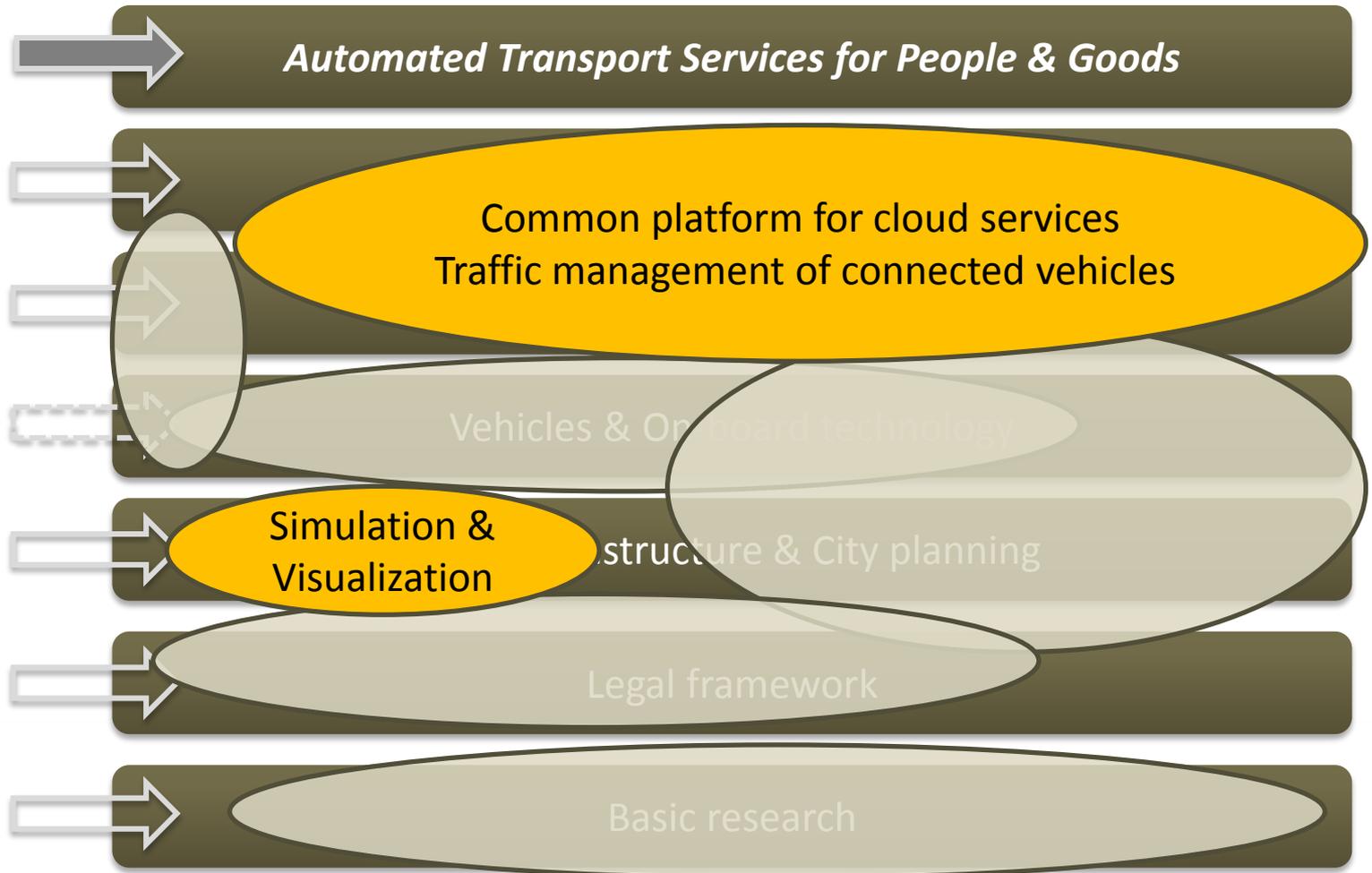
The Born To Drive project will create new opportunities in terms of the logistics of newly manufactured cars.

- A vehicle is moved up to 30 times from the production line to arrival at the dealer. Each time, a driver currently needs to get into the car and drive to the next location.
- The Born To Drive project is developing a solution that will both guide the car to the right place at the right time as well as monitor the route to ensure no incidents occur. The aim is to demonstrate this in practice at a factory site in summer 2017.

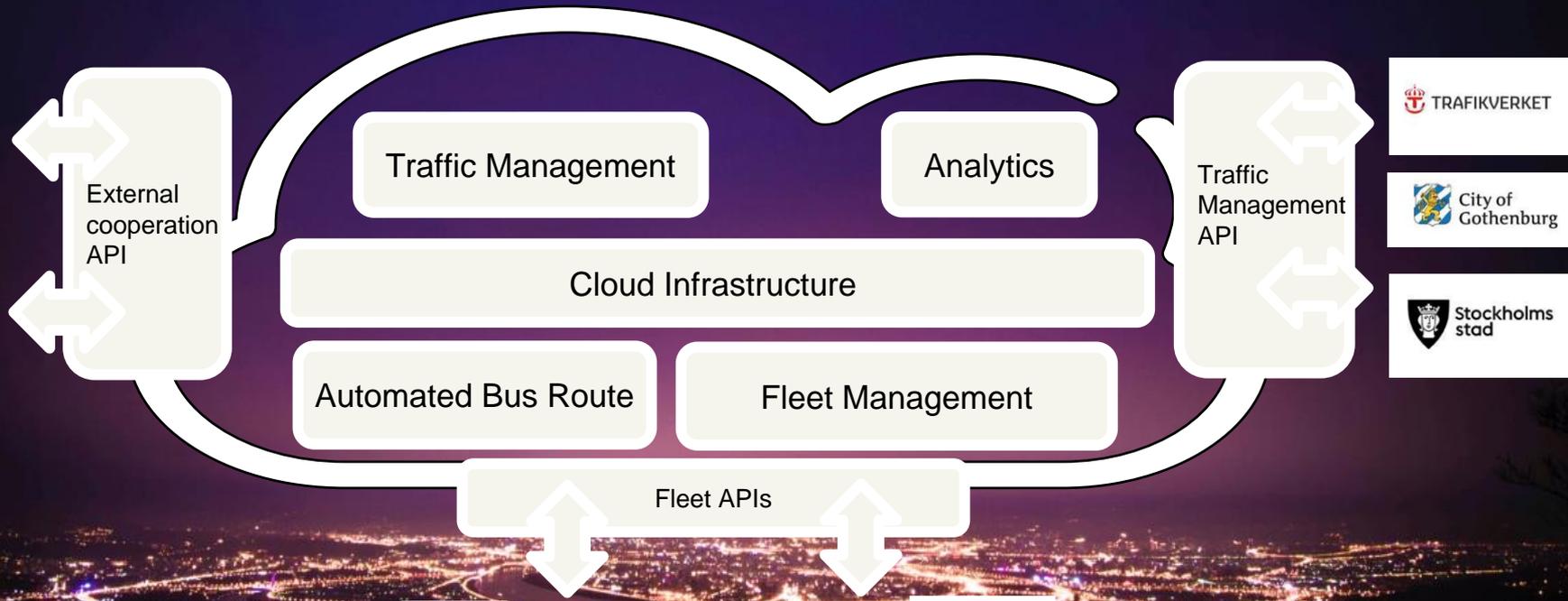


2016 Priorities

DRIVE : SWEDEN



Drive Sweden – Open Cloud



Connected traffic management for automated transport



- › Preview version demonstrated during Kista Mobility week
- › Under development with partners in Drive Sweden, Connected Mobility Arena and other projects



It's not all about driverless vehicles. This is a completely new approach to mobility.

We are on the threshold of a radical shift, and it's happening fast.

In just a few years the world will change.

We will see entirely new mobility business models enabling sustainable cities.