DriveMe – Future Mobility

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Volvo Cars

Global Megatrends

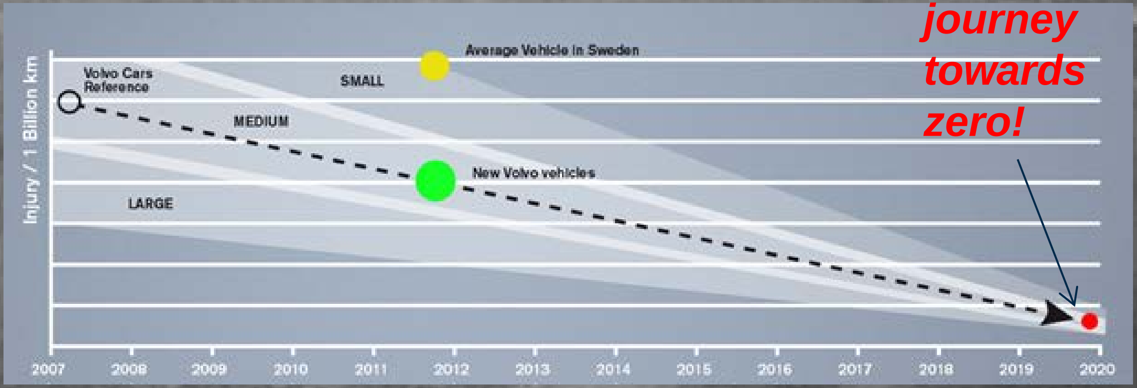
- Continued urbanisation
- Growing number of megacities
- Air quality major health issue
- Traffic casualties huge global health problem
- Congestions – economic and personal losses
- Desire for constant connectivity
- Desire for individual mobility
- Transition to sustainable fuels/energy

Volvo Vision 2020

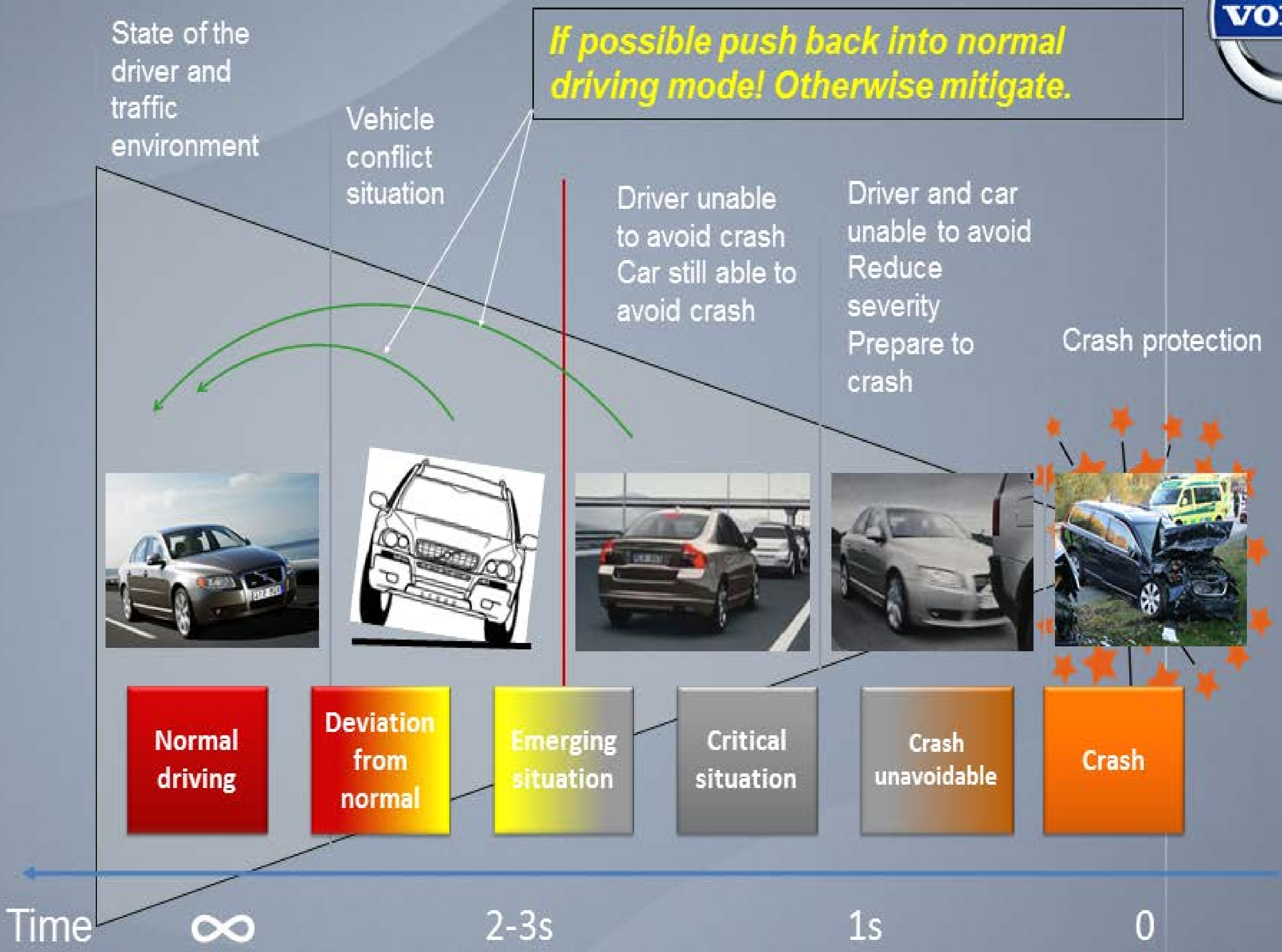
By 2020 no-one should be killed or seriously injured in a new Volvo

Our long-term vision is to design cars that should not crash.

Active safety systems needed for the journey towards zero!

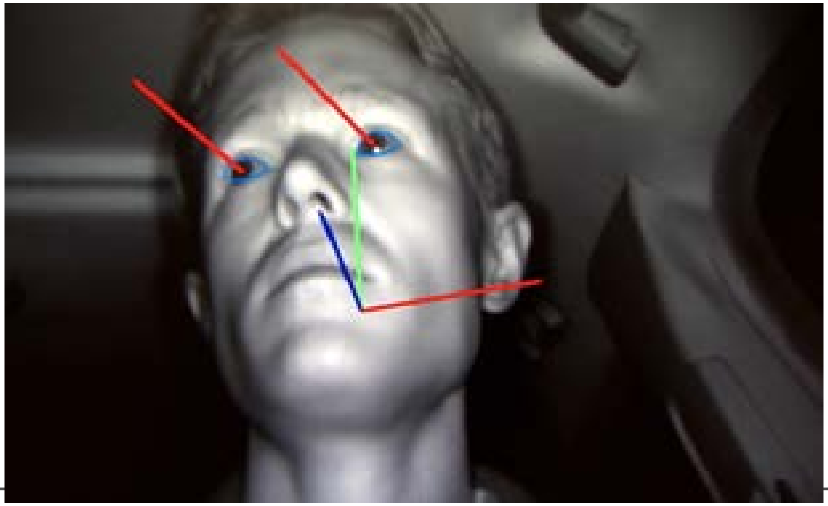


Volvo Safety Strategy



Focus on the Driver – not the Technology

- Human error involved in 90-95% of all crashes.
- Monitoring driver attention & assessing driver capabilities the base for active safety technologies.
- Aim is to optimize warning and activation levels for each individual and each situation.
- Technologies ***’Designed Around You’.***



Active Safety Technologies in Production

Information and Driver Support

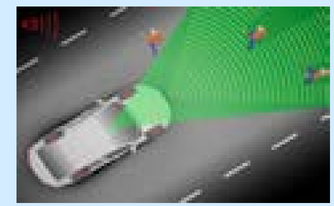
Traffic Sign information

Adaptive Cruise Control

Blind spot detection

Warnings and Automatic Activations

LDW and LKA



Automatic braking for pedestrians

Automatic rear-end braking

Automatic low speed braking

Driver State Measurements

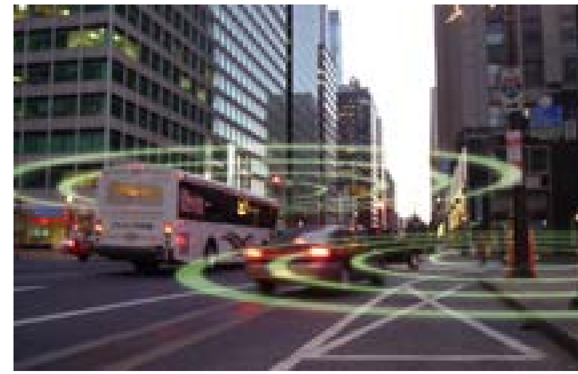
Drowsiness and distraction

Alcohol interlocks

Near Term Active Safety Technologies

Automatic braking for more objects

Automatic braking in darkness



V2V and V2I communication

Road edge and barrier steer assist

Distance and steering assist

The 360° Car

(with some help from above)

Auto Brake Technology – Cyclists & Pedestrians

Brief of CATARC's Strategic Partnership

Possibilities from Technical Developments

Until 10 years ago – self-driving cars something for the long term future.

The development of active safety systems have created cars that can:

- Sense the surroundings and brake automatically
- Communicate and transfer useful traffic information
- Adapt the speed
- Keep a distance
- Follow a lane
- Can measure the state of the driver

Autonomous Driving Brings New Opportunities

Autonomous driving creates opportunities on:

- Safety
- Fuel economy
- Traffic flow
- Improved mobility
- Infrastructure
- Comfort
- Urban planning

New Generations – New Challenges

- Young people grow up used t being constantly connected.

- Mobility in the future will require connectivity.

Self-driving cars: combine mobility and connectivity.

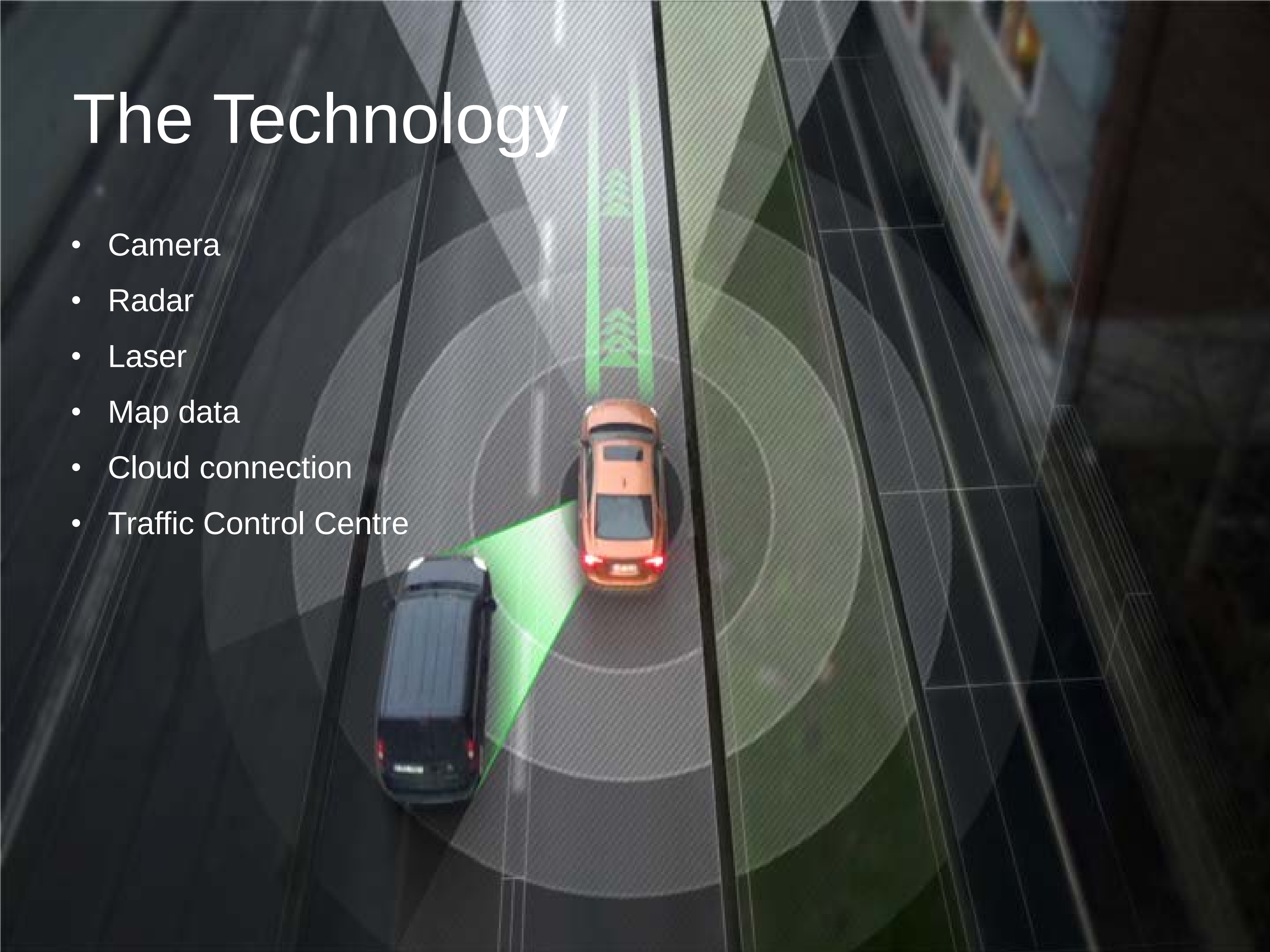
Self-Driving Cars for Sustainable Mobility – DriveMe Project

- The worlds first large scale project for self-driving cars
- Project starts 2014
- Self-driving cars on public roads in 2017
- 100 customer cars
- 50 km highway/ max speed 70 kmh
- Automatic parking in 2015

TEST ROUTE

- Typical commuter routes in and around Gothenburg
- Several lanes
- Frequent queues
- 4 tunnels
- Few intersections

NHTSA Level 3: Conditionally Autonomous / Highly Autonomous



The Technology

- Camera
- Radar
- Laser
- Map data
- Cloud connection
- Traffic Control Centre

The Target – To Free Up Time for Drivers While in the Car

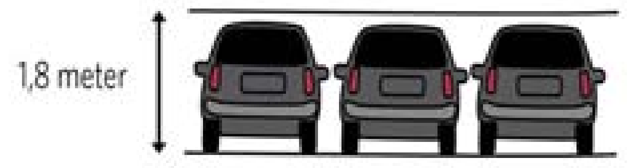
Self-driving cars: Offering time, connectivity and a safe ride!

Focus Areas

- Societal and economical benefits: improving traffic efficiency, traffic environment and road safety
- Infrastructure aspects
- Suitable traffic situations
- Customer expectations on autonomous vehicles
- How surrounding road users interact with a self-driving car
- Legal and liability aspects

Autonomous Parking

- Space-efficient
- Possibility to use less attractive areas
- Offers convinience
- Safe
- Cost-efficient for society
- Offers possibilities for urban planning



Road Trains/ Platooning

Brief of CATARC's Strategic Partnership

- **SARTRE** = SAfe Road TRains for the Environment
    - Pan European road train project.
    - Based on existing technologies.
    - Showed significant reduction in fuel consumption (for 18 feet gap):
        - 5% for lead vehicle
        - 14% for following vehicles
    - Add on cost/ car 2000 Euro.
    - Presented realistic business models

Autonomous Cars for Future Mobility

- Self-driving cars offer many opportunities.
- Will offer a significant shift in individual mobility.
- May have consequences for the insurance industry.
- May significantly change car ownerships -> large consequences for motor vehicle manufacturers.
- Co-operation between governments and industry will be essential.


The best way to predict the future is to shape it!
Thank you!