



equity in transportation

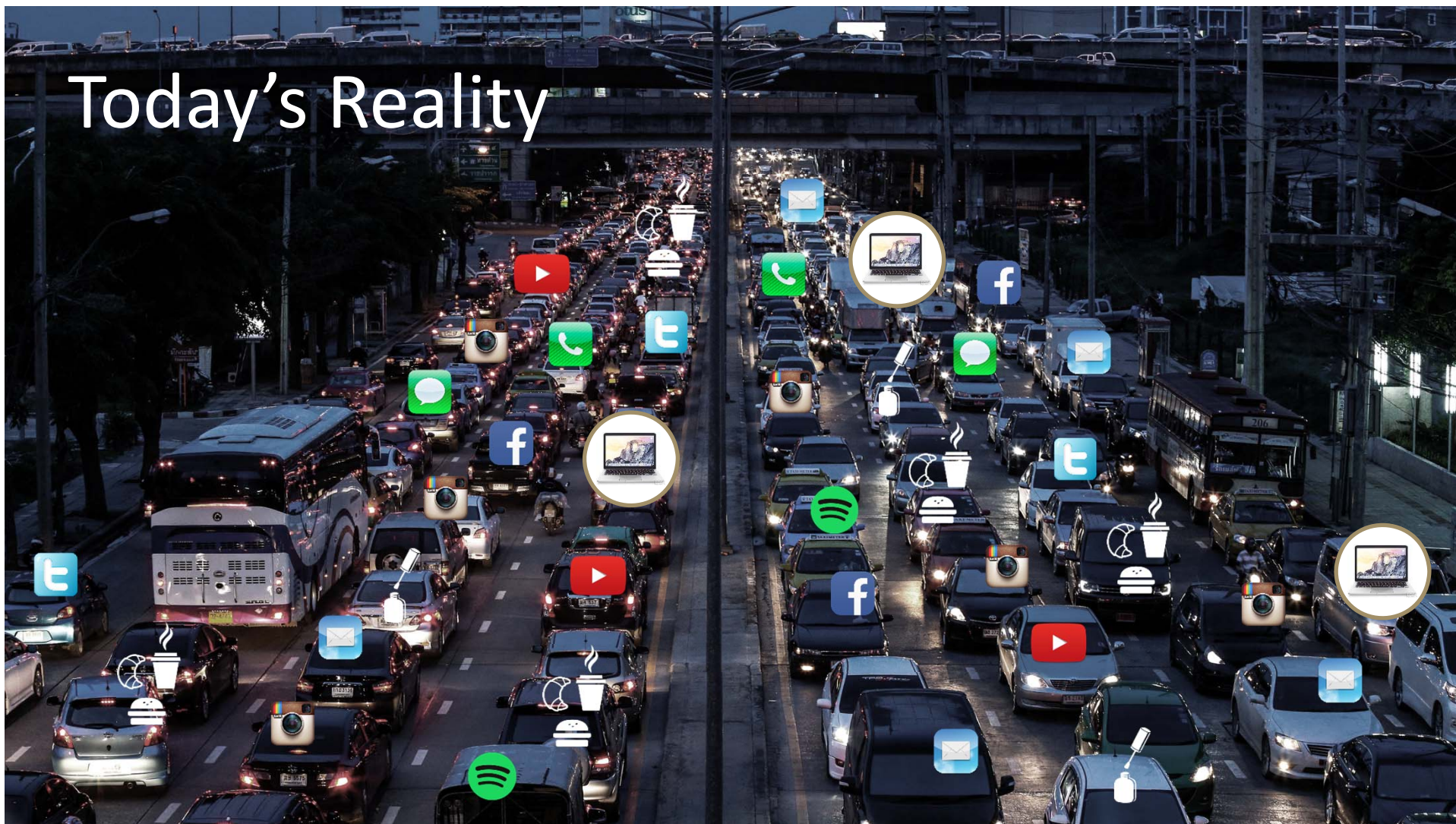
the volvo perspective

coby duggan
VOLVO CARS new zealand

Global Trends

- Growing number of 'mega cities' (+10 million).
- Increased rate of urbanisation.
- Populations outgrowing infrastructure.
- Deterioration in air quality.
- Traffic accidents have become a global health issue.
- Commuting times continue to increase.
- Desire for more efficient use of time.
- Desire for constant connectivity.

Today's Reality



Shaping the Future of Mobility

What are we all trying to achieve?

- ✓ Improved environmental outcomes.
- ✓ Improved efficiency and productivity.
- ✓ Improved traffic safety.



Human Centric: Since 1927

A black and white photograph of two men, Assar Gabrielsson and Gustaf Larson, the founders of Volvo. They are standing in front of a building with a large Volvo logo on the facade. The man on the right is wearing a dark bowler hat and a suit, looking towards the left. The man on the left is also in a suit, looking towards the right. The background shows the building's facade with the Volvo logo repeated across it.

“Cars are driven by people. The guiding principle behind everything we make at Volvo, therefore is – and must remain – safety.”

Assar Gabrielsson & Gustaf Larson, the founders of Volvo



'Vision 2020'



"Our vision is that by 2020 no one should be killed or seriously injured in a **new** Volvo car."

Håkan Samuelsson
President and CEO, Volvo Cars

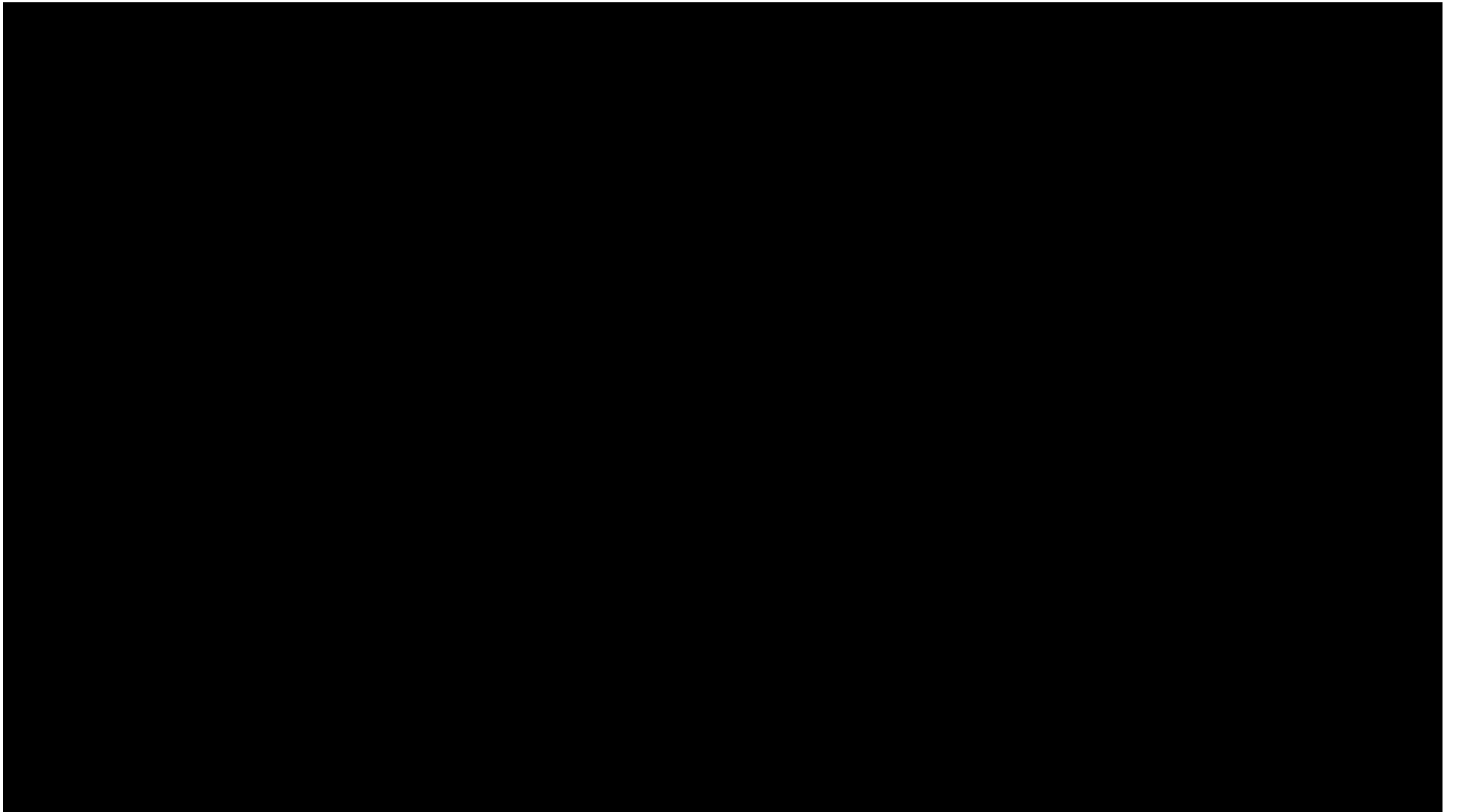


Volvo's History of Innovation

1944: Laminated windscreen and safety cage
1954: Defroster vents for windscreen
1959: 3-point safety belt
1966: Crumple zones
1971: Reminder for safety belts
1972: Rearward-facing child safety seat
1977: Lambda sensor
1978: Child safety booster cushion
1991: SIPS – Side Impact Protection System
1997: ROPS – Rollover Protection Structure

1998: IC – Inflatable Curtain
1998: WHIPS – Whiplash Protection System
2006: Collision warning with brake support
2007: Driver Alert
2009: City Safety
2010: Pedestrian Detection with autobrake
2013: Cyclist Detection with autobrake
2014: In-car delivery
2014: Pilot Assist
2014: Cross-traffic Alert

2014: Run-off Road Protection
2015: Large Animal Detection
2015: Excellence Child Seat Concept
2015: Slippery Road Alert
2015: Pilot Assist
2016: Volvo Cars digital key
2016: Connected Safety
2017: Lane-keeping assist + automated steering
2019: The E.V.A. Initiative
2020: Speed limit on all cars (180 kph/112 mph)





INTRODUCING
THE E.V.A. INITIATIVE
EQUAL VEHICLES FOR ALL

Cars are safer than ever before.

So why are they not equally safe for everyone?

At Volvo we have gathered data since the 1970s to protect all people.

No matter what you look like or what your gender is. It's about time we made equal safety a priority everywhere. In every single car, crash test and company across the globe. Because cars shouldn't discriminate.

Design shouldn't put people at risk.

Our chances should be the same.

And human rights shouldn't expire when we enter a car.

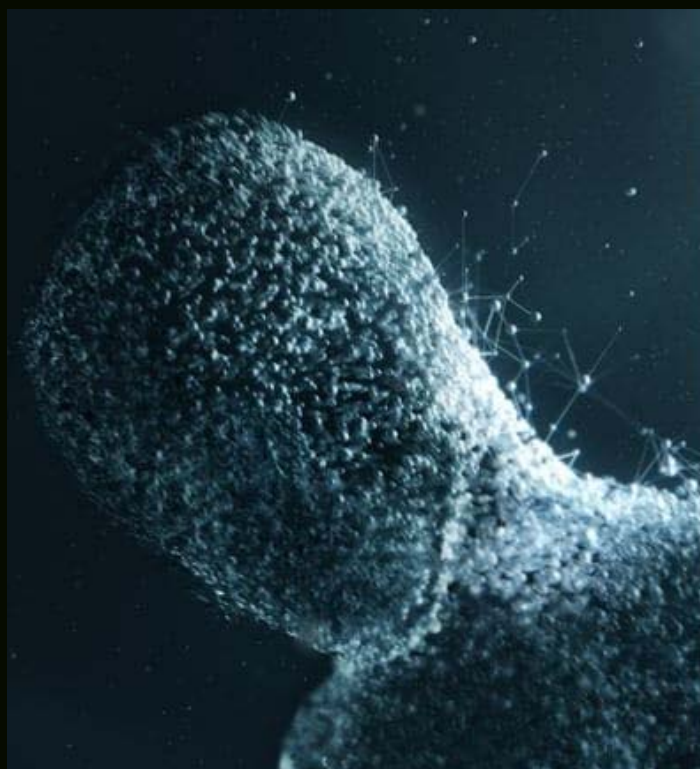
Let's turn equal safety into a global movement. And make it impossible to ignore.

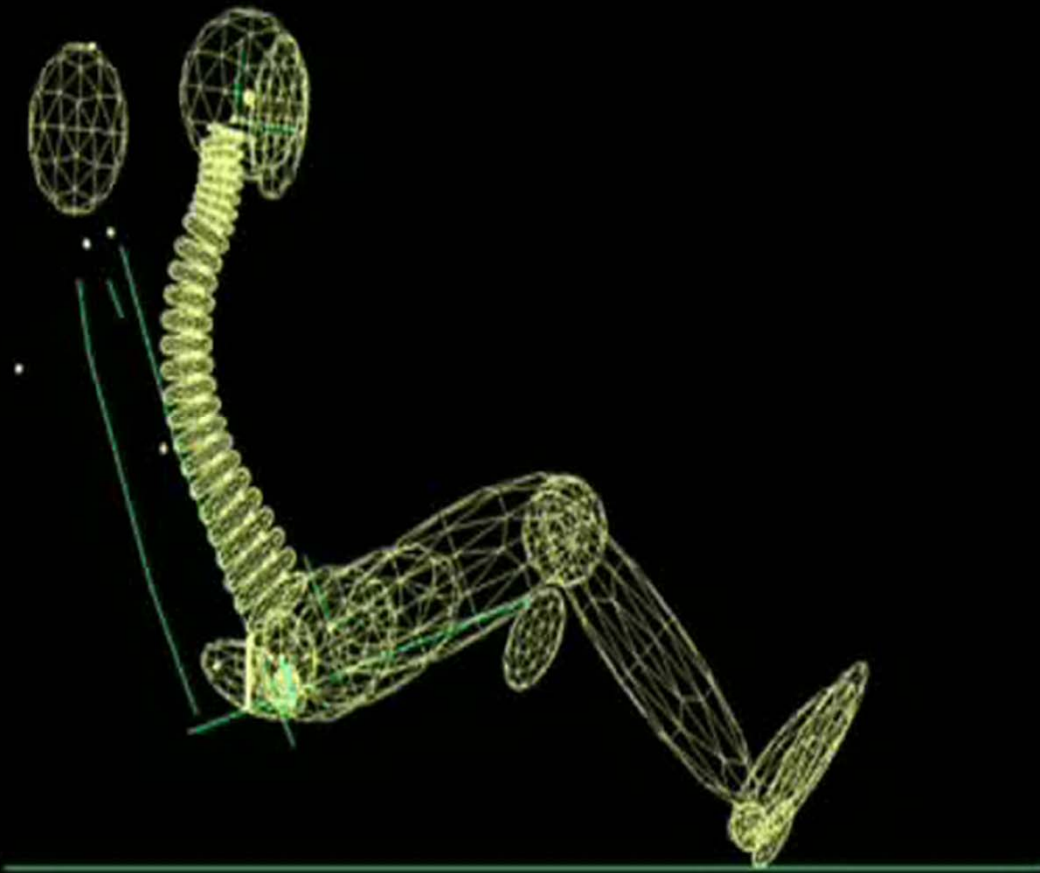
Let's open up technology and share our ideas. Between cities and cars, across borders and brands.

Because everything we do is for everyone's safety.



Whiplash Protection System







An intelligent safety shield: side impact



Protecting every head



The most effective lifesaver: since 1959



Human factors

- Alcohol
- Drugs
- Sleep deprivation
- Distraction
- Speed



It was once about freedom...

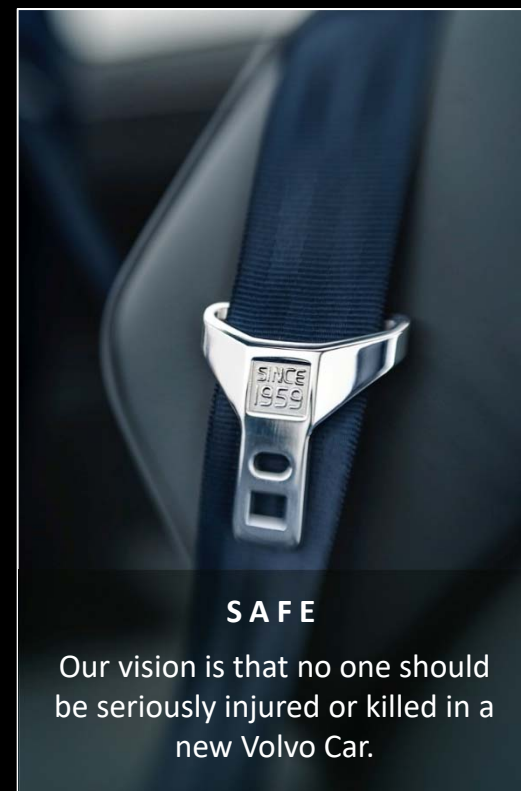


...it's still about freedom...



...the freedom to choose.

Freedom to move



A Future of Electrification...



NZ's First Autonomous drive Demonstration



Transport Minister makes history



Self-driving cars are popping up all over the world but are still a bit of a futuristic dream for the average New Zealander. The average New Zealander says they'd be better off with a car that can drive itself than one that can drive itself.

Self-driving cars are safer

The driver of a self-driving car is not responsible for any accidents that occur while the car is driving. The car is responsible for its own actions.

What Simon says

Simon Bridges, the Transport Minister, says that self-driving cars are a game-changer for New Zealand. He says that they will make our roads safer and more efficient.

The test drive

Simon Bridges took a test drive in a Volvo XC90 self-driving car on a 10km stretch of road in Tauranga. The car was able to drive itself for the entire duration of the test.

The verdict

Simon Bridges was impressed with the performance of the Volvo XC90 self-driving car. He says that it was a very successful test drive and that he is looking forward to seeing more of these cars on our roads.

SPECS	
Volvo XC90	
• 2.0L Turbo Diesel	• 2.0L Turbo Petrol
• 2.0L Turbo Diesel	• 2.0L Turbo Petrol
• 2.0L Turbo Diesel	• 2.0L Turbo Petrol
• 2.0L Turbo Diesel	• 2.0L Turbo Petrol
• 2.0L Turbo Diesel	• 2.0L Turbo Petrol

Self-drive car put through its paces on Kiwi road

JO LINES-MACKENZIE
Last updated 17:47, November 18 2016



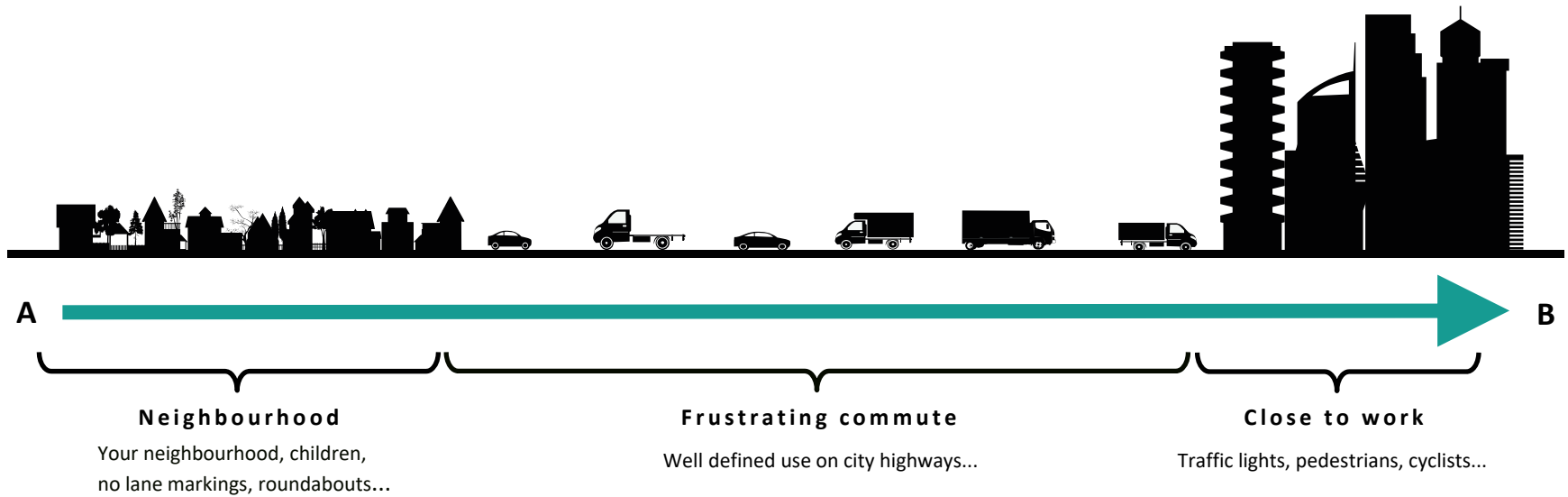
Simon Bridges tags along for a ride to see the new driverless technology as demonstrated by Volvo NZ in Tauranga.

A driverless car has had its first demonstration on an open New Zealand road, but already it's raising questions about what drivers might be allowed to do if their hands are no longer on the wheel.

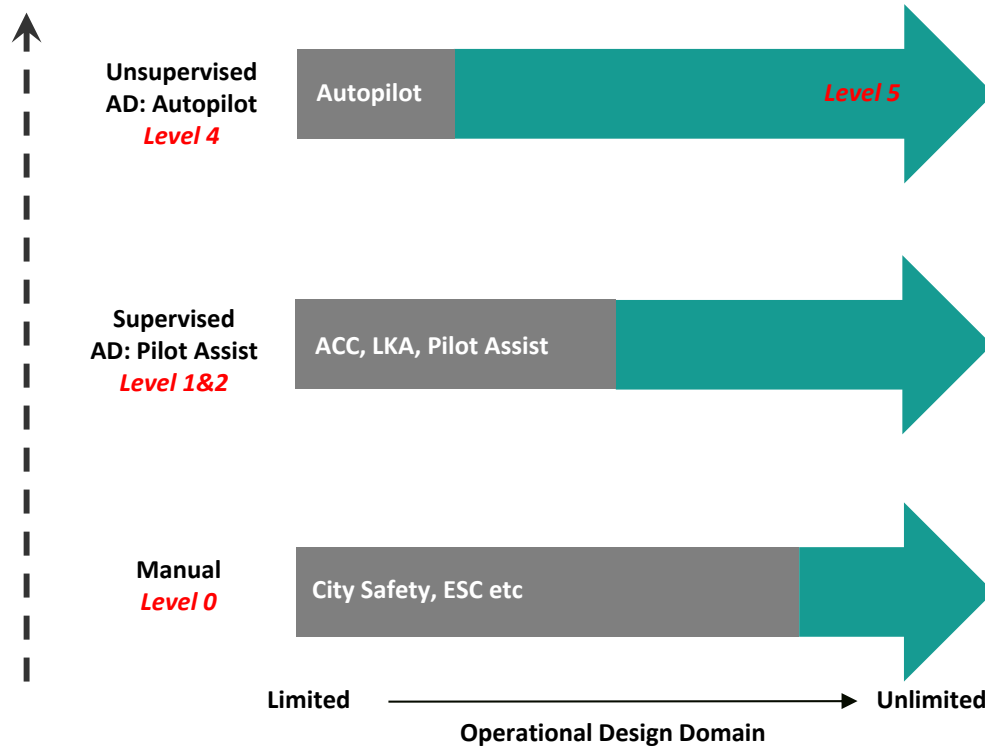
And whether we bring back cellphones and even drinking for drivers once the robots are fully in charge could be up for consideration.

Car maker Volvo showed off its XC90 to Transport Minister Simon Bridges and NZTA officials on a 10km stretch of Tauranga road on Friday afternoon.

Well-Defined Commuting Highways



Degrees of Autonomy

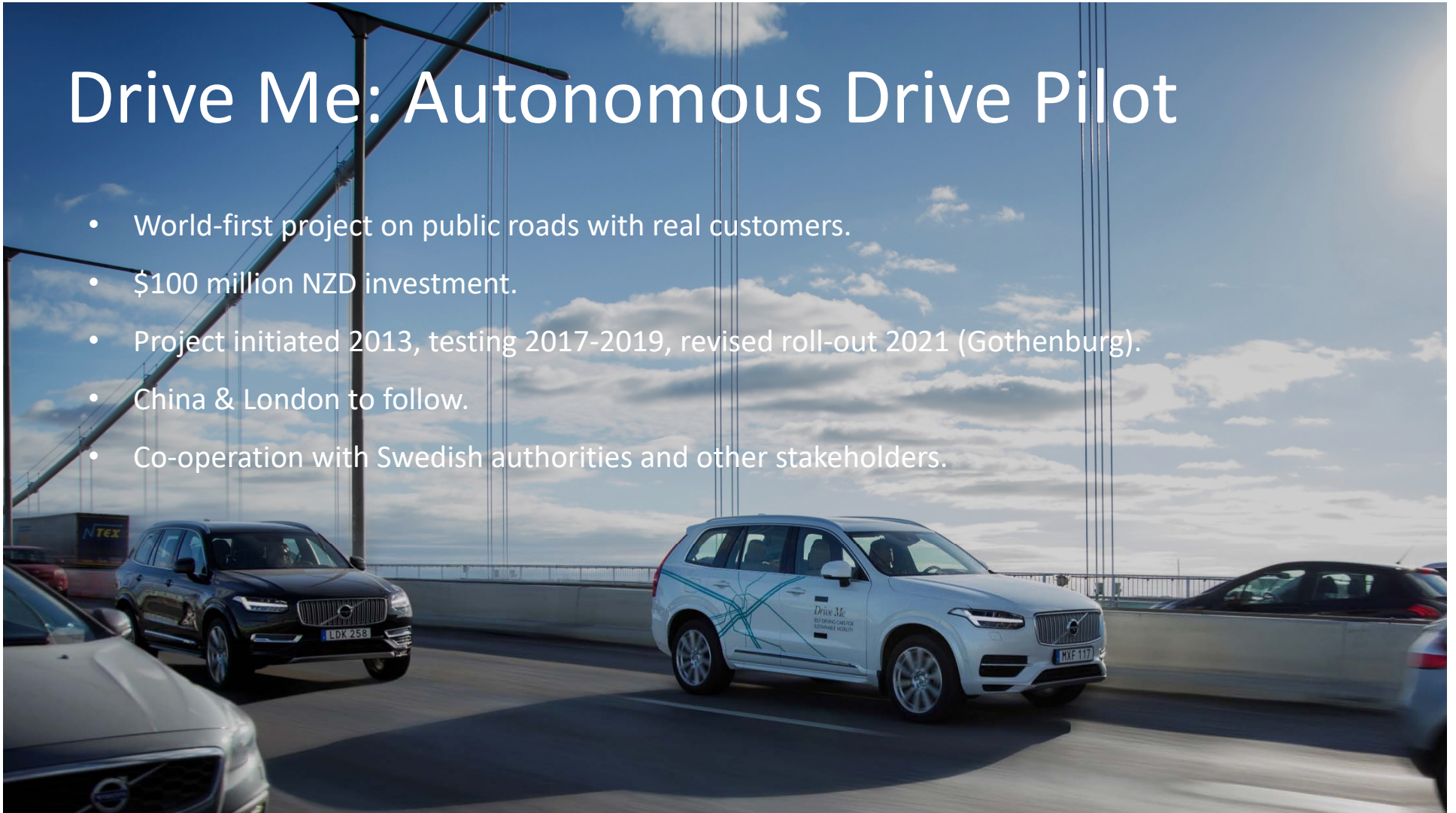


Vehicle Design Principles:

- Driver delegates full control and responsibility → Designed for complete support.
 - Driver free to do something else.
 - Full crash avoidance and system safety.
-
- Driver is always responsible and shall remain in control → deliberately design for driver involvement & shared control.
 - Reduces effort to drive, easy to rest hands on steering wheel, steering torque is limited, silently activates/deactivates to keep driver in the loop.
-
- Driver is always responsible and shall remain in control, supported by standard safety features.

Drive Me: Autonomous Drive Pilot

- World-first project on public roads with real customers.
- \$100 million NZD investment.
- Project initiated 2013, testing 2017-2019, revised roll-out 2021 (Gothenburg).
- China & London to follow.
- Co-operation with Swedish authorities and other stakeholders.





360c concept











Safety

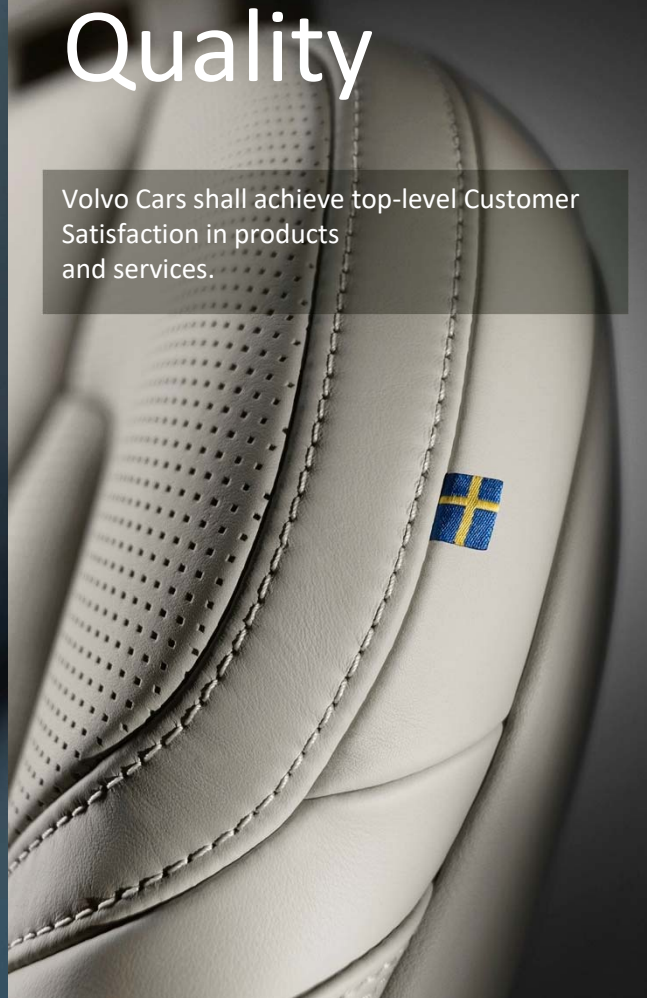
Only truly human-centric car brand with safety and consumer focus.

Only car brand to set a zero fatalities vision.



Quality

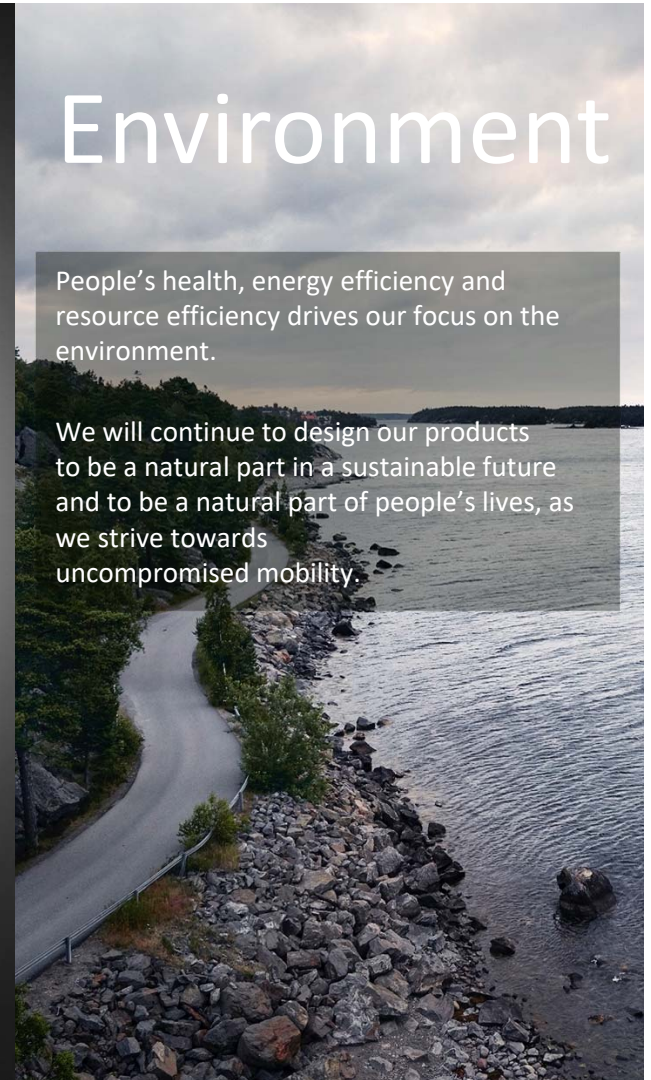
Volvo Cars shall achieve top-level Customer Satisfaction in products and services.



Environment

People's health, energy efficiency and resource efficiency drives our focus on the environment.

We will continue to design our products to be a natural part in a sustainable future and to be a natural part of people's lives, as we strive towards uncompromised mobility.







Thank You

