



New Technology and Innovation: Managing Impaired Driving

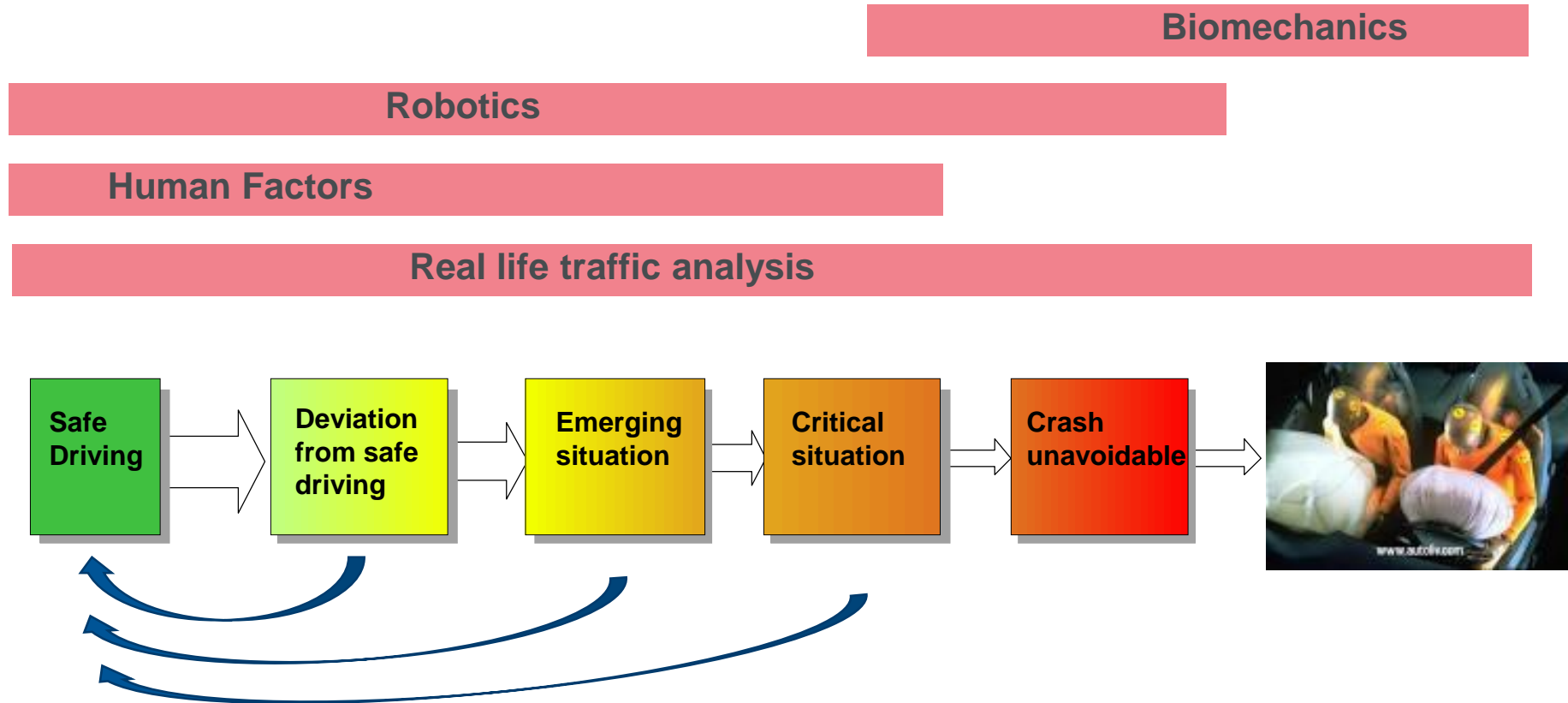
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Impaired driving

- Drug abuse
- Drowsiness
- Distraction

- Trust issue

Lives saved earlier in the integrated safety chain



Industry Roadmap towards Automated Driving

From driver only to full automation



Feets off

2000



Hands off

2015



Eyes off

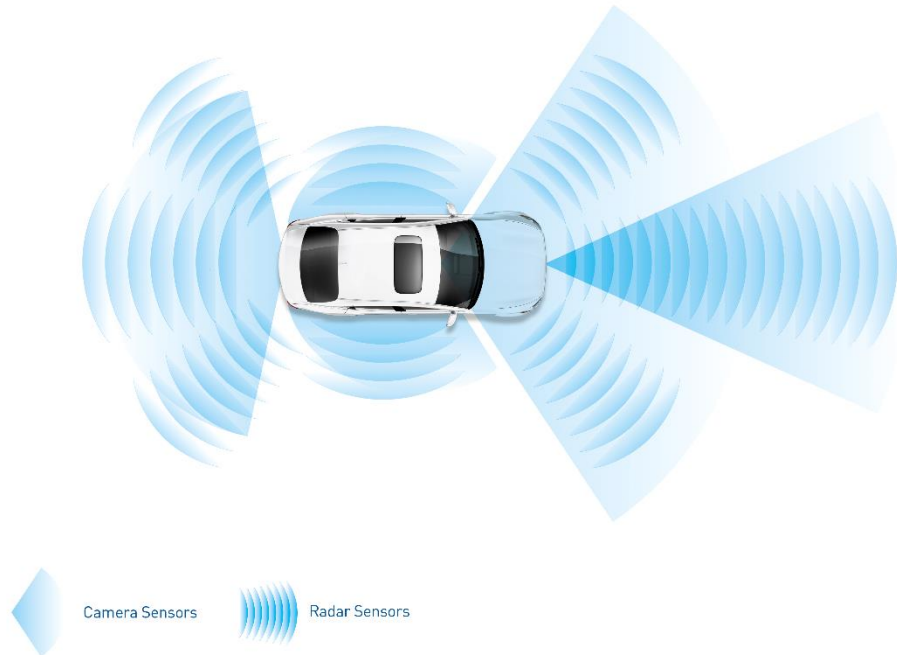
2018



Mind off

>2020

Sense and support

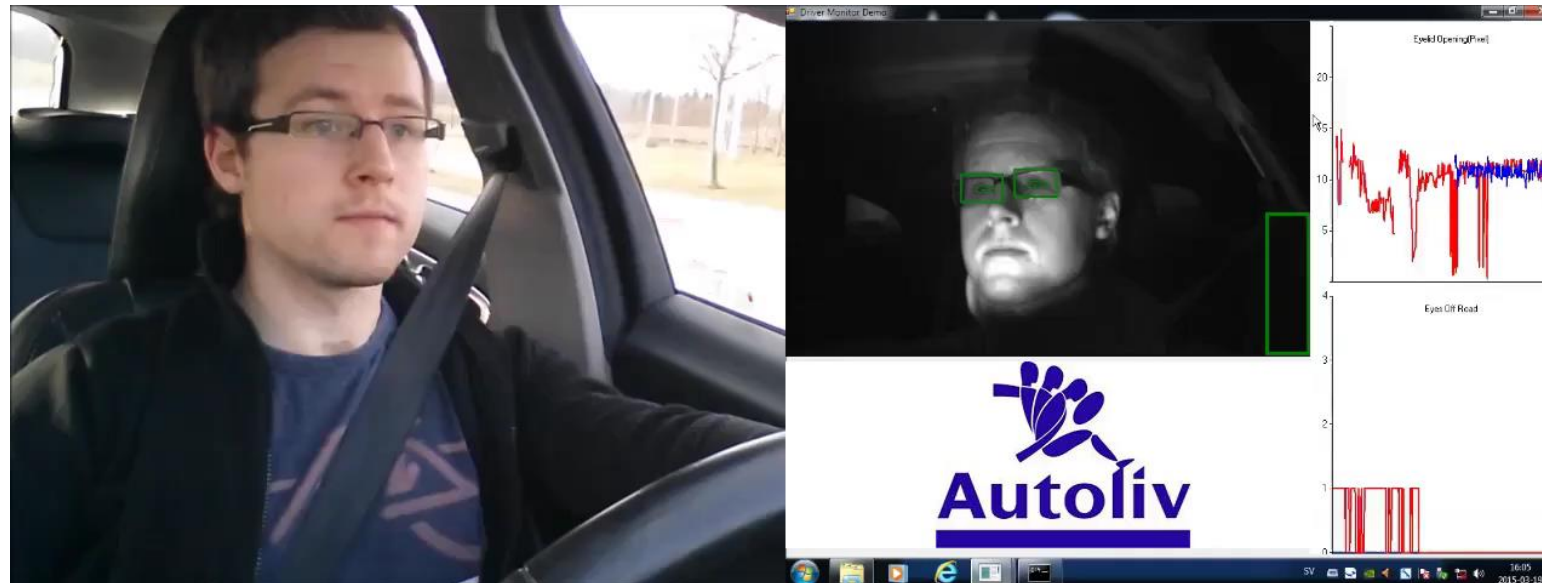


Sensing but neccesarily not acting

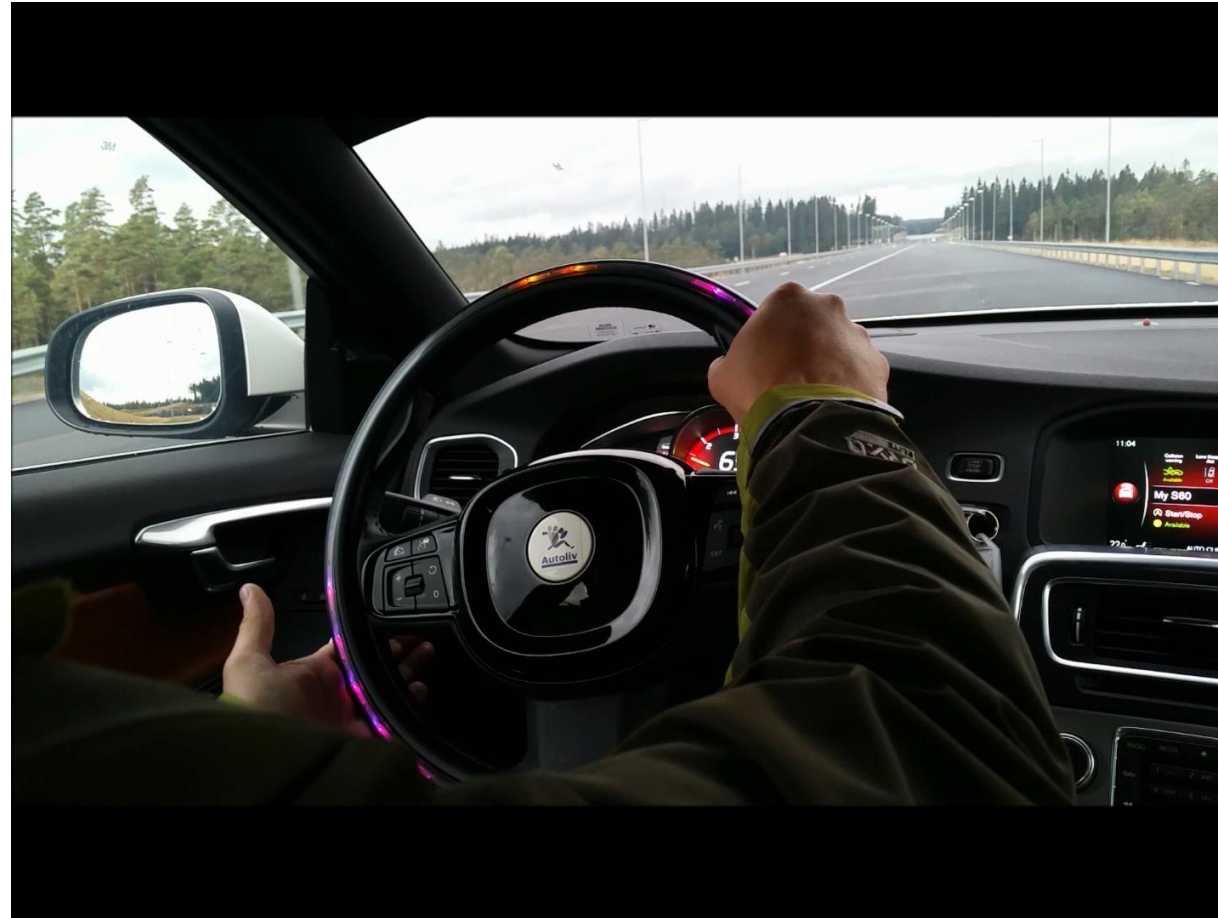


Supported but less experienced

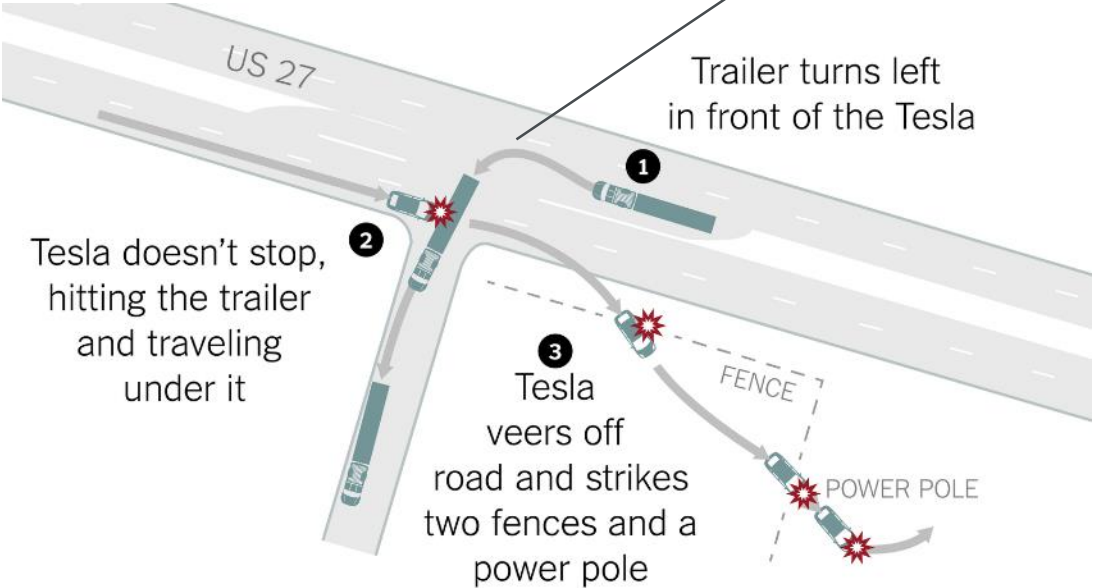
Automatic gear – Cell phone



What happens when you don't even need to steer?



Tesla driver killed while in Autonomous driving



Tesla doesn't stop, hitting the trailer and traveling under it

Trailer turns left in front of the Tesla

Tesla veers off road and strikes two fences and a power pole

Aviation in the 80's – Away with the Pilots!

- Old view
 - › Human error is the cause of accidents
 - › Human is the most unreliable component
 - › Improve safety by restricting human action
- New view
 - › Human error is the indicator of deeper issues
 - › Humans in the loop are necessary to enhance safety
 - › Improve safety by understanding (and leveraging) human performance

Dekker (2002) as summarized by Kathy Abbott (2014)

Is the automated system backing-up the pilot or is the pilot backing-up the automated system?

Or is the pilot a passenger, "along for the ride"?

"We still hold pilots responsible"

(Kathy Abbott, 2014)

Trust

Over trust: ex, texting

Under trust: ex, switch off

We need a Human Centric Approach

Human and Machine
as a joint **cognitive** system,
sharing **control** and
trusting each other

AI





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30,000 lives

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