

Safe and Dynamic Driving towards Vision Zero

SensePlanAct

Chassis & Safety

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Autonomous Driving – Chances and Challenges

Frankfurt University of Applied Sciences, 4. December, 2017

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Automated Driving – Still a Vision?

„In ten years time, the technology will be so far, that autonomous cars will drive definitely as reliable and more safety as human beings “.

– Sebastian Thrun, Professor for Artificial Intelligence, University Stanford; **2007**

History of Automated Driving



>>> click to start <<<

Automated Driving @Continental - Mobility of the Future

- › We are convinced that automated driving will be a key element of future mobility, as it will enhance the safety, efficiency and comfort of individual mobility even further.
- › Automation will lead to a significant decrease in the number of road traffic casualties and it allows drivers to use their time in the car in other ways and therefore more efficiently.
- › Our path to automated driving:
 - › **Partially automated driving by 2016**
 - › **Highly automated driving from 2020**
 - › **Fully automated driving from 2025**
- › In 2012, we became the first automotive supplier to be granted a test license for automated driving on public roads in the U.S. state of Nevada.



Automated driving & legal restrictions



How driverless cars change your life



Pict:Continental

Urban development

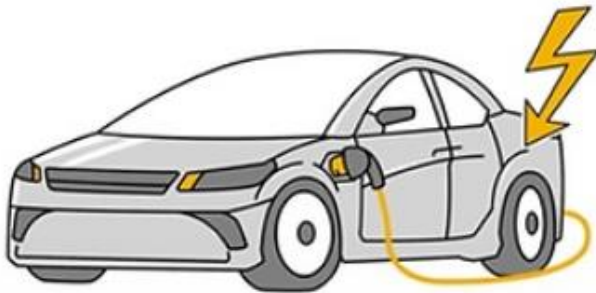


Automated and electric driving helps to protect the environment



Global emissions are steadily increasing. (Photo: Fotolia / Stripped Pixel)

Automated and electric driving



Video: Automated Wireless Charging

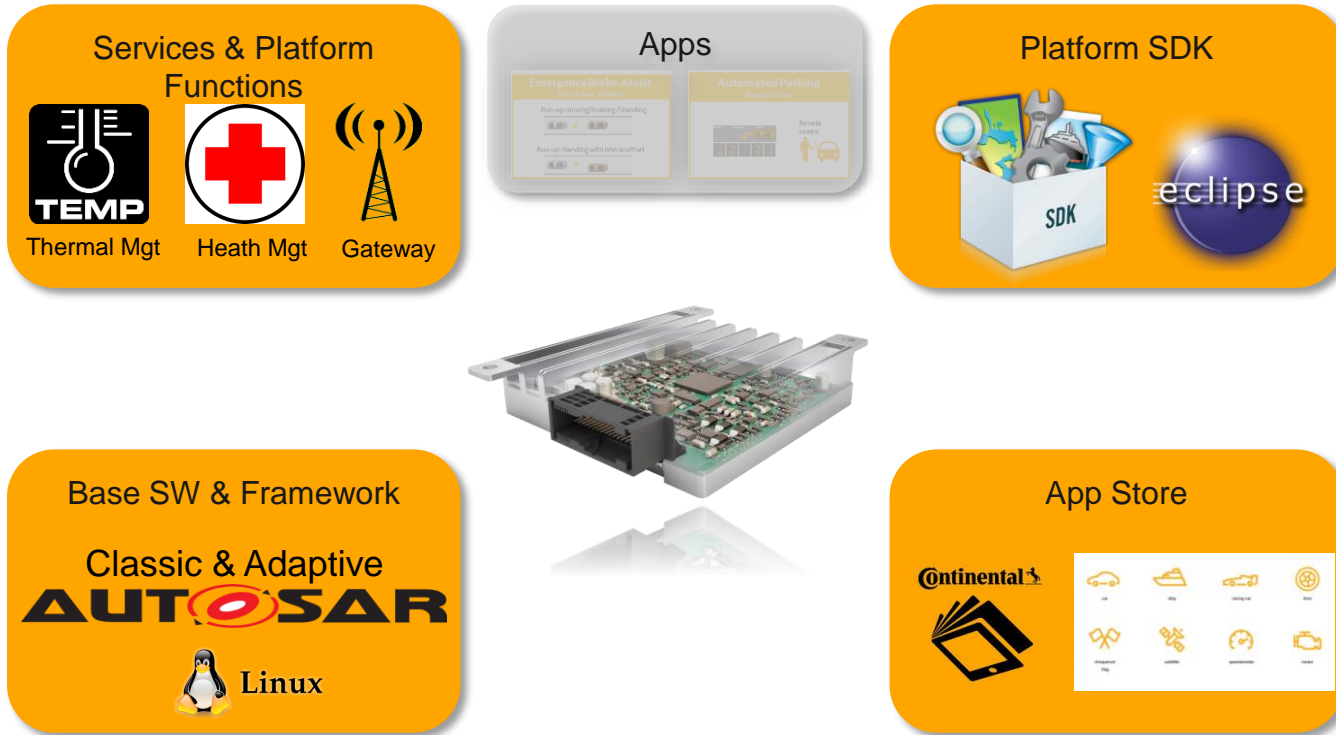


Advanced Electric Vehicle Inductive Charging

Platform for Automated Driving - Vision



Platform for Automated Driving - Vision



Assisted & Automated Driving Control Unit

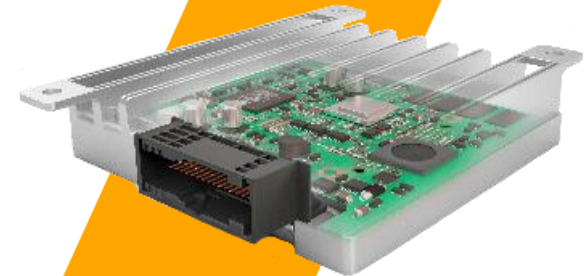
DESCRIPTION

- › The Assisted & Automated Driving Control Unit facilitates a safe and secure multipurpose processing platform which is ideally suited for applications in the realm of Highly Automated Driving

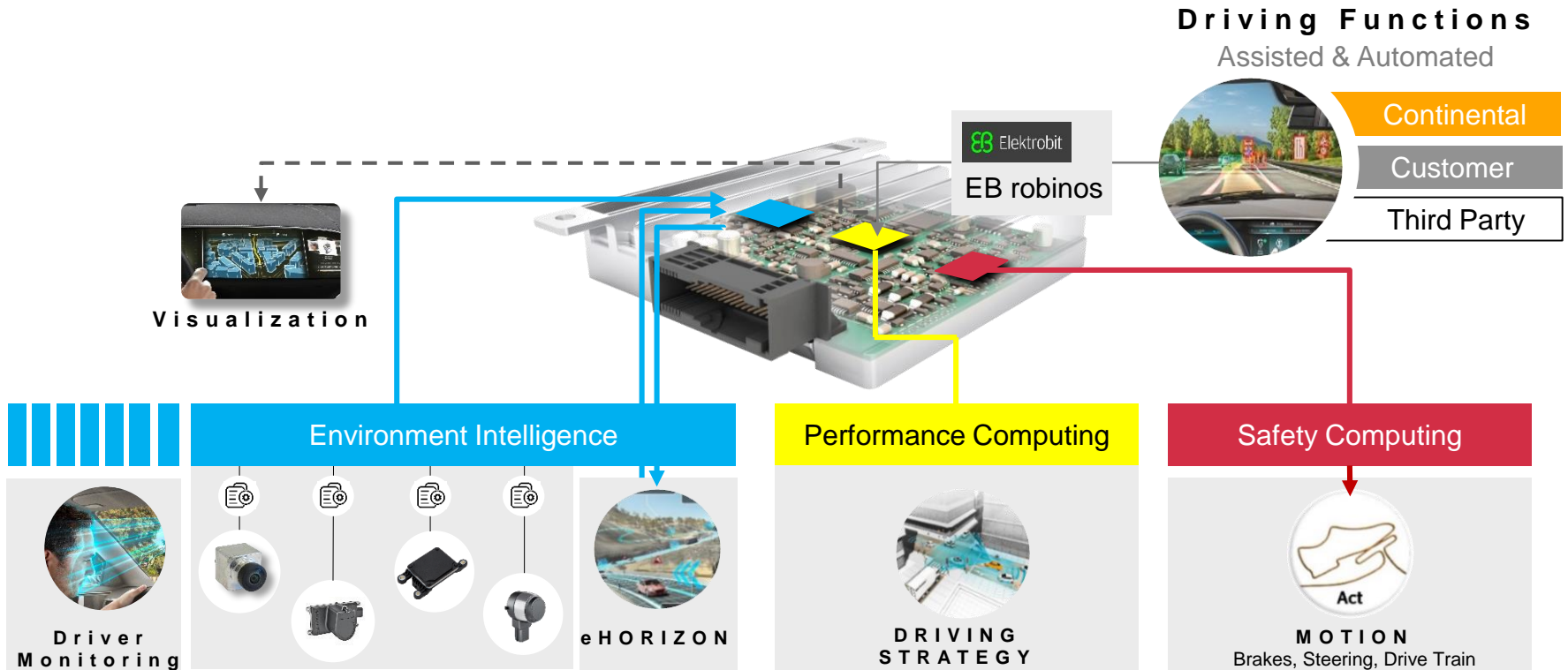
BENEFITS & FEATURES

- › Reduced number of ECUs leads to space, cost & weight savings
- › Single/dual/multi core processor leads to faster processing
- › Modular and scalable processing platform
- › Functional safety level up to ASIL D
- › Targets: Safety, security and performance

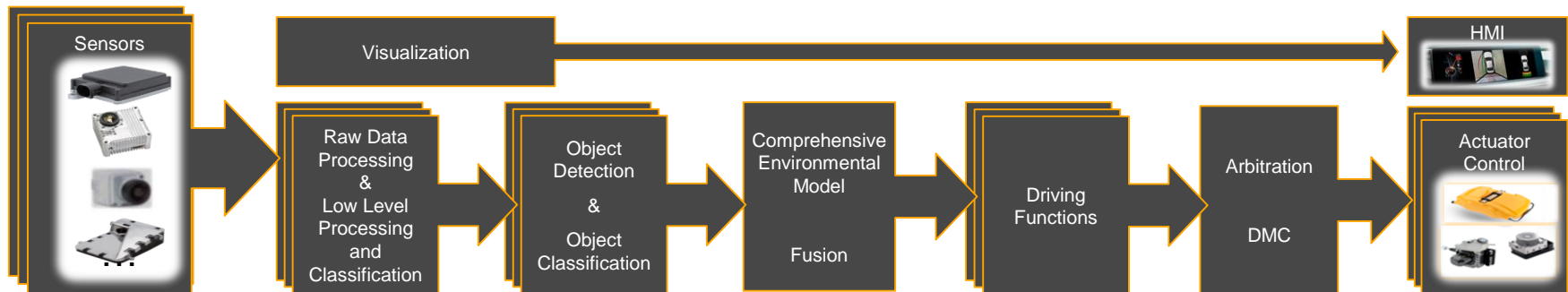
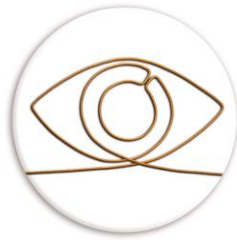
ADCU



System Overview



The chain of effect



Technology driven challenges



BoM savings will be devoured by SW porting costs

Increase reuse between different MCUs



Increasing SW impact & complexity



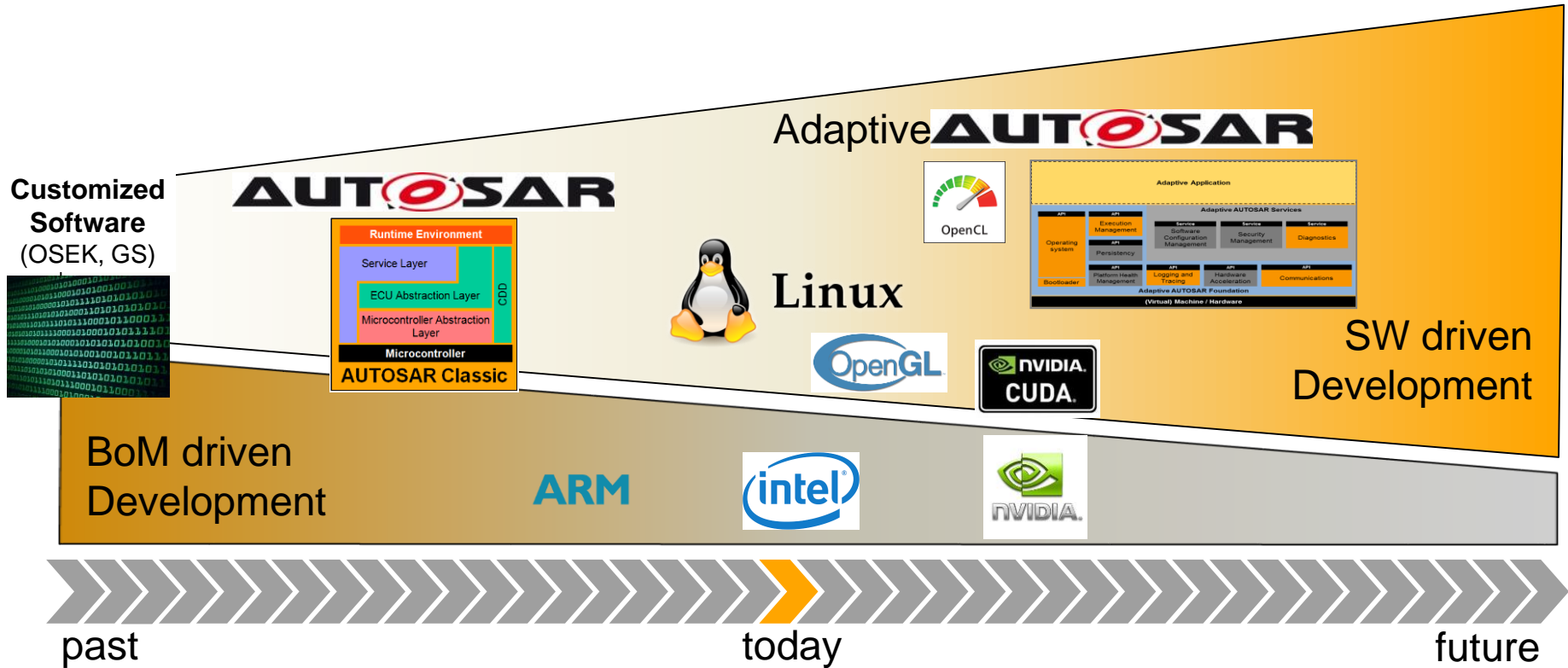
Embedded platform for high performance computing



Simplify software development



Technology roadmap

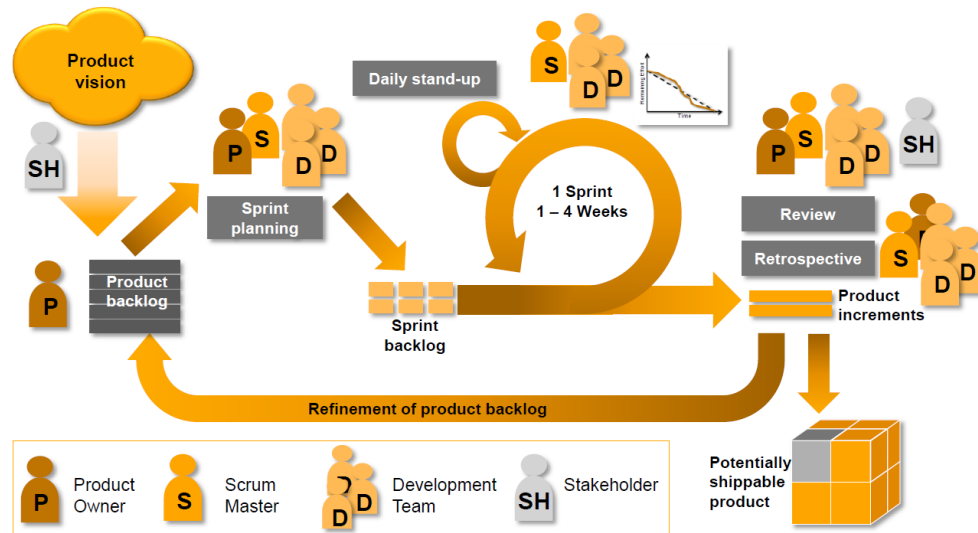
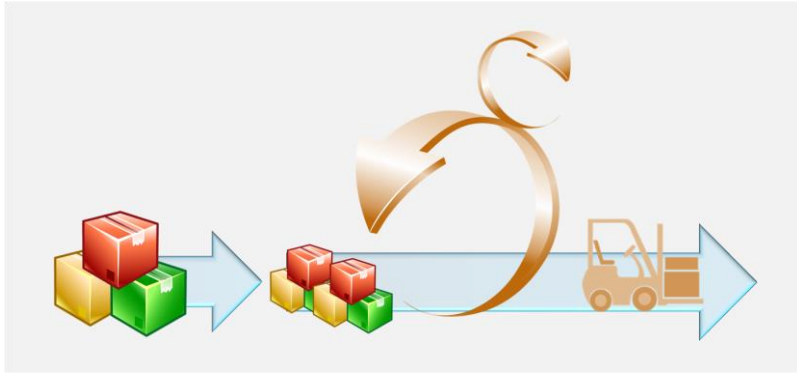


... and why are changes so difficult?



Video: Youtube

Automotive Agile SW development



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