

# Electronic Stability Program

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company

history

technic

features

facts & figures

future

summary

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summary

biggest automotive supplier worldwide

about 261,300 employees (110,500 in Germany)

headquarters located near Stuttgart

subdivided in 3 business divisions

famous developments: ABS, ASR, ESP

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biggest german car manufacturer

Headquarter is located in Stuttgart

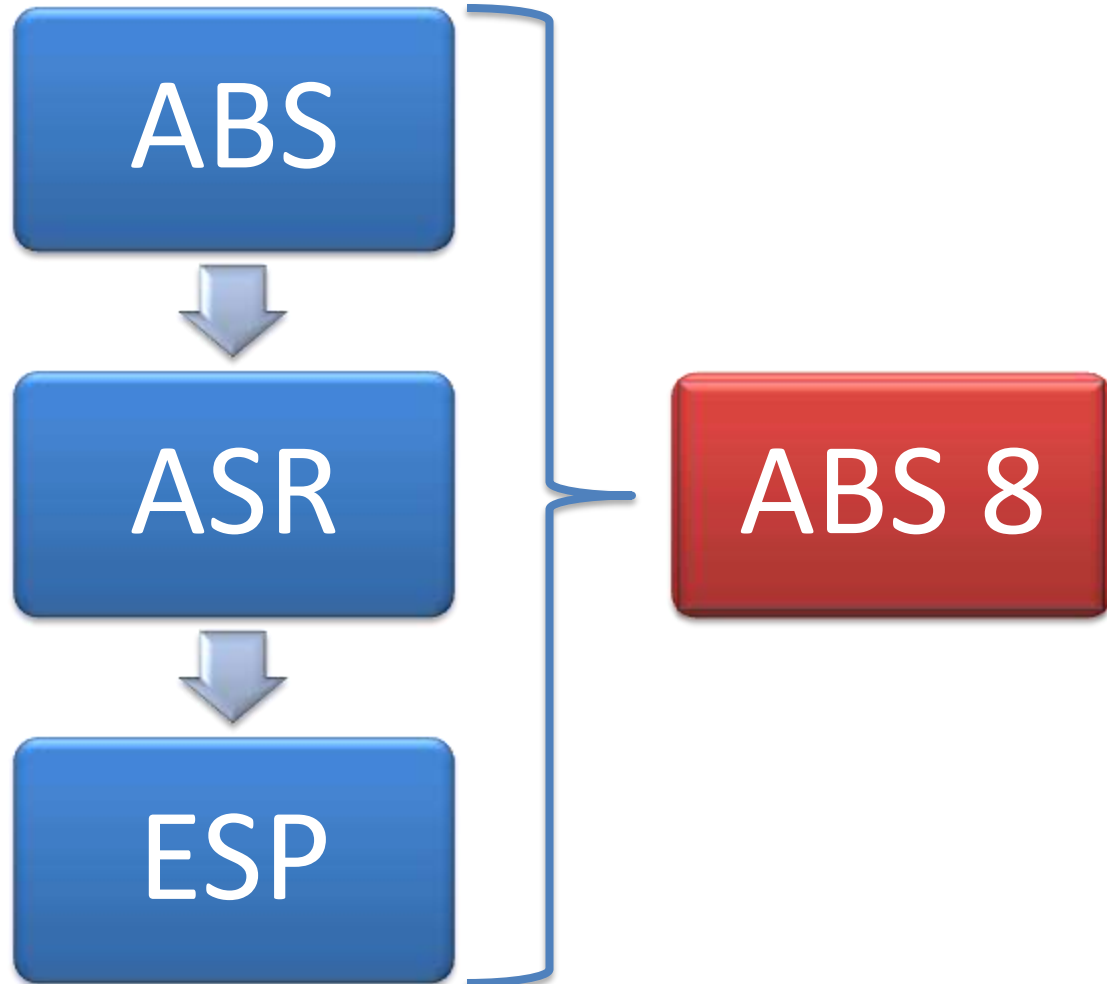
about 360,000 employees

famous brands

cooperation in section of car security with bosch



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## 1978

- bosch presented first ABS
- daimler s-class - first car with abs

## 1980

- begin development ASR

## 1986/87

- series production of ASR in s-classes

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1992

- ABS general standard

1995

- ESP reached maturity phase

1997

- a-class failed elk test

yawing

# ESP

company

history

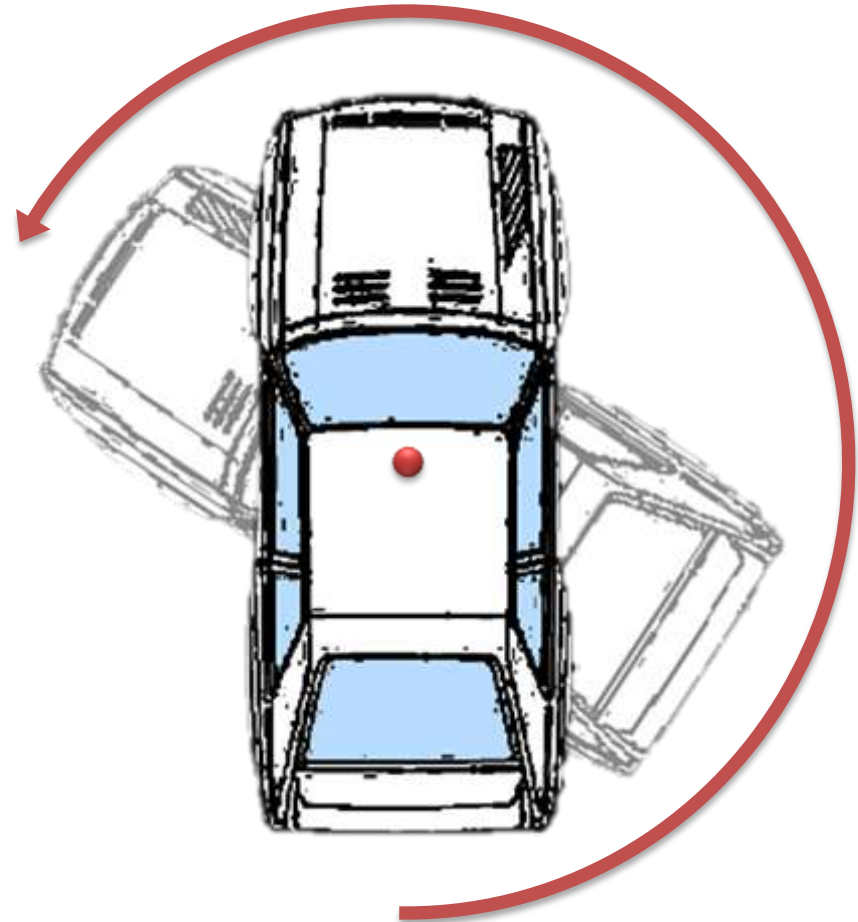
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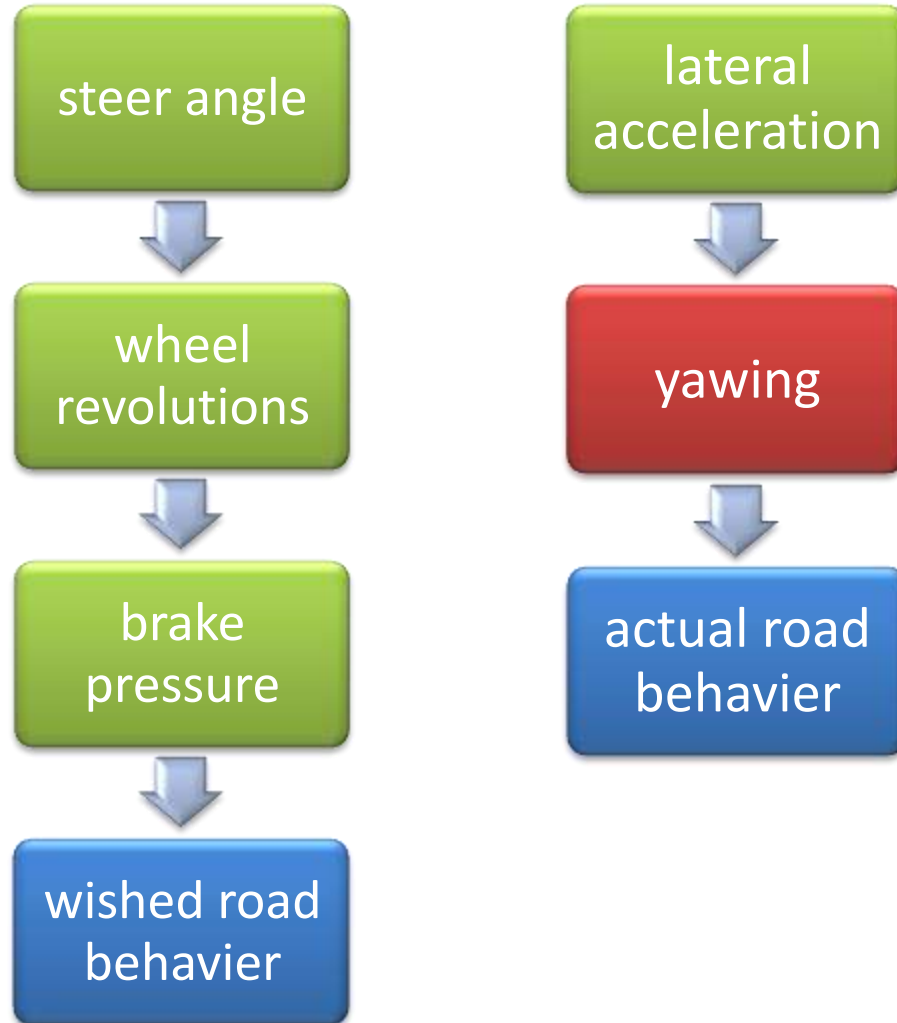


## heart of ESP

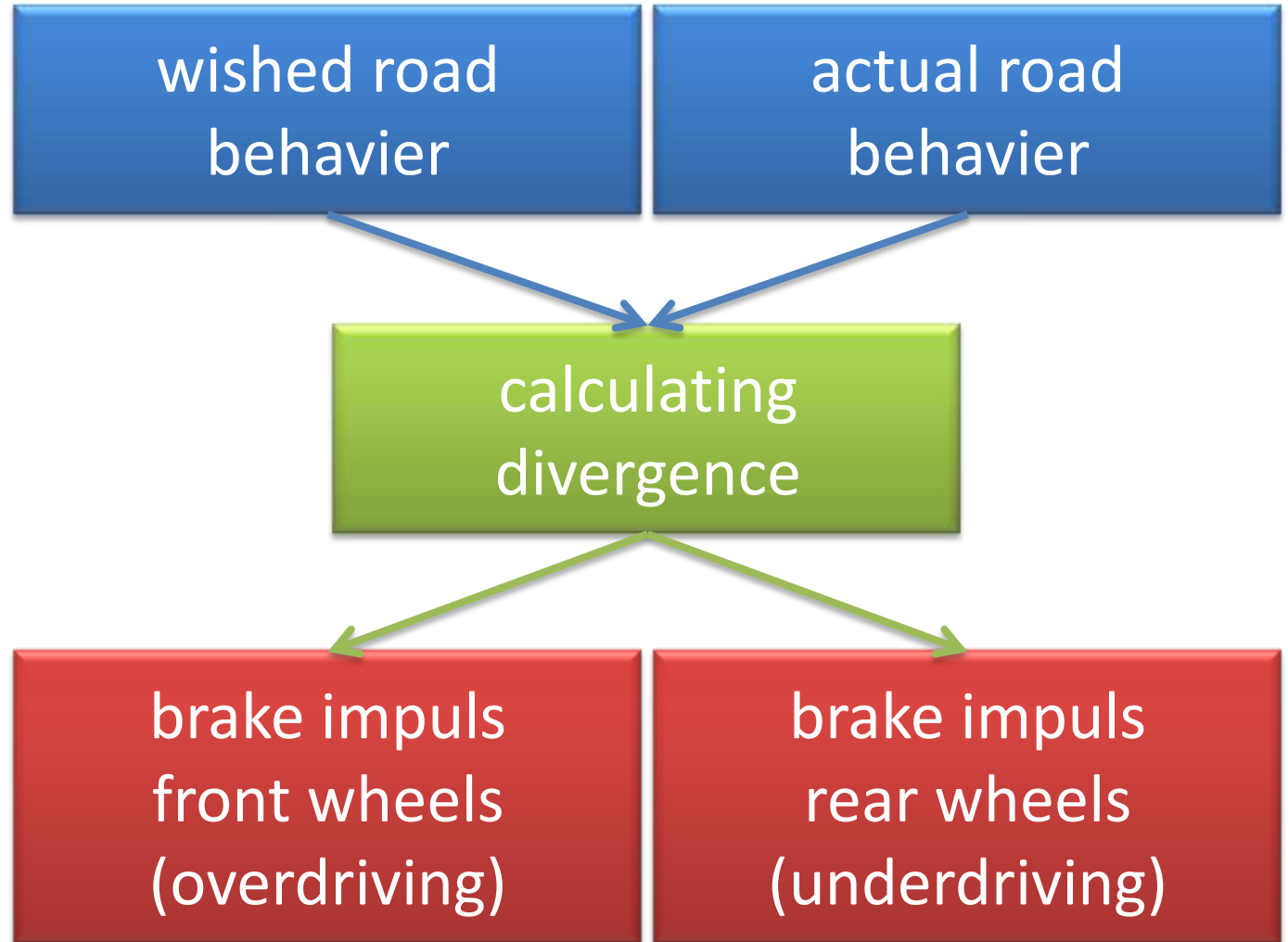
## yaw-sensor



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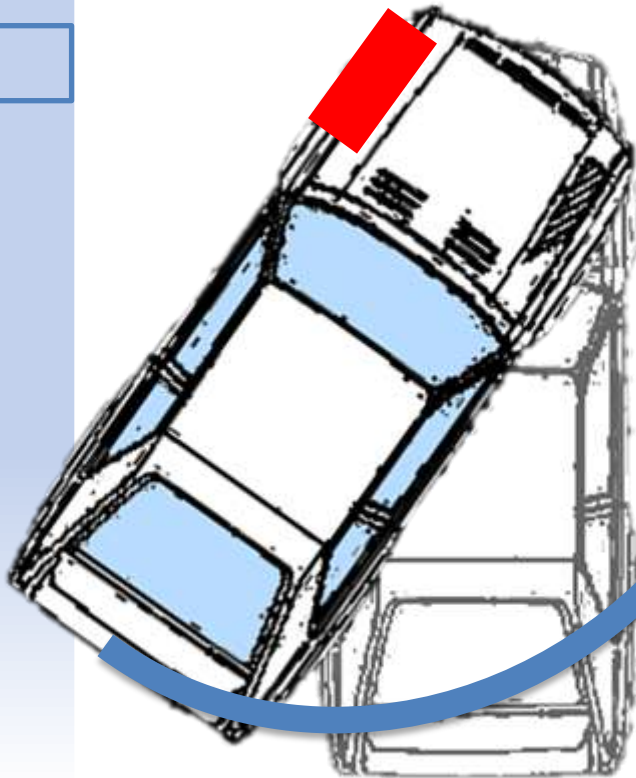
## processing unit

calculating  
divergence

- 2 CPUs
- each with 56KB memory

check about 150 times per second  
CAN-connection for additional infos

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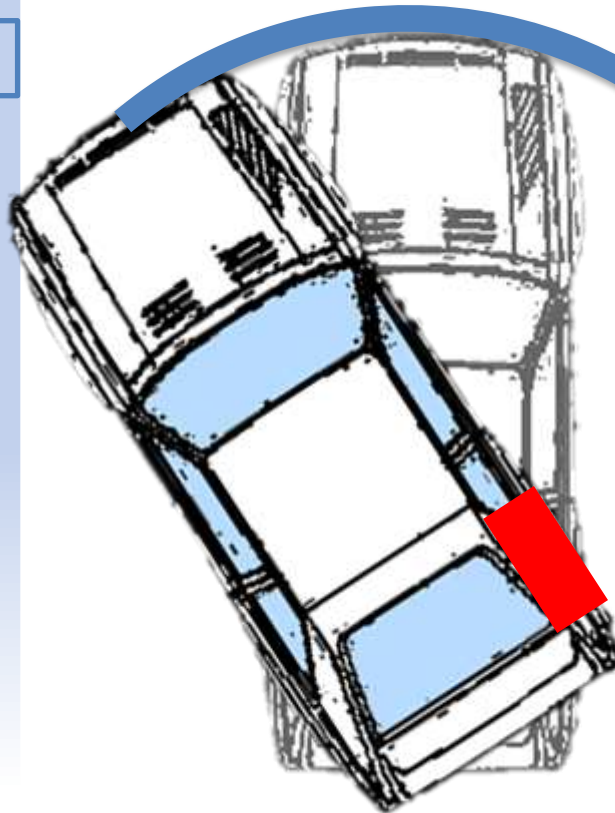


brake impuls  
front wheels  
(overdriving)

(overdriving)

rear wheels lose  
connection to road

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brake impuls  
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## ways of interference

exactly dosed brake-impulses

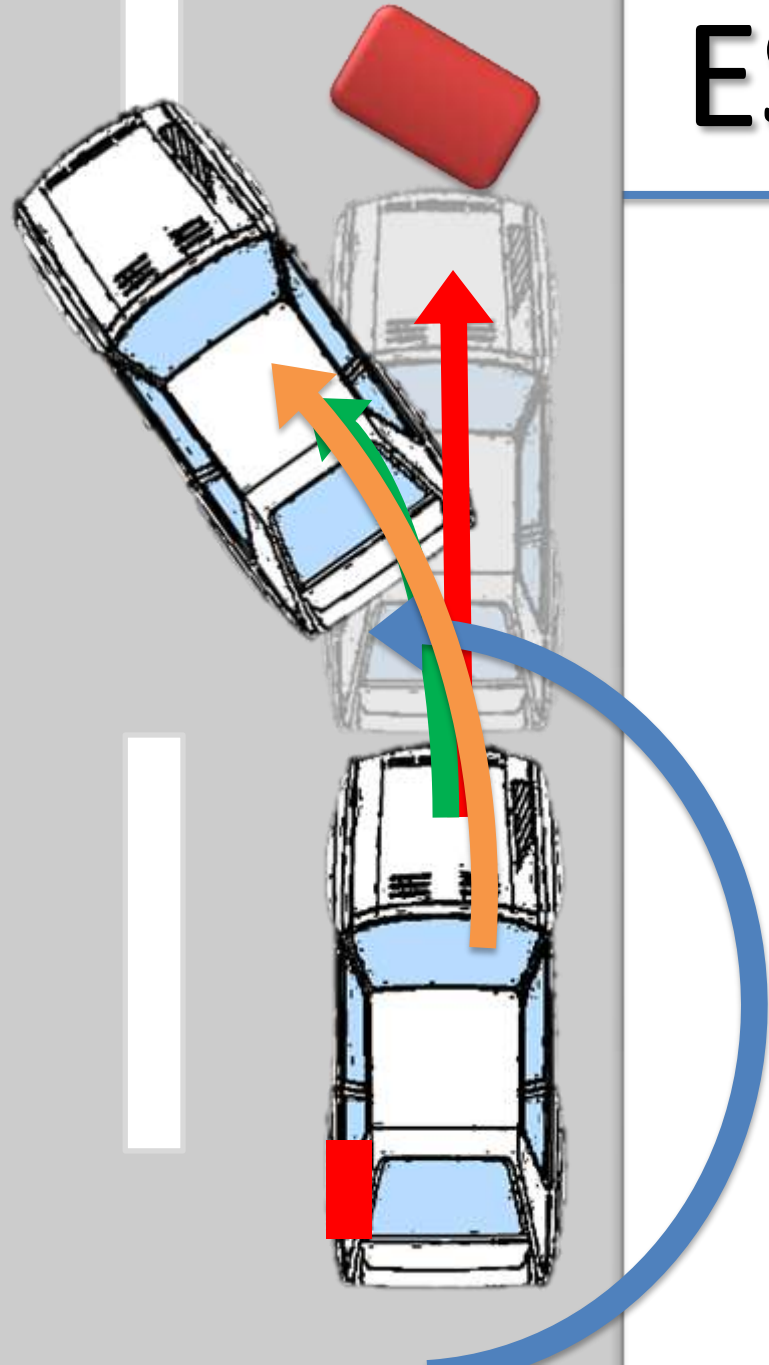
- newest generation up to 200 bar

reduction of engine torque

# example

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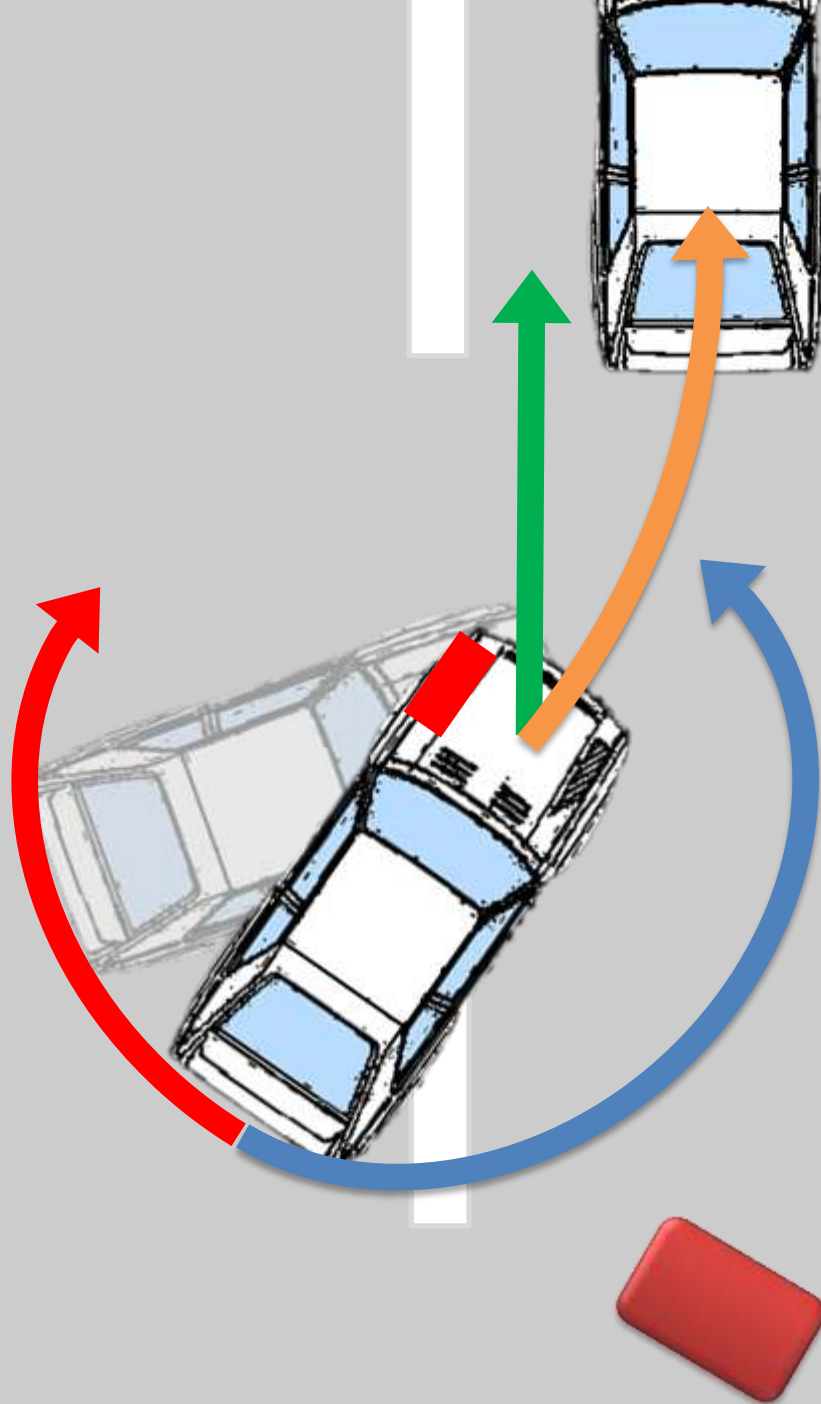
# ESP



# example

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# ESP





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EBV (electronic brake force distribution)

brake readiness

dry braking

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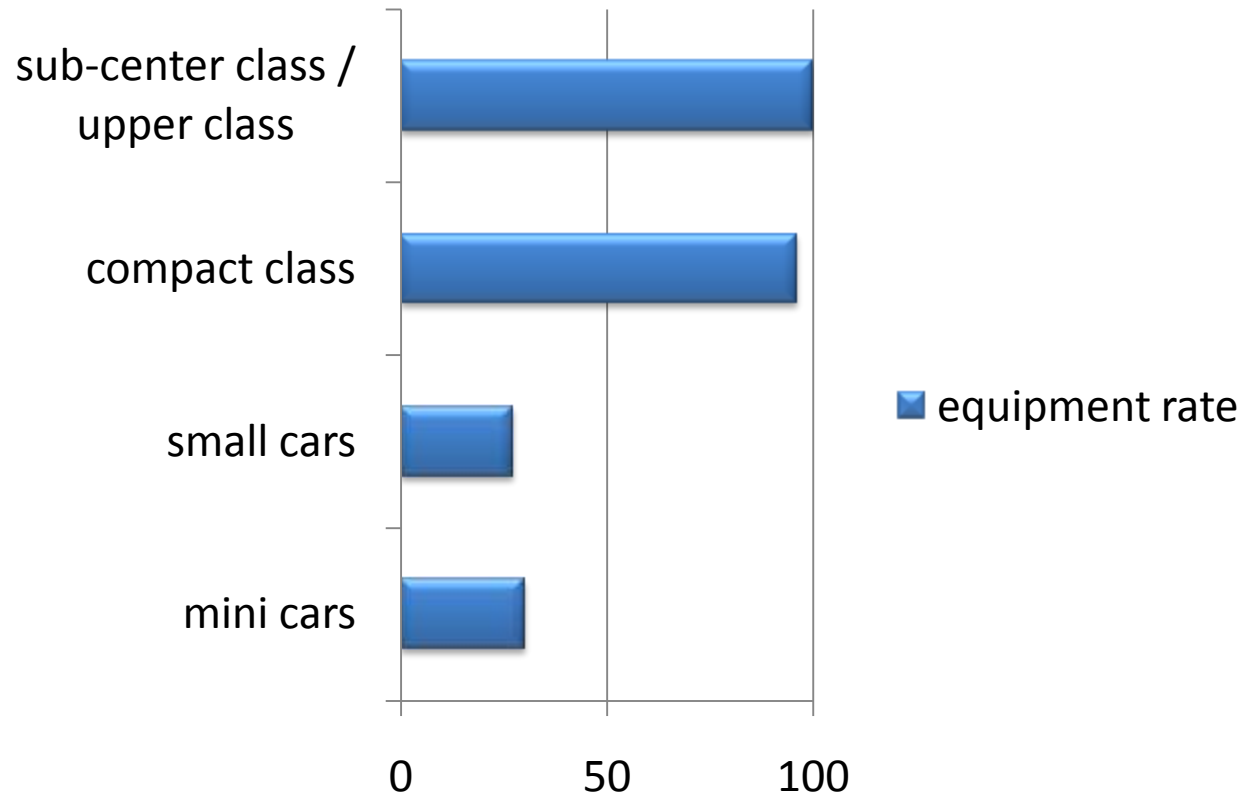
**72%** of the cars equipped in  
germany (2005)

**75%** of the cars equipped in  
germany (first half 2006)

**50%** of busses equipped (2005)

**5%** of HGVs equipped (2005)

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“It is proofed that esp reduces horrible car accidents dramatically.”

**mercedes study:** horrible car accidents decreases by **15%**

**vw study:** would all cars are equiped with esp the figure of road casualty could be reduced by **1/4**

future

# ESP

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faster calculating power of the system / improved sensores

ESP2 - steering interference

from mechanic to electricity

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ESP cant drive your car,  
but it can help you to drive it!

✓ never drive without ESP