

DENSO

D E N S O I N N O R T H A M E R I C A

Automotive News World Congress

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Engineering Division

DENSO International America, Inc.

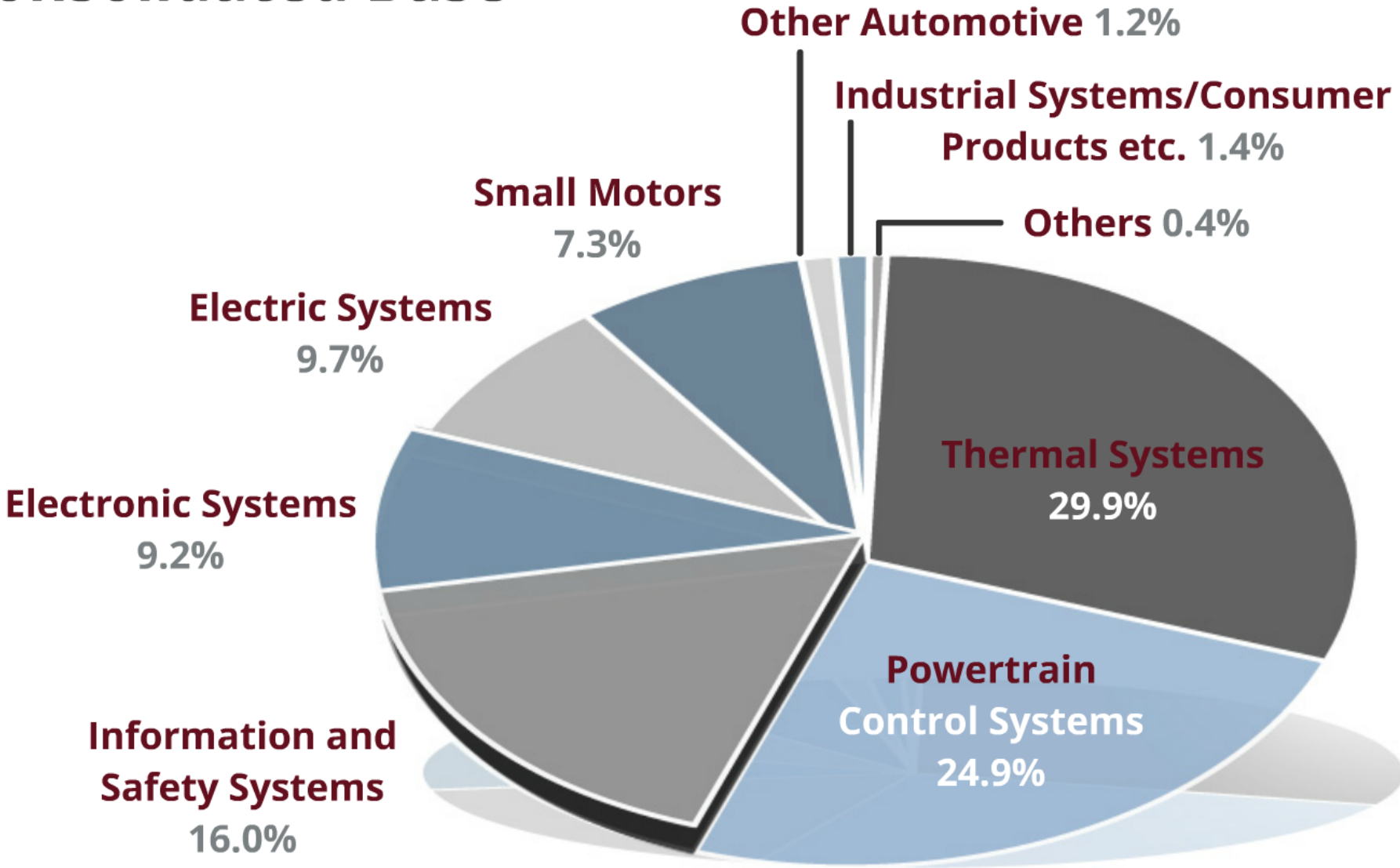
Global Supplier of Advanced Automotive Technology, Systems and Components

- Established: Dec. 16, 1949
- Capital: US\$2.3 billion
- Net Sales: US\$38.4 billion
- Net Income: US\$1,086.5 million
- Employees: More than 126,000 in 35 countries

Data are consolidated base

- As of March 31, 2012
- U.S. dollar amounts have been translated from Japanese yen for convenience only at the rate of 82.19 yen=US\$1

Consolidated Base



US\$38.4 billion
(3,154.6 billion yen)

*For Fiscal year ending March 31, 2012

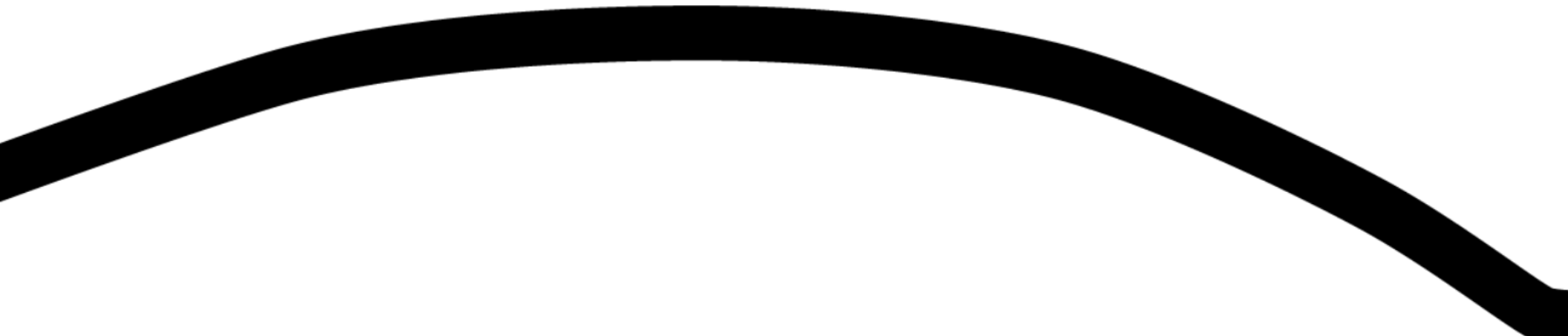
Putting it in Perspective

Ultimate Objective is Zero Accidents



What impacts driver

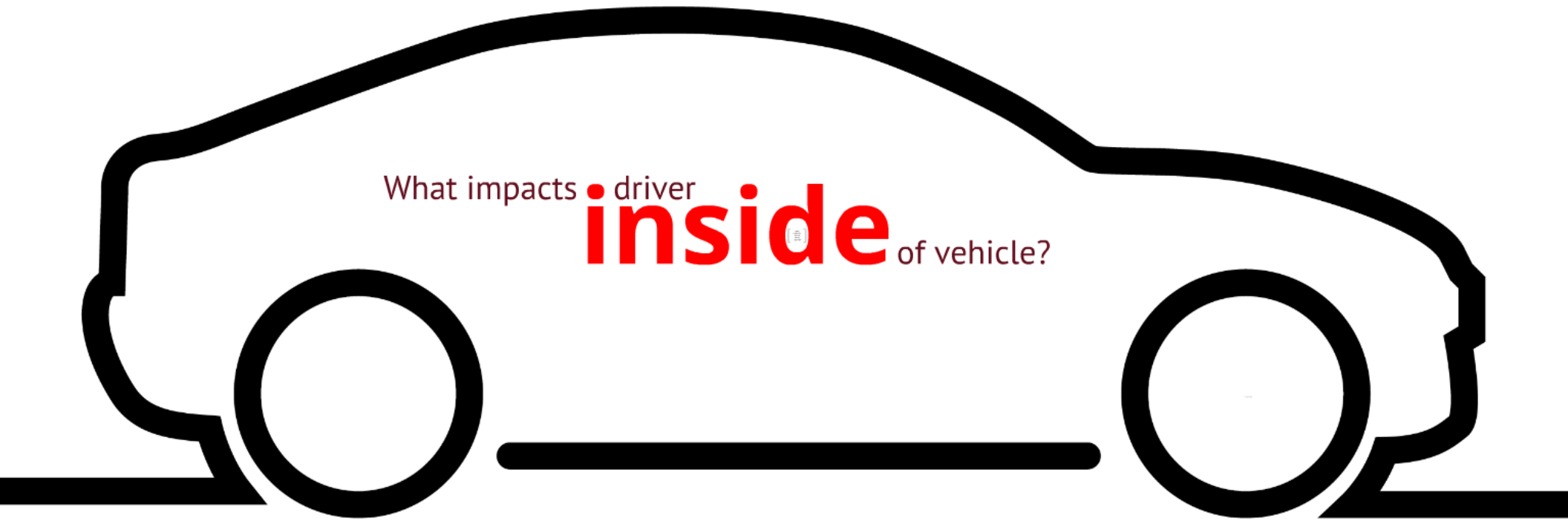
outside [] of vehicle?



Rain
Pedestrians
Traffic
etc.

What impacts driver
outside of vehicle?

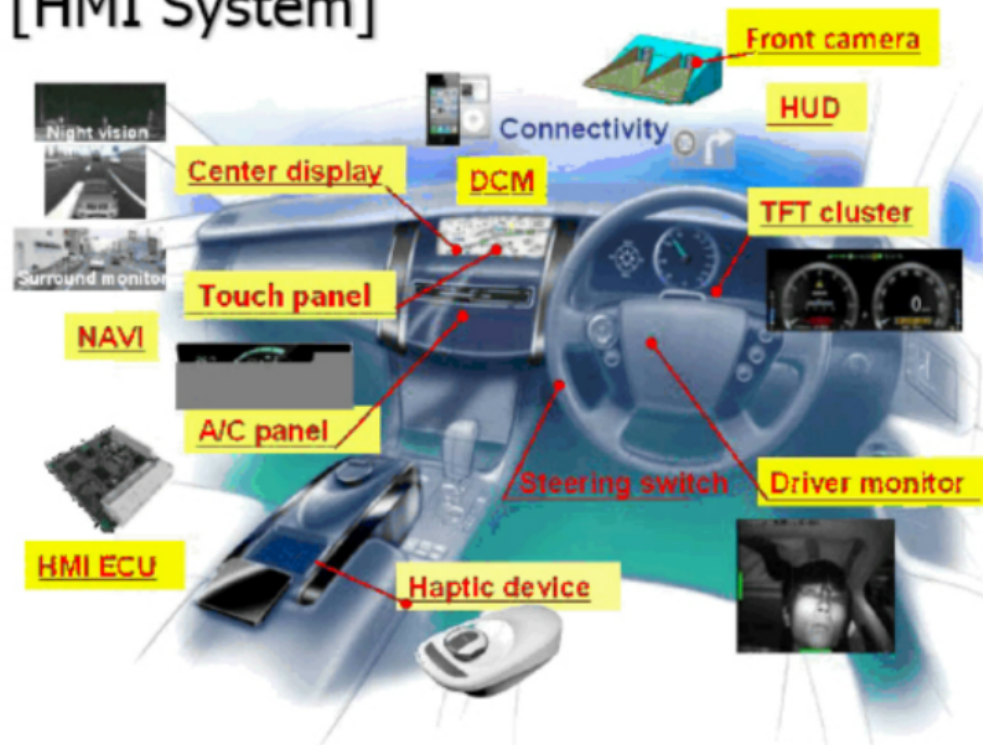
What impacts driver
inside of vehicle?



**Radio,
Instrument
Cluster,
Driver,
Passenger**

Components of In-car Technology

[HMI System]





Head-up Display

Our goal: To safely provide the right information at the right time and in the right location.



Haptic Control and Voice Recognition

Intuitive and safe



DENSO

V2X

BE CONNECTED. BE SAFE. BE GREEN.

Vehicle-to-Vehicle and Vehicle-to-Infrastructure

Real-time information beyond line of sight

- Working on V2X technology since 2003
- DENSO is providing V2X hardware to the USDOT's Model Deployment in Ann Arbor, Mich. and other field tests around the world

Driver Workload

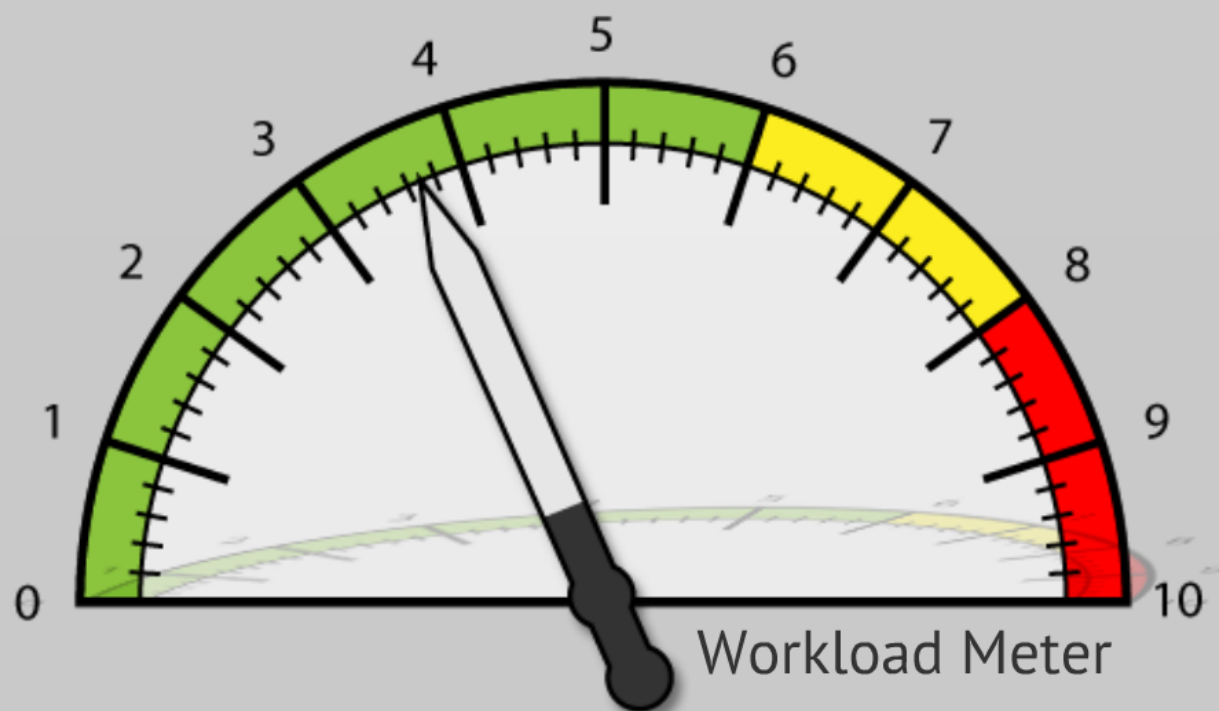


DENSO's HMI Lab

GOAL: To anticipate drivers needs
to reach zero accidents

Understanding Driver Workload

Establishing a common methodology to measure driver workload

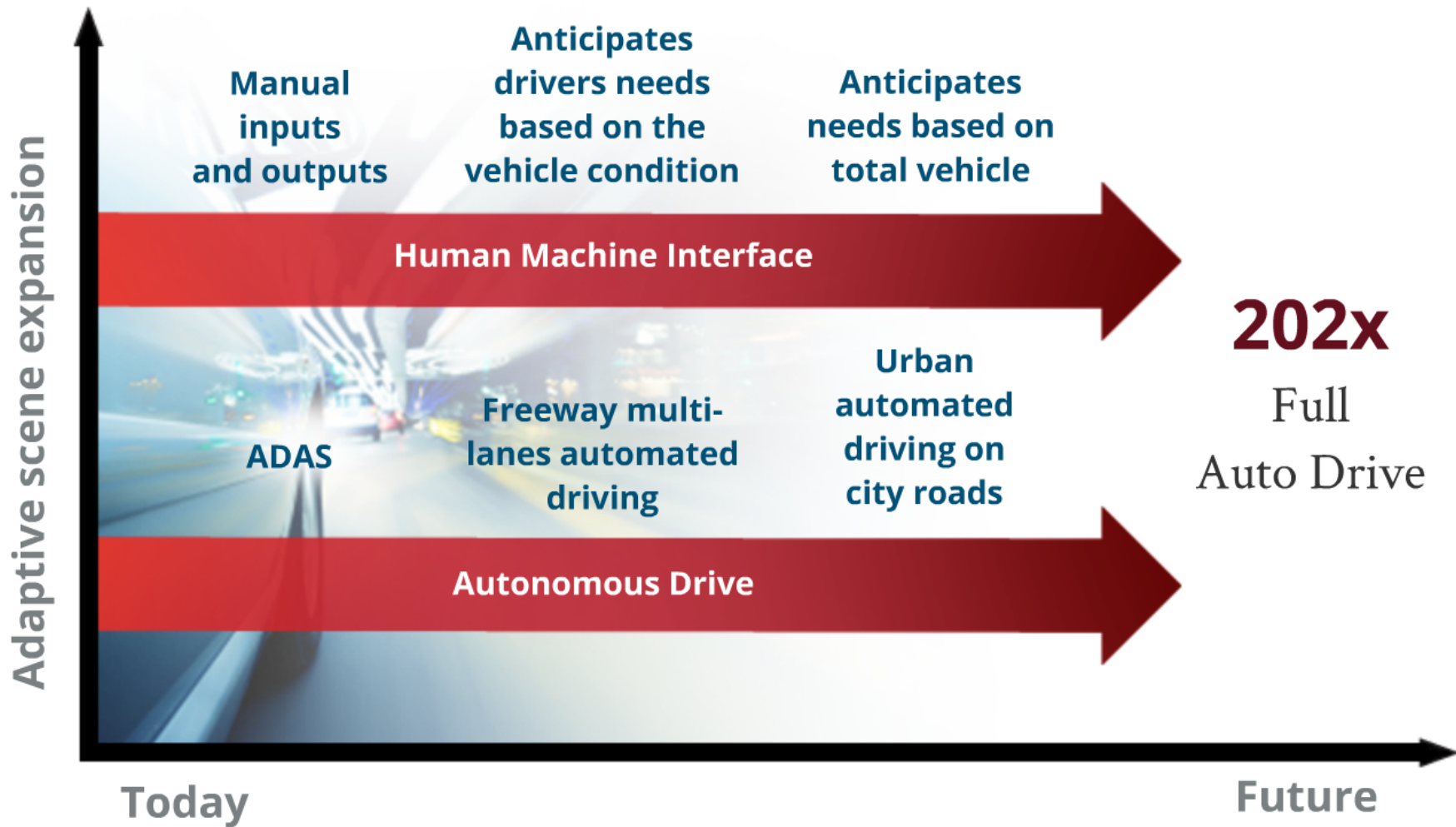


HMI Manager

DENSO's HMI Manager will be a product of this research.

The ultimate goal of the HMI Manager is the autonomous vehicle.

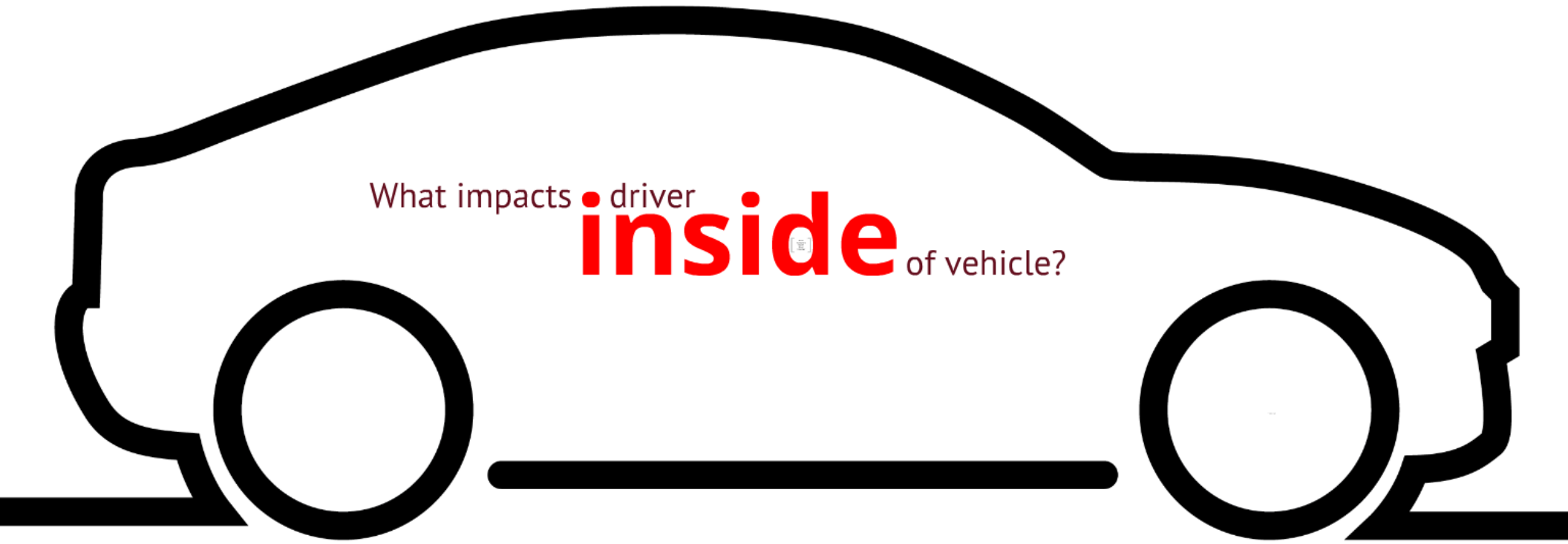
DENSO's Technology Timeline



We have to combine technology
with human oversight
to achieve **Zero Accidents**

What impacts driver
outside^[*] of vehicle?

What impacts driver
inside^[*] of vehicle?



Thank You

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