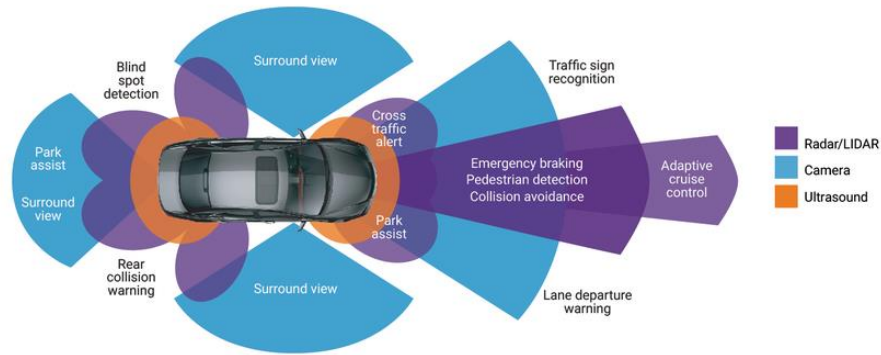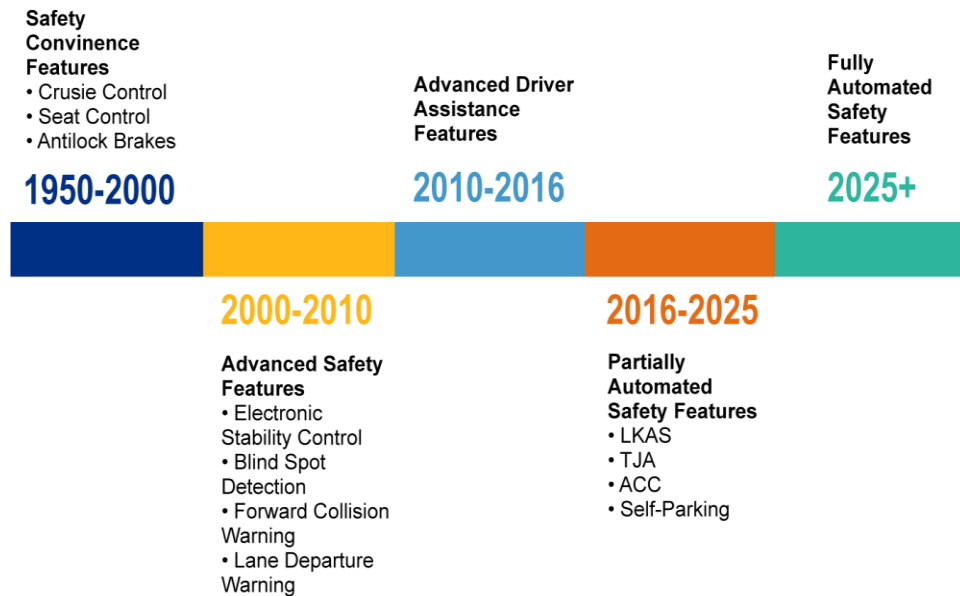# Imperfect ADAS

WEN XU

VOLVO AB

Advanced Driver Assistance Systems often refer to a suite of advanced technical features that assists driver with driving with the aim to to reduce accidents, injuries and fatalities caused by human errors.

Safety Convinence Features
• Crusie Control
• Seat Control
• Antilock Brakes

1950-2000

2000-2010

Advanced Safety Features
• Electronic Stability Control
• Blind Spot Detection
• Forward Collision Warning
• Lane Departure Warning

Advanced Driver Assistance Features

2010-2016

2016-2025

Partially Automated Safety Features
• LKAS
• TJA
• ACC
• Self-Parking

Fully Automated Safety Features

2025+

ADAS

Lane Keeping Assist system

Lane marks covered by snow

Temporary lane marks

Can it Reason?

Forward Collision Warning System

A telsa crashed into a cleaning truck, South China, 2016

A moving plastic bag

Can it be trusted?

Traffic Sign Recognition System

A vehicle with speed limt signs

A speed limit for certain time and specific area

A truck mounted with an attenuator

Can it see context?

Pavement rutting – partially automated vehicle make it worse!

It could be worse...

But human drivers discover the problem and tend to combat it!

Can it solve problem?

Thank you!