
CAPITAL
MARKETS
DAY 2017
Creating more value
Saving more lives
Autoliv

The Road Towards *Saving More Lives*

Steve Fredin
Chief Technology Officer

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MARKETS
DAY 2017

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Safe Harbor Statement*

This presentation contains statements that are not historical facts but rather forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those that address activities, events or developments that Autoliv, Inc. or its management believes or anticipates may occur in the future. All forward-looking statements, including without limitation, statements related to the Company's strategic review of its operating structure or the terms, timing or structure of any such transaction as a result of such review, if any; the outlook for Passive Safety and Electronics as separate businesses; statements related to the future performance of the Company or of any such businesses if any such transaction is completed; other targets regarding the Company's performance as a single entity; management's examination of historical operating trends and data, as well as estimates of future sales, operating margin, cash flow, effective tax rate or other future operating performance or financial results, are based upon our current expectations, various assumptions and/or data available from third parties. Our expectations and assumptions are expressed in good faith and we believe there is a reasonable basis for them. However, there can be no assurance that such forward-looking statements will materialize or prove to be correct as forward-looking statements are inherently subject to known and unknown risks, uncertainties and other factors which may cause actual future results, performance or achievements to differ materially from the future results, performance or achievements expressed in or implied by such forward-looking statements. In some cases, you can identify these statements by forward-looking words such as "estimates", "expects", "anticipates", "projects", "plans", "intends", "believes", "may", "likely", "might", "would", "should", "could", or the negative of these terms and other comparable terminology, although not all forward-looking statements contain such words. Because these forward-looking statements involve risks and uncertainties, the outcome could differ materially from those set out in the forward-looking statements for a variety of reasons, including without limitation, changes in light vehicle production; fluctuation in vehicle production schedules for which the Company is a supplier, changes in general industry and market conditions or regional growth or decline; changes in and the successful execution of our capacity alignment, restructuring and cost reduction initiatives and the market reaction thereto; loss of business from increased competition; higher raw material, fuel and energy costs; changes in consumer and customer preferences for end products; customer losses; changes in regulatory conditions; customer bankruptcies, consolidations, or restructurings; divestiture of customer brands; unfavorable fluctuations in currencies or interest rates among the various jurisdictions in which we operate; component shortages; market acceptance of our new products; costs or difficulties related to the integration of any new or acquired businesses and technologies; continued uncertainty in pricing negotiations with customers; successful integration of acquisitions and operations of joint ventures; successful implementation of strategic partnerships and collaborations; our ability to be awarded new business; product liability, warranty and recall claims and investigations and other litigation and customer reactions thereto; (including the resolution of the Toyota recall); higher expenses for our pension and other postretirement benefits, including higher funding requirements for our pension plans; work stoppages or other labor issues; possible adverse results of pending or future litigation or infringement claims; our ability to protect our intellectual property rights; negative impacts of antitrust investigations or other governmental investigations and associated litigation relating to the conduct of our business; tax assessments by governmental authorities and changes in our effective tax rate; dependence on key personnel; legislative or regulatory changes impacting or limiting our business; political conditions; dependence on and relationships with customers and suppliers; the uncertainty as to which strategic alternatives may be available with respect to the Electronics business, whether any transaction will be commenced or completed as a result of such review, and the timing and value of any such transaction; risks related to the potential separation of the Electronics business; and other risks and uncertainties identified under the headings "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Reports and Quarterly Reports on Forms 10-K and 10-Q and any amendments thereto. For any forward-looking statements contained in this or any other document, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995, and we assume no obligation to update publicly or revise any forward-looking statements in light of new information or future events, except as required by law.

(*) Non-US GAAP reconciliations are disclosed in our regulatory filings available at www.sec.gov or www.autoliv.com

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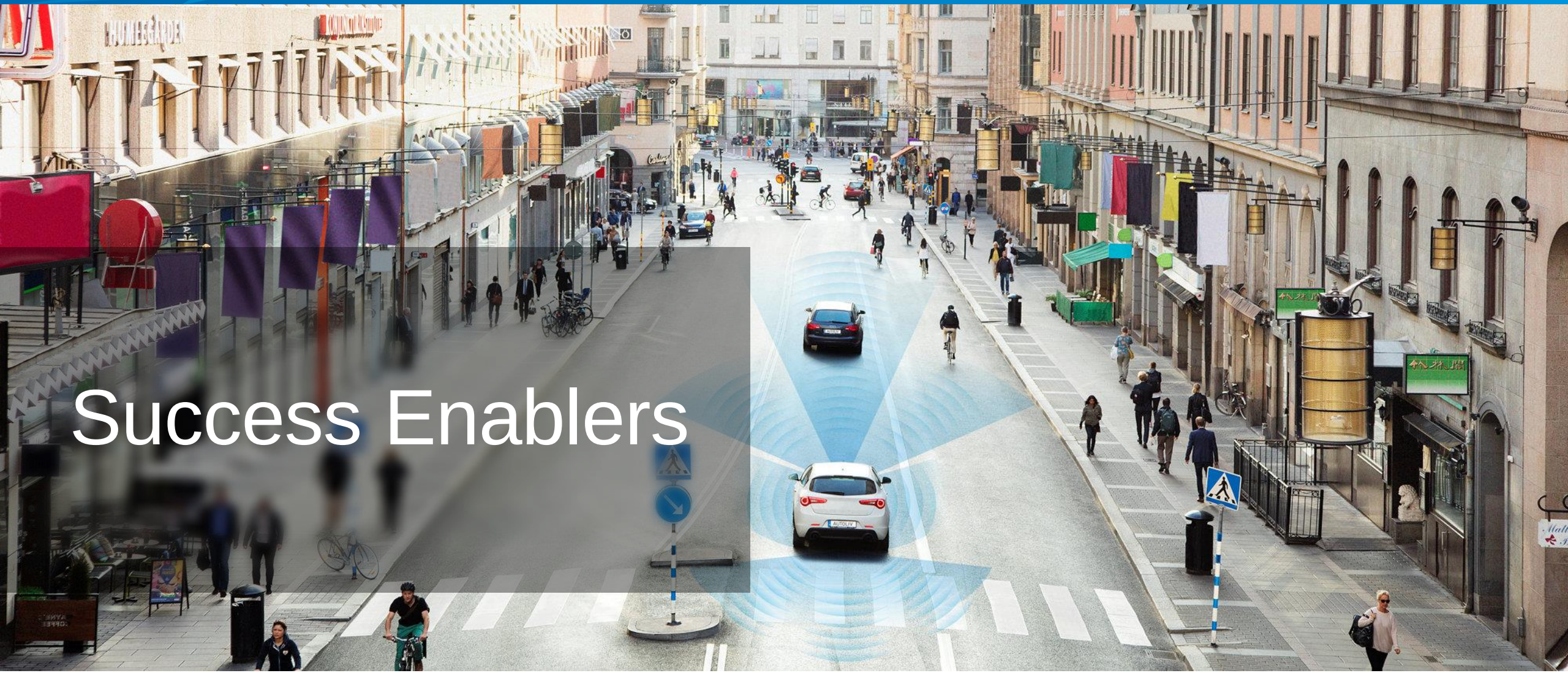
Our Board has initiated a strategic review

As announced earlier today, Board of Directors has instructed management to conduct a strategic review of its operating structure with the intent to create separate companies of its two current business segments, Passive Safety and Electronics. Certain CMD materials include an illustrative indication of what two standalone companies may look like if our Board were to approve of a separation into two publicly-listed entities. All Passive Safety and Electronics standalone targets presented today include several key assumptions and uncertainties, including among others that following the strategic review initiated today, the Board approves a separation of Passive Safety and Electronics into two publicly traded entities. There is no guarantee that this will occur. All Passive Safety and Electronics standalone targets and assumptions presented illustrate what these businesses may look like as standalone entities and include several key assumptions and uncertainties, including among others (i) that the Board approves a separation of our two operating segments into standalone companies, (ii) an allocation of various corporate costs, which may not be reflective of actual costs of separate companies pursuing their respective strategies, (iii) that it is anticipated that the Electronics business would have additional overhead costs and thus a slight margin compression in the near-term while the Passive Safety business would have a slight margin support from a different allocation of corporate costs, (iv) that the product portfolio will be consistent with current segment portfolios, and (v) that certain items such as transaction costs and costs of any transition services are not reflected in the targets and ambitions.



Success Enablers

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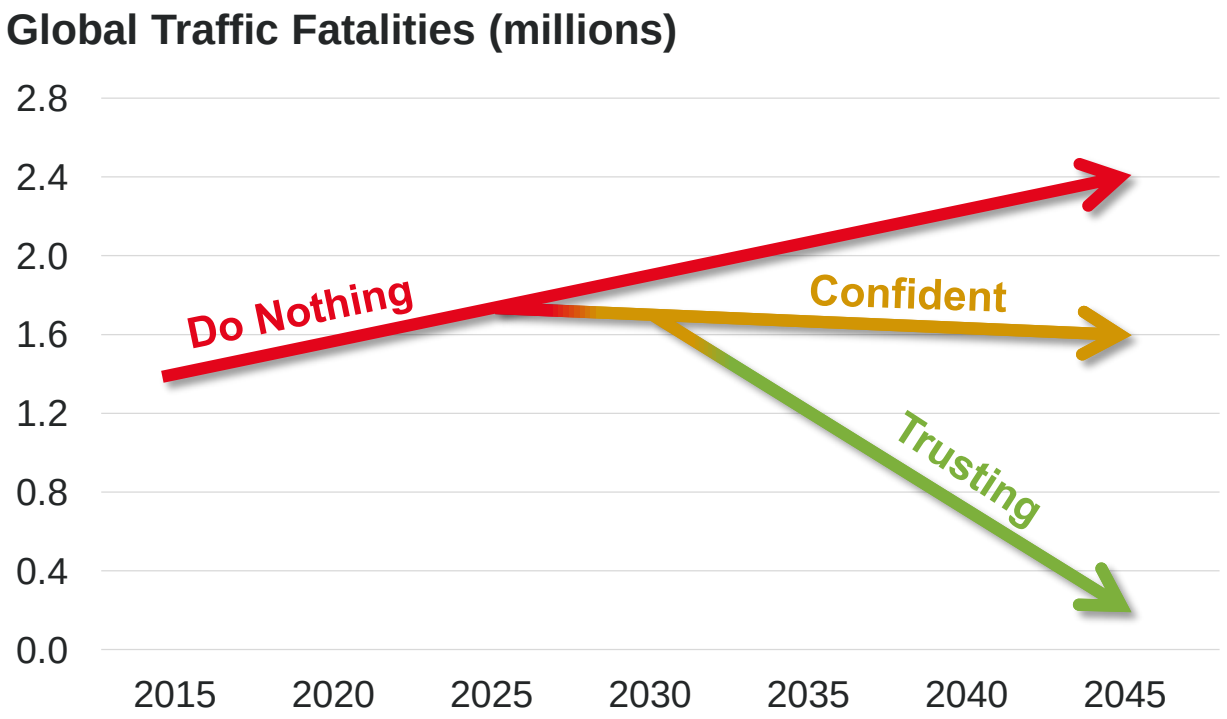
The Road Towards Saving More Lives

Mitigating the Future?



Driver Confidence

- Today's safety technology in all new vehicles
- Consumers willingness to buy and use
- Confidence in the vehicles' perception

Occupant Trust

- Driver co-pilot and shared control
- The driver considers the vehicle intelligent
- Eventually full trust in the vehicle to drive

Source: Autoliv Research

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The Road Towards Saving More Lives

Some Pre-Requisites for Success

Building Trust…

…in Every Day Traffic

USER EXPERIENCE | MOBILITY | ARTIFICIAL INTELLIGENCE | QUALITY | ROBUSTNESS | INNOVATION

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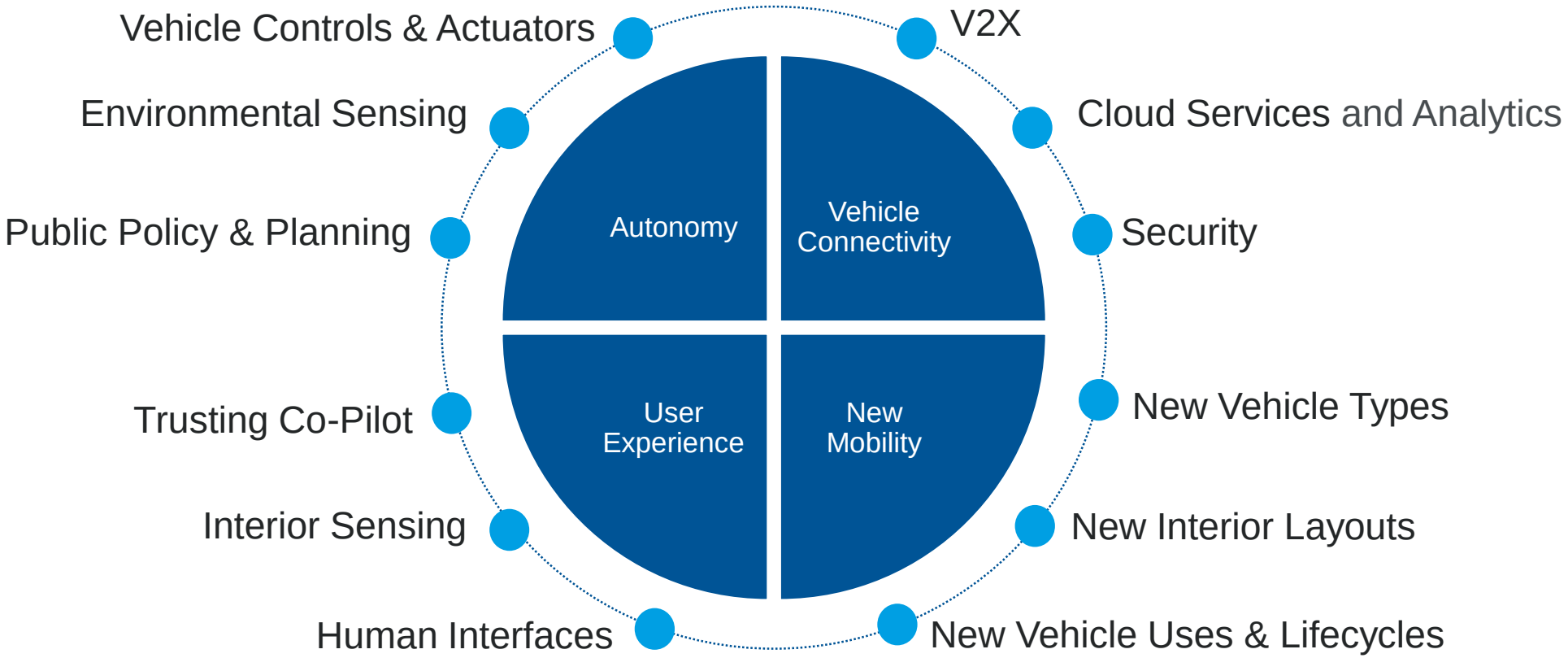
The Road Towards Saving More Lives

Mega Trends and Key Development Priorities



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The Road Towards Saving More Lives

Industry News

Euro NCAP Launches Road Map 2025 - In Pursuit of Vision Zero

12th September 2017

Since its establishment in 1997, Euro NCAP has been the catalyst for significant and sustained advances in automotive safety. Our independent crash tests and continuously evolving assessment protocols have given consumers the knowledge they needed to help choose safety and an estimated 76 thousand lives have been saved in the EU as a result.

Today, during our 20th Anniversary celebrations, Euro NCAP launches its Road Map 2025, setting out for the first time the programme's priorities for the mobility and technological revolution the auto industry is just beginning to experience. Our objective is to offer clarity and confidence to motoring consumers, highlighting new automated driving technologies and raising awareness of their benefits whilst also helping to ensure their safety potential is fully realised.

As our Road Map
possible technolo
ages but also incr

Secondary safety
we recognise tha
now tertiary safe
primary, secondar
in Pursuit of Visio

The Road Map ou

Primary Safety
Driver Monitoring (2020), Automatic Emergency Steering (2020, 2022), Autonomous Emergency Braking (2020, 2022), Vehicle to Vehicle Data Exchange and Vehicle to Infrastructure (2024)

Primary Safety
Driver Monitoring (2020), Automatic Emergency Steering (2020, 2022), Autonomous Emergency Braking (2020, 2022), Vehicle to Vehicle Data Exchange and Vehicle to Infrastructure (2024)

Secondary Safety
Whiplash/Rear-end Crash Protection (2020), Pedestrian and Cyclist Safety (2022)

Tertiary Safety
Rescue, Extrication and Safety (2020), Child Presence Detection (2022)

U.S. DOT releases new Automated Driving Systems guidance

Share:

September 12, 2017 | Ann Arbor, Michigan

TRANSPORTATION SECRETARY ELAINE L. CHAO ANNOUNCES VISION FOR AUTOMATED VEHICLE TECHNOLOGY, EMPHASIZES SAFETY BENEFITS AND CONSUMER EDUCATION FOCUS

Ann Arbor, MI - The U.S. Department of Transportation and the National Highway Traffic Safety Administration (NHTSA) today released new federal guidance for *Automated Driving Systems (ADS): A Vision for Safety 2.0*. This is the latest guidance for automated driving systems to industry and States. Click here to view.

"The new Guidance supports further development of this important new technology, which has the potential to change the way we travel and how we deliver goods and services," said U.S. Transportation Se
means we can lo
Americans."

A Vision for Safe
advocates and t
technologies.

"In addition to sa
transportation, independence and quality of life for those who cannot drive because of illness, advanced age or disability," continued Secretary Chao.

A Vision for Safety 2.0 calls for industry, state and local governments, safety and mobility advocates and the public to lay the path for the deployment of automated vehicles and technologies.

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Passive Safety Technology

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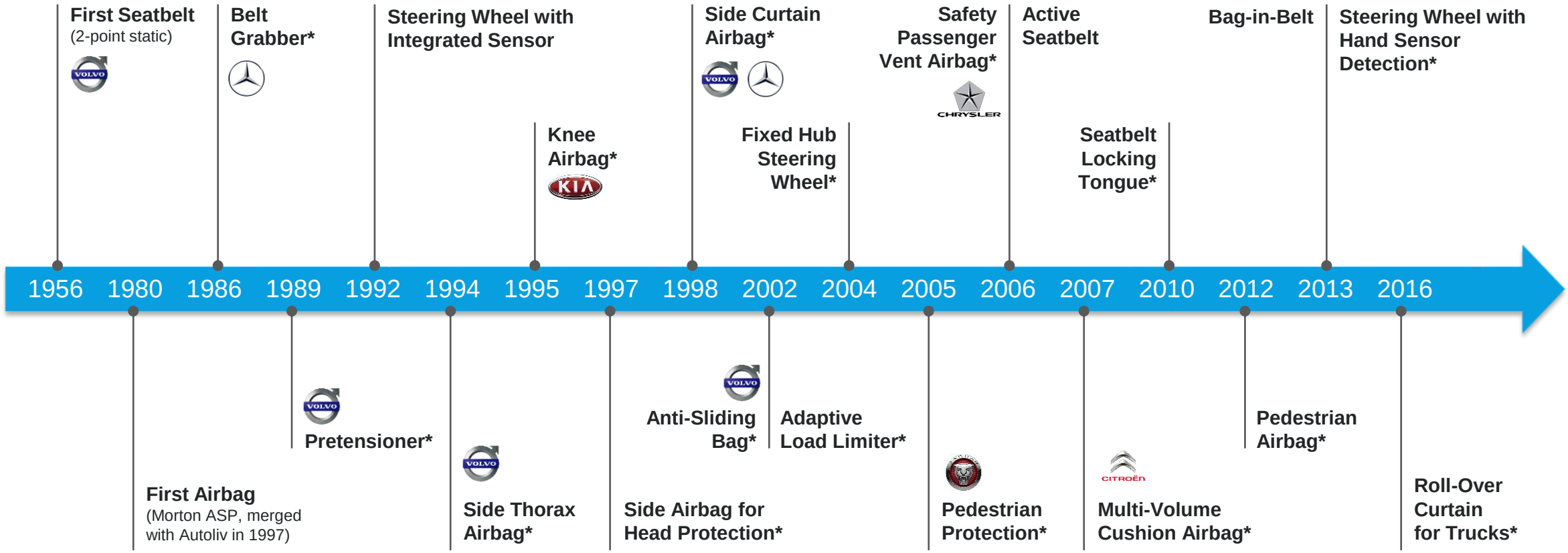
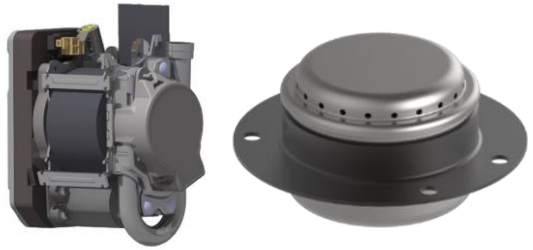
Passive Safety Technology – Our Industry First's



Passive Safety Technology

Our traditional portfolio is evolving and continues to be strong

Smaller / Lighter Retractors and Inflators



100% electric
Seat Belt tensioning

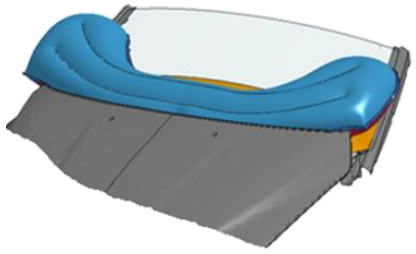
Innovative Steering Wheel
Design / HMI Concepts

Product Improvement & Sustainability

- Recycle / re-useable materials
- Low emission/waste processes
- Light weight materials

Next Generation

5 star safety systems to
reduce brain Injuries



Pedestrian and Cyclist
Protection

Rear Seat
Safety

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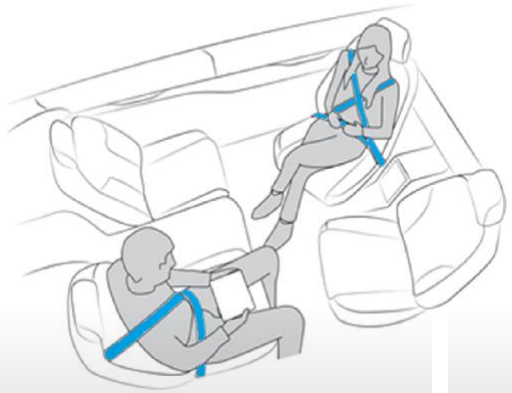
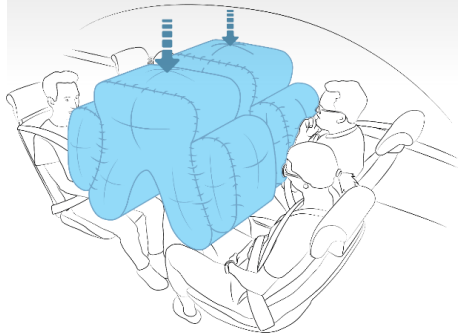
Passive Safety Technology

Evolving in a World of Autonomous Vehicles



New Seating Concepts, requiring New Crash Safety Systems

Personalized Restraints - Safety designed for You



L4/5

- Life Cell Airbag
- Living Room Seating Safety
- Predict Crash / Adaptive Structures

L2/3

- Pre-Crash Airbags
- Reclined Seat Safety
- Personalized Restraints
- Adaptive Steering Wheel Position
- Whiplash Protection
- Alert Seatbelts

L0/1

- Marketing Leading Passive Restraint Portfolio (Today)

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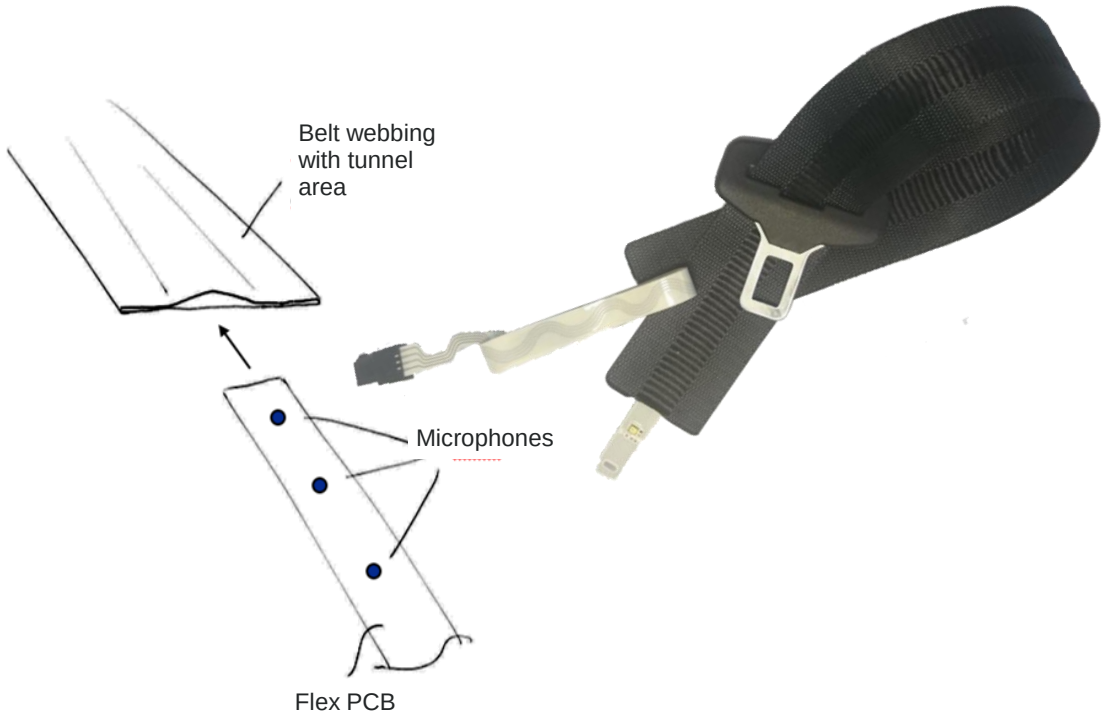
Passive Safety Technology

Innovation continues in all product lines

Seatbelt Integrated Microphone



Airbags for New Interior Configurations

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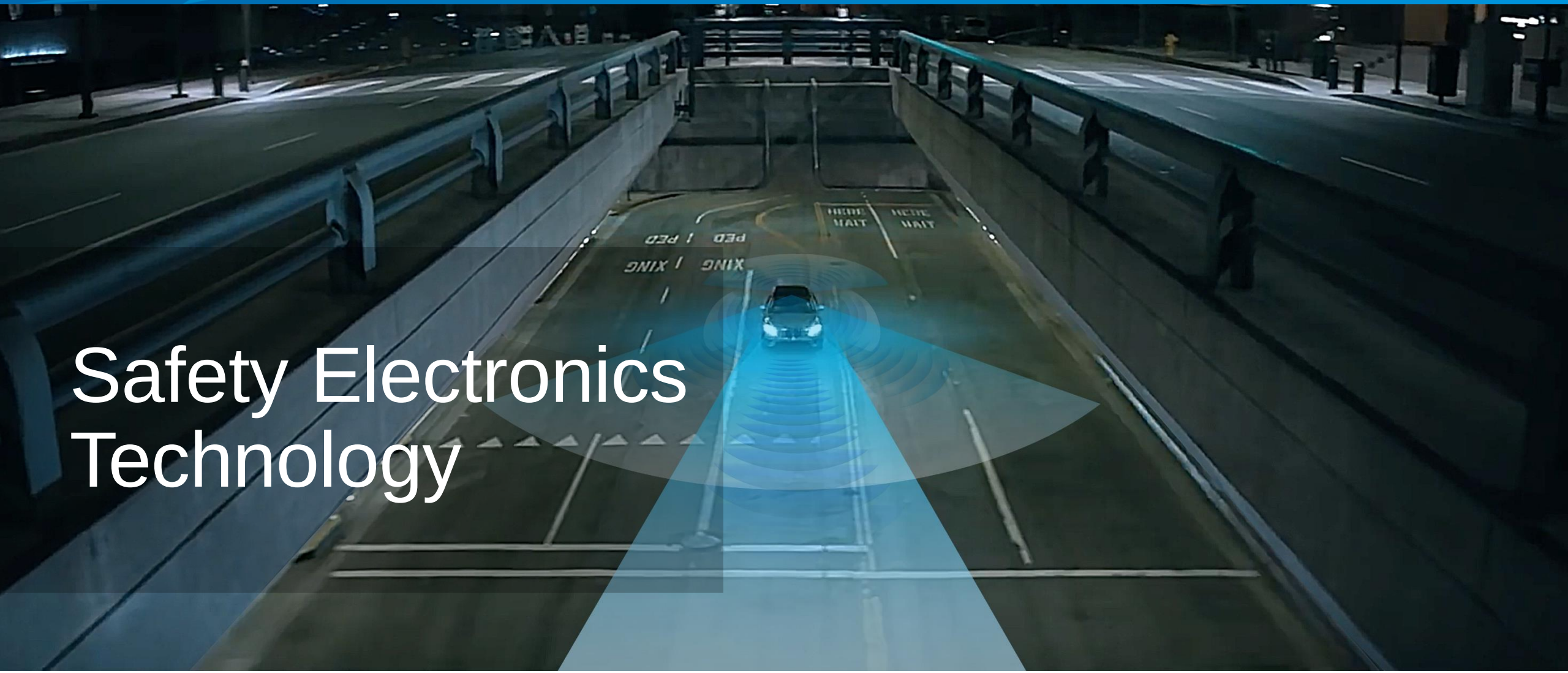

Safety Electronics Technology

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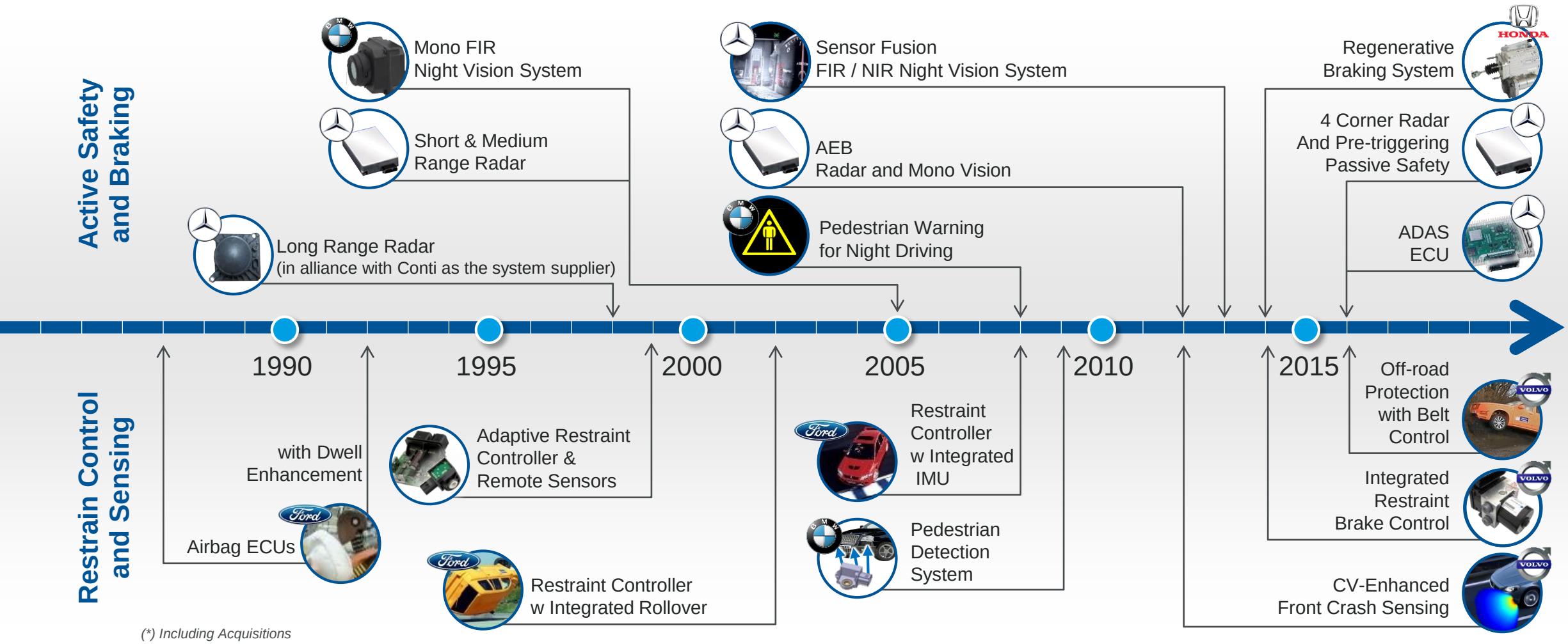
Safety Electronics Technology – Our Industry First's



(*) Including Acquisitions

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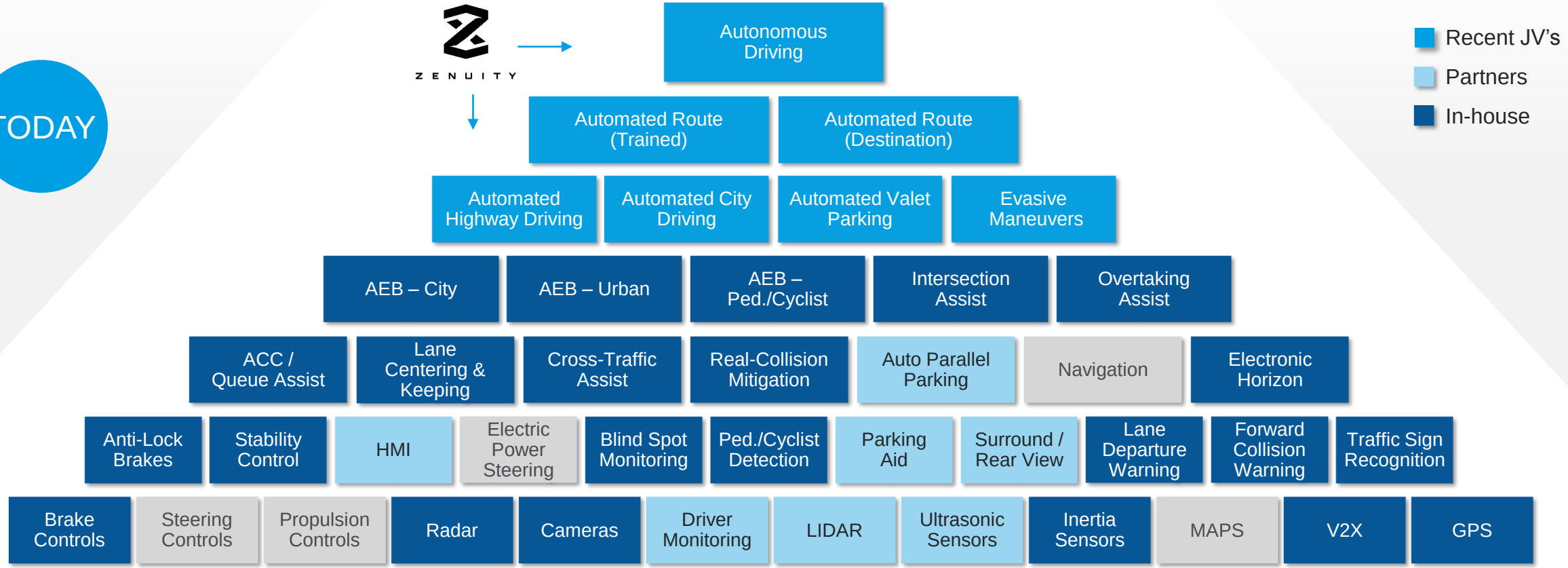
Safety Electronics Technology

Our Active Safety offering is well positioned for success

TODAY



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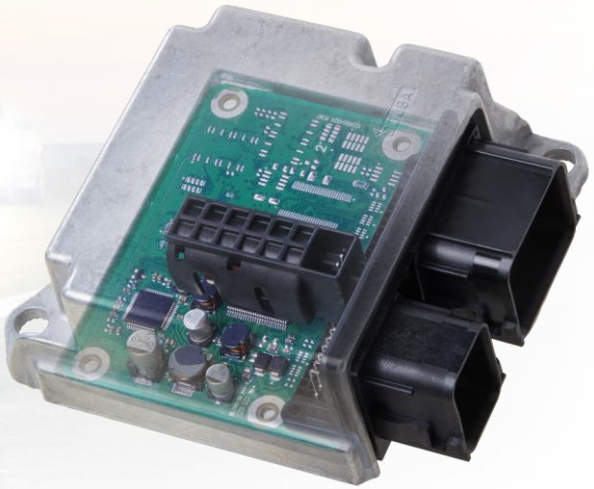
Safety Electronics Technology

New controllers for adaptive and personalized restraint solutions

2nd generation Safety Controller launched in 2017



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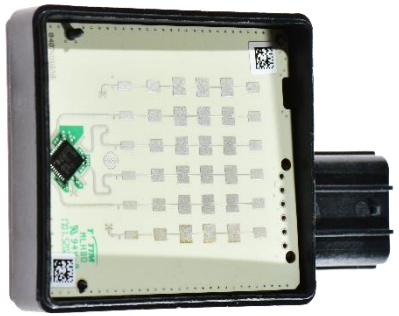
Leading radar sensors to cover complex real life driving scenarios

Autoliv develops leading 24GHz and 77GHz Radar sensor systems. Using unique Radar Signal Processing methods and very high bandwidth allow best in market performance.



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Safety Electronics Technology

New Vision Systems and Algorithms

2017 Mono Vision AEB (3rd Generation)

- Mono Camera with Autoliv Vision based AEB
- Cost effective solution to meet NCAP 2018 (Lane, AEB, TSR)

2019 Mono and Stereo Vision (4th Generation)

- Next generation Stereo and Mono cameras
- Support Automated Driving and NCAP 2020
- Conquered two more customers, accepting Autoliv algorithm solution

2022+ Next generation Vision systems (5th Generation)

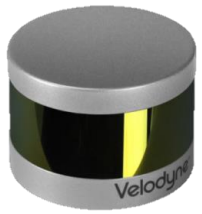
- High resolution imagers
- Advanced algorithms and processing
- Multiple camera support

Safety Electronics Technology

LiDAR Sensing to Complement Vision & Radar

2018 AUTONOMOUS (L4/5)	***2021*** PREMIUM OEMs (L3/4)	***2024*** MASS MARKET (L3/4)	***2027***
WAVE 1	WAVE 2	WAVE 3	

Mobility as Service Drives Market led by New Entrants



Velodyne LiDAR®

360° Surround Scan
200m range

Highway Pilot (L3/L4) Vehicle Launches for Traditional Automotive OEM Business

Forward Looking, 200m,
Complement to Radar + Vision

Velodyne and Autoliv working together to develop a consumer vehicle LiDAR

Success of Mass Market LiDAR Dependent on Cost/Performance Evolution vs. Vision and Radar

Complement or *Competitor?*
to Vision and/or Radar

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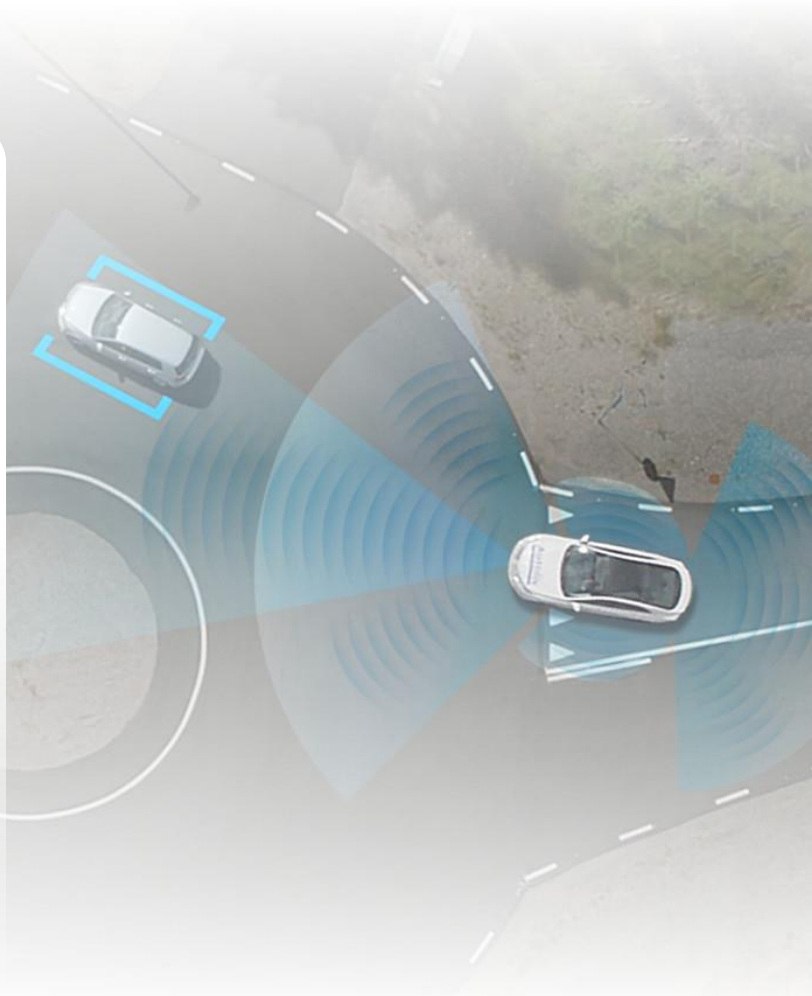
Safety Electronics Technology

Higher performing computing platforms

Autoliv develops customized ADAS/AD ECU technology and provides outstanding functional safety integration capability

- Connectivity
- Cyber Security
- Multi SoC integration
- Deep Learning Acceleration



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Safety Electronics Technology

RoadScape – Positioning, Mapping, and V2X Connectivity…

6th Gen Positioning Module

- Best in Class Accuracy

V2V DSRC + Horizon Module

- Secure, Small Footprint

Digital Mapping & Horizon Module

- SD + HD + Sensor Maps
- Real-time Updates
- Map Streaming

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Safety Electronics Technology

Monitor driver behavior to improve comfort, safety and automated driving

Driver Monitoring Systems

- Innovation for growing interior safety market and autonomous driving
- Synergies with partner, Seeing Machines, to improve speed to market
- Focus to provide best in class accuracy and reliability in driver attention state
  - Reduce distracted driver accidents
  - Safe Hand-off wheel operation

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ZENUITY

Make it real.


MICRO
CITY


x 15

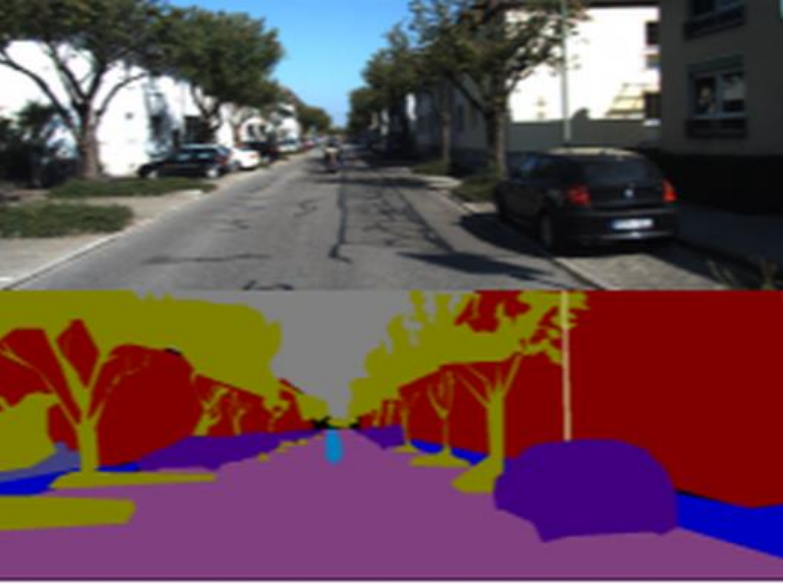

ZENUITY
ZENUITY

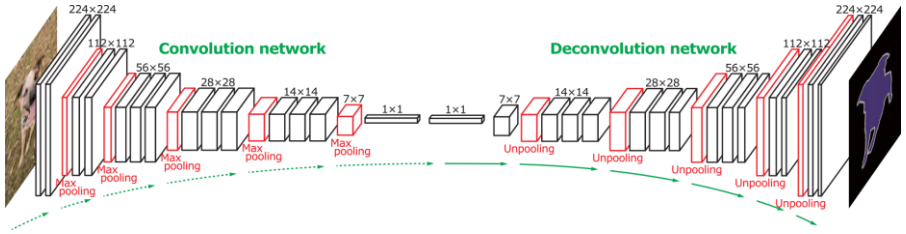
ZENUITY – *the company*

- **Combined effort Autoliv & Volvo Cars**
  - Component => Vehicle Integration
  - Engineers who started active safety
  - IP and patents
- **Legal entity**
- **450+ top engineers in US, DE, SWE**

ZENUITY

Make it real.

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Convolution network
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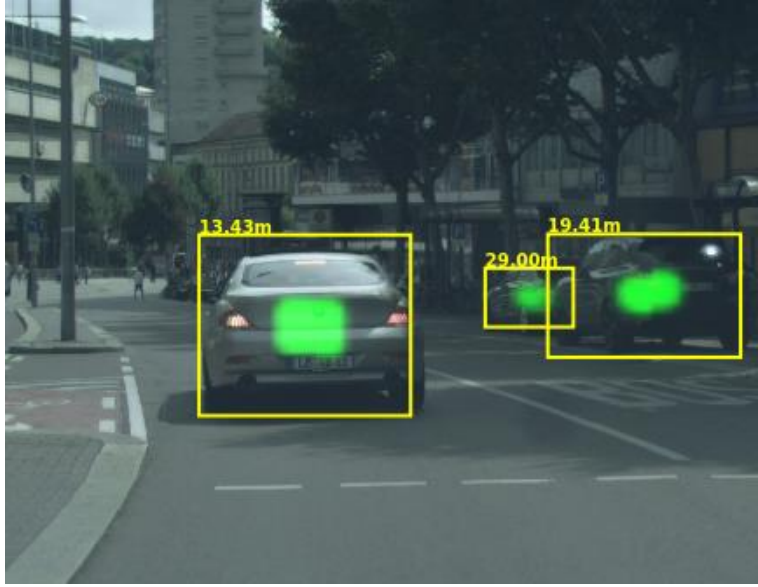
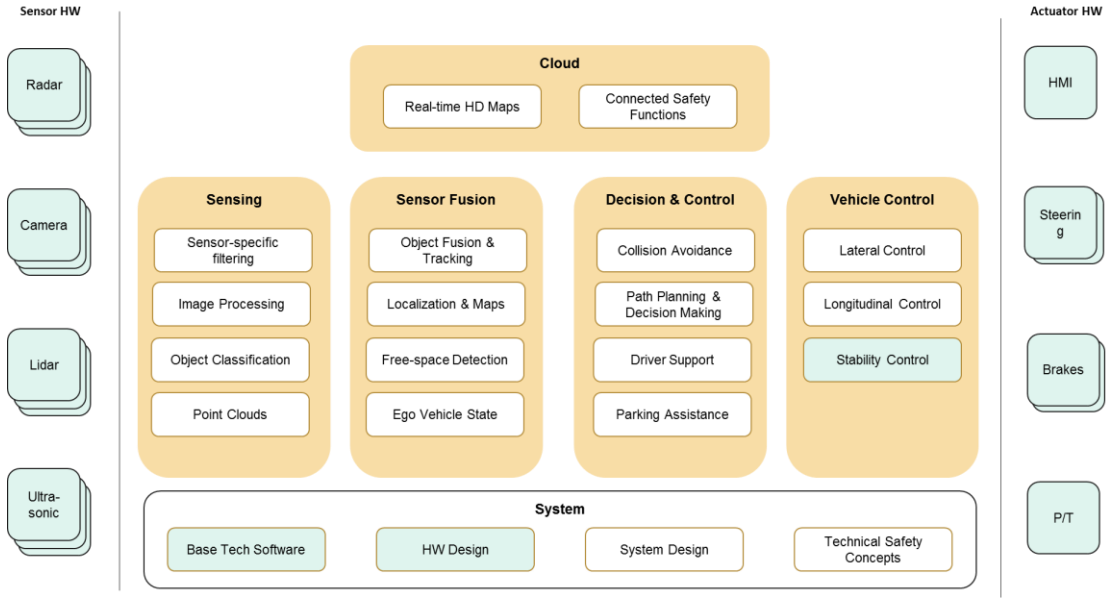

13.43m
19.41m
29.00m

ZENUITY – *the technology*

- **World-class driver-assistance**
  - Concrete ADAS offer in production now
  - More than 200 designed customer features

- **Self-driving technologies**
  - Complete, from raw sensor data to vehicle actuators
  - Volvo Drive-Me as development platform
  - Deep learning integration demonstrated
  - Automotive graded commercialization
  - Connected safety in cloud



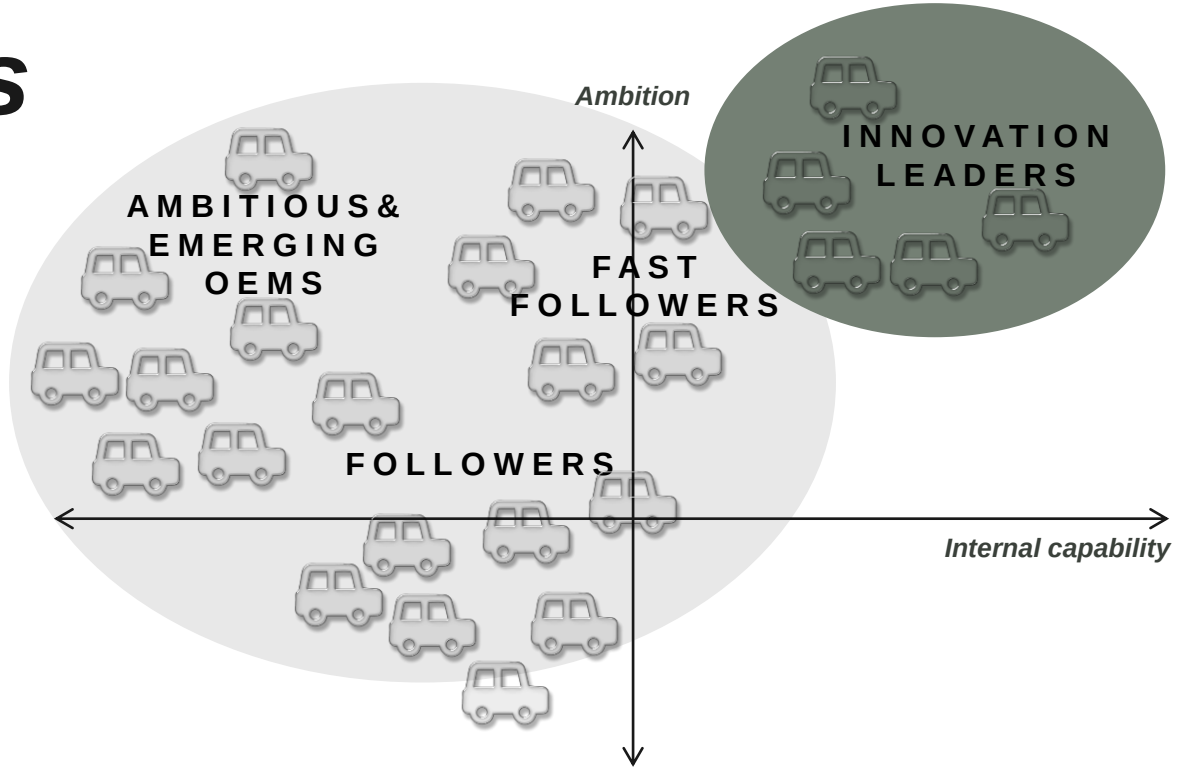
- **Establishing an eco-system**
  - Tier1, OEM, Chipset AI, Cloud, Map provider, Urban robotics, Cyber security, …

Autoliv NVIDIA ERICSSON


Point A
Last mile
Goods
Point B
Point C
Point B
Point B
Smart Parking
Safe Intersection
Services
Goods
Point A
Point A

ZENUITY – *the customers*

- ✓ Exciting business model
- ✓ Impressed by feature offer
- ✓ Legislation positive for ADAS
- ✓ Total system key for AD
- ✓ ZENUITY media positioning 👍



- **SYSTEM OFFER**

⇒ Followers, Fast followers, and Ambitious / Emerging OEMs

- **COMPONENTS OFFER**

⇒ Innovation Leaders

ZENUITY

Make it real.

Building Trust

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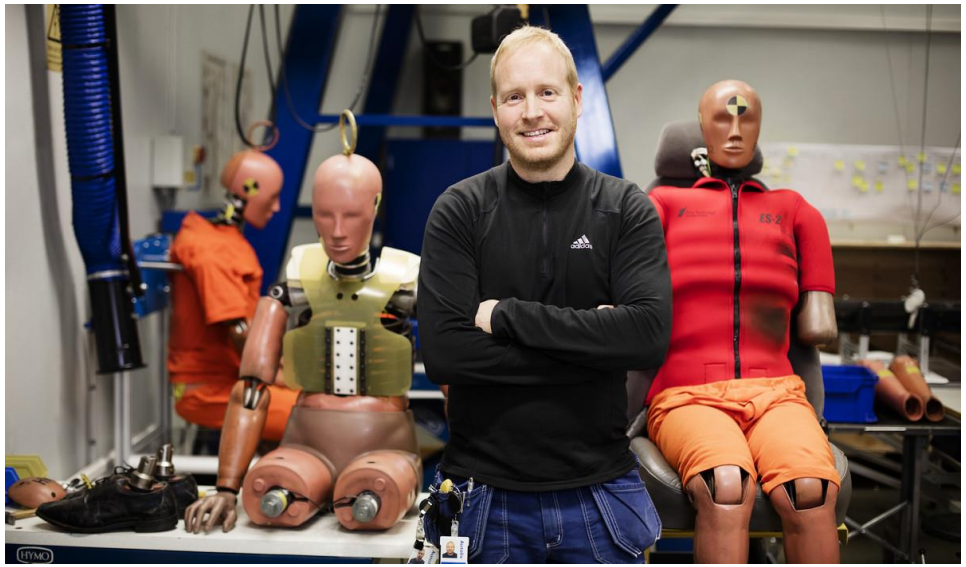
The Road Towards Saving More Lives

Leading Product Offering in Both Segments

Passive Safety



World leading product portfolio and high performing global engineering team

Electronics

Broad product offering well positioned for the growing electronics safety market

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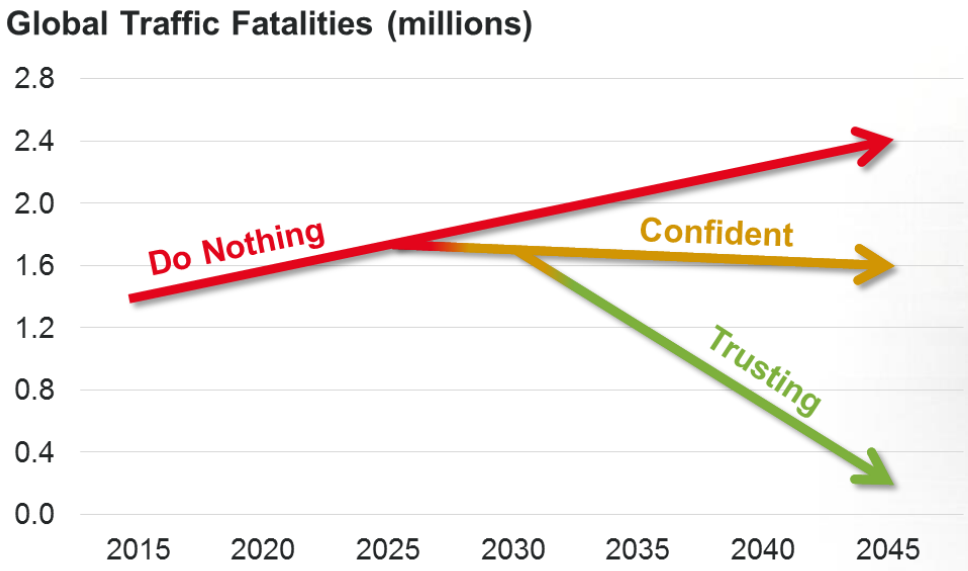
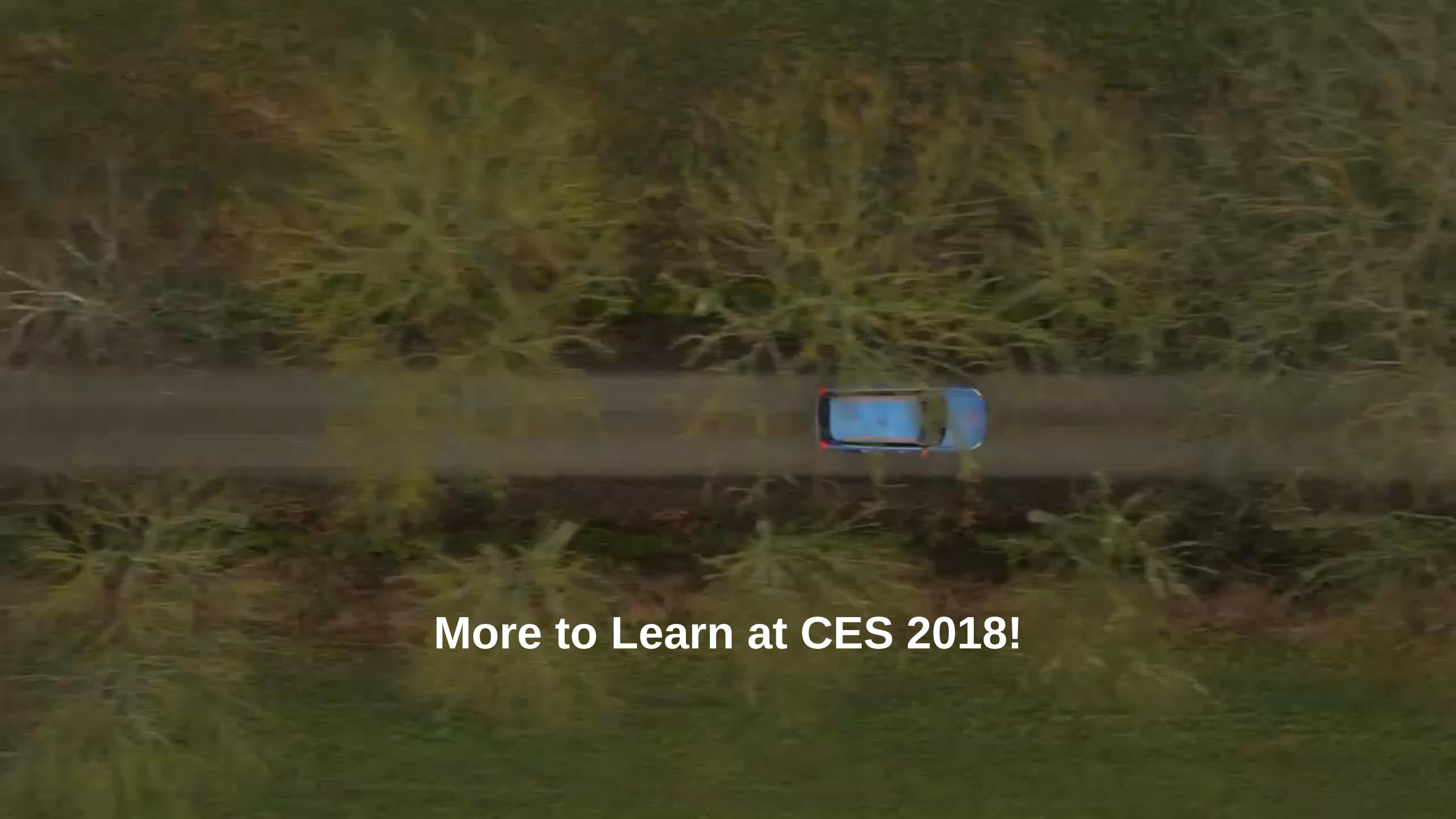
The Road Towards Saving More Lives

Building "Trust in Every Day Traffic"

LIV is a research vehicle that will guide us in building "*Trust in Every Day Traffic*"




More to Learn at CES 2018!

Each year, Autoliv's products save over 30,000 lives

autoliv.com

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