



SMART TECHNOLOGY  
FOR SMARTER CARS



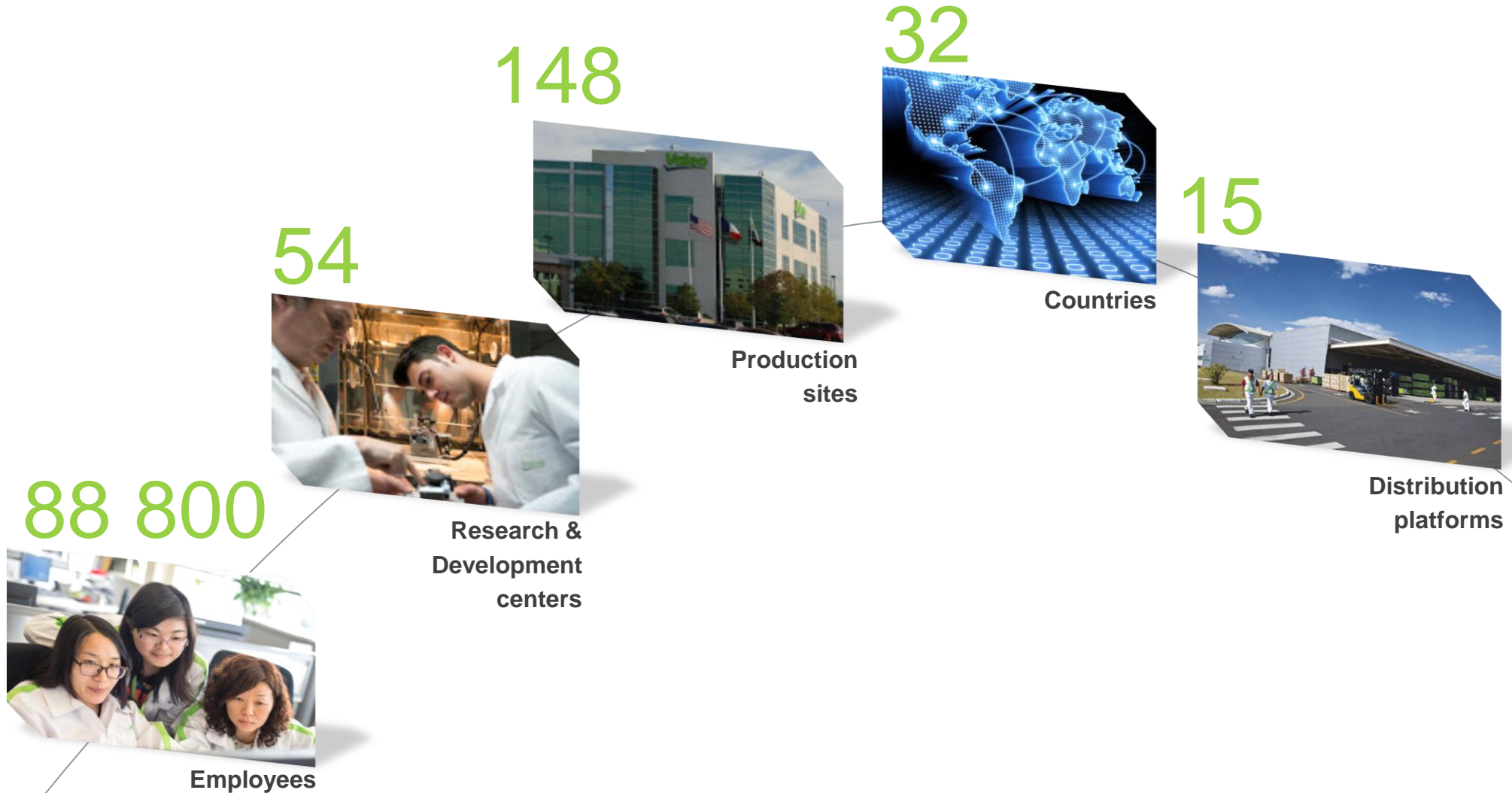
**PRAGUE**  
**VALEO R&D CENTER**

# VALEO IN THE AUTOMOTIVE VALUE CHAIN



**\*Source CLEPA**

# KEY FIGURES 2016



# VALEO IN THE CZECH REPUBLIC



## Valeo Rakovník

**850** employees  
**A/C units**

established **1995**

## Valeo Shared Service Center

### Rakovník

**50** employees  
Shared HR, finance, logistics services

established **2011**

## Valeo Praha R&D

**500** employees  
R&D center

established **2002**



## Valeo Žebrák

**850** employees  
**Evaporators for A/C**

established **2001**

## Valeo Humpolec

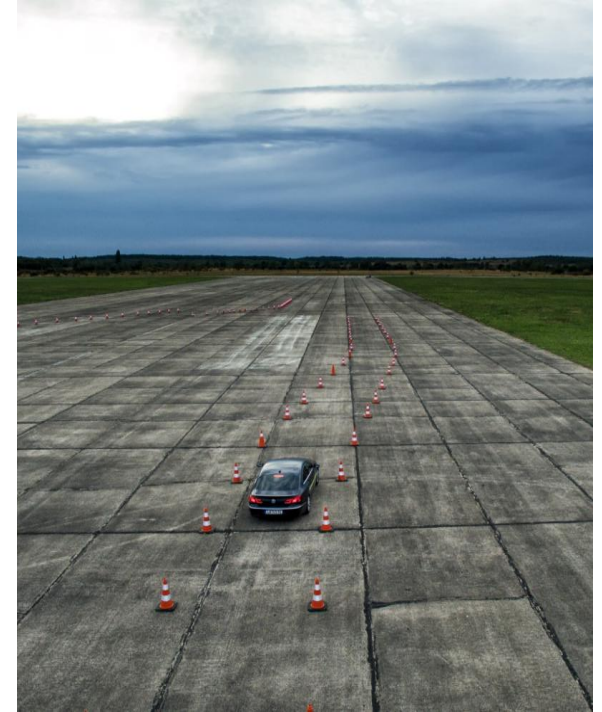
**1100** employees  
**Compressors for A/C**

established **2002**



# R&D CENTER – PRAGUE

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# MILOVICE – TEST TRACK

Established in November 2013

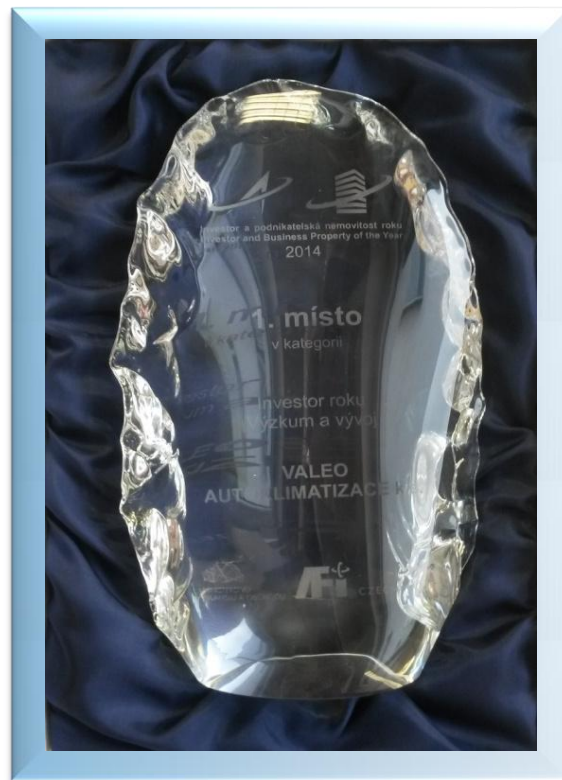
Areas for:

- ▶ low speed up to 30 km/h , parking maneuvers – DUS systems
- ▶ mid speed up to 60 km/h and high speed up to 80 km/h – DAS systems
- ▶ highway speeds testing possibility on the main runway – DAS systems



# INVESTOR OF THE YEAR – 2014

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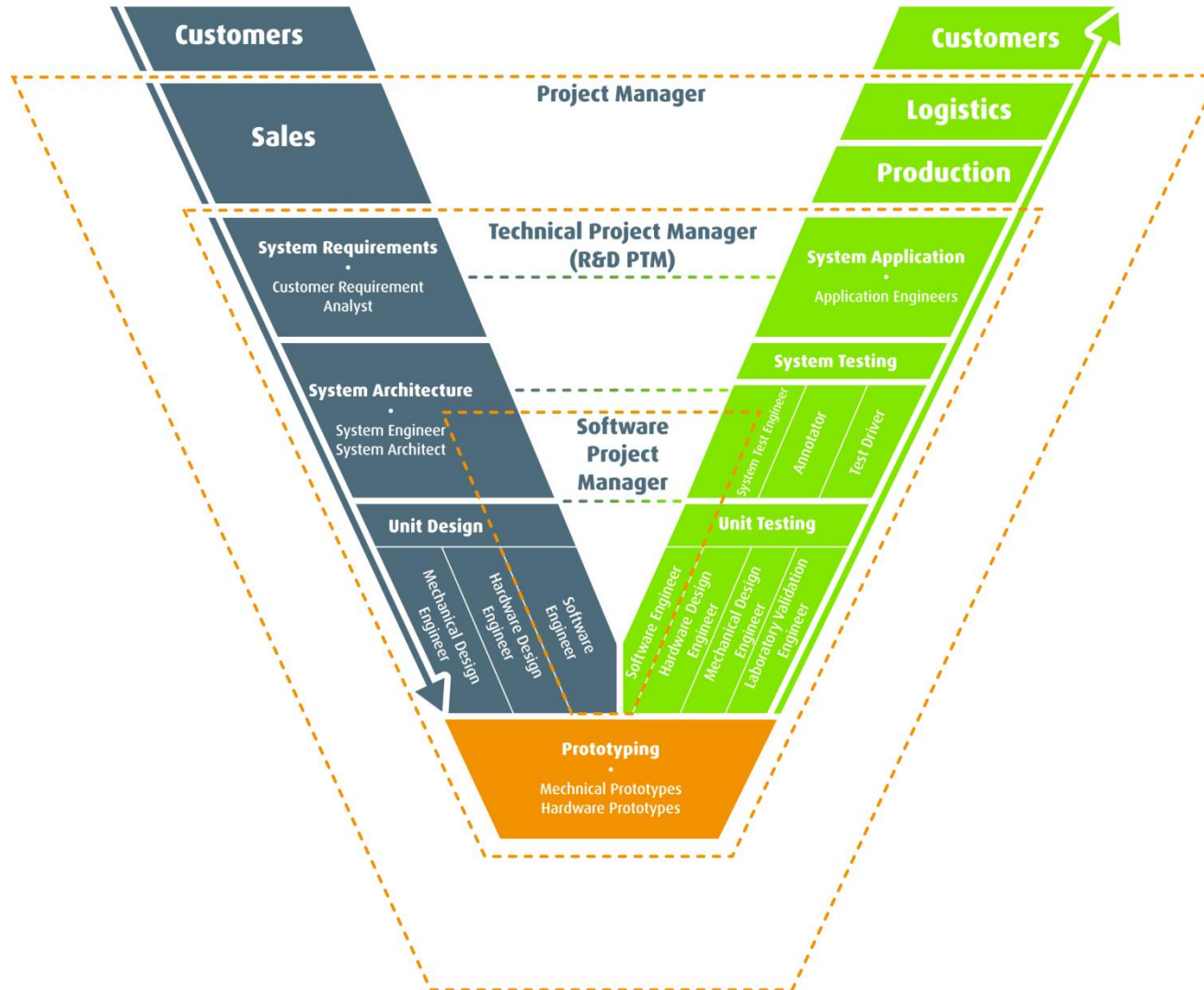


# VALEO AS AN EMPLOYER





# CAREER OPPORTUNITIES IN R&D





SMART TECHNOLOGY  
FOR SMARTER CARS

## BUSINESS GROUP COMFORT AND DRIVING ASSISTANCE SYSTEMS

# ENJOY SAFE DRIVING

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feel  
**good**



feel  
**free**



feel  
**safe**



# Enjoyment

is **more** than Safety but **no** Enjoyment **without**  
Safety

# BUSINESS GROUP VISION

At the end of the day...



  
VALEO INTUITIVE DRIVING  
INTUITIVE CONTROLS

... and will require intuitive controls.



  
VALEO INTUITIVE DRIVING  
CONNECTED CAR

... cars will be connected



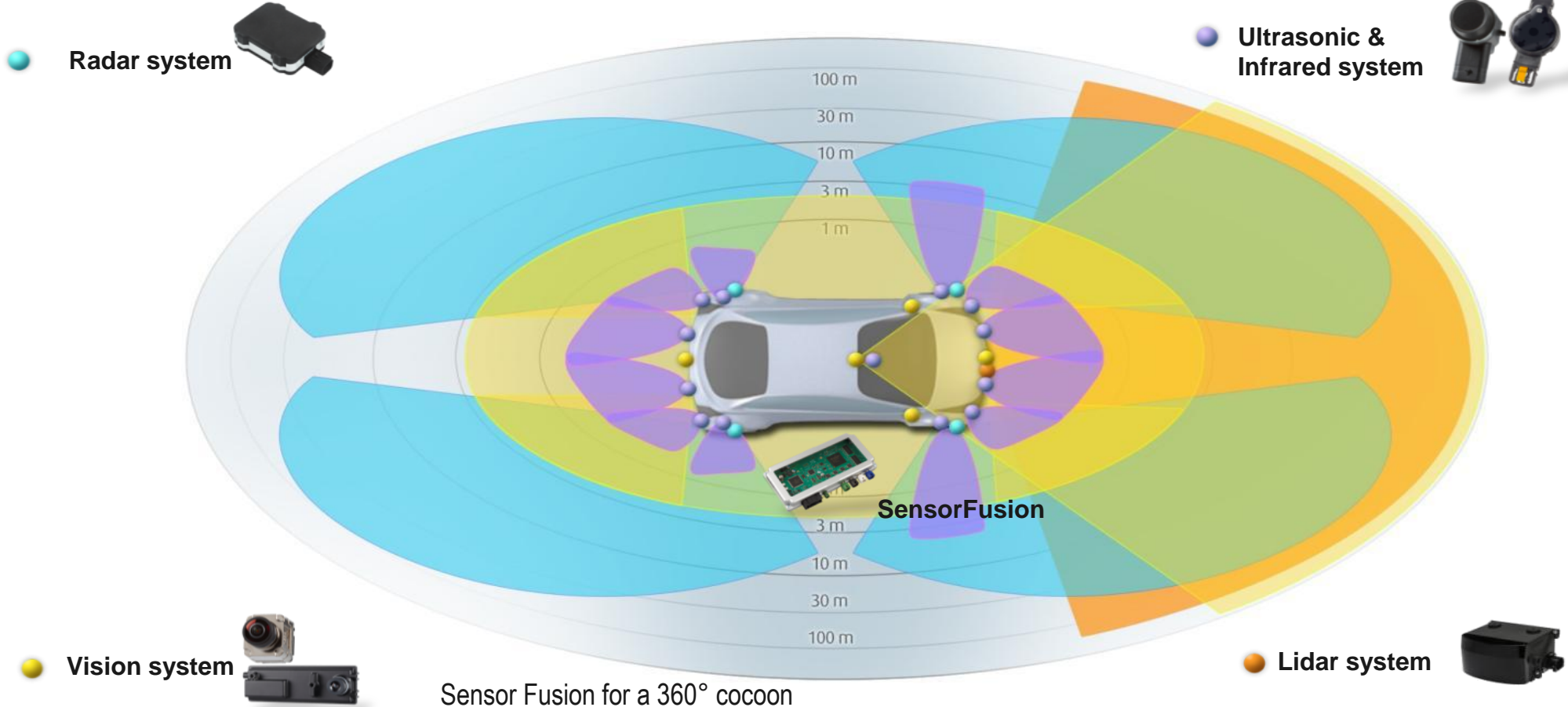
  
VALEO INTUITIVE DRIVING  
AUTOMATED CAR

... cars will be automated

# PRODUCTS PORTFOLIO

## Full Sensor Technology portfolio

For a 360° coverage

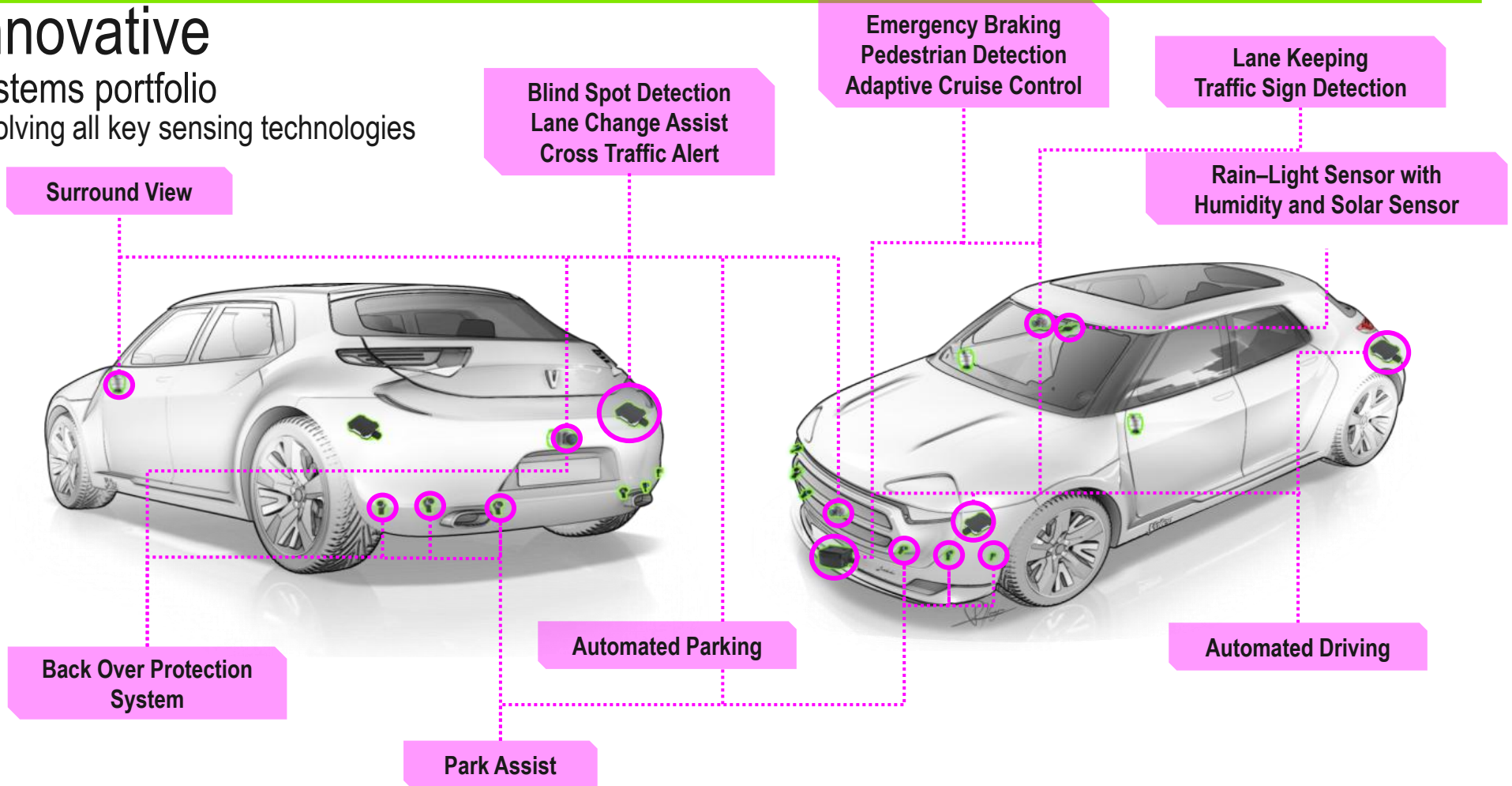


Sensor Fusion for a 360° cocoon  
and System robustness

## Innovative

systems portfolio

involving all key sensing technologies



## PARKING AUTOMATION

## DRIVING AUTOMATION

# SOME RECENT HIGHLIGHTS

## Valeo Cruise4U

automated driving demonstration in real traffic at IAA, ITS 2015 & CES 2016

- Cruise4U takes full control of the steering, accelerating and braking
- The unique Valeo SCALA™ laser scanner detects moving or stationary obstacles to avoid collisions
- Enhanced active safety features



## Sightstream®

camera monitoring system demonstration at IAA 2015 & CES 2016

- Replacing rearview mirrors by a camera monitor system
- Reduction of aerodynamic drag and wind noise
- Better rear vision in difficult situations
- Scene analytics for Blind Spot, Lane Detection, object and pedestrian detection



## 360View® 3D surround system

demonstration at IAA 2015

- 3D perspectives provides visibility of the immediate surrounding one merged single view
- Helps to precisely park the car at ease
- 3D object detection to detect and localize static and moving obstacles
- Available on 2014 Volkswagen Passat & 2015 Volvo XC90



# VIDEO: VALEO CRUISE4U – HANDS OFF TOUR

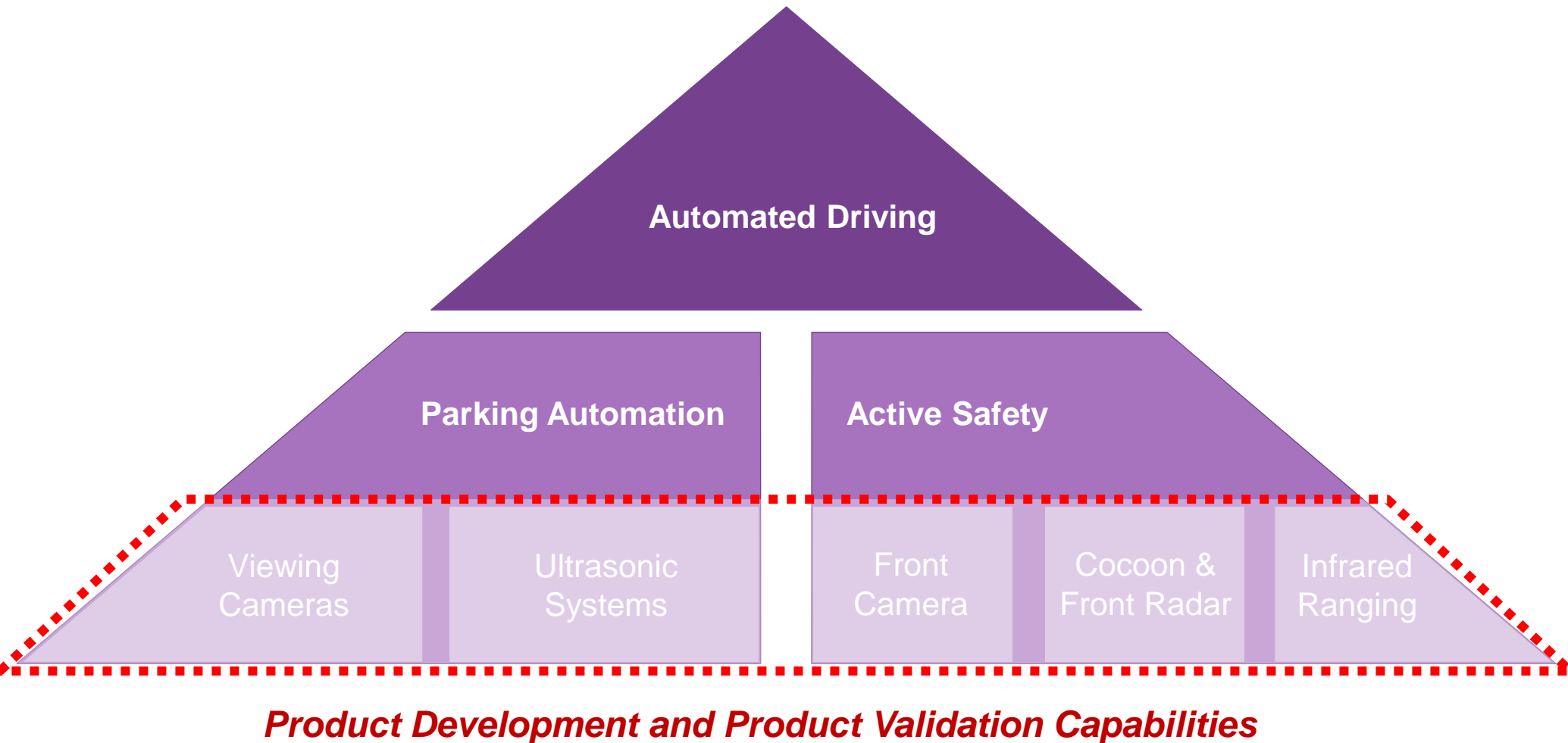
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# COMFORT DRIVING VISION R&D IN PRAGUE

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***Product Development and Product Validation Capabilities***

- **Valeo CDV ( Comfort Driving Vision ) activities**
- **DUS** – Assistance systems based on Ultrasonic, Park assist, Park4U ...
- **DVS** – Assistance systems based on Cameras, Automatic Lights, Lane Keep Assist, Surround View, E–Mirrors...
- **DAS** – Assistance systems based on sensors combination, Automatic Emergency Breaking , ACC, OZA, Blind Spot Detection, Cross Traffic Alert ...

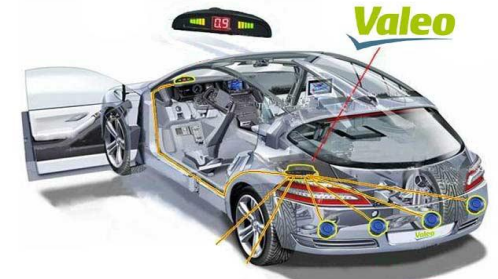


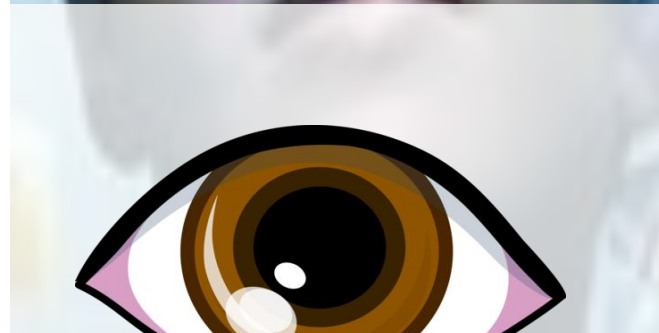
# DUS

CONFIDENTIAL

## Products Overview

- **UPA** – Ultrasonic Park Assist
  - rear / front ultrasonic sensors (4K /8K)
- **Park4U** – Parking Assistance
  - side sensors (2 front)
  - parallel / perpendicular slot
- **Valet Park4U** – Remote parking by cell phone
- **Collision Mitigation** – Emergency braking
  - when object detected
- **Rain Sensors** – Rain, Light, Humidity sensors





# DVS



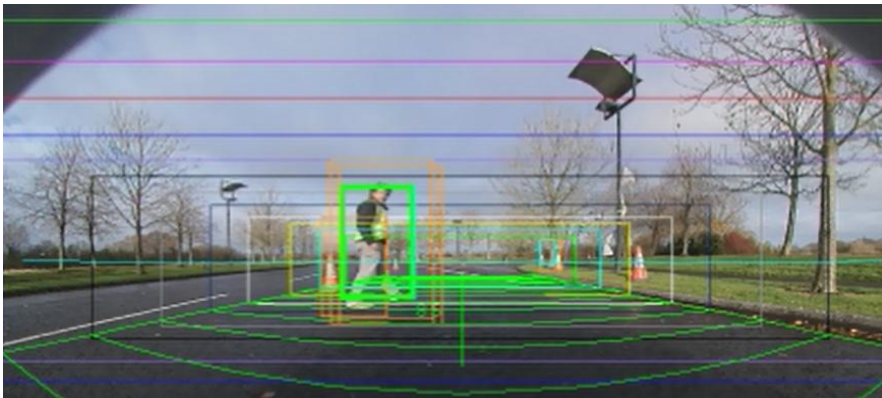
Surround View Systems



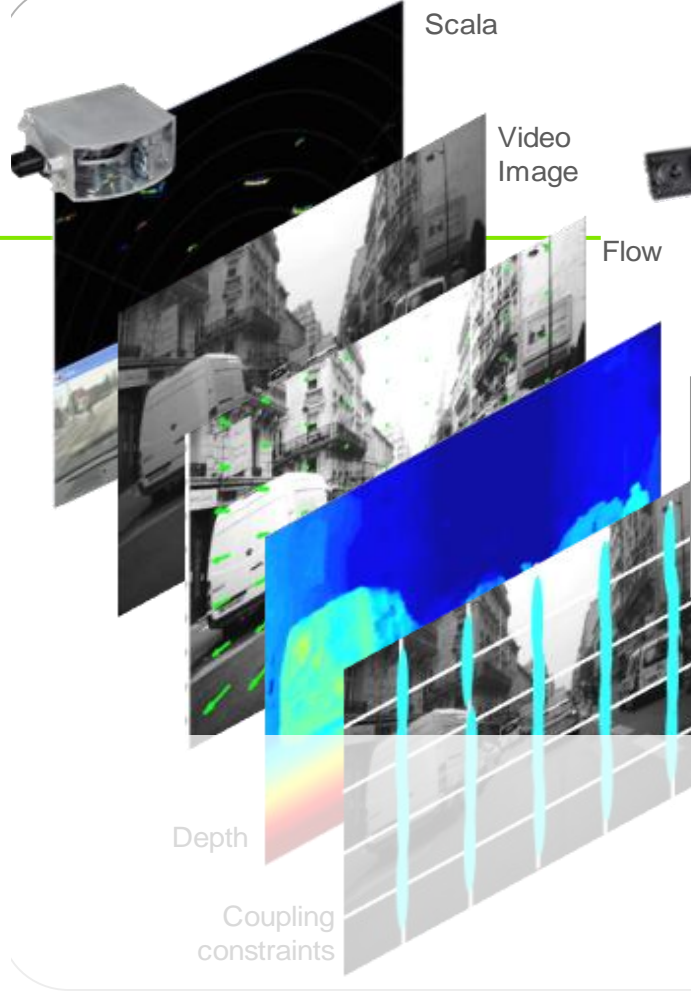
Electronic Mirrors



## Image Processing – Detection Algorithms



- Camera HW Design
- ECU HW Design
- Mechanical Design
- Testing (SVS & Automated Parking)
  - Bench Test & Vehicle Tests
- System Engineering
- Detection Algorithms Development
- Test and Simulation Tools Development
- Design Validation



# DAS

# R&D PRAGUE | ACTIVE SAFETY



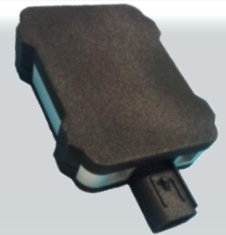
**Laser Scanner**



**Front Camera**



**Radar**



**System Integration**





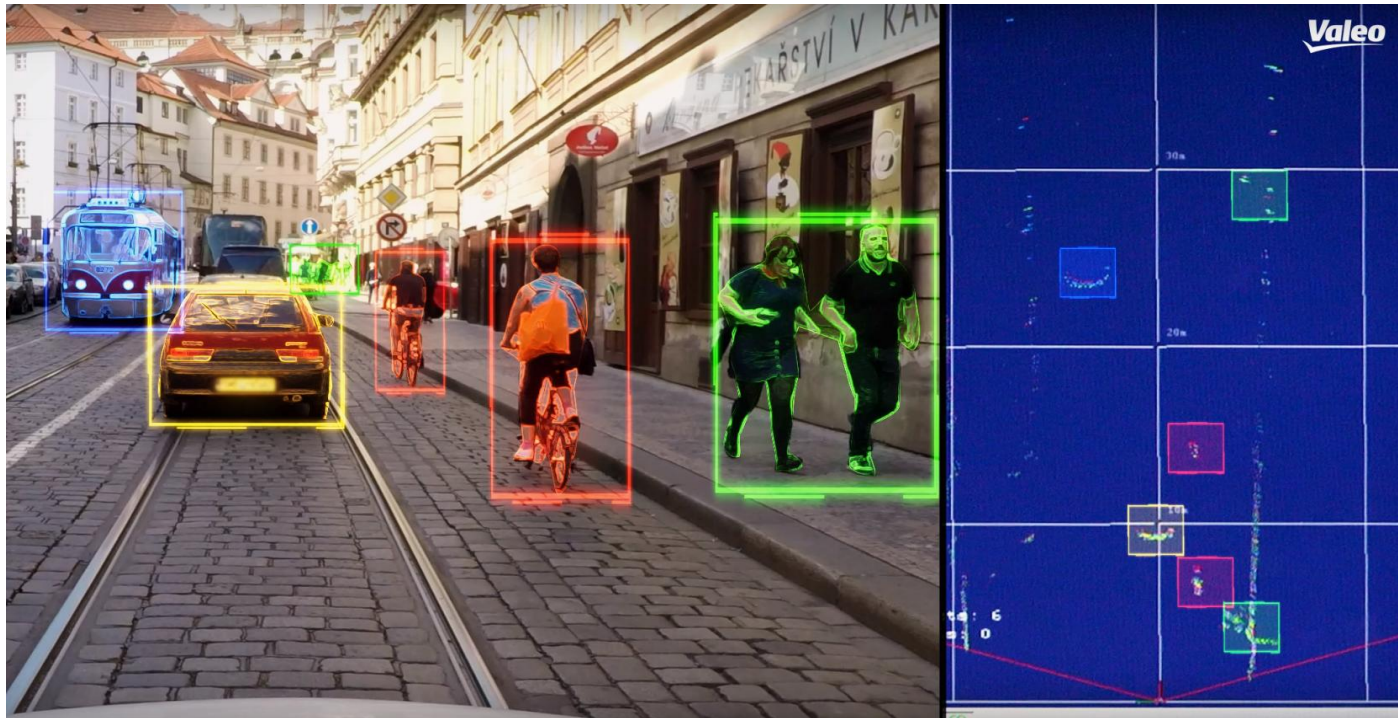
# OUR CUSTOMERS (PRAGUE SITE ONLY)

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# VIDEO: TESTING IN REAL TRAFFIC CONDITIONS

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