LEADERSHIP IN ELECTRIFICATION
DRIVING GREENER MOBILITY
VALEO POWERTRAIN SYSTEMS
OUR MISSION

GREENER MOBILITY
ELECTRIFICATION IS A FUNDAMENTAL TECHNOLOGICAL SHIFT

<table>
<thead>
<tr>
<th>CONVENTIONAL</th>
<th>INCREASING ELECTRIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MILD HYBRID</td>
</tr>
<tr>
<td></td>
<td>FULL HYBRID</td>
</tr>
<tr>
<td></td>
<td>PLUG-IN HYBRID</td>
</tr>
<tr>
<td></td>
<td>ELECTRIC</td>
</tr>
</tbody>
</table>

- **Engine**
  - 48V
- **DCDC**
  - 48V
  - 48V / HV
- **Generator**
  - 48V
- **eMotor**
  - 48V (for MILD HYBRID)
  - 48V / HV (for FULL HYBRID, PLUG-IN HYBRID, ELECTRIC)
- **On-Board Charger**
  - 48V / HV
- **Battery**
  - 12V
  - 48V
  - 48V / HV (for ELECTRIC)

**Full e-drive**

**Increasing electrification**

- **MILD HYBRID**
  - DCDC: 48V
  - Generator: 48V
  - eMotor: 48V
  - Battery: 48V
  - On-Board Charger: 48V / HV

- **FULL HYBRID**
  - DCDC: 48V
  - Generator: 48V
  - eMotor: 48V / HV
  - Battery: 48V / HV
  - On-Board Charger: 48V / HV

- **PLUG-IN HYBRID**
  - DCDC: 48V / HV
  - Generator: 48V / HV
  - eMotor: 48V / HV
  - Battery: 48V / HV
  - On-Board Charger: 48V / HV

- **ELECTRIC**
  - DCDC: 48V / HV
  - Generator: 48V / HV
  - eMotor: 48V / HV
  - Battery: 48V / HV
  - On-Board Charger: 48V / HV
ELECTRIFICATION IS A FUNDAMENTAL TECHNOLOGICAL SHIFT

CONVENTIONAL

Pioneer and Leader In 48V Systems

#1 in electrical systems today

DCDC
emotor

Generator

Engine

Gearbox

Battery 12V

INCREASING ELECTRIFICATION

MILD HYBRID

FULL HYBRID

PLUG-IN HYBRID

ELECTRIC

Joint Venture with Siemens

On-Board Charger

48V / HV

48V

48V / HV

48V / HV

HV

Full e-drive
ELECTRIFICATION IS NOT AN OPTION

REASON #1 = CO₂ REGULATION

EU CO₂ EMISSIONS REDUCTION POLICY (g/km)

ACTUAL OEM CO₂ EMISSIONS

-27% 130 117 118 120 ~118 95

-37.5% 59

ELECTRIFICATION IS NOT AN OPTION

REASON #1 = CO₂ REGULATION

ICE alone cannot match CO₂ targets.

(*) : Best performer in C-segment

Best Gasoline*  Best Diesel*  Best Hybrid*
ELECTRIFICATION IS NOT AN OPTION

REASON #2 = CITIES BAN DIESEL

2019
Oslo
Copenhagen

2020
Oxford

2024
Paris
Roma

2025
Madrid
Brussels
Amsterdam
Mexico

2030
Auckland
Barcelona
Capetown
Los Angeles
Milano
Quito
Seattle
Vancouver
ELECTRIFICATION IS NOT AN OPTION

REASON #3 = Countries Ban all Thermal engines

2025
- Norway
- Denmark
- Finland
- India
- Ireland
- Israel
- Netherlands
- Sweden

2030
- France
- Germany
- Uk
- Spain
- Taiwan

2032
- Scotland

128
ELECTRIFICATION IS NOT AN OPTION

REASON #4 = DIESEL DECLINE

% OF DIESEL TAKE RATE IN EUROPE

- 52% in 2015
- 50% in 2016
- 45% in 2017
- 37% in 2018
- 32% YTD 2019
ELECTRIFICATION IS NOT AN OPTION

REASON #5 = CHINA

NEV Minimum Market Share

- 2019: 2.5%
- 2020: 3%
- 2025: 20%
- 2030: 40%
ELECTRIFICATION IS NOT AN OPTION

REASON #6 = A NEW USER EXPERIENCE

- **ZERO EMISSIONS**
  (No CO$_2$, CO, NO$_3$, HC, particulates...)

- **LUDICROUS ACCELERATION**

- **NO NOISE**
  NO VIBRATIONS

- **... AND MOREOVER COOL DRIVING**
ELECTRIFICATION IS NOT AN OPTION

REASON #7 = ELECTRIC CAR OFFER IS TAKING OFF ... NOW

CUMULATED NUMBER OF NEW ELECTRIC CAR SILHOUETTES
GROWTH IS THERE
ELECTRIFICATION: GROWTH IS THERE FOR BOTH 48V AND HIGH VOLTAGE SOLUTIONS

2020
- 16% 48V ELECTRIFICATION*
- 84% INTERNAL COMBUSTION ENGINE ONLY

2025
- 23% 48V ELECTRIFICATION*
- 22% HIGH VOLTAGE ELECTRIFICATION**
- 55% INTERNAL COMBUSTION ENGINE ONLY

2030
- 34% 48V ELECTRIFICATION*
- 40% HIGH VOLTAGE ELECTRIFICATION**
- 26% INTERNAL COMBUSTION ENGINE ONLY

* Incl. 48V and 12V+12V
** Incl. HV BEV, PHEV, FCEV & FHEV
Passenger Car & Light Commercial vehicles
ELECTRIFICATION: GROWTH IS THERE

SMART MOBILITY IS GOING ALL-ELECTRIC

Smart e-Mobility Market

2018 2030

€12Bn €44Bn

- 3-Wheeler
- e-Bike
- 4-Wheeler
- Droid
- e-Scooter
- e-Truck
- e-Bus
ELECTRIFICATION: GROWTH IS THERE

2030 ELECTRIFICATION MARKET*

€131Bn

SMART e-MOBILITY
(Mainly 48V)

48V 15

72 2030

* Valeo addressable market, excluding batteries
48V ELECTRIFICATION: GROWTH IS THERE

2030
48V ELECTRIFICATION MARKET

€15Bn

€7.5Bn ORDER INTAKE

MAX Content per car x2
WE HAVE INVENTED AND PIONEERED THE 48V ELECTRIC MARKET
WE HAVE BUILT

48V TECHNOLOGICAL PLATFORMS
48V e-MACHINE PLATFORM

>300 000 Machines shipped

>40% Market Share in 2022

Key enabler For CO₂ reduction
48V e-MACHINE
A COMPLEX ELECTRONIC SYSTEM

- SIMPLE GENERATOR
- SIMPLE REGULATOR
- NO SOFTWARE
- ON-BOARD DIAGNOSIS
- CYBERSECURITY
- SAFETY
- POWER ELECTRONICS
- EMBEDDED SOFTWARE
- ALGORITHMS 600 000 LINES OF CODE

- SAFETY
- POWER ELECTRONICS
- EMBEDDED SOFTWARE
- ALGORITHMS 600 000 LINES OF CODE
NEXT GENERATIONS ARE BASED ON THE SAME PLATFORM

Starter Generator
4-12 kW

Electric motor
15 kW

Full Electric rear axle
25 kW
48V DC/DC PLATFORM

10 000 000 units
Already booked

50%
Market Share in China

All 48V cars
Need one
48V ELECTRIFICATION: GROWTH IS THERE

2020 - 2022

Valeo 48V inside 60 vehicles
48V ELECTRIFICATION: GROWTH IS THERE

>40% Market Share in 2022

Sales in Billions €

CAGR
Valeo
59%

0.2
2019*

1.1
2022

*Estimated 2019.
WE HAVE BUILT SUCCESSFUL TECHNOLOGICAL PLATFORMS

WE LEVERAGE OUR TECHNOLOGICAL PLATFORMS WITH NEW VALUE SPACES
SMART e-MOBILITY IS MORE THAN CARS
SMART e-MOBILITY BASED ON 48V PLATFORM

Same 48V e-motor
SMART e-MOBILITY: GROWTH IS THERE

2030 SMART e-MOBILITY MARKET

€44Bn

ALREADY SEVERAL AWARDS

MAX Content per vehicle

1,000€
WE ARE ALREADY ENTERING SMART e-MOBILITY MARKET

European OEM

Indian OEM

European OEM

SOP
Q1 2020

SOP
Q2 2020

SOP
Q3 2020

Expected in 2021
HIGH VOLTAGE ELECTRIFICATION: GROWTH IS THERE

2030 HV ELECTRIFICATION MARKET

€72Bn

€11Bn ORDER INTAKE

x 9

MAX Content per car
VALEO SIEMENS e-AUTOMOTIVE HAS BUILT

HIGH VOLTAGE TECHNOLOGICAL PLATFORMS
A STRONG INVESTMENT IN DEVELOPMENT

Best products on the market
More than 2000 engineers
Unique test equipment

2017→2020 Development of new platforms

Development of new platforms

EMBEDDED ON BOARD DIAGNOSIS
CYBERSECURITY PROOFED
ISO 26262 FUNCTIONAL SAFETY
HIGH POWER ELECTRONICS
A FULL SOFTWARE LIBRARY
ALGORITHMS 1 000 000 LINES OF CODE
EXTENSIVE TESTS AND VALIDATION IN ALL CONDITIONS
HIGH VOLTAGE INVERTER PLATFORM

51% Sales CAGR 18-24
The BRAIN Of the electric car

€4.4Bn Order Intake

154
HIGH VOLTAGE ON-BOARD CHARGER PLATFORM

9 customers already trust us

3 to 22 kW Charging Power

Vehicle-to-Grid For 2022

Vehicle-to-Grid
HIGH VOLTAGE e-DRIVE PLATFORM

60 to 340 kW
Peak Power

Full propulsion system
Motor + Inverter + Transmission

Up to 4 000€
Per electric car
THE INVESTMENT IN SOFTWARE ALLOWS COST REDUCTION

> 70% re-use for new programs

1 000 000 Lines of Code

> 1 000 Software engineers

Fully configurable Software architecture
UNIQUE TEST AND VALIDATION CAPABILITIES

154 Test beds in parallel

250 Vehicles in test
   Including Summer and Winter tests

Zero Defect
   On functional tests
HIGH VOLTAGE ELECTRIFICATION: GROWTH IS THERE

We are outperforming the market by a factor of 3

Sales in Billions €

CAGR VSeA 67%

CAGR Market 18%

0.3 2019

> 1.4 2022

> 2 Bn€ in 2024

We are outperforming the market by a factor of 3
VALEO-SIEMENS IS ACCELERATING

Launches on 90 vehicles up to 2022

2012
Volvo V60

2013
BMW i3

2014
Volvo XC90

2015
Renault ZOE

2016
BMW 3.30e

2017
Renault Master ZE

Valeo-Siemens eAutomotive

2018
BMW 5.30e

2019
DS7 Crossback e-tense

And 60 more to come

2020 and Beyond
VALEO-SIEMENS SUCCESS IS ALREADY VISIBLE TODAY OUTSIDE

Volvo S90

Land Rover Defender

New Smart

New Renault ZOE

Renault Master

New VW iD3

New DS7 E-TENSE

BMW 330e
WE HAVE CREATED A LEADER IN ELECTRIFICATION

1 of every 3 new car worldwide has a Valeo electric machine

Order Intake to date
Source: Public announcement & Valeo estimates

€18Bn

€13Bn

< €5Bn < €5Bn

169%
Sales CAGR 2018-2022
VALEO
INVESTOR DAY
Paris 2019
LEADERSHIP IN ADAS
DRIVING SAFER AND SMARTER MOBILITY
MARC VRECKO
COMFORT & DRIVING ASSISTANCE SYSTEMS
BUSINESS GROUP PRESIDENT

JOACHIM MATHES
COMFORT & DRIVING ASSISTANCE SYSTEMS
CHIEF TECHNOLOGICAL OFFICER
OUR MISSION

SAFER & SMARTER MOBILITY
1.35 million people die in traffic accidents every year, as if an Airbus A320 with 150 people on board was crashing every hour of every day, every month in the year

J. KRAFCIK (Waymo CEO)
WHAT DO WE MEAN?

ADAS & AD
SAFER MOBILITY WILL BE DRIVING ADAS MARKET GROWTH

DRIVERLESS

AUTOMATED DRIVING

DRIVER SUPPORT

ACTIVE SAFETY

Market Share in Value

- Driverless
- Level 4
- Level 3
- Level 2+
- Level 2
- 5-star NCAP
- 3-star NCAP
- Park Assist only

2020 2022 2024 2026 2028 2030
<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Driver Responsibility</th>
<th>Liability Passes To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 0</td>
<td>You are driving whenever these ADAS features are engaged – even if your feet are off the pedals and you are not steering</td>
<td>You must constantly supervise these support features; you must steer, brake or accelerate as needed to maintain safety</td>
<td>OEM</td>
</tr>
<tr>
<td>Level 1</td>
<td>You are not driving when these ADAS features are engaged – even if you are seated in the driver’s seat</td>
<td>Liability passes to OEM</td>
<td>OEM</td>
</tr>
<tr>
<td>Level 2</td>
<td>You are not driving when these ADAS features are engaged – even if you are seated in the driver’s seat</td>
<td>Liability passes to OEM</td>
<td>OEM</td>
</tr>
<tr>
<td>Level 3</td>
<td>You are not driving when these ADAS features are engaged – even if you are seated in the driver’s seat</td>
<td>Liability passes to OEM</td>
<td>OEM</td>
</tr>
<tr>
<td>Level 4</td>
<td>You are not driving when these ADAS features are engaged – even if you are seated in the driver’s seat</td>
<td>Liability passes to OEM</td>
<td>OEM</td>
</tr>
<tr>
<td>Level 5</td>
<td>You are not driving when these ADAS features are engaged – even if you are seated in the driver’s seat</td>
<td>Liability passes to OEM</td>
<td>OEM</td>
</tr>
</tbody>
</table>
SAFER MOBILITY WILL BE DRIVING ADAS MARKET GROWTH

These are driver support features:
- SAE LEVEL 0
- SAE LEVEL 1
- SAE LEVEL 2
- SAE LEVEL 2+

These are automated driving features:
- SAE LEVEL 3
- SAE LEVEL 4

Driverless

Main AD hurdles:
- Regulatory
- Approval
- Product Liability

Driver support:
- 0 sensor types
- 1 sensor type
- 2 sensor types
- 3 sensor types

Automation:
- 3 sensor types
- 4 sensor types
NEW VALUE SPACES - CHINA CAN ACT AS THE CATALYST FOR AUTOMATION

Established players in the western hemisphere...

... agile ecosystem / favourable government

Opportunities for local innovation

Favorable Regulations
Massive data collection
Megacities boost demand
Mobility and Delivery Platforms
Governmental support/strategy
ADAS & AD

GROWTH IS THERE
THREE MAIN DRIVERS

- Regulators are pushing
- Consumers want it
- Technology gets ready
REGULATION DRIVES ACTIVE SAFETY TOWARDS STANDARD FITMENT

ROADMAP 2020

- AEB VRU cyclist
- Far-side protection
- Mobile progressive deformable barrier

ROADMAP 2025 — SAFETY RATING

- Driver monitoring
- AEB VRU pedestrian - Back-over
- AEB - Junction & Crossing
- AEB - Head-on
- Automatic Emergency Steering
- V2X
- Whiplash/Rear-end Crash Protection
- Revised subsystem for pedestrian & cyclist
- Rescue, extrication and safety
- Child presence detection

ROADMAP 2025 — AD

- Grading of AD functions

Timeline

Communication only based on first ideas
Proposal to release updates out of phase with overall rating
TAKE RATES FOR ADAS SYSTEMS CONTINUE TO INCREASE

Regulators are pushing. Consumers want it.

Source: Advanced Driver Assistance Systems - Production Forecast Database 2019/10
OEMs make ADAS & AD a backbone in vehicle architecture

- Technology gets ready
- Consumers want it
- Regulators are pushing

Connectivity
Interior Cocoon
Exterior Cocoon
THE HIGHER AUTONOMY LEVEL, THE MORE FUNCTIONS, THE HIGHER CONTENT FOR VALEO

<table>
<thead>
<tr>
<th>Premium</th>
<th>Mainstream</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>48</strong></td>
<td><strong>24</strong></td>
<td><strong>11</strong></td>
</tr>
<tr>
<td>Park4U Garage</td>
<td>360Vue</td>
<td>Rear Camera</td>
</tr>
<tr>
<td>Park4U Home</td>
<td>Park4U Fusion</td>
<td>Park Aid</td>
</tr>
<tr>
<td><strong>L4</strong> AVP ready (mapped area)</td>
<td><strong>L2</strong> AVP ready (mapped area)</td>
<td></td>
</tr>
<tr>
<td>Beyond NCAP Emergency Evasion</td>
<td>5-star AEB Blind Spot</td>
<td>3-star AEB Rear AEB</td>
</tr>
<tr>
<td><strong>L2</strong></td>
<td><strong>L2</strong></td>
<td><strong>L2</strong></td>
</tr>
<tr>
<td>Auto Lane Change Stop on Hard Shoulder</td>
<td>Hands-off Stop in Lane</td>
<td>ACC Stop&amp;Go Lane Centering</td>
</tr>
<tr>
<td><strong>L3</strong> VoyageXR ready</td>
<td><strong>L3</strong></td>
<td><strong>L3</strong></td>
</tr>
</tbody>
</table>

Valeo content [in 2025]
- **2 500 €**
- **600 €**
- **200 €**

Sensor Suite

- **Park4U®**
- **Safe4U**
- **Cruise4U**

Mainstream
- **Entry**
- **Sensor Suite**
A FAST GROWING MARKET

2019

10-12 bn€
- 5-star NCAP
- Level 2
- Level 2+
- Park Assist only

2022

15-20 bn€
- 3-star NCAP
- Level 2
- Level 2+
- Level 3
- Park Assist only

2030

35-40 bn€
- Driverless
- 3-star NCAP
- 5-star NCAP
- Level 2
- Level 2+
- Level 3
- Level 4
WE HAVE BUILT

SUCCESSFUL TECHNOLOGICAL PLATFORMS
THE BROADEST SENSOR PORTFOLIO ON THE MARKET FOR EXTERIOR AND INTERIOR COCOONS

INTERIOR COCOON
Driver and cabin monitoring

EXTERIOR COCOON
Perception and Situational Awareness
ULTRASONIC PLATFORM

>170mio sensors in 2019

>1.1 bn sensors since 1990

A.I. ready new generation in 2021
ARTIFICIAL INTELLIGENCE IS POWERING VALEO’S PERCEPTION SYSTEMS

A global network of 200+ AI Experts

A dedicated team of researchers
SURROUND VIEW CAMERA PLATFORM

35% market share in 2019

XtraVue Trailer system launched in 2019

12% camera CAGR 2019-2022
FRONT CAMERA PLATFORM

>€4bn order intake since 2017

50 model launches in 2019/2020

World’s 1st Stand-alone SAE Level 2 in 2019
Honda’s Fit abolishes millimeter-wave radar, changed from Bosch to Valeo

VALEO’S SMART FRONT CAMERA LEVEL 2 ADAS SYSTEM

Developed / integrated by Valeo
DRIVER MONITORING PLATFORM

World’s 1st A-pillar Driver Monitoring System

World’s 1st Emotion Detection System

Selfie Function for 2021 SOP
LIDAR SCALA® PLATFORM

>100 000 Valeo SCALA® shipped

€500mio order intake

Key enabler for safe automated driving
LIDAR IS A KEY ENABLER FOR SAFE AUTOMATED DRIVING

Valeo SCALA® can detect:
- overhead objects
- road debris
- road markings
- offset static objects
SCALABLE SOFTWARE SYSTEM
WE ARE A FULL SYSTEM SUPPLIER
From architecture, design to validation and manufacturing

- Driverless
- Automated Driving
- Driver Support
- Active Safety

Cruise4U: Scalable System Automated Driving
Park4U: Scalable System Automated Parking
Safe4U: Full NCAP Roadmap Compliance solutions
SCALABLE ADAS SOFTWARE SYSTEM

100mio lines of code in System and Software library

70 validated re-configurable software modules

3 500+ SW developers worldwide
WE HAVE DEVELOPED

KEY ASSETS
IN SYSTEM VALIDATION
WE HAVE DEVELOPED KEY ASSETS IN SYSTEM VALIDATION

VIRTUALIZATION
SIL strategy (Software In the Loop)
Simulation of sensors and systems

AUTOMATION
AI-based labeling
Automatic KPI generation

DATA MANAGEMENT
Big data storage and archiving
GDPR / China compliance

STANDARDIZATION
Modular Tool Chain and Reference Systems
WE HAVE DEVELOPED KEY ASSETS IN SYSTEM VALIDATION

- **Deterministic testing**
  - Test track scenarios

- **Statistical testing**
  - Worldwide campaigns

- **Reprocessing of recorded data**
  - In SIL/HIL environment

- **Virtual World testing**
  - In simulation environment

- **12 Petabyte Recorded Data**
- **6 Vehicle Test Tracks**
- **>100 Test vehicles**
WE HAVE DEVELOPED KEY ASSETS IN SYSTEM VALIDATION

- Synthetic Data Creation
- Tool chain Standardization
  - >70% in 2020
- Data Archiving
  - >40% cost reduction
- Ground Truth Extraction
- HiL Replay
  - 80% SiL in 2022
- Data Acquisition
- Synthetic Data Creation

DATA MANAGEMENT SYSTEM
WE HAVE BUILT SUCCESSFUL TECHNOLOGICAL PLATFORMS

WE LEVERAGE OUR TECHNOLOGICAL PLATFORMS WITH NEW VALUE SPACES
WE ARE A KEY PARTNER TO NEW MOBILITY PLAYERS

**PERCEPTION:**
FULL SENSOR PORTFOLIO INTEGRATION, CLEANING AND PERCEPTION ALGORITHMS

**FUNCTIONS:**
MAPPING AND LOCALIZATION

**TELEOPERATION**
Drive4U™ Locate

**ACTIVE SAFETY**

**DRIVER SUPPORT**

**DRIVERLESS**

**AUTOMATED DRIVING**

**ACTIVE SAFETY**
ENSURING AVAILABILITY OF SERVICE THROUGH AUTOMOTIVE GRADE QUALITY

WE ARE A KEY PARTNER TO NEW MOBILITY PLAYERS
SMART MOBILITY IS MORE THAN CARS
THE LEADER IN ADAS & AD

>€11bn
order intake
2017-2019

18%
CAGR
2019-2022

~€3.2bn
Sales in
2022
IT IS JUST

THE BEGINNING
SAFE HARBOR STATEMENT

Statements contained in this document, which are not historical fact, constitute “forward-looking statements”. These statements include projections and estimates and their underlying assumptions, statements regarding projects, objectives, intentions and expectations with respect to future financial results, events, operations, services, product development and potential, and statements regarding future performance. Even though Valeo's Management feels that the forward-looking statements are reasonable as at the date of this document, investors are put on notice that the forward-looking statements are subject to numerous factors, risks and uncertainties that are difficult to predict and generally beyond Valeo's control, which could cause actual results and events to differ materially from those expressed or projected in the forward-looking statements. Such factors include, among others, the Company's ability to generate cost savings or manufacturing efficiencies to offset or exceed contractually or competitively required price reductions. The risks and uncertainties to which Valeo is exposed mainly comprise the risks resulting from the investigations currently being carried out by the antitrust authorities as identified in the Registration Document, risks which relate to being a supplier in the automotive industry and to the development of new products and risks due to certain global and regional economic conditions. Also included are environmental and industrial risks as well as risks and uncertainties described or identified in the public documents submitted by Valeo to the French financial markets authority (Autorité des marchés financiers – AMF), including those set out in the “Risk Factors” section of the 2018 Registration Document registered with the AMF on March 29, 2019 (under number D.19-0224).

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VALEO INVESTOR DAY
Paris 2019