WE ARE A HIGH TECH COMPANY

#1 in ELECTRIFICATION
Market Leader on 48V MHEV & BEV

#1 in ADAS*
First to market LiDAR & L3 autonomous

#1 in LIGHTING
First to market sensor cleaning system

#2 in THERMAL SYSTEMS
Leader in Battery thermal management & HVAC for EV
Leader in Bus climate solutions

*ADAS = Advanced Driving Assistance System
LEADERSHIP IN ELECTRIFIED MOBILITY

Bank of America • 18 May 2021
ELECTRIFICATION IS NOW ACCELERATING

**BEV sales**
- 21% by 2030
- 61% in 2040

**Regulations**
- ++
- ++
- +/-

**China**
- Push through NEV credits as well and strong infrastructure push

**City bans**
- +20 cities have announced banning plans

**EVs Launched**
- +500 from 2018 to 2023

(source: McKinsey)
THE NEXT DECADE WILL SEE A MASSIVE SHIFT

In 2030, 48V and BEV will take highest share of electrified powertrains.
OUR OBJECTIVE
LEADING
THE ELECTRIFICATION REVOLUTION
ELECTRIC MOBILITY COVERS VERY DIFFERENT SEGMENTS

<table>
<thead>
<tr>
<th>Small Electric</th>
<th>Light Electric</th>
<th>Mild Electric</th>
<th>Hybrid</th>
<th>Plug-in Hybrid</th>
<th>Full Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOW VOLTAGE (12V &amp; 48V)</strong></td>
<td></td>
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<td>Valeo</td>
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<tr>
<td>[Image of Low Voltage Vehicles]</td>
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<td>[Image of High Voltage Vehicles]</td>
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<td>Valeo</td>
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<td>[Image of Thermal Management]</td>
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<td>Valeo</td>
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</tr>
</tbody>
</table>

VALEO RESERVED
ELECTRIC MOBILITY IS A FUNDAMENTAL TECHNOLOGICAL SHIFT

CONVENTIONAL

INCREASING ELECTRIFICATION

Mild Hybrid | Full Hybrid | Plug-in Hybrid | Full Electric

48V
DCDC converter
Inverter
eMotor

48V or High Voltage
On-Board Charger

Full eDrive

48V
HV

Generator
Engine
Gearbox
Battery Thermal Mgmt
Cabin Heating
AC System

12V
48V Battery
ICE heater core + PTC
Mechanical compressor

12V
48V Battery
HV Battery
Battery Cooling & Heating
Heat pump & HV Heater
Electrical compressor 400V, 800V

VALEO RESERVED

May 2021 | 8
CAR ARCHITECTURES ARE COMPLETELY REDESIGNED

Air grille shutter

Motor & Transmission

E-powertrain cooling module

Inverter HW + SW

Charger & DCDC

HVAC with High voltage electric heaters

High Voltage coolant heater

Battery coolers & heaters

Battery composite casing

Heat pump system / e-compressor

Battery chiller

Battery composite casing
WE HAVE COMPLETELY REVISITED OUR PORTFOLIO

WE HAVE DEVELOPED FULLY REUSABLE PLATFORMS WITH ELECTRONICS & SOFTWARE

**POWERTRAIN ELECTRIFICATION**
- Motors
- Inverters
- OBC* DC/DC
- eDrive

**SMART THERMAL MANAGEMENT**
- Heat pump
- Battery Thermal Management
- Coolant e-Heater
- e-Compressor

**CHARGING SOLUTIONS**
- Charging station

**ALL MOTORS, ALL ELECTRONICS, ALL THERMAL SYSTEMS, ALL SOFTWARE**
LEADER IN LOW & HIGH VOLTAGE SOLUTIONS
WE WALK THE TALK
WE WALK THE TALK

- Front & Rear Inverters
- Battery Cooler & Chiller
- HVAC with HV air Heater
- R744 Heat pump exchangers
WE WALK THE TALK
MAJOR BEV, PHEV & 48V SOP’S RECENT GROWTH DRIVERS (2020-2021)

**Volkswagen**
- ID.3 & ID.4
  - Inverter
  - Battery Coolers
  - AC unit with HV electric heater
  - Battery Chiller

**Mercedes-Benz**
- EQS
  - eDrive System

**Hyundai - KIA**
- Tucson, Sportage
  - iBSG 48V

**Stellantis**
- 208, 2008, Corsa
  - Battery coolers
  - Heat pump system
  - Electrical compressor

**Stellantis**
- DS7 Crossback, 3008, Grandland
  - eMotor & inverter

**Renault**
- Clio, Megane, Captur
  - Dual Inverter
  - On-Board Charger
  - Dedicated hybrid transmission

**Volvo**
- XC40
  - eMotor

**Li Auto**
- One
  - Battery cooler
  - Heat pump systems
  - Electrical compressor
  - Comfort controller
WE ARE A WORLD LEADER OF HIGH VOLTAGE SOLUTIONS

2020-2023: Valeo High Voltage solutions into 90 vehicles with 40% of market share
WE HAVE DEVELOPED SUCCESSFUL TECHNOLOGICAL PLATFORMS FOR ELECTRIFICATION

- 48V ELECTRIFICATION
- E-THERMAL SOLUTIONS
- HIGH VOLTAGE ELECTRIFICATION

GROUP CUMULATED OI (end of 2020)

23.7bn€
# COMPETITIVE POSITIONING OF POWERTRAIN & THERMAL SOLUTIONS

Global leader in Low & High voltage solutions as well as Thermal Management

<table>
<thead>
<tr>
<th></th>
<th>Competitor 1</th>
<th>Competitor 2</th>
<th>Competitor 3</th>
<th>Competitor 4</th>
<th>Competitor 5</th>
<th>Competitor 6</th>
<th>Competitor 7</th>
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<tbody>
<tr>
<td><strong>Hybrid machines</strong></td>
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<td><strong>ePowertrains</strong></td>
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<td><strong>Electronics</strong></td>
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<tr>
<td><strong>Battery Cooler</strong></td>
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<tr>
<td><strong>Heat Pump</strong></td>
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</table>

(1) 48 belt starter generator & 48V eMotor  
(2) eMotor + Inverter + reducer  
(3) On Board Charger + DCDC converter
KEY PLAYER OF NEW MOBILITY SOLUTIONS
NEW ELECTRIC MOBILITY OPPORTUNITIES

- 2 WHEELER
- 3 WHEELER
- DROIDS
- SHARED MOBILITY
- LAST MILE DELIVERY
- DIGITAL
- LOW SPEED EV
NEW ELECTRIC MOBILITY IS A (BIG) MARKET OPPORTUNITY

2030 ADDRESSABLE MARKET FOR VALEO TECHNOLOGIES

- Traditional Valeo scope (base 100)
- Traditional Valeo scope + eMobility

DRIVEN BY
- REGULATIONS
- NEW BUSINESS MODELS
- CONSUMER ACCEPTANCE

156

+56%
WE ADAPT/DEVELOP OUR PORTFOLIO

2 Wheeler
- eBike
- eMotor
- HMI
- Lighting

3 Wheeler
- eScooter
- eMotor
- Lighting

4 Wheeler
- eRickshaw
- Skateboard
- eMotor
- Lighting
- Full AD
- Sensor cleaning
- Thermal management
- Sanitization
- Small EV
- 48V eDrive
- Healthy Car
- Connectivity
- Smart Access
- Robotaxis
- HV eDrive
- Healthy Car
- Connectivity
- Full AD
MARKET PERSPECTIVE IN 2030

2 Wheeler
- eBike
- eScooter
- eMotorcycle

3 Wheeler
- eRickshaw

11 to 14M Annual volumes\(^1\)

25M Annual volumes\(^2\)

Up to 2M Annual volumes\(^3\)

Sources:
1. Sport Marketing Surveys & Valeo - 2030 annual volumes in EU & USA
2. Motor Cycle Data & Valeo - 2030 annual volumes globally
3. Valeo estimations - 2030 annual volumes in India
NEW ELECTRIC MOBILITY OPPORTUNITIES

MARKET PERSPECTIVE IN 2030

4 Wheeler

Goods delivery

Human transportation

eDroid

Up to 600k
Annual volumes\(^{(1)}\)

eVans & LCVs

Up to 2M
Annual volumes\(^{(2)}\)

Small EV

Up to 5M
Annual volumes\(^{(3)}\)

Robotaxis

500k to 1M
Annual volumes\(^{(4)}\)

Sources:

(1) Valeo estimations - 2030 annual volumes globally
(2) IHS & Valeo - 2030 annual volumes globally
(3) McKinsey - 2030 annual volumes globally
(4) Valeo estimations - 2030 annual volumes globally
KEY FIGURES ABOUT ELECTRIFICATION AT VALEO

€131B

2030 Electrification market*

* Valeo addressable market, excluding batteries

>5000

Engineers worldwide

> 35

Sites in 15 countries

3000 Patents

>2M Lines of code in our software

And it’s just a start !...
LEADERSHIP IN DRIVING ASSISTANCE

Bank of America • 18 May 2021
OUR MARKET

WAVE 3:
**AUTOMATED DRIVING**
2025 platforms are Level 3 ready

WAVE 2:
**LEVEL 2+ ADAS SYSTEMS**
Focus on enhanced user experience

WAVE 1:
**SAFETY & ACCIDENT REDUCTION**
Standard on new vehicles

Vehicle Fitment by SAE Level

Amount of Level 2 and Level 2+ systems to quadruple by 2025
## OUR MARKET

### Active Safety systems will be standard equipment
- 3- or 5-Star NCAP compliance
- Front Camera as basic sensor
- Safe reversing gaining importance

| >75% | of new cars worldwide by 2025 |

### Level 2 ADAS functionality as the dominant segment
- Vision-only entry solutions
- L2+ functions as transition to L3
- First L4 function will be in Parking

| 50% | of new cars with ADAS by 2025 |

### Level 3 automation enabling unique experience
- First applications in 2021
- 2024/25 platforms are L3 capable
- Highway Pilot as main target

| 5% | of new cars worldwide by 2030 |

---

**Added value through ADAS features to help offset the cost of the safety systems**
OUR COMMITMENT & STRATEGY

We are a LEADER in parking, safety & driving automation

We offer best-in-class SENSORS & PERCEPTION SYSTEMS

We provide FUNCTIONS & MODULES for private & commercial mobility

We support our customers to make mobility safe & more pleasant for everyone
We are a **LEADER** in parking, safety & driving automation

- Innovative Mindset for a global customer base
- Worldwide Mechatronics and Software Competence
- Global Production Network for volume manufacturing

We offer best-in-class **SENSORS & PERCEPTION SYSTEMS**

- Wide Technology Portfolio for Ranging, Viewing and Computer Vision
- Covering 360° from Near-field to Long-range
- Standard Product Platforms

We provide **FUNCTIONS & MODULES** for private & commercial mobility

- Robust and Scalable System Architectures
- Turn-key systems up to L2+ Driving and L4 Parking
- Modules for L3 Automation and L4 Driverless

We support our customers to make mobility safe & more pleasant for everyone
LEADER IN PARKING, SAFETY & AUTOMATION
INNOVATIVE MINDSET

30 years of innovation with 15 world’s first in the past 10 years
**GLOBAL FOOTPRINT**

Driving Assistance

**America**
- USA: Troy, San Mateo
- MEXICO: Rio Bravo
- BRAZIL: São Paulo

**Asia**
- CHINA: Shenzhen, Wuhan
- JAPAN: Tokyo, Tsukuba, Tamatsukuri
- INDIA: Chennai, Sanand
- S. KOREA: Anyang, Daegu, Kyong Ju

**Africa**
- EGYPT: Cairo

**Europe**
- GERMANY: Bietigheim, Kronach, Wemding
- FRANCE: Paris, Créteil, Nogent
- IRELAND: Tuam
- CZEC REP.: Prague, Milovice, Rakovník
- HUNGARY: Veszprém

**Worldwide network of production facilities and 4,000+ engineers** (incl. 1,800+ in SW)

Figures: 2025 target

20% of sales

50% of sales

30% of sales

May 2021
Over 1 billion sensors shipped • Another 1 billion to be shipped in the next 5 years
SYSTEM SOLUTIONS FOR ALL ADAS SEGMENTS

**One stop solutions for Automated & Safe Parking**
- Complete software stack from sensor to end-user function
- Near-field sensors, cameras and control units

**Mass market solutions for 5-star NCAP and L2 ADAS**
- In-house software for Emergency Braking, Lane Centering, Adaptive Cruise Control, Traffic Jam Assist, Intelligent Speed Assist, ...
- Smart front camera platform

**Perception solutions for first L3 functions**
- Software for optimal perception results and data fusion
- Ensuring functional safety
- 3D lidar, cameras and control units

Offering the full software stack incl. tool chain and system validation
EXPERT FOR SENSORS & PERCEPTION SYSTEMS
TECHNOLOGY FOR RANGING, VIEWING AND COMPUTER VISION

Covering 360° around the vehicle from Near-field to Long-range
STANDARD PRODUCT PLATFORMS

SYSTEMS & FUNCTIONS
- Parking & Maneuvering
- Driving Automation
- Surround View
- Computer Vision
- Active Safety

SOFTWARE
- SOFTWARE
- SOFTWARE
- SOFTWARE

SIGNAL PROCESSING • SENSOR CONTROL
- Long-range Cameras
- Rain/Light Sensor
- Mid-range Radar
- Long-range Lidar
- Near-field Cameras
- Ultrasonic Sensors
- Near-field Radar
- Near-field Lidar

SENSORS

MIDDLEWARE
- AUTOSAR • BASIC SOFTWARE
- Single Control Unit
- Parking / Vision Controller
- Domain / Zonal Controller

CONTROL UNITS

VALEO RESERVED
VALEO SCALA®: WORLD’S FIRST AUTOMOTIVE GRADE 3D LIDAR

Over 125,000 SCALA® delivered worldwide

Improved SECOND GENERATION in 2021

SOFTWARE STACK for optimal perception

- Range Estimation
- Blockage Detection
- End of Line Calibration
- Free Space
- Ego Motion
- Road Markings
- Interference Suppression
- Rain/Spray Detection
- Online Calibration
- Noise Suppression
- Ground Topology
- Static Objects
- Heating & Cleaning Control
- OTA Capability
- Mlalignment Detection
- Point Cloud
- Map Matching
- Dynamic Objects
SCALABLE ADAS CONTROL UNIT PLATFORM

Cloud Services

Application Layer

- Lane Centering Assist
- Adaptive Cruise Control
- Traffic Jam Assist
- Emergency Maneuver
- Reverse AEB
- Parking Function
- Surround View Visualization

Valeo Core Software

Middleware

Basic Software

Hardware and software out of one hand for an optimal system integration
PARTNER FOR FUNCTIONS & MODULES
SOFTWARE AND SYSTEM COMPETENCE

One stop solutions for Automated & Safe Parking

**Full system responsibility**

- Vehicle Control
  - Traffic Jam Assist
  - Adaptive Cruise Control
  - Lane Centering
  - Emergency Braking

- Environment Model
- Computer Vision
- Signal Processing
- Sensors / Cameras
- Processing HW

**Function responsibility**

Mass market solutions for 5-star NCAP and L2 ADAS

Offering the full ADAS software stack incl. tool chain and system validation
SOFTWARE AND SYSTEM COMPETENCE

Software stack for optimal perception for parking and driving applications

- Localisation
- 3D Reconstruction
- Free Space
- Road Markings
- Object Classification
- Dynamic Objects
- Static Objects
- Motion over Ground
- Obstruction

Vehicle Control

... Surround Visualization
Automated Parking
Reverse Emergency Braking
Park Distance Alert

Functions

Environment Model

Computer Vision

Signal Processing

Sensors / Cameras

Processing HW
Providing complete »perception systems« incl. tool chain and system validation

New enhanced Valeo SCALA®

German OEM

Data Fusion
Object Tracking
Object Identification
Free Space
Noise Suppression
Point Cloud
Calibration
Service Functions
Sensor Control
Functional Safety

Front Camera, SCALA® Cocoon
ADAS Control Unit
Worldwide network of test tracks with on-site facilities for vehicle modifications
SYSTEMS & MODULES FOR PRIVATE AND COMMERCIAL MOBILITY

Full ADAS stack up to L2+ driving and L4 parking

Park4U platform
- High Objects & Underbody
- Side Protection
- AVP ready
- Trained Parking
- Surround View
- Automated Parking
- Park Assist
- Rear Camera

Safe4U platform
- Beyond NCAP / GSR
- Emergency Evasion
- CMS class III
- V2V and V2X
- Blind Spot
- 5-star AEB
- 3-star AEB / GSR
- Rear AEB
- Rain Sensor

Cruise4U platform
- Auto Lane Change
- Highway Pilot
- Voyage® ready
- Construction Zones
- Hands-off
- ACC Stop&Go
- Lane Centering

Drive4U platform
- Driving Policy
- Safe4U platform
- Precise Localisation
- Mobility kits
- Park4U platform
- Near-field Lidar
- Near-field Camera
- Ultrasonic Sensor

Mobility kits
- SCALA® Long-range Lidar
- Percepción & Data Fusion
- Near-field Lidar
- Ultrasonic Sensor

Modules for L4 driverless
- for L4 driverless
- up to Level 2+
VALEO DRIVE4U™ AUTOMATED DRIVING PLATFORM
Test Cars and Test Campaigns all over the world

Automated Driving on Highways
Test campaigns in US, Europe and Japan

Automated Driving in Urban Environment
Test campaigns in US, France, Germany and Japan

The only AD platform worldwide relying on automotive production sensors
We are working very closely with our friends at ... Valeo that are helping us get up and going.

John Krafcik
Waymo CEO
at IAA 2019
VALEO DRIVE4U™ AUTOMATED DRIVING PLATFORM

- Full software stack for urban automated driving
- Fully redundant 360 degree perception
- Deep learning 3D objects detection
- Robust and precise localization and mapping
- Motion prediction for dynamic objects
- Dynamic driving policy and decision making
- Vehicle control and redundant supervision

The only AD platform worldwide relying on automotive production sensors
VALEO MOBILITY KITS FOR NEW PLAYERS AND MARKETS
ALL NEEDS • ALL VOLUMES • ALL FOR YOU

OFF THE SHELF sensors & perception systems

Conquer new VALUE SPACES beyond the car

Automotive QUALITY for science and start-ups
CONCLUSION

LEADER IN

PARKING, SAFETY
& AUTOMATION
LEADER IN PARKING, SAFETY & DRIVING AUTOMATION

30 YEARS of ADAS volume production experience

73 MILLION ADAS systems delivered in 2020

PERCENT of new cars come with Valeo ADAS
More than €12bn ORDER INTAKE 2018-2020
Our ADAS Market [in Billion Euro]

- 2019: 13.0
- 2026: 26.4

CAGR >10%

Valeo continues to **OUTPERFORM** the market

Complete **SOFTWARE STACK** and tool chain

Clear **LEADER** in ultrasonic, cameras and lidar