

Investor Day  
Sustainable Mobility

June 27, 2017



# Agenda

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1

**Introduction**

Patrick Koller

2

**Growth via technology in automotive**

Mathias Miedreich

3

**Growth beyond automotive**

Curt Miller

4

**Electric vehicles**

Christophe Bouly

5

**Star Technologies**

Annika Isaksson  
Christophe Bouly

6

**Faurecia Clean Mobility leadership**

Christophe Schmitt

# Agenda

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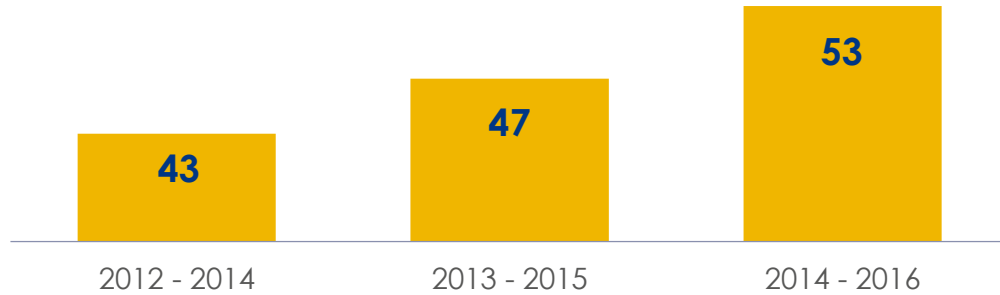
<b>1</b>	<b>Introduction</b>	Patrick Koller
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5	Star Technologies	Annika Isaksson Christophe Bouly
6	FCM performance leadership	Christophe Schmitt

# 2012 – 2016

## Accelerating value creation and strategic flexibility

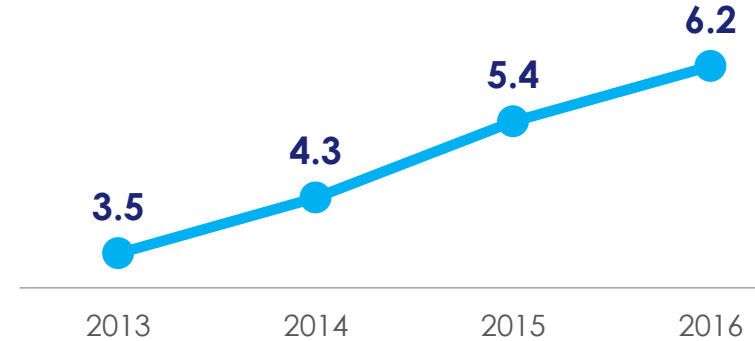
Order intake: three year rolling  
Value-added sales in € billion

CAGR  
+11%

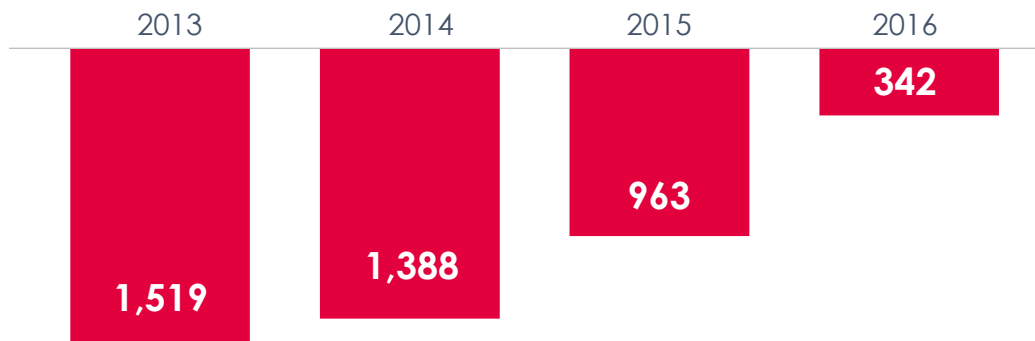


Operating margin  
% of value-added sales

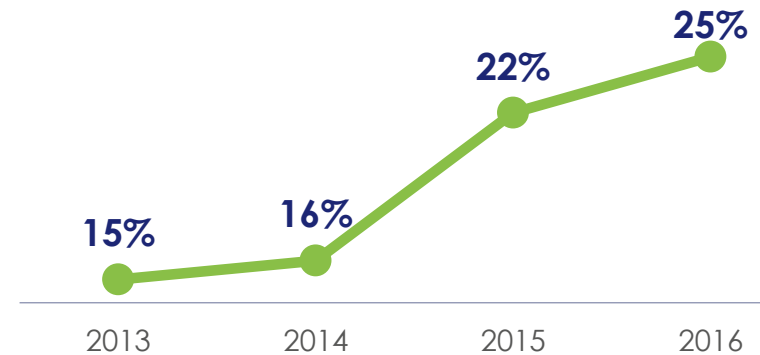
CAGR  
+22%  
(in €m)



Net debt  
in € million



ROCE\*



# 2017 will be major step to achieve 2018 objectives

## 2017 GUIDANCE

**+6%**

+400 bp above market

**2017  
Value-added sales  
growth**

**6.4 - 6.8%**

of VA sales

**2017  
Operating  
margin**

**> €350m**

**2017  
Net cash  
flow**

**Around €4**

**2017  
Earnings  
per share**

## 2018 OBJECTIVES

**+6%**

+400 bp above market

**Value-added sales  
CAGR  
2016 - 2018**

**7%**

of VA sales

**2018  
Operating  
margin**

**> €500m**

**2018  
Net cash  
flow**

**€5**

**2018  
Earnings  
per share**

# Strategic priorities

## Sustainable mobility and smart life on board

sustainable  
mobility



**Market growth\***  
**€25 billion**  
**by 2030**

# inspiring mobility

**Become a valued key player  
in the new automotive landscape  
providing intelligent solutions  
for an enhanced and sustainable  
driving experience**

*\* Value added sales*

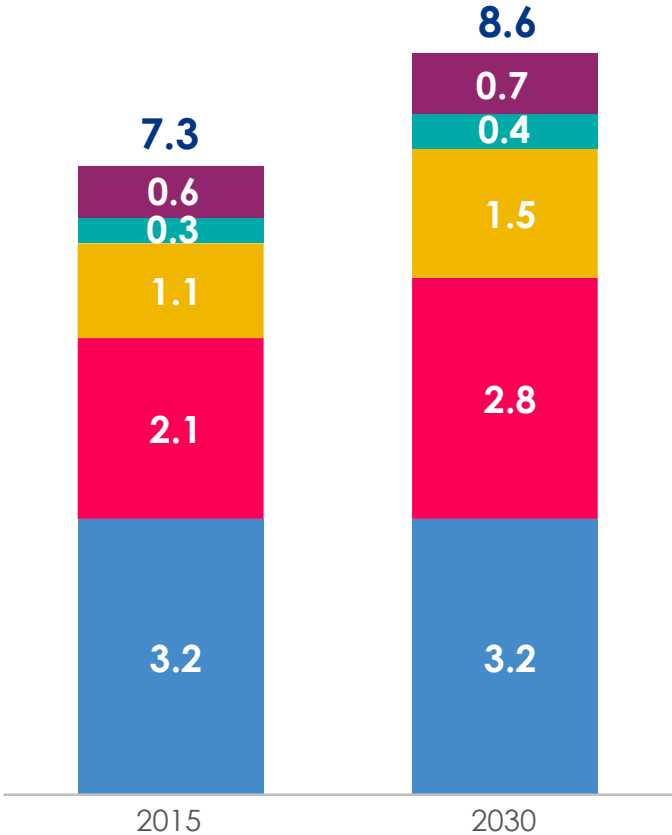
smart life  
on board



**Market growth\***  
**€40 billion**  
**by 2030**

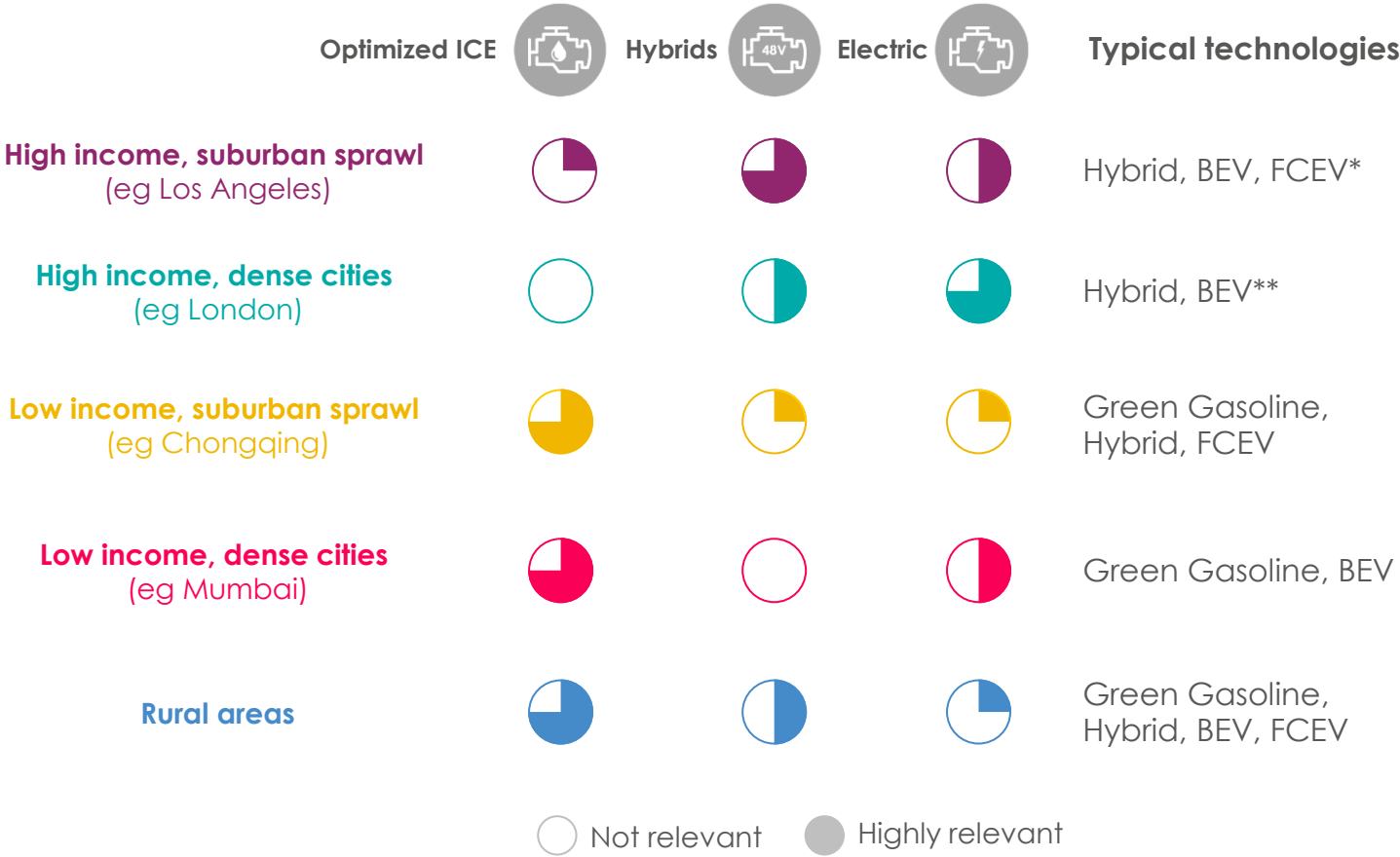
# Many different powertrains will co-exist driven by different urbanization patterns

Global population by city archetype (billion)



Source: McKinsey center for Future Mobility

Relevance of powertrain type



\* Fuel Cell Electric Vehicle    \*\* Battery Electric Vehicle

# Faurecia will offer broad range of technology solutions to enlarged customer base

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- **Increase in technology content for all types of passenger car**
  - Average content/vehicle increase by at least 60% by 2030
- **New markets becoming emissionized creating new opportunities**
  - Commercial Vehicles: on and off highway
  - High Horsepower/Industry
- **Electric vehicles and new mobility solutions are an opportunity for Faurecia**
  - Battery Electric Vehicles (BEV)
  - Fuel Cell Electric Vehicles (FCEV)
  - Real time data emissions



# Strategy to reach > €10 billion sales in Clean Mobility by 2030

## >7% CAGR 2016-2030

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- Freedom from powertrain mix
- High value content on electric vehicles
- Leverage existing technologies and competencies into adjacent markets
- Expand breakthrough DeNox technologies into new markets
- Develop service offer based on real-time data emissions
- Increased market share across the board
- Increased profitability, cash generation and ROCE

# Agenda

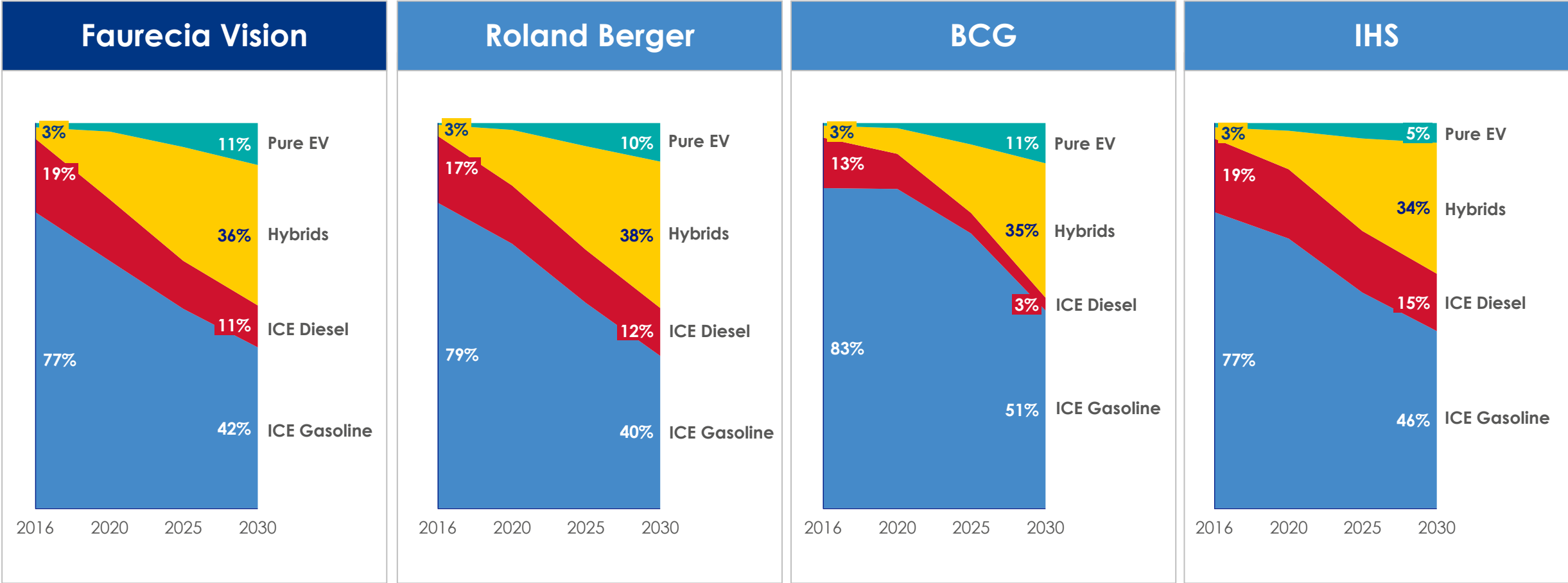
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# Faurecia's vision of powertrain electrification

## In line with market consensus

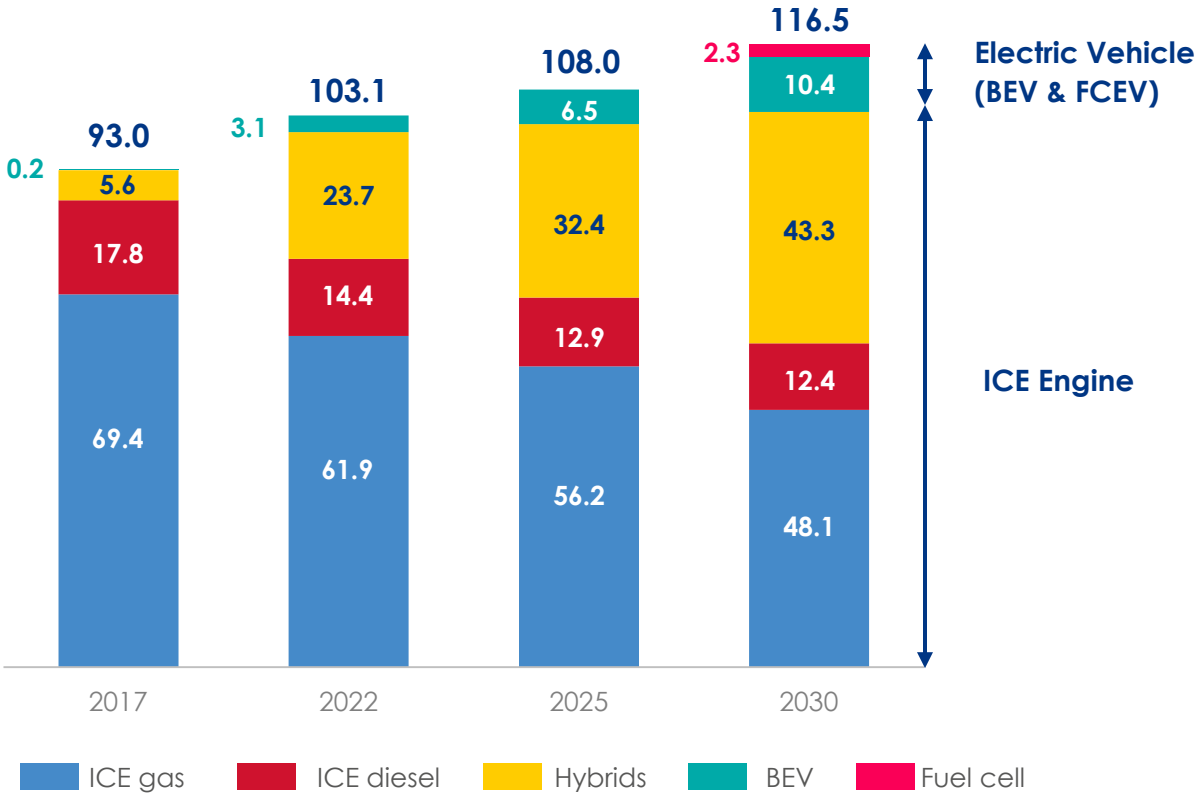
### LIGHT VEHICLES: GLOBAL POWERTRAIN MIX TO 2030



# Internal combustion engines (ICE) will remain dominant

## Electrification is a clear trend

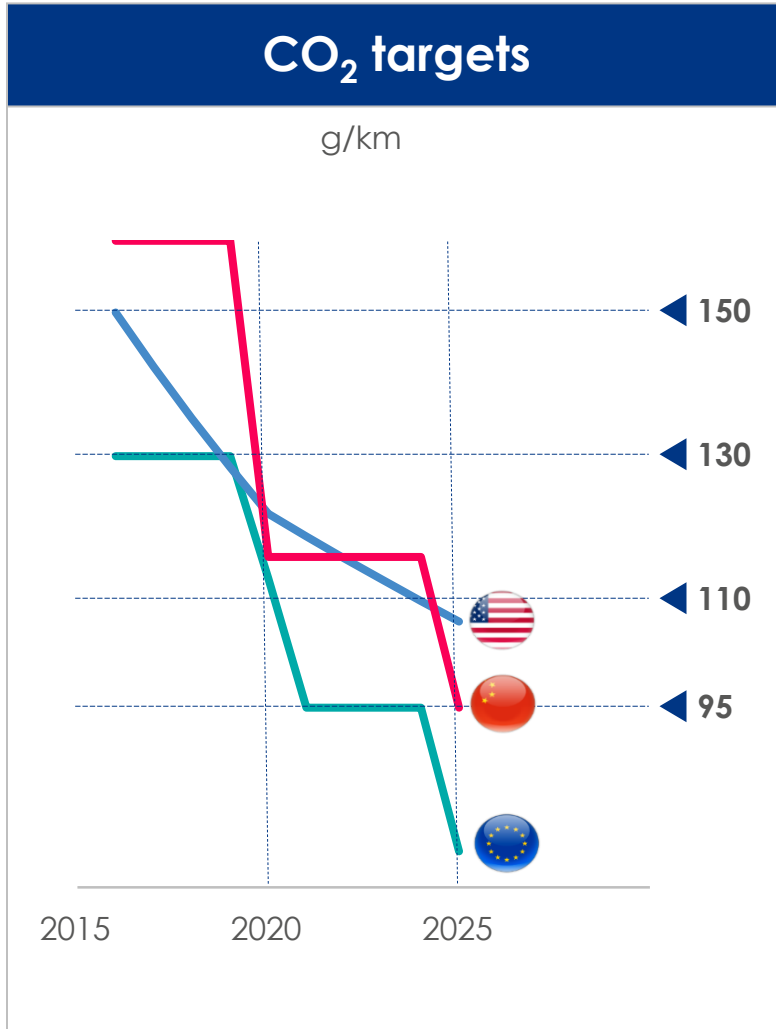
### Worldwide volume by powertrain (million units)



### Key trends

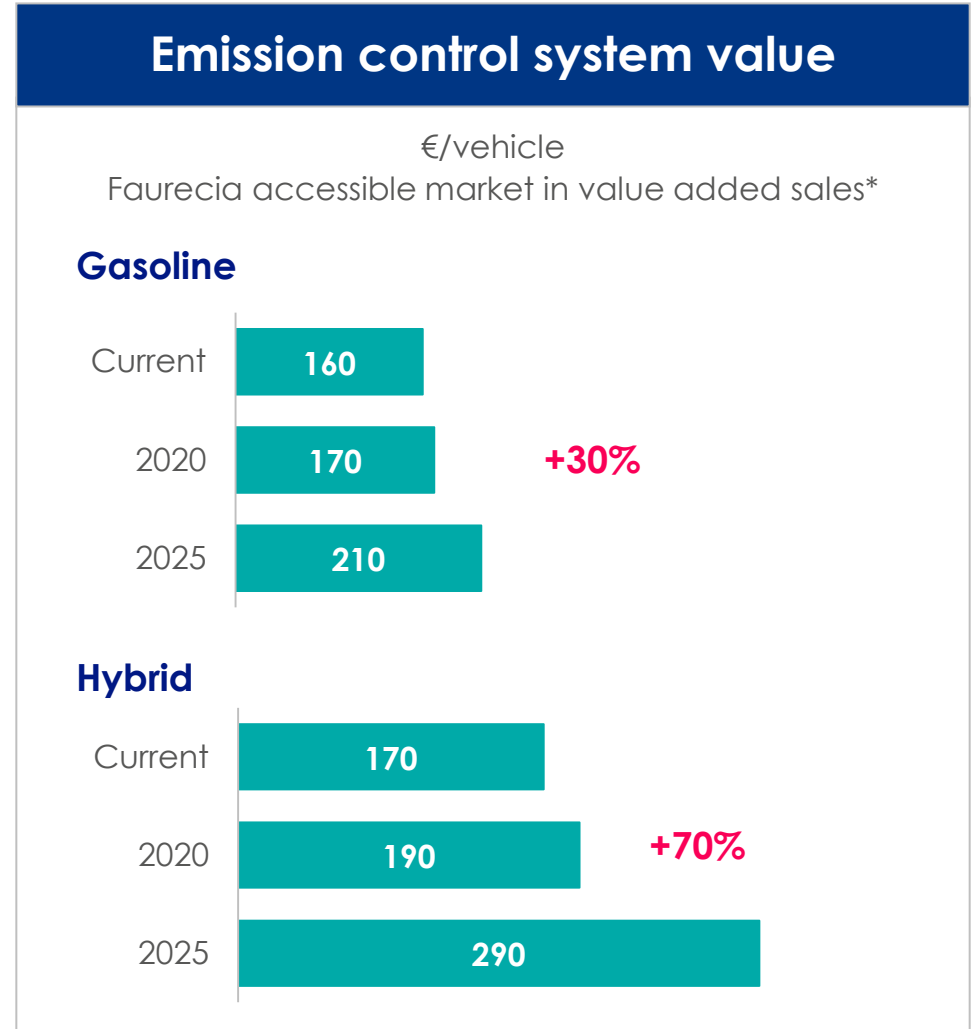
TOTAL VOLUME	↗	+ 1.5 to 2.0% CAGR
ICE VOLUME	↗	+ 0.7 to 1.1% CAGR
DIESEL	↘	- 30 to 50%
HYBRID	↗	x 7 to 9
BEV	↑	x 50
FUEL CELL	↗	Take off post 2025

# CO<sub>2</sub> regulation in all key geographies will drive system content increase in particular for hybrid vehicles



### Faurecia star technologies

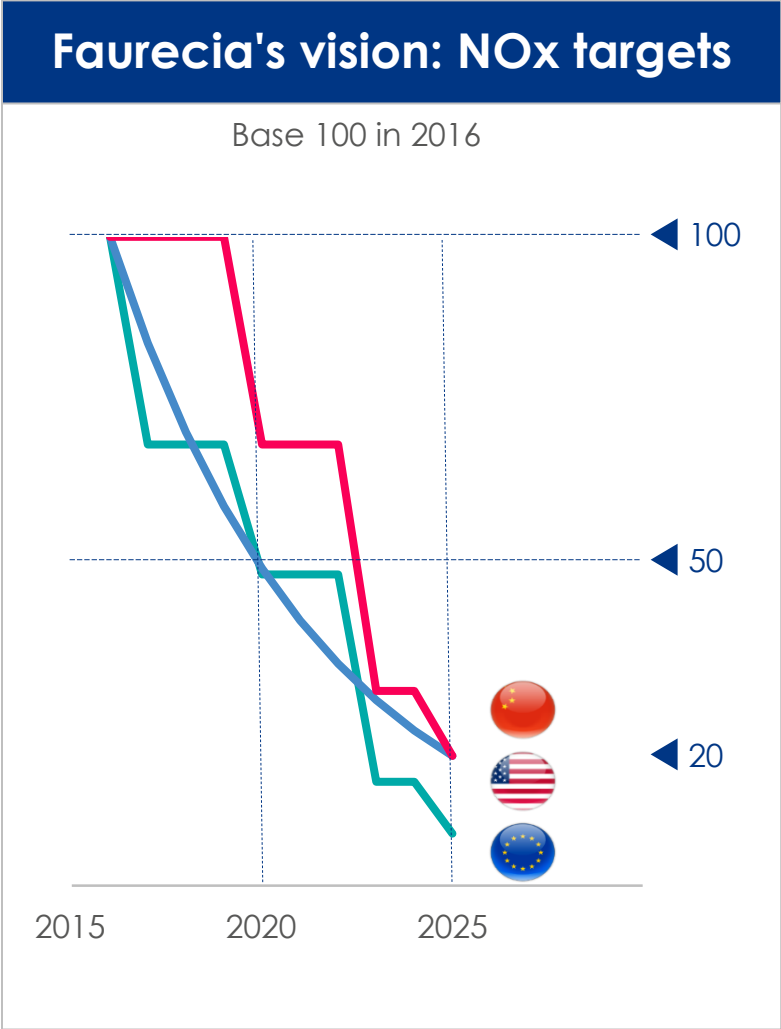
- Integrated low pressure EGR 
- Ultra-compact Energy recovery 
- Electric Heated Catalyst 
- Gasoline Particulate filter 
- Lightweight technologies (10g CO<sub>2</sub> = 130 kg) 
- Real Time CO<sub>2</sub> Emissions



Sources: ICCT, FCM analysis

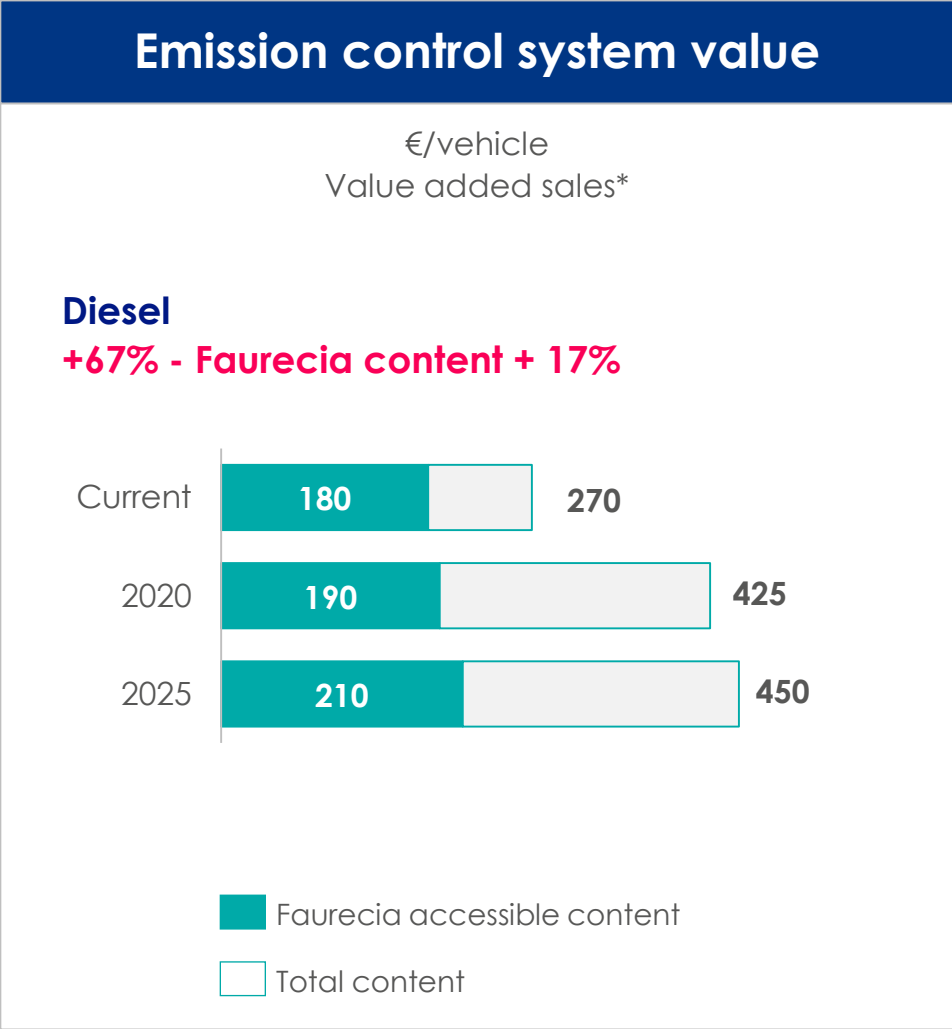
\*European average excluding monoliths

# Reduction of diesel share is improving Faurecia's value mix



### Faurecia star technologies

- Electric Heated Catalyst 
- Ultra-Compact SCR BlueBox® 
- Diesel Particulate Filter 
- Lightweight technologies
- ASDS™ 
- Real Time Emissions 

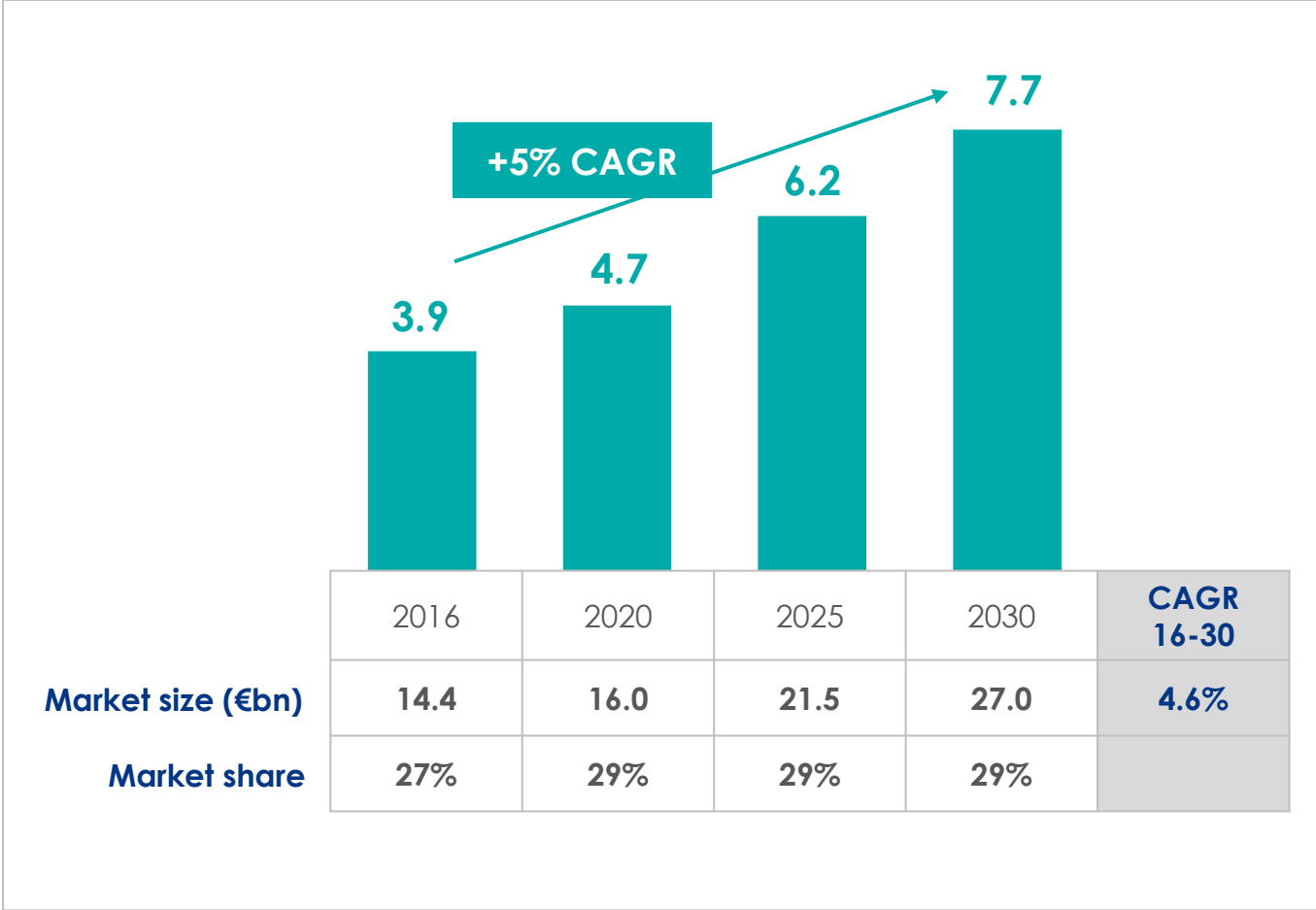


Sources: ICCT, FCM analysis

\*European average excluding monoliths

# Faurecia Clean Mobility sales on light vehicles will outpace the market

## FCM ICE LIGHT VEHICLE VA SALES (€bn)



### Growth drivers

- Faurecia will outpace the market growth, enabled by a strong innovation & technology portfolio for all powertrains
- Reduction of diesel share is improving Faurecia's value mix
- Faurecia Clean Mobility sales growth for ICE light vehicles secured even if EV share almost triples

Based on Faurecia vision for global powertrain mix 2030, excluding pure EV sales

# Agenda

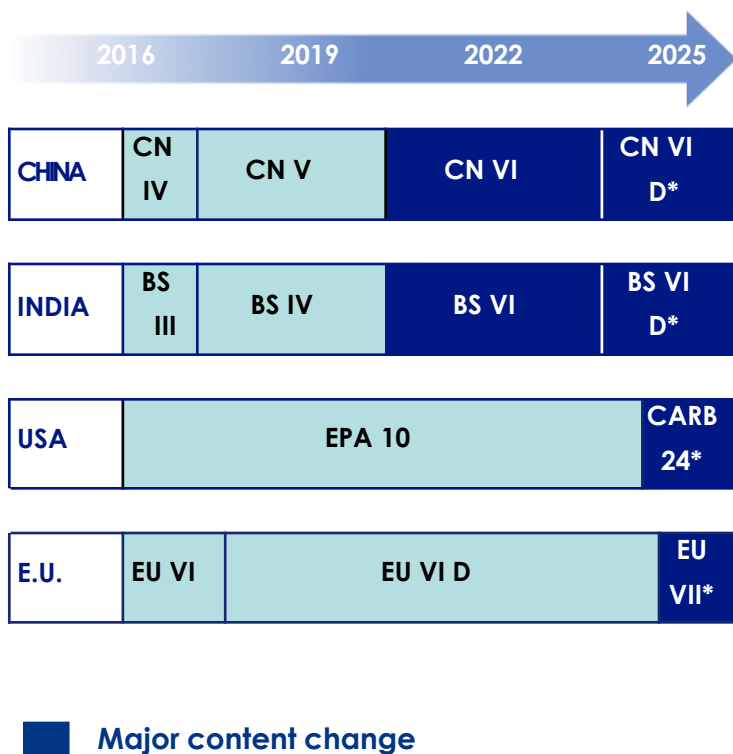
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# On-Highway: Regulations in China and India will significantly increase average content per vehicle from 2020

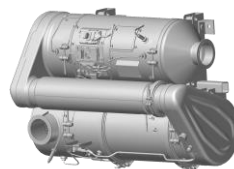
## Faurecia's vision on regulation



## Key technologies

### Complete system breakthrough

Diesel Oxidation Catalyst  
+ Diesel Particulate Filter  
+ Mixer + SCR

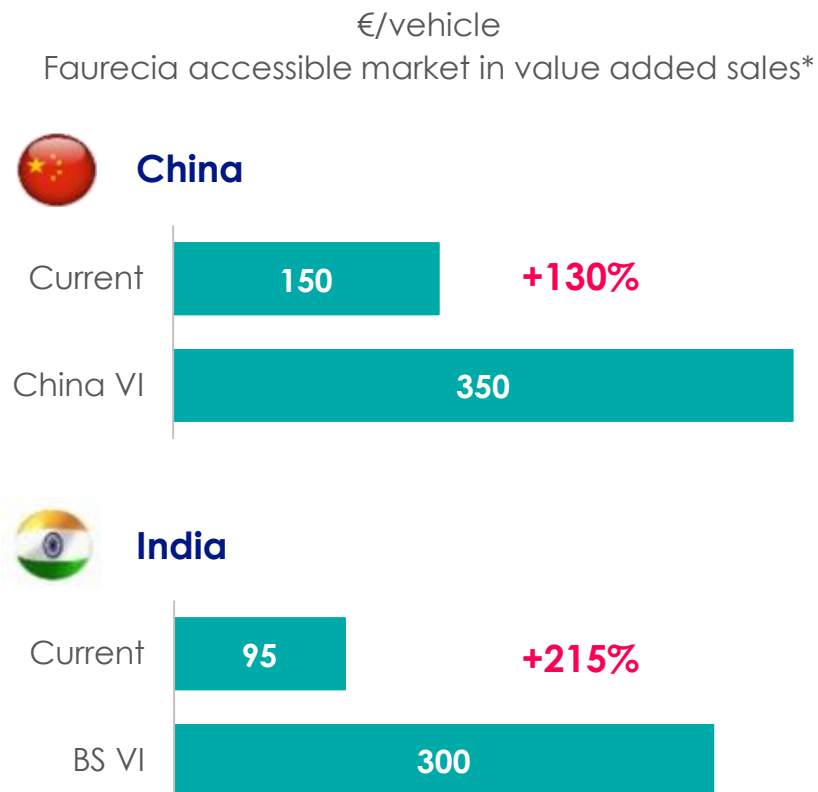


40% reduction in weight  
60% space saving

ASDS™  
Best deNOx technology



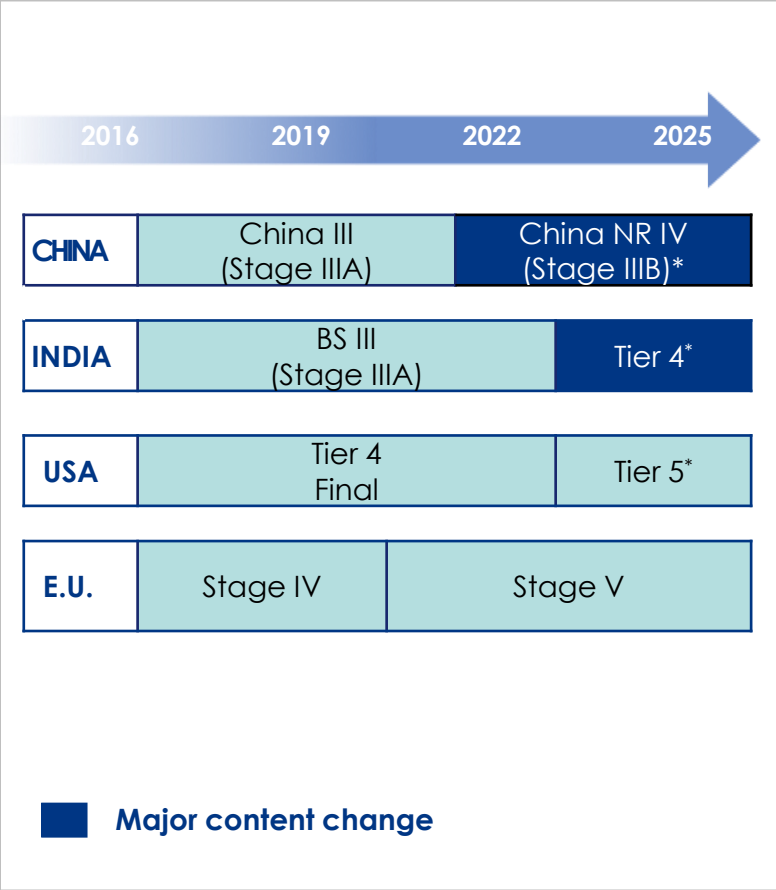
## Regulation impact on future emissionized vehicles



\*excluding monoliths

# Off-Highway: China and India content per vehicle increases dramatically

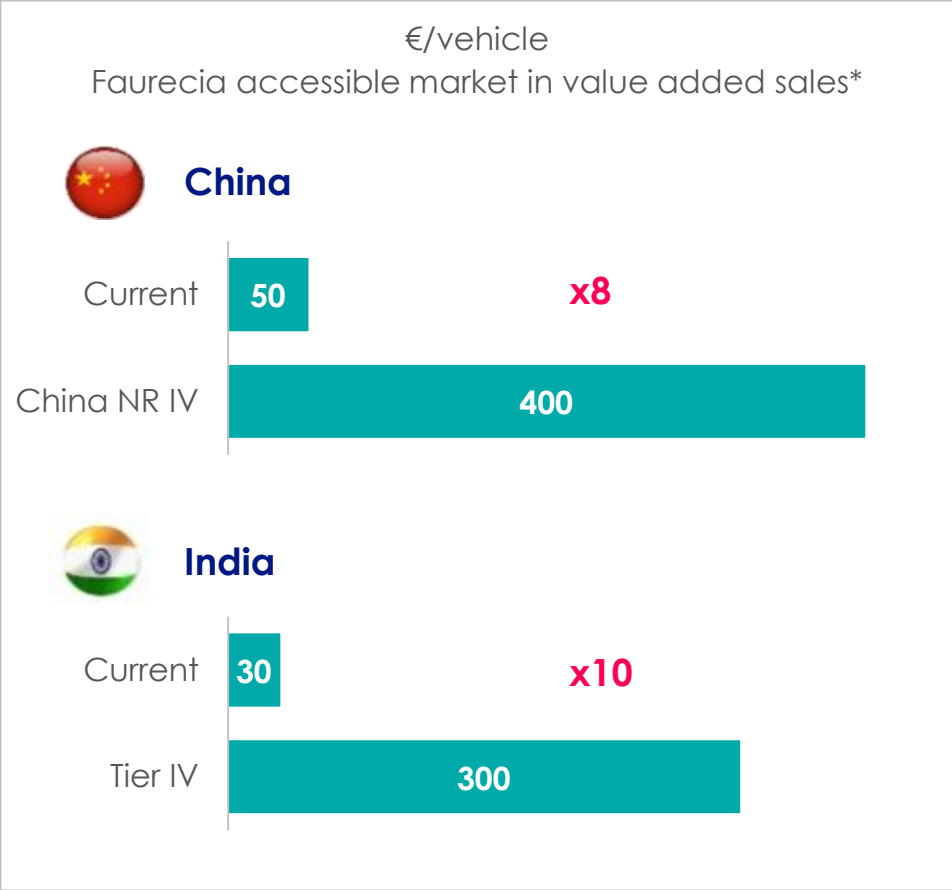
## Faurecia's vision on regulation



## Key technologies



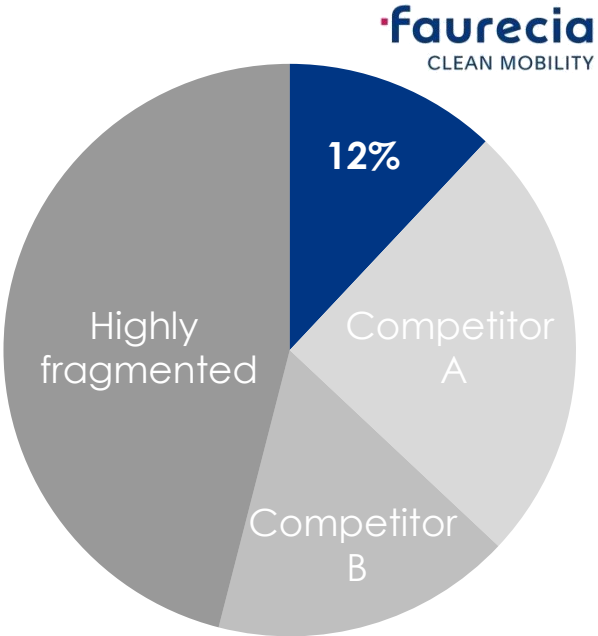
## Regulation impact on future emissionized vehicles



# Commercial vehicles

## Faurecia targets 27% market share globally by 2030

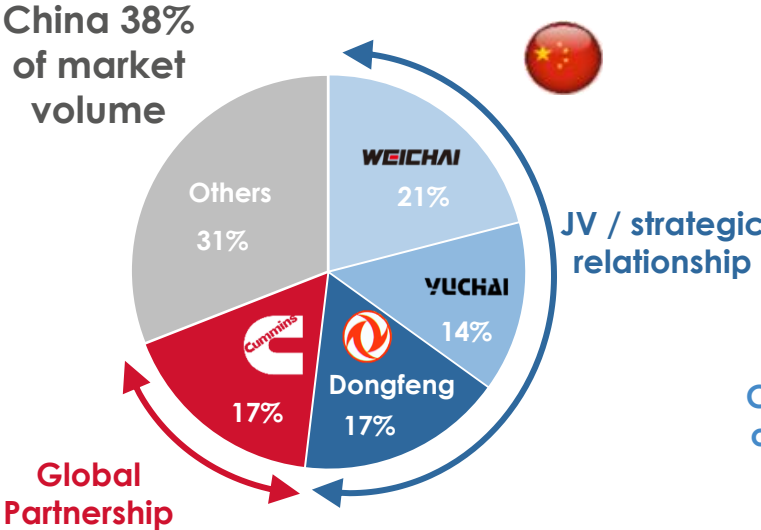
### 2016 market share



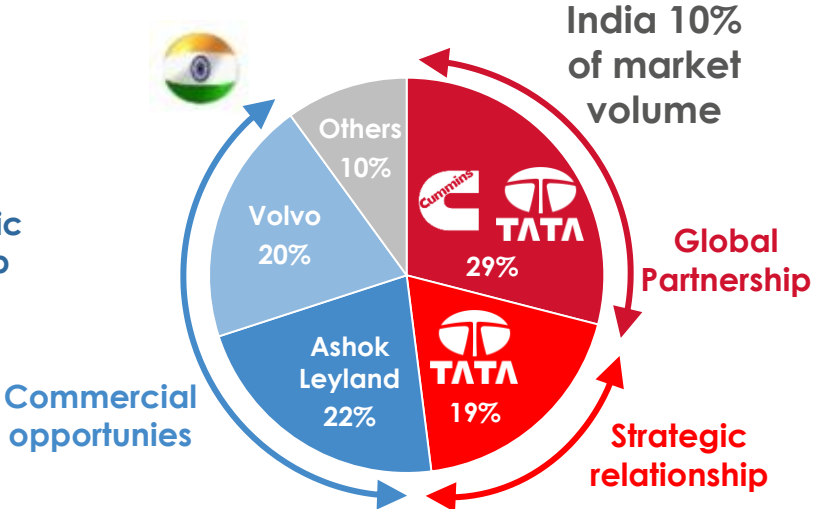
### Drivers of increased market share

- Globalization of engine strategies favors two global actors
- Patented technologies and innovations e.g. Compact mixer, ASDS™
- Strategic partnerships and JVs with key customers

China 38% of market volume

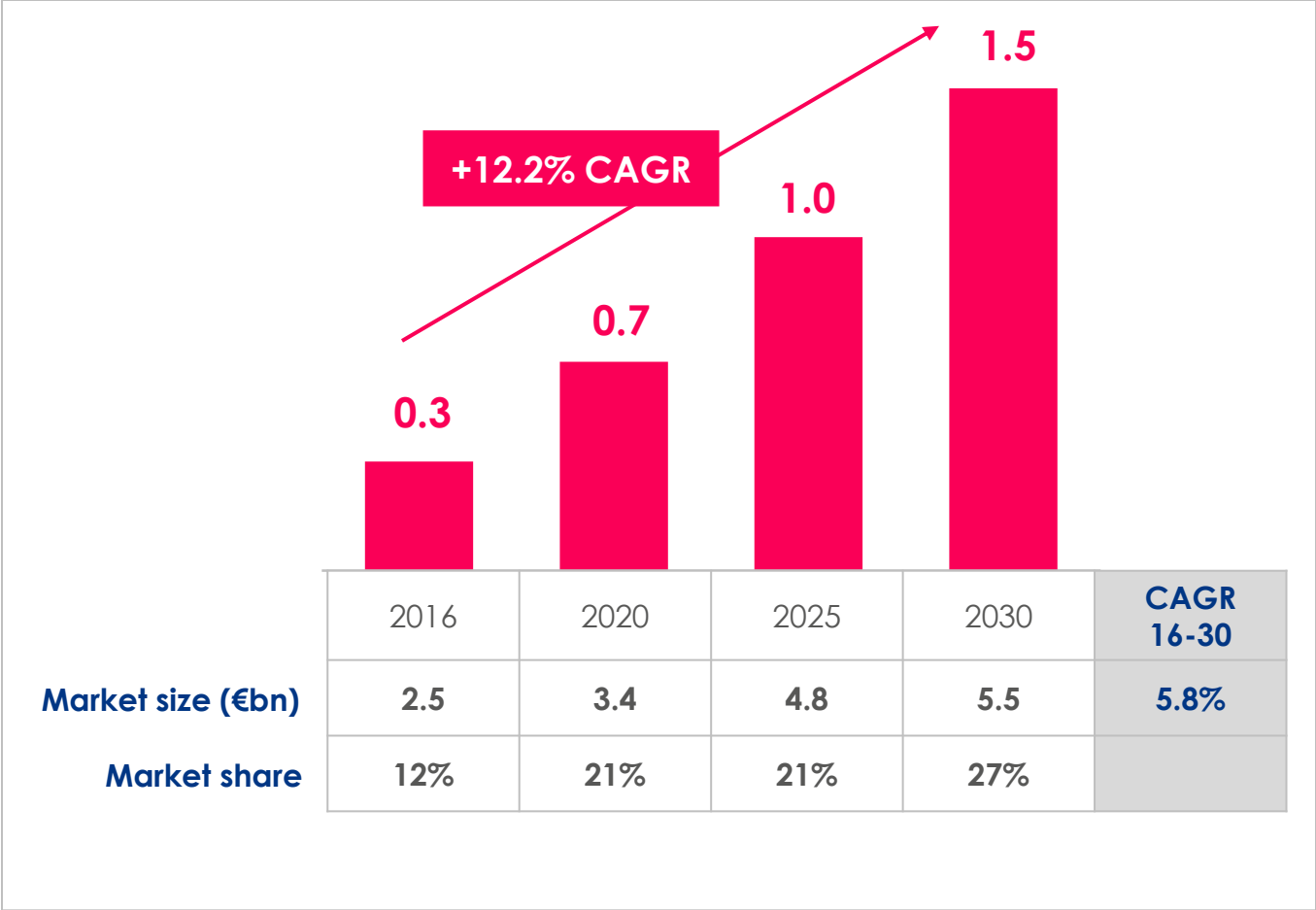


India 10% of market volume



# Faurecia sales on commercial vehicles to grow more than twice as fast as the market

## FCM COMMERCIAL VEHICLE VA SALES (€bn)



### Growth drivers

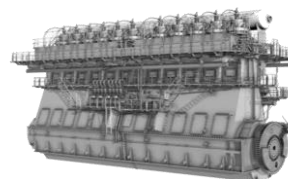
- Huge impact in value due to tightened regulations in China and India
- Technology as a key driver for market share gain
- Global platform and strategic partnership

# High Horsepower and industrial applications offer adjacent market opportunities for our technologies

## Emissionized adjacent markets

After treatment  
for High  
Horsepower  
engines

**Medium & low speed**  
**> 5,000 Horsepower**

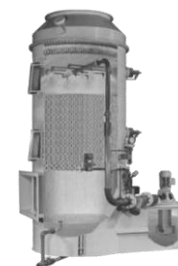


**High speed**  
**> 750 Horsepower**



**DeNOx  
for Industry**

**Manufacturing sites**

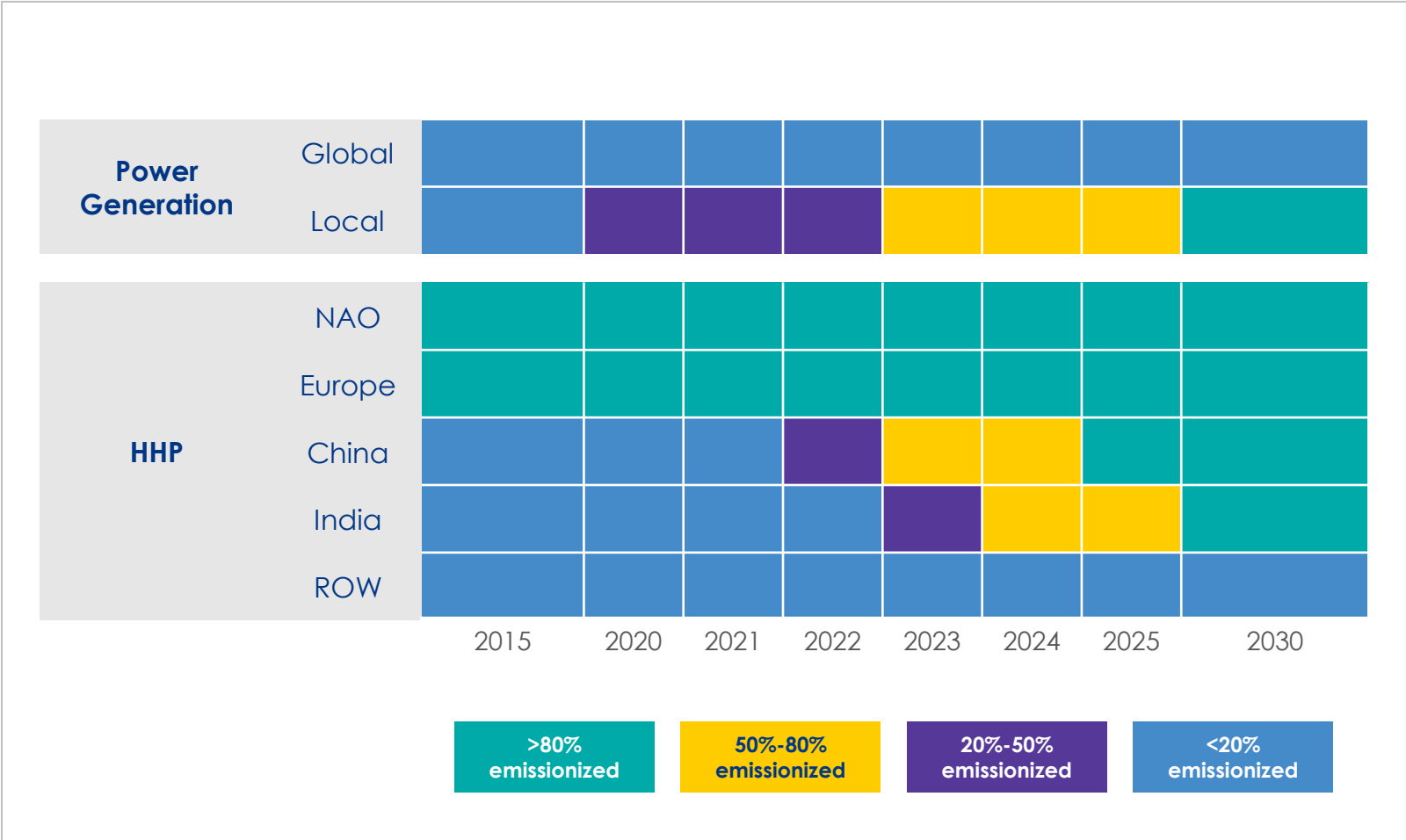


## Applications

- Marine propulsion
- Marine power supply
- Power generation
- Railway
- Construction
- Industrial
  
- Semiconductor industry
- LCD panel industry

# High Horsepower will be more and more emissionized

## HHP REGULATION DEVELOPMENT IN KEY GEOGRAPHIES



**Key regulations reinforced between 2022 and 2025**

▼

**75% of engines emissionized in 2025 vs. 25% today**

# Faurecia targets 20% market share in 2030

## Current State

- Small players ~60-80% market share
- Selling to engine dealers / integrators
- Focusing on customized projects or very small series (a few dozen)
- Operating like engineering/proto shops

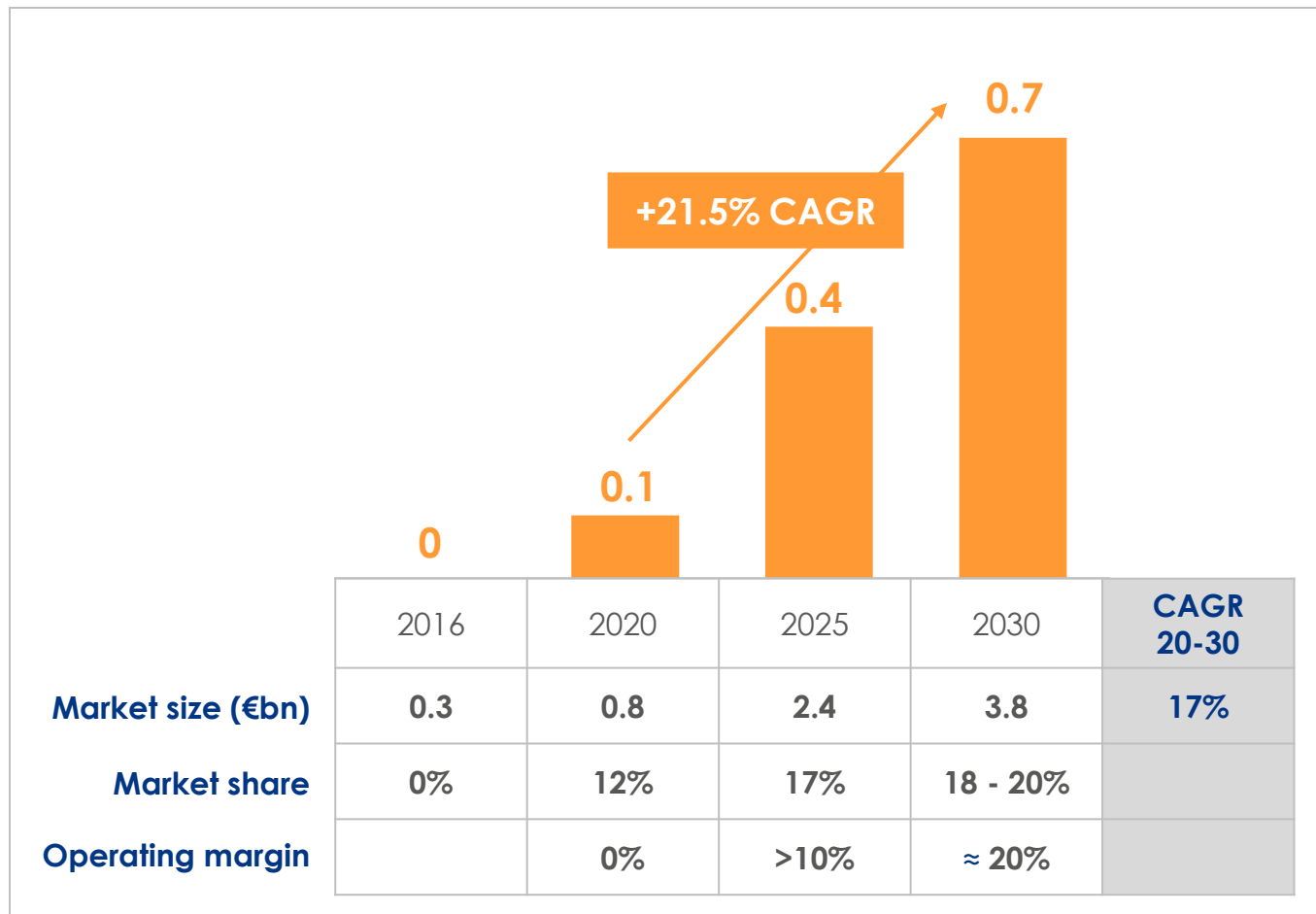
## Future State

- Large players ~60-80% market share
- Selling mostly to engine OEMs
- Manufacturing small series (a few hundred)
- Operating like today's CVE leaders (global, standardized)

**Market evolution towards CVE model is favorable for Faurecia**

# Faurecia uniquely positioned to achieve around 20% market share in fast growing market

## FCM HHP & INDUSTRIAL VA SALES (€bn)



### Growth drivers

- Strategic relationships with engine manufacturers and leveraging existing footprint
- Bolt-on acquisitions
- Upscaling existing technologies and leveraging know how



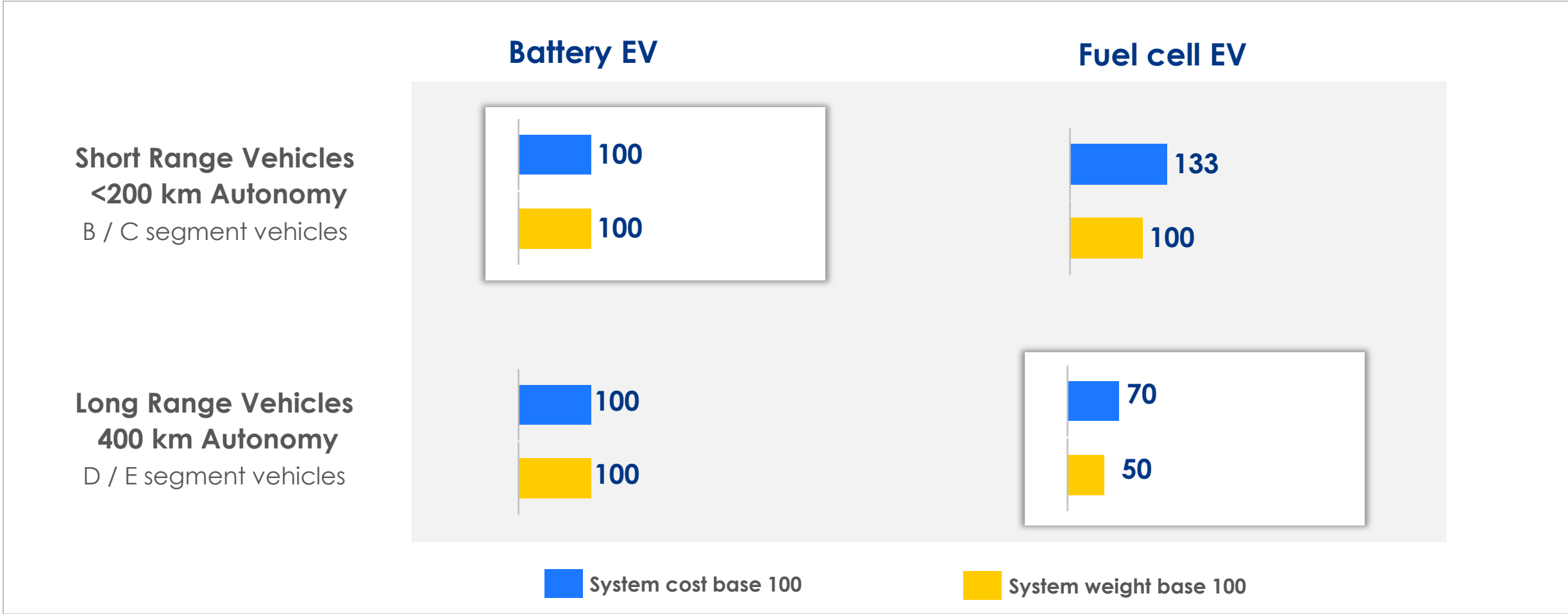
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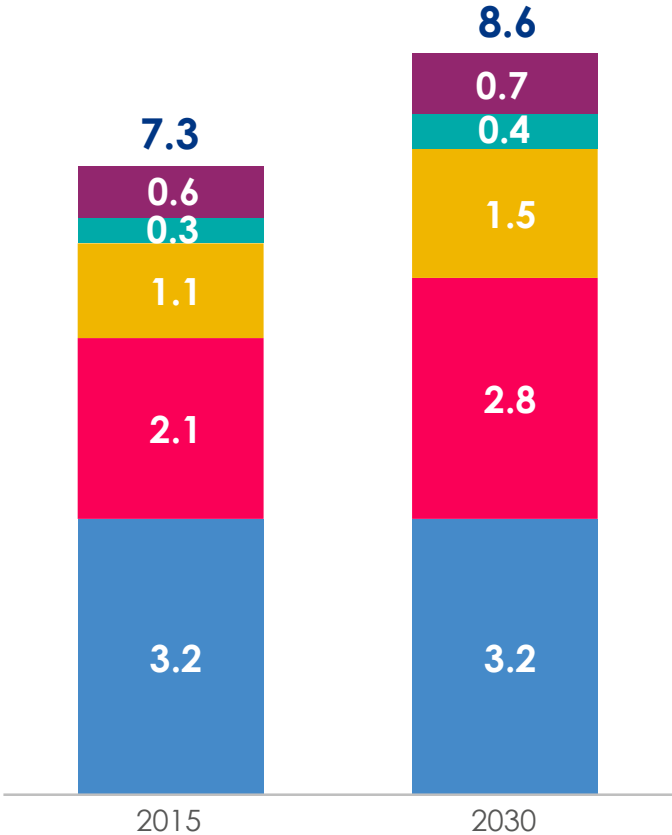
# Fuel cell and battery electric vehicles will coexist on different segments

## 2030 COMPARED PERFORMANCE OF BATTERY AND FUEL CELL



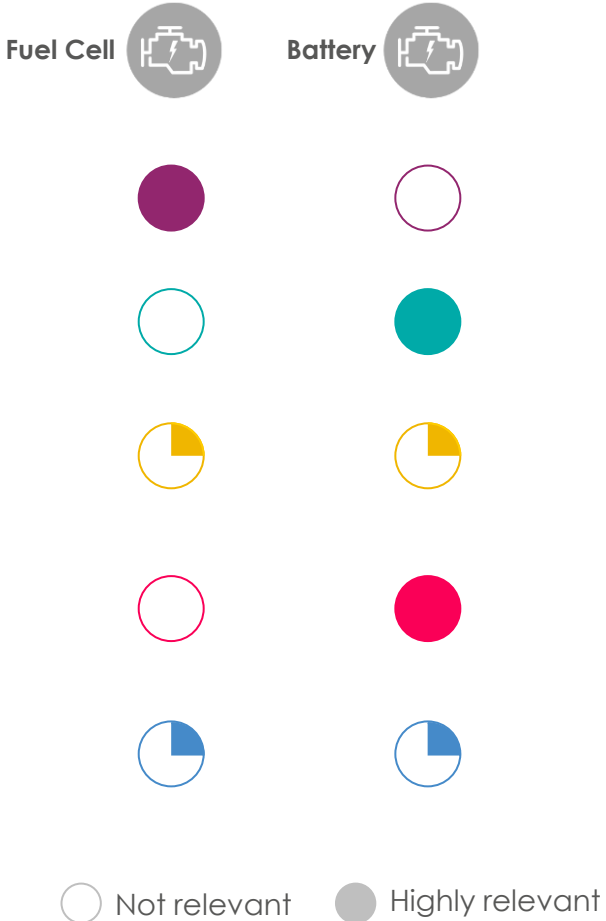
# Battery and fuel cell electric vehicles will co-exist in different urban environments

Global population by city archetype (billion)



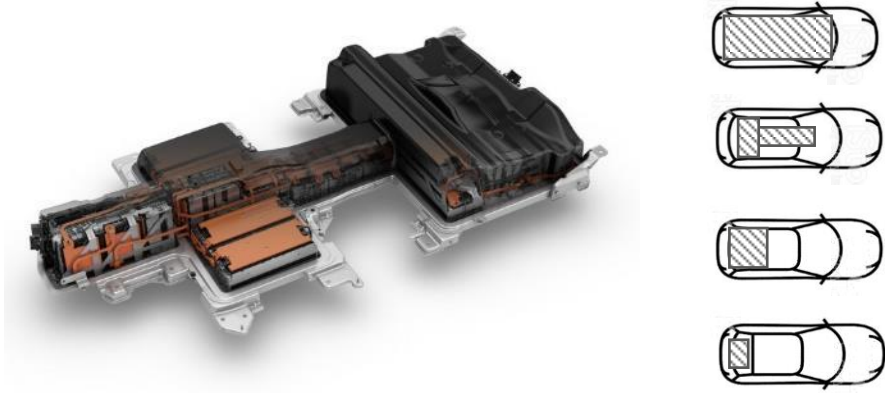
Source: McKinsey center for Future Mobility

Relevance of powertrain type



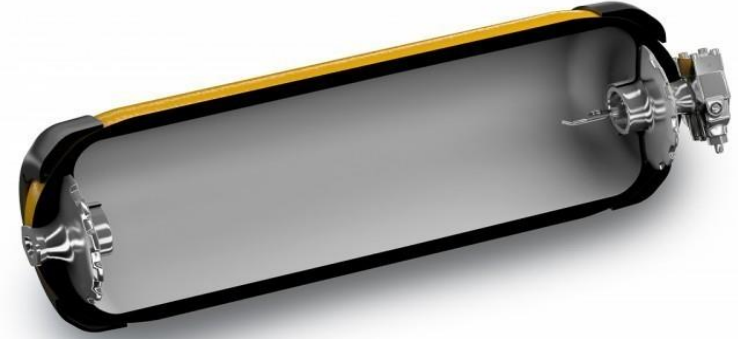
# Faurecia will offer solutions for BEV and FCEV building on composite expertise

## Composite battery pack



- **Vehicle integration**
  - Structural function
  - Thermal management
- **2030 system price average €200**

## Carbon fiber H<sub>2</sub> tank and valve

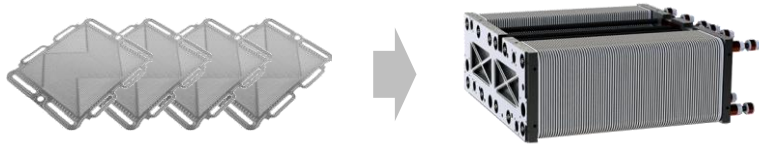


- **High pressure management:** 700 bars light storage to ensure 500km autonomy to a passenger car; 10 bars to feed fuel cell
- **2030 system price range around €1,500**

**Faurecia targets average content per electric vehicle of €300 by 2030**

# Fuel cell stack could bring additional €3,000 added value sales per Fuel cell vehicle by 2030

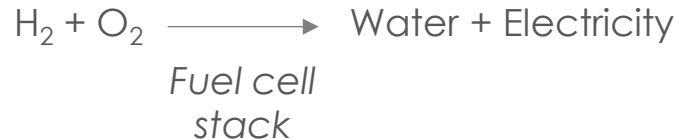
## Fuel cell stack technology



Bipolar plates

Stack

- The fuel stack provides electric power to the car



## Faurecia competitive advantage

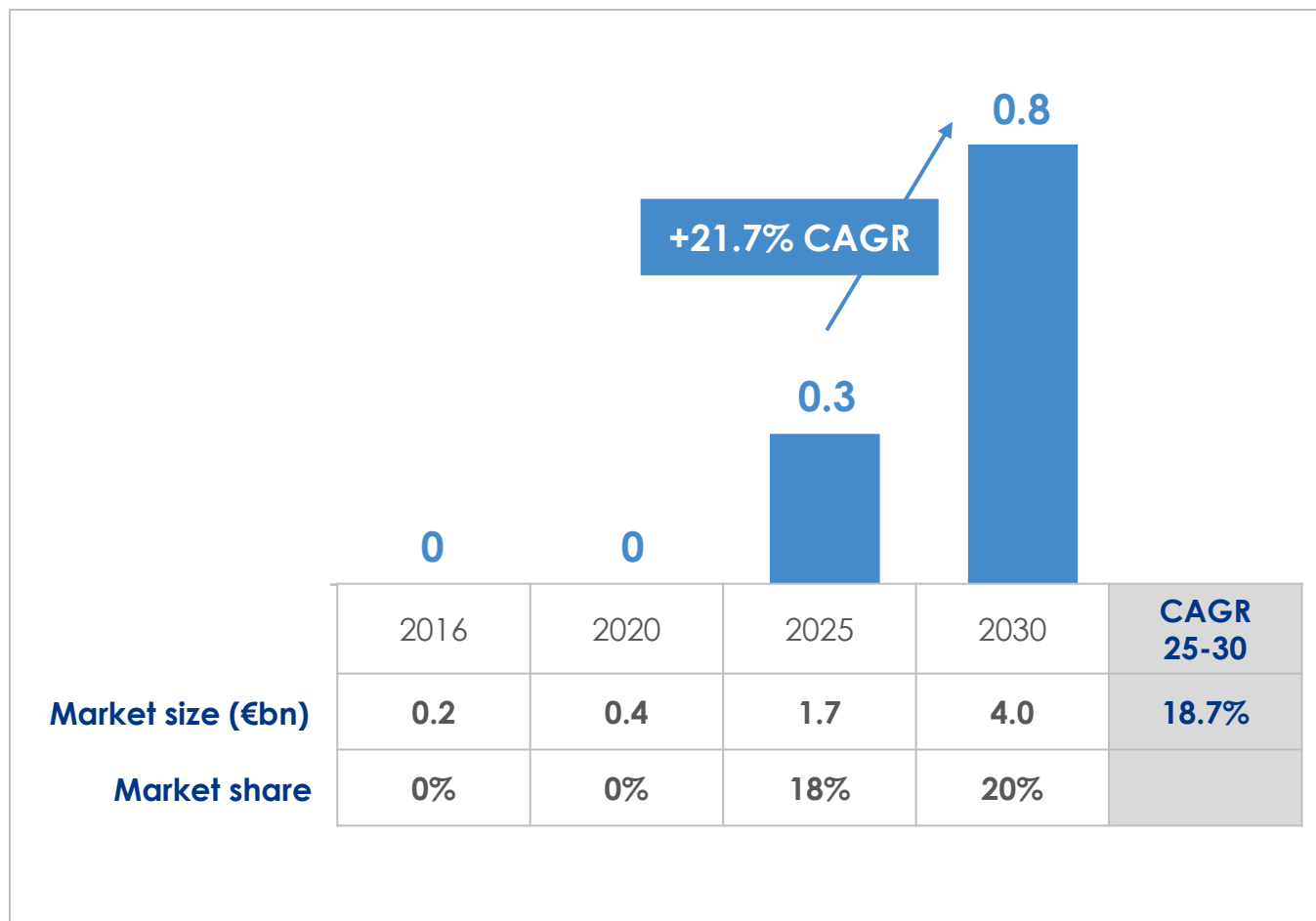
- **Development**
  - Partnership with CEA-Liten providing access to premium technology
- **Production**
  - Stainless steel expertise and high purchasing power
  - Global Faurecia footprint

## Financial Impact

- Fuel cell stack value target by 2030 is > €3,000
- Faurecia Clean Mobility significant sales potential over €0.7bn by 2030
- Potential sales not included in FCM electric vehicle sales forecast

# Faurecia targeting around 20% market share on battery pack and fuel cell tank sales

## FCM ELECTRIC VEHICLE (BEV & FCEV) VA SALES\* (€bn)



\* Excluding fuel stacks

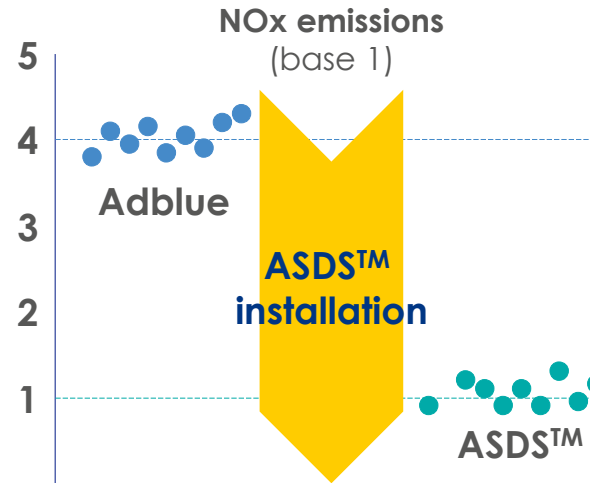
### Growth drivers

- Faurecia Clean Mobility is developing product offer for battery electric vehicles and fuel cell vehicles
  - Battery packs and fuel cell tanks allow €300 average content for electric vehicles by 2030
  - Fuel cell stacks would represent over €0.7bn additional revenue potential
- Expanding competencies through partnerships such as with Stelia, Ad-Venta, CEA and building on thermal management and energy efficiency expertise
- One Faurecia fuel cell vehicle will be on the road in 2019

# Agenda

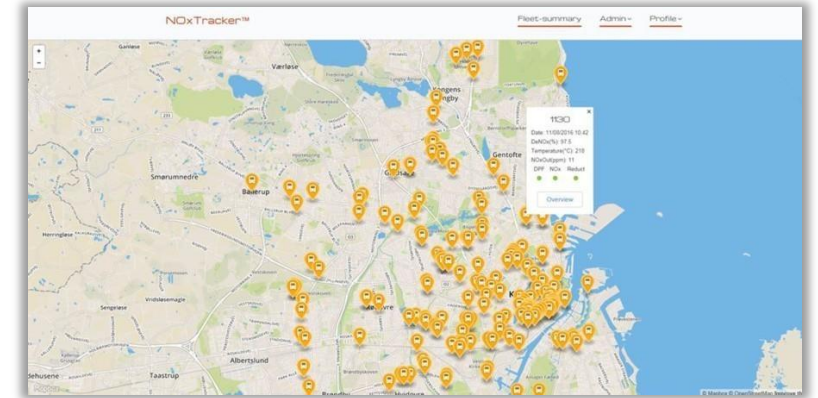
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- Ammonia gas stored in a salt
- Best deNOx performance at low temperatures (e.g. city driving)
- ASDS™ can reduce NOx emissions by a factor of up to 4 vs. Adblue

### NOx tracker



- Live monitoring of deNOx performance of each vehicle
- Providing real time performance data to cities & mobility operator





# Growth potential

## ASDS™ unique performance makes it suitable for many uses

### ASDS™ APPLICATIONS

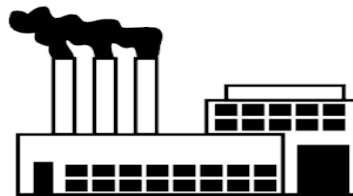
#### Bus and Truck



#### NOx removal for city driving vehicles and cold climates

- **Retrofit** of existing city trucks and buses: e.g. London, Seoul, Copenhagen, ...
- **First Fit** on new city vehicles: comply with regulations while saving energy

#### Industrial



#### NOx removal in manufacturing plants, & industrial diesel

- **Industrial emissions:** cleaning of intensive NOx generating processes (e.g. semi-conductor)
- **Diesel generators:** deNOx of exhaust gas for gen-sets working at low temperatures

#### Opportunity: passenger cars



#### Superior deNOx performance (RDE in cities & cold climates)

- **Retrofit** of existing cars to support upcoming city emission regulations
- **First Fit** on hybrid diesel cars running at low temperatures
- **Combination** system Adblue & ASDS™

# Retrofit

## Cost effective solution to improve air quality in the short term

### ASDS™ Retrofit more effective than fleet conversion to electric

For fleet of 5,000 buses

	Investment (€m) over 8 years	NOx removed over 8 years (tons)	€ per kg of NOx removed
Retrofit	75	18,700	4
Electric conversion	2,500	13,325	188

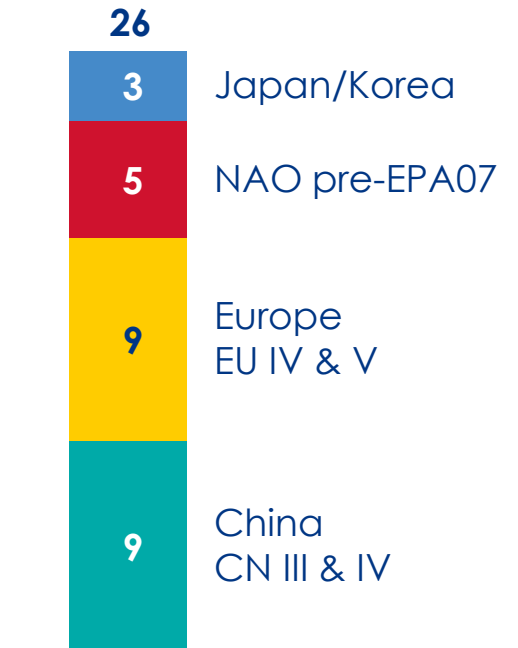
Comparison factors (Retrofit vs Electric conversion):  
Investment: x33  
NOx removed: x0.7  
Cost per kg: x47

ASDS™ retrofit achievable in 3 years

Electric vehicle migration not achievable in less than 8 years for full fleet

### Retrofit volume potential 26 million commercial vehicles

Commercial vehicles fleet (million)



# Around 400 buses already equipped and >30 million km driven

## Seoul (Korea)

Order received for 20,000 buses and trucks



## London (UK)

Tender for 5,000 buses ongoing



## Copenhagen (DK)

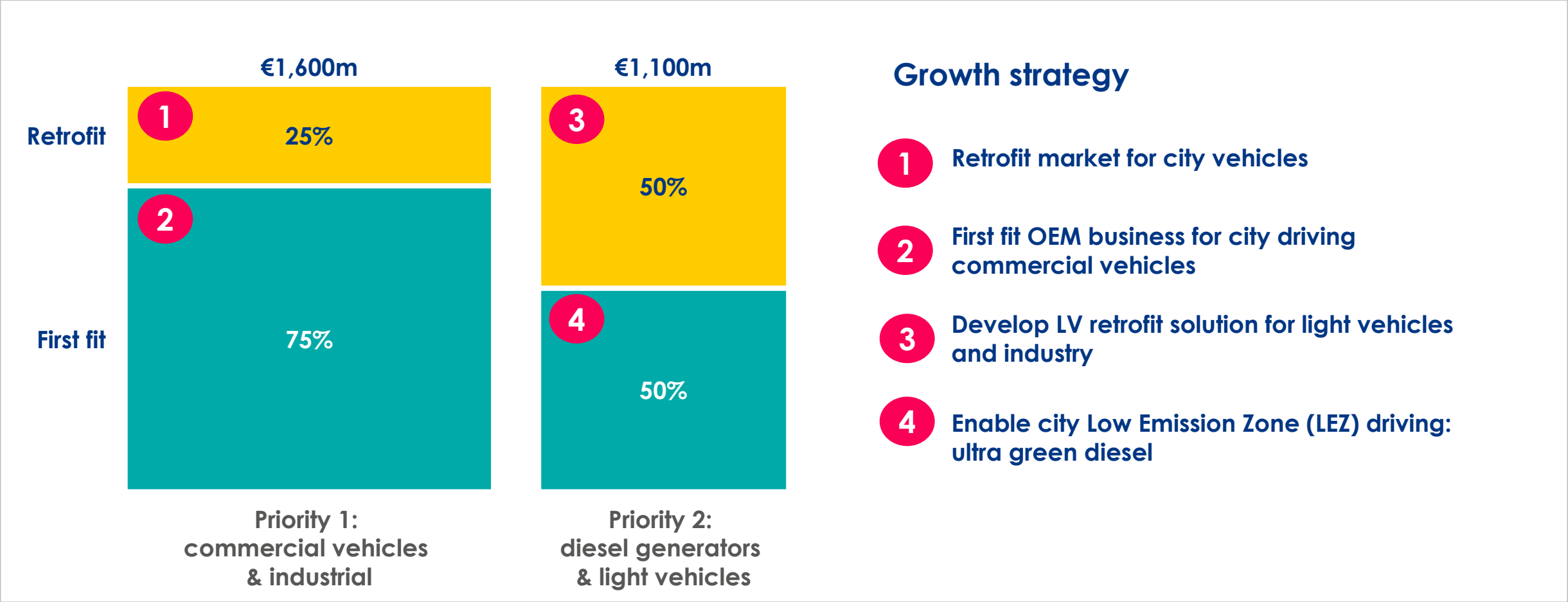
300 buses equipped 30m km driven



In discussions with Aachen, Austin, airports, Indianapolis, Lyon, Munich, Portland, Santiago, USA school buses.....

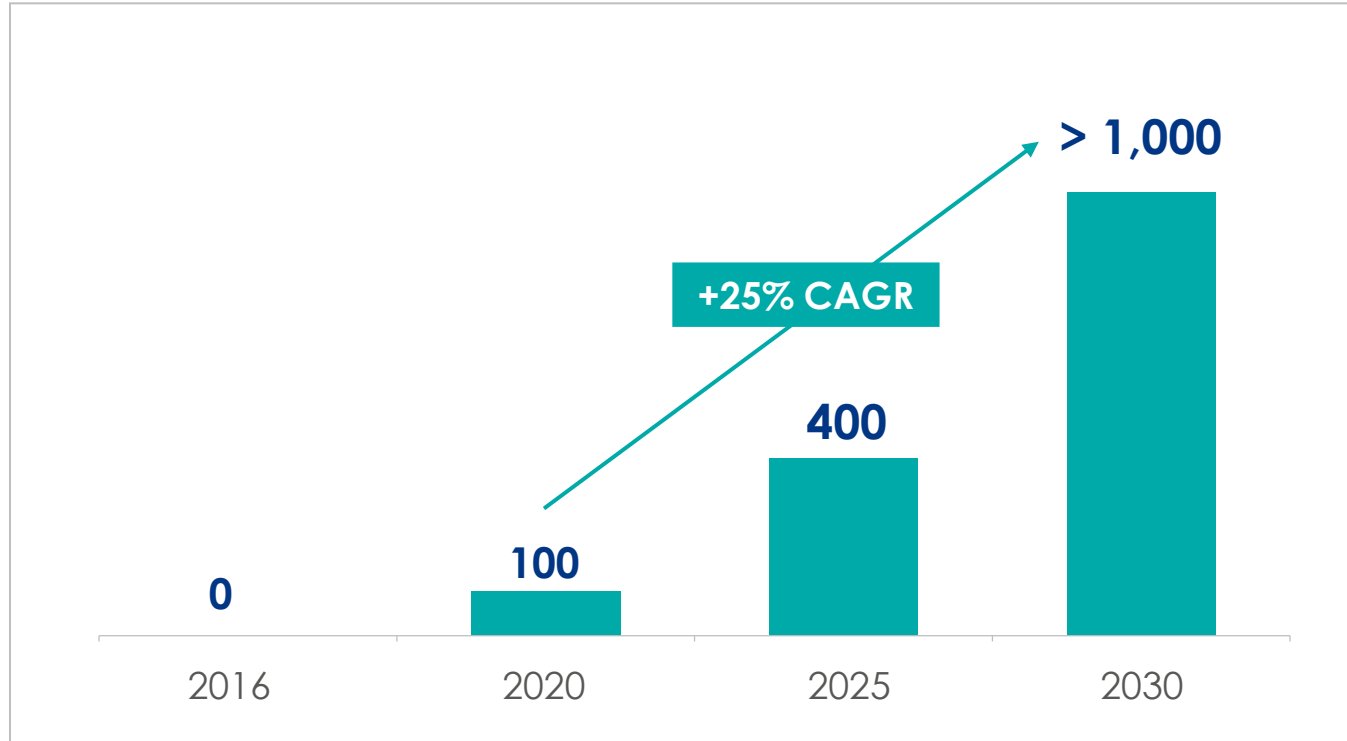
# Accessible market size is almost €3bn by 2025

## ASDS™ SYSTEM: 2025 MARKET OPPORTUNITY (VA SALES €m)



# Long-term sales target to reach >€1.0bn with superior profitability

## FCM ASDS™ SYSTEM VA SALES\* (€m)



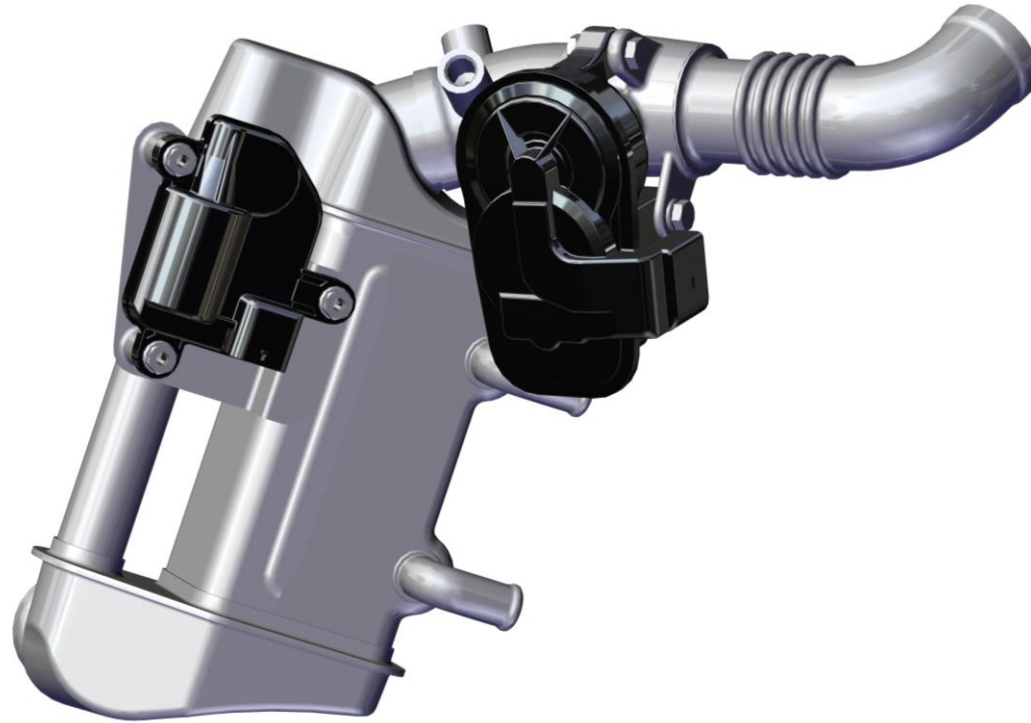
### Growth Drivers

- Unique, patented deNOx performance in real road conditions (incl. low engine temperature)
- Perfectly suited for city vehicles and industry in retrofit and first fit applications
- Access to NOx performance data in real time sold to cities
- A new market up to €2.7bn by 2025

**Superior profitability driven by cartridge refilling and services**

# Gasoline Low Pressure EGR system gives up to 10g CO<sub>2</sub> reduction in real driving conditions

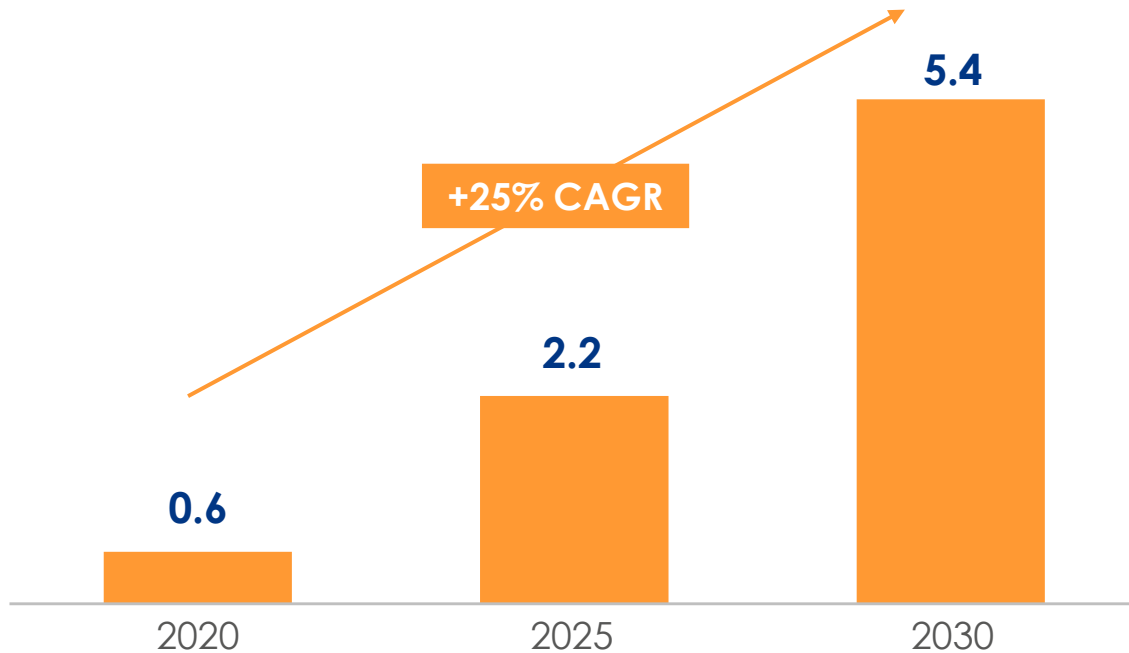
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*EGR stands for Exhaust Gas Recirculation*

# Strong market growth at 25% CAGR driven by regulations and fuel savings

## Gasoline low pressure EGR system addressable market (€ bn)



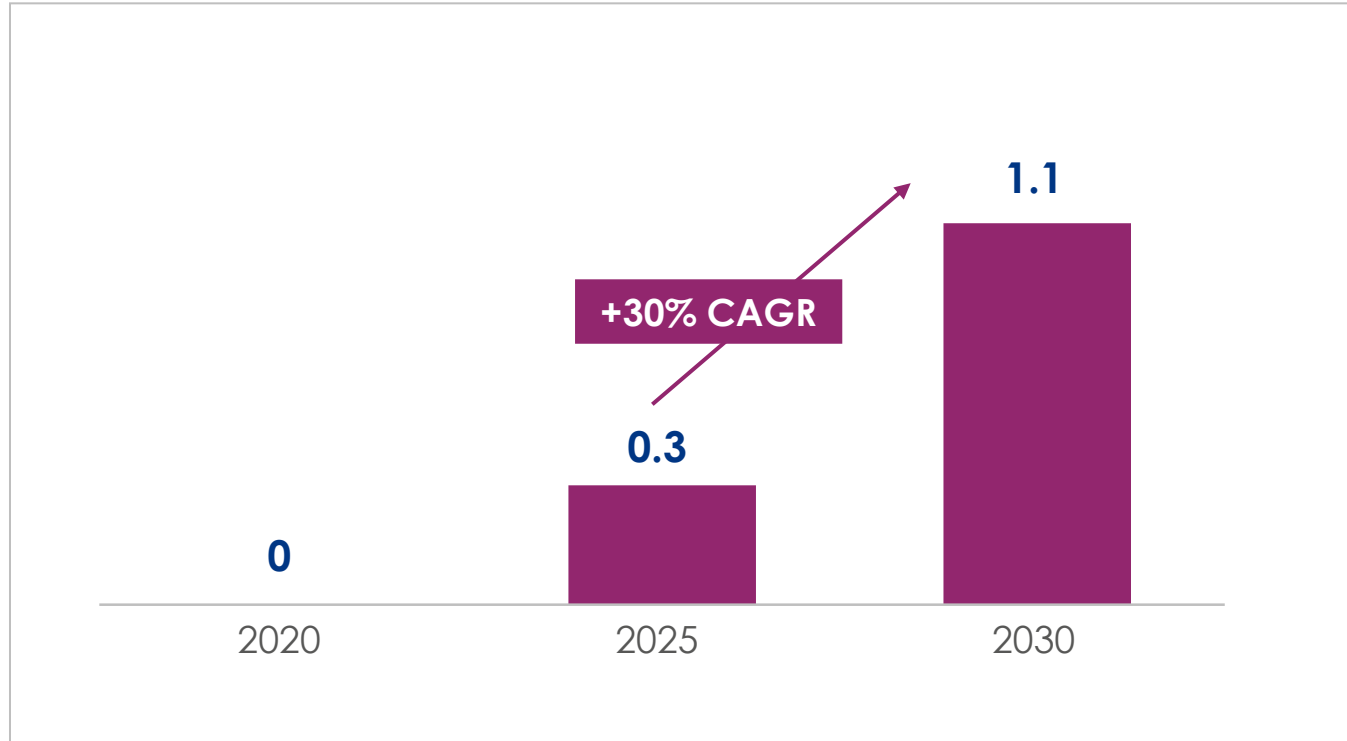
## Gasoline low pressure EGR system market drivers

- Key technology to reduce CO<sub>2</sub> for gasoline turbo engines
- In 2030, more than 50 million engines will require Low Pressure EGR systems

EGR stands for Exhaust Gas Recirculation

# Faurecia will achieve 20% market share and over €1bn revenue by 2030

## FCM LOW PRESSURE EGR SYSTEMS SALES (€bn)



### Growth Drivers

- Faurecia is uniquely positioned as a systems integrator enabling breakthrough offer with 30% less volume and cost
- Faurecia technology allows up to 10g CO<sub>2</sub> reduction
- Development partnership with strategic customer

**Superior margin potential driven by high technology content of integrated system**

*EGR stands for Exhaust Gas Recirculation*



# Real time emissions for clean cities

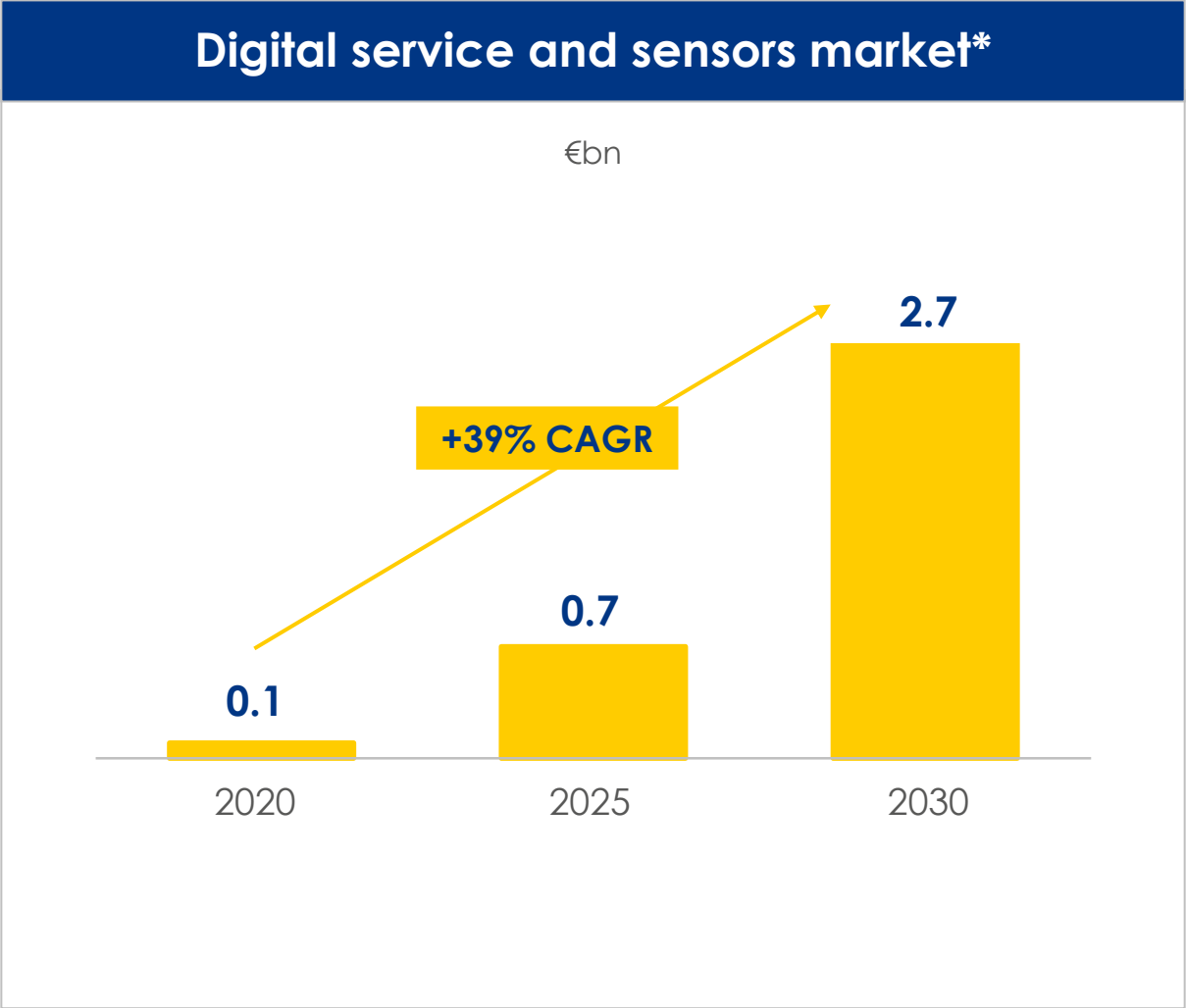
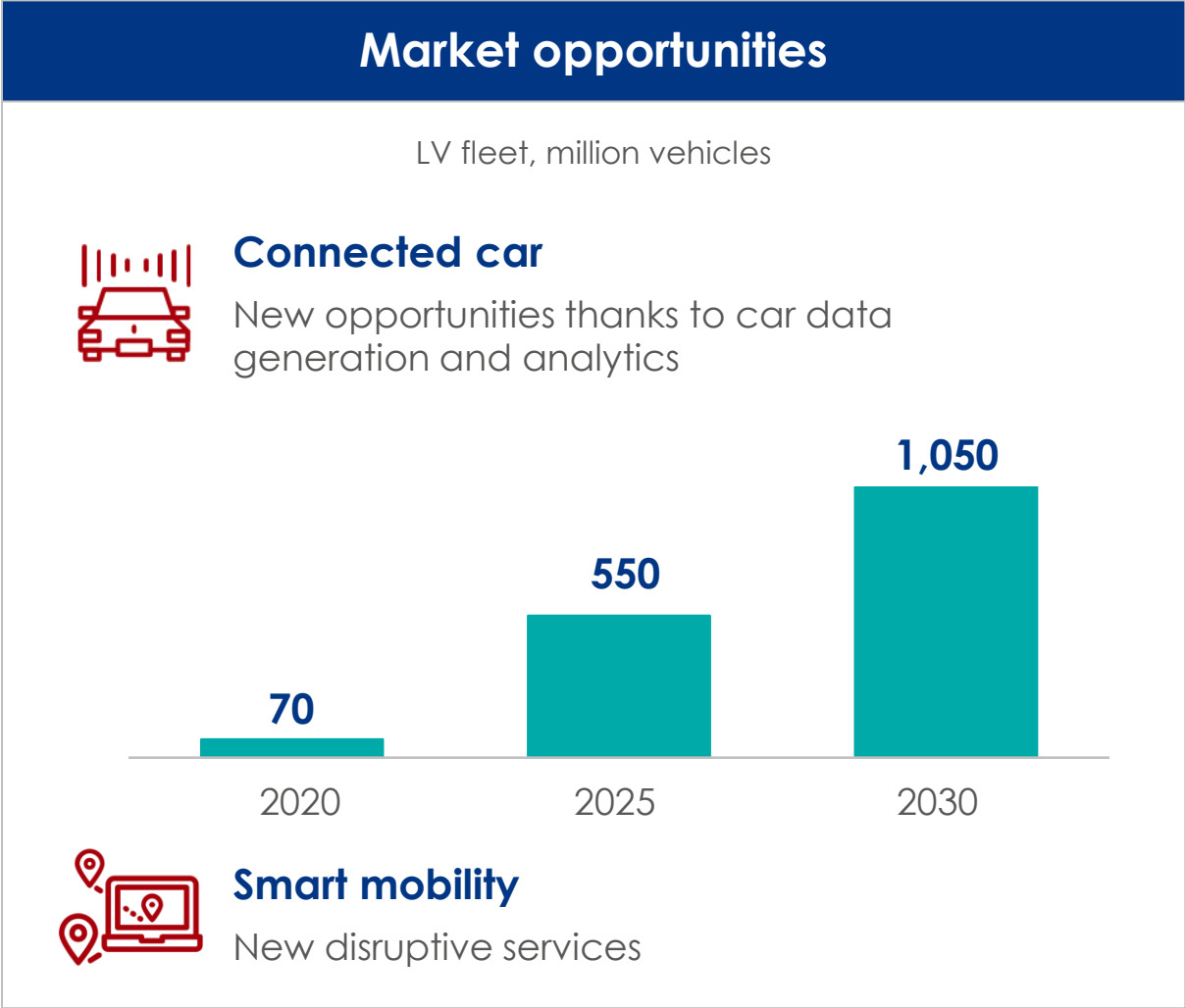
## Cities / Mobility operators' needs

- Cities compliance with mandatory Air Quality improvement targets
- Clean Mobility in Smart Cities initiatives (C40)
- Monitoring and incentives for environmental-friendly driving behaviors



**Faurecia will provide real time emissions through smart sensors and digital services**

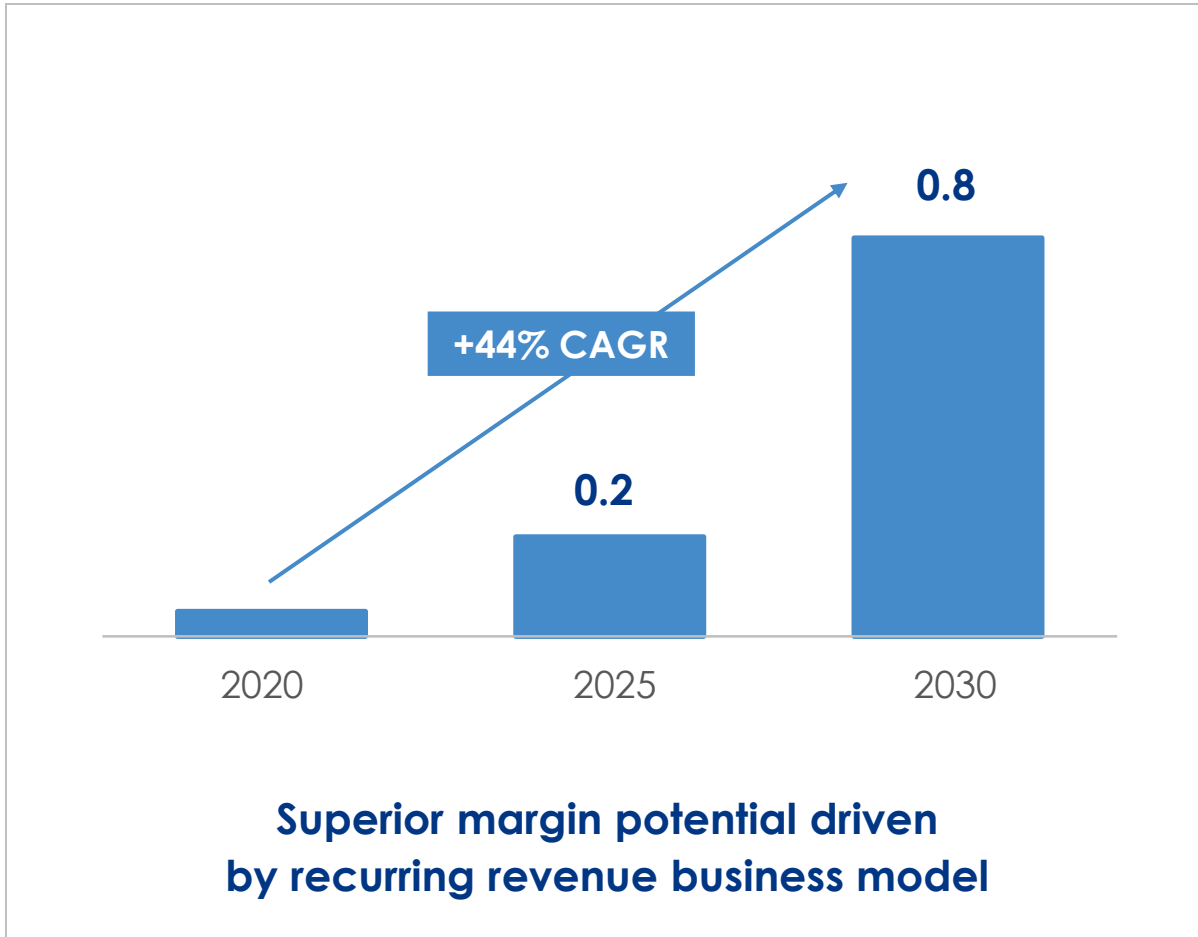
# Real time emissions for clean cities is an important market opportunity



\* Assuming sensors become obligatory equipment on all vehicles

# Real time emissions for clean cities will generate €0.8bn revenue by 2030

## FCM REAL TIME EMISSIONS SALES\* (€bn)



\* Assuming sensors become obligatory equipment on all vehicles

### Growth Drivers

- **NOx Tracker know how**
- **Expertise & exclusive technology**
  - Emissions measurement (sensors)
  - Data acquisition and analytics
- **Strategic partnerships with startups and top IT players**

# Agenda

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1	Introduction	Patrick Koller
2	Growth via technology in automotive	Mathias Miedreich
3	Growth beyond automotive	Curt Miller
4	Electric vehicles	Christophe Bouly
5	Star Technologies	Annika Isaksson Christophe Bouly
<b>6</b>	<b>Faurecia Clean Mobility leadership</b>	Christophe Schmitt

# Bright future for clean mobility market

## KEY MARKET DRIVERS

sustainable mobility

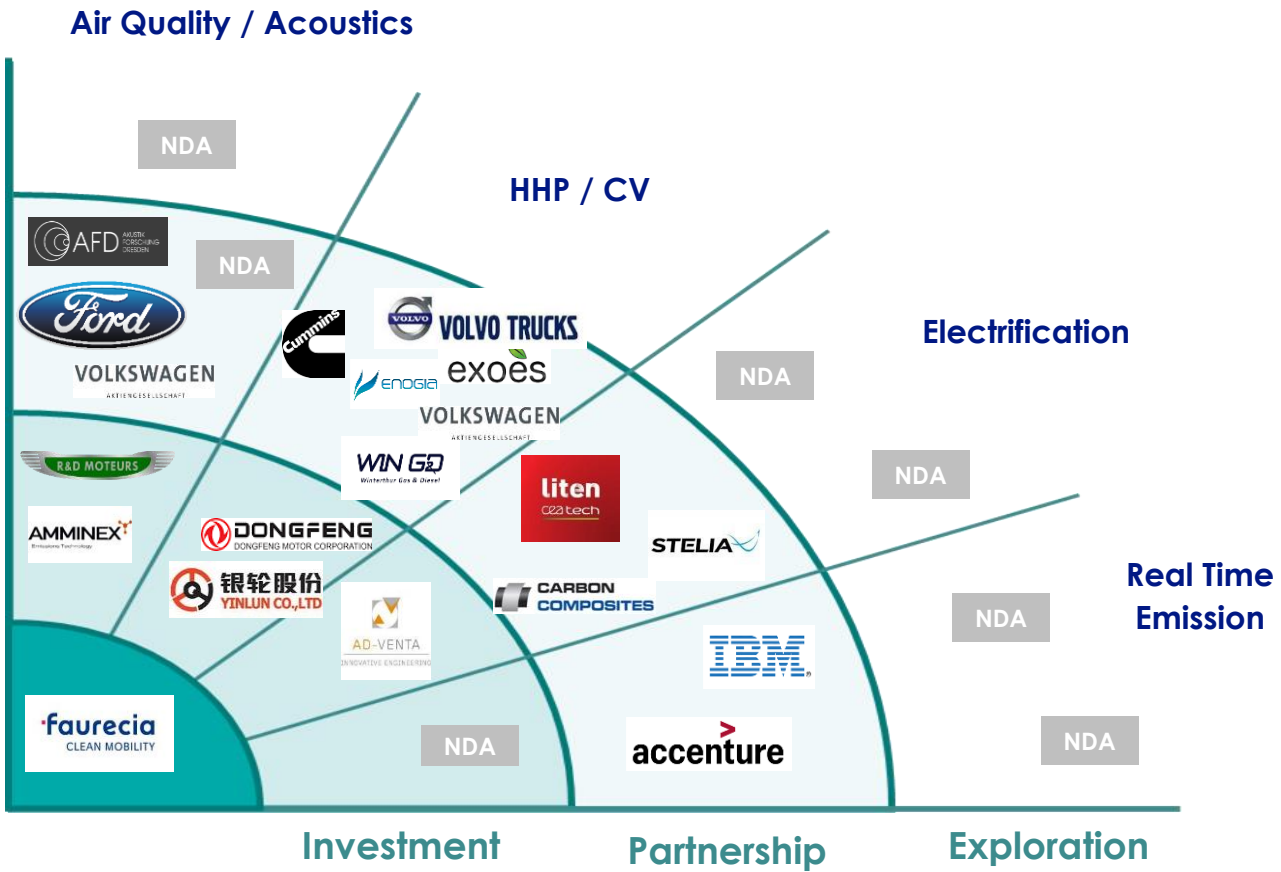


**Market growth\***  
**2016 – 2030**  
**+ €25bn**

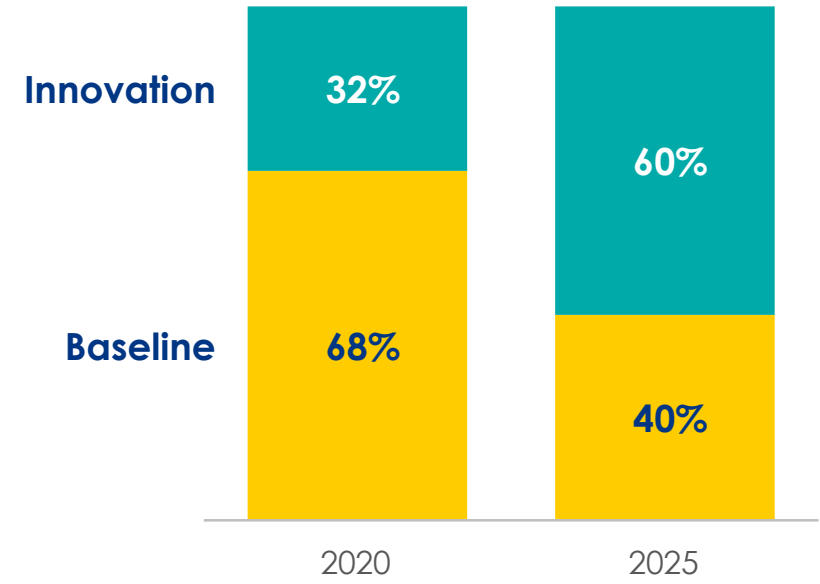
- **Stringent regulations and new ultra green technology breakthroughs**
- **All markets getting emissionized including China, India CV, HHP engines, industrial**
- **Nearly 50% of the market will be electrified: a great opportunity**
- **Smart Cities will drive new Clean Mobility requirements**
- **Accurate real time emissions data key to restoring trust and enabling Clean Mobility**

# Strong technology ecosystem enables higher technology content and access to new mobility fields

## Technology and market ecosystem



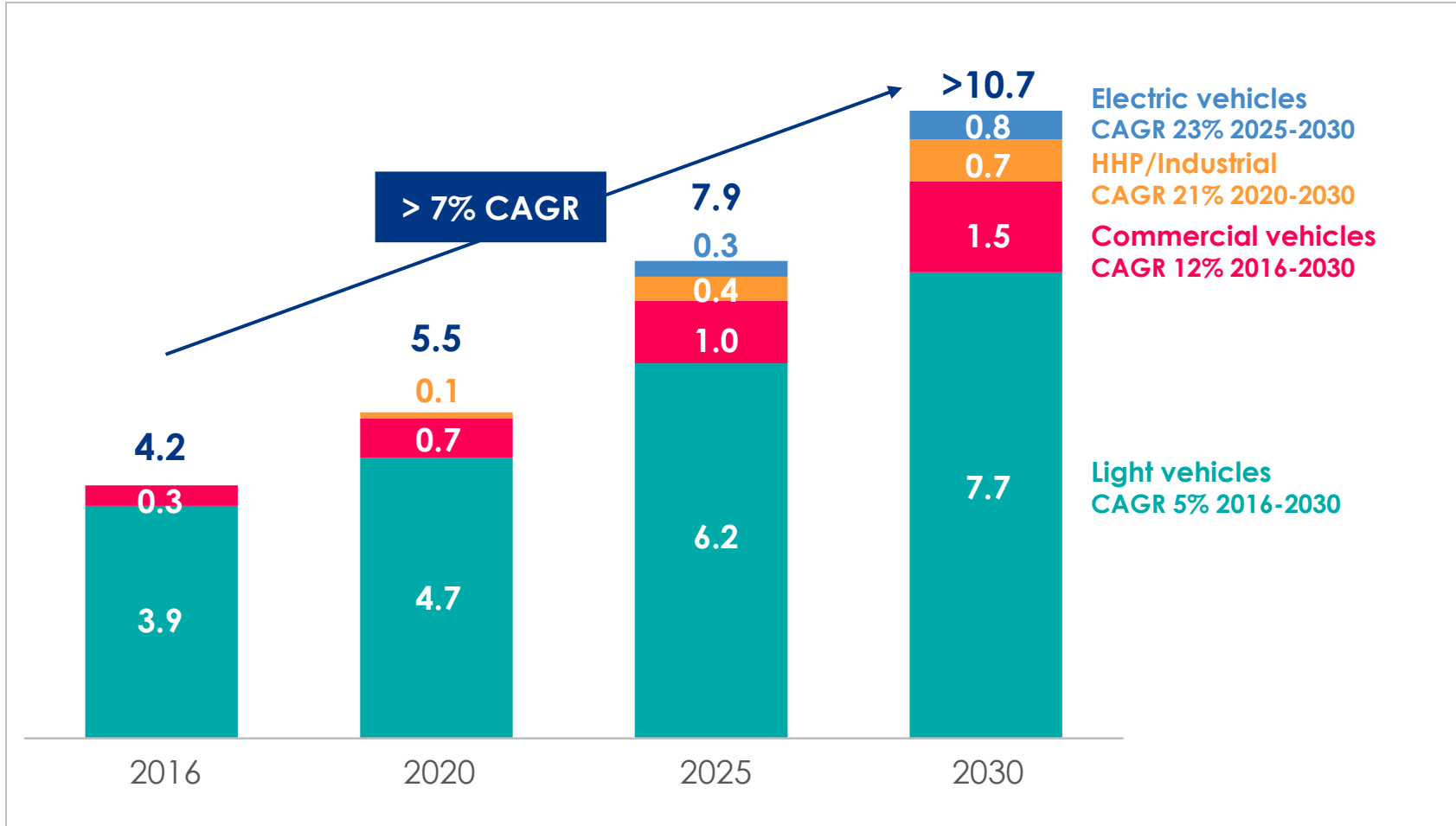
## Share of new technologies in value added sales



- New technologies spend: 21% CAGR 2016-20
- # patents 40% CAGR 2016-20

# Leading Clean Mobility with >€10bn revenues in 2030 including €3bn of high technology new business

## FAURECIA VALUE ADDED SALES BY MARKET SEGMENT (€bn)



Investment in €m 2017 -2022	
■ Innovation & business development	800
■ CAPEX	1,600
■ Combined: €400m per year	
■ Around 7% of VA sales	

**Asset light**

Based on Faurecia vision for global powertrain mix 2030

# Faurecia Clean Mobility will more than triple operating income with high cash conversion

In €m	2016	2020	2025	2030	CAGR (in %) 2016 - 2030
<b>Value added sales</b>	<b>4,195</b>	<b>5,500</b>	<b>7,900</b>	<b>&gt;10,700</b>	<b>&gt;7%</b>
<i>o/w LV</i>	3,855	4,700	6,200	7,700	5%
<i>o/w CVE, HHP &amp; other</i>	340	800	1,700	>3,000	17%
<b>Operating income</b>	<b>394</b>	<b>around 600</b>	<b>around 1,000</b>	<b>&gt; 1,500</b>	<b>11%</b>
Margin in %	9.4%	11%	> 12%	15%	-
<b>Cash flow conversion</b> <i>(in % of operating income)</i>	<b>around 50%</b>	<b>50 - 55%</b>	<b>&gt; 55%</b>	<b>&gt; 55%</b>	<b>-</b>
<b>ROCE</b> <i>(in%)</i>	<b>28%</b>	<b>28 - 30%</b>	<b>&gt; 30%</b>	<b>&gt; 30%</b>	<b>-</b>



# Strategic transformation of Faurecia Clean Mobility



## Vision

- Be the leading clean mobility company with benchmark technology and profitability
- Strategic freedom vs powertrain mix



## Strategic Drivers

- New clean emissions value spaces through innovation for ICE & hybrid
- Expand commercial vehicles & industrial
- Solutions for electric vehicles & new mobility



## Ambition 2030

### Value added sales

- > €10bn
- > 7% CAGR 2016-2030

### Profitability

- > €1.5bn operating income
- 15% of VA sales

### Other financials

- Cash conversion > 55%
- ROCE >30%

**·faurecia**  
inspiring mobility