



Technology with Vision

Capital Markets Day 2020

Exceed Possibilities

Berlin, February 18, 2020



EXCEED POSSIBILITIES

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This document contains an English translation of the accounts of the Company and its subsidiaries. In the event of a discrepancy between the English translation herein and the official German version of such accounts, the official German version is the legal valid and binding version of the accounts and shall prevail.

Capital Markets Day 2020

Exceed Possibilities – Berlin, February 18, 2020

TIME	TOPIC	WHO	
10:30	30 min	Registration & Welcome	all
11:00	30 min	HELLA Group: Strategic Outlook	Dr. Rolf Breidenbach CEO
11:30	30 min	HELLA Group: Financial Outlook	Bernard Schäferbarthold CFO
12:00	30 min	Q&A-Session	Dr. Rolf Breidenbach / Bernard Schäferbarthold
12:30	45 min	Lunch	all
13:15	20 min	Lighting: Pioneering technologies and customer solutions	Marcel Bartling Member of the Executive Board Business Division Lighting Product Centers Rear Combination Lamps, Interior & Car Body Lighting
13:35	20 min	Electronics: Key technologies for future mobility	Michael Jaeger Member of the Executive Board Business Division Electronics Product Center Components
13:55	20 min	Q&A-Session	Marcel Bartling / Michael Jaeger
14:15	15 min	Coffee Break	all
14:30	90 min	Market Places	all
	15 min	Market Place 1: Sensing I: Smart Car Access	Fiona Li / Roman Curkin
	15 min	Market Place 2: Sensing II: SHAKE & PM2.5	Marco Döbrich
	15 min	Market Place 3: HD Light Design	Dr. Carsten Wilks / David Duhme
	15 min	Market Place 4: Front of the car	Alexander Kujumdshiev
	15 min	Market Place 5: The Drivery	Timon Rupp
16:00		End of Capital Markets Day 2020	
16:15-17:00 optional		Tour through THE DRIVERY	Timon Rupp Managing Director, The Drivery GmbH

HELLA exploits the current market weakness to further strengthen its competitiveness

Major market developments and implications for HELLA

Accelerating industry change

AUTONOMOUS DRIVING



EFFICIENCY & ELECTRIFICATION



CONNECTIVITY & DIGITALIZATION



INDIVIDUALIZATION



Stagnating global light vehicle production

Short-term
FY 2019/20

around
-6%*

Mid-term
2021 onwards

low
single-digit growth

„New normal“

Major implications for HELLA to continue profitable growth path

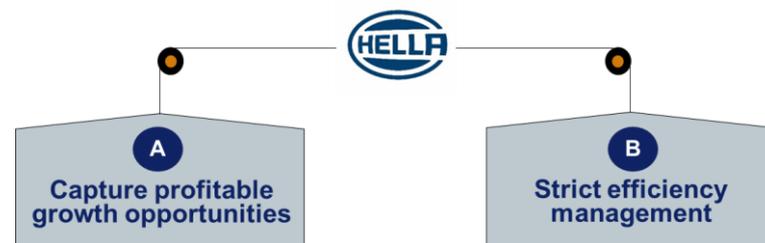
Business model and strategy are still valid



No change

but ...

Strong focus on **balancing ...**



* Additional negative corrections possible due to continued high uncertainties, e.g. geopolitical conflicts, impact of Corona virus

HELLA captures attractive growth opportunities while also enforces further cost savings and efficiency improvements

Major strategic priorities



BALANCING

Capture profitable growth opportunities

- A.1** Further investments in automotive market trends
- A.2** Enhancement of partnerships and global presence
- A.3** Focused strengthening of Non-Automotive business

Strict efficiency management

- B.1** Pursuing strict cost control program worldwide
- B.2** Continuous optimization of structures and processes
- B.3** Stringent and active portfolio management



HELLA paves the way towards autonomous driving with a comprehensive sensing portfolio focusing on scalability for L1-3

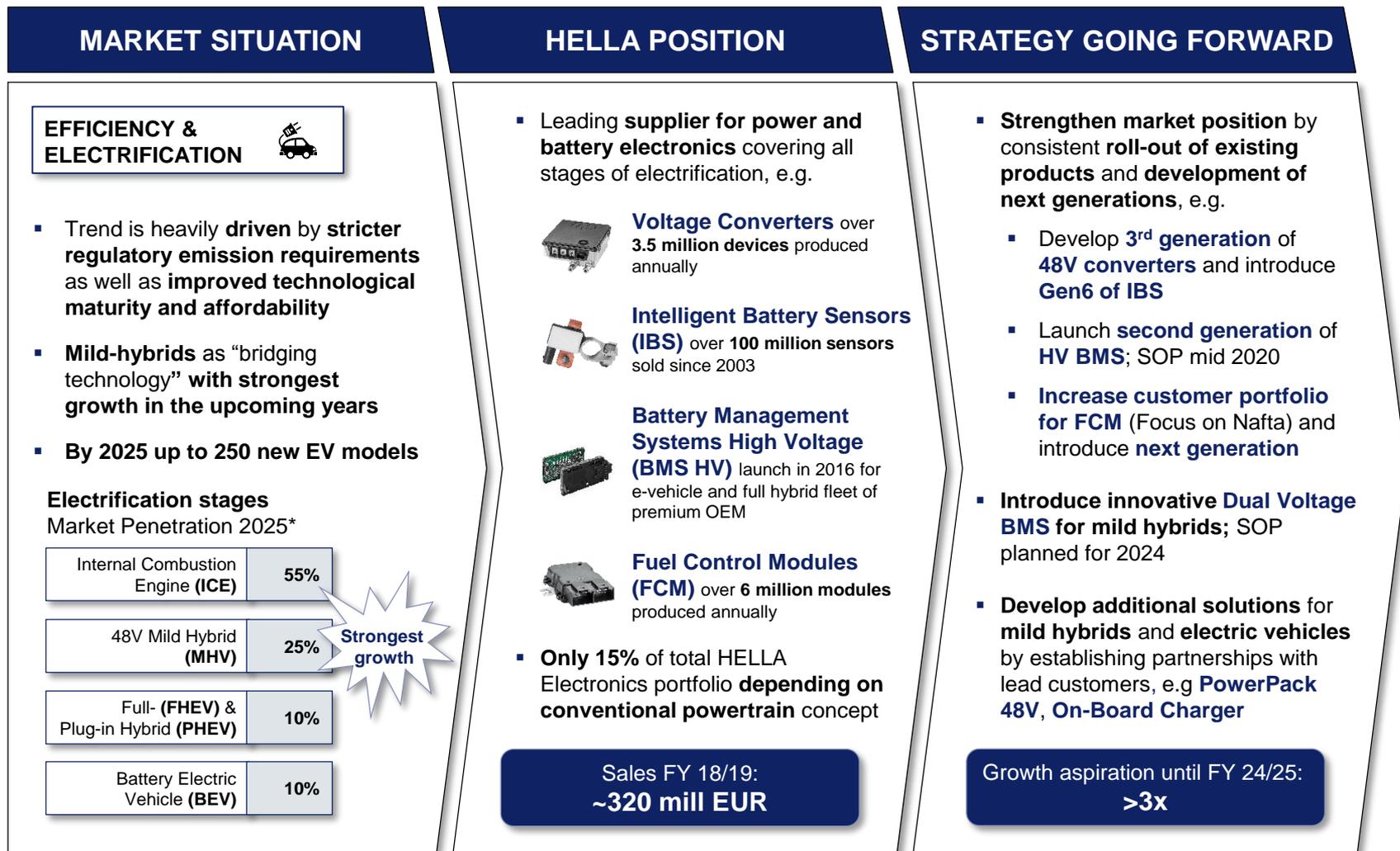
A.1 Investments in market trends – Autonomous Driving

MARKET SITUATION	HELLA POSITION	STRATEGY GOING FORWARD												
<p>AUTONOMOUS DRIVING </p> <ul style="list-style-type: none"> New safety requirements are pushing higher penetration of L1-2 vehicles in the upcoming years L3 vehicles will have the biggest market share increase from 2025 until 2035 First fully autonomous vehicles will be on the road from 2030 <p>Autonomous Driving Level Market Penetration 2025*</p> <table border="1"> <tr> <td>Level 0 Human-Driving</td> <td>34%</td> </tr> <tr> <td>Level 1 Assisted-Driving</td> <td>42%</td> </tr> <tr> <td>Level 2 Partial Automation</td> <td>21%</td> </tr> <tr> <td>Level 3 Conditional Automation</td> <td>2%</td> </tr> <tr> <td>Level 4 High Automation</td> <td>1%</td> </tr> <tr> <td>Level 5 Fully Autonomous</td> <td>0%</td> </tr> </table> <p>Largest segments</p>	Level 0 Human-Driving	34%	Level 1 Assisted-Driving	42%	Level 2 Partial Automation	21%	Level 3 Conditional Automation	2%	Level 4 High Automation	1%	Level 5 Fully Autonomous	0%	<ul style="list-style-type: none"> Strong component supplier with comprehensive sensing portfolio focusing on L1-3 and scalability for higher levels <ul style="list-style-type: none">  24 GHz sensors over 30 million sensors manufactured since 2006  77 GHz sensors 7 customer orders acquired since 2018; SOP: April 2020  SHAKE sensor market entry in 2018/2019; second SOP in 2020 Power steering approx. 30 million steering electronics produced since 2010  Great expertise in camera-based assistance systems and software solutions, i.e. License model for front camera based ADAS functions  <p>Sales FY 18/19: ~460 mill EUR</p>	<ul style="list-style-type: none"> Drive roll-out and further development of existing sensors, e.g. <ul style="list-style-type: none"> Enhance performance of 77 GHz corner radar based on cooperation with Oculii Provide “easy to implement” SHAKE solution for mass market Expand product portfolio, e.g. <ul style="list-style-type: none"> intensify Lidar cooperation with AEye; focus on product specification & lead customer acquisition push steering technology for automated driving; launch fail-operational modules in September 2020 Strengthen camera business, e.g. by establishing new partnerships and push in China <p>Growth aspiration until FY 24/25: ~2x</p>
Level 0 Human-Driving	34%													
Level 1 Assisted-Driving	42%													
Level 2 Partial Automation	21%													
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* Source: Strategy Analytics August 2019

HELLA accompanies customers comprehensively on the way to electromobility with solutions for all stages of electrification

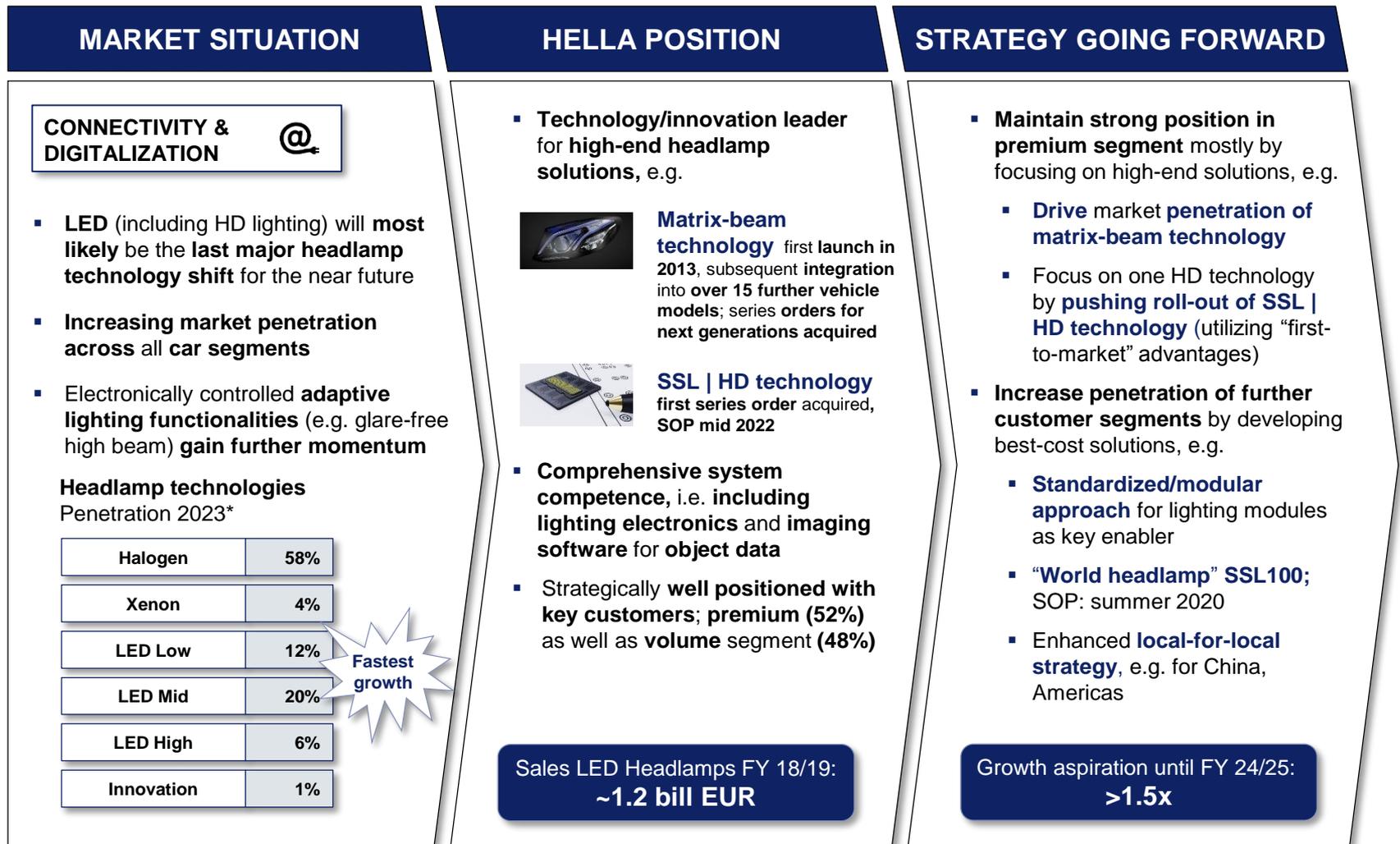
A.1 Investments in market trends – Electrification



* Source: IHS Engine Database August 2019

HELLA strengthens its position as innovation leader for headlamps by launching the next generation of lighting technology

A.1 Investments in market trends – LEDfication / Digital Light



* Source: IHS Forward Lighting & ECU Database March 2018

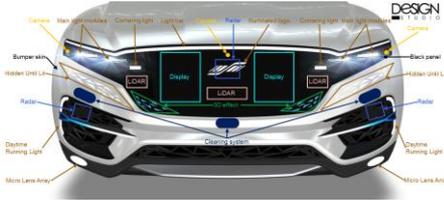
HELLA is focusing on open cooperations with industry partners and startups to develop differentiating customer solutions

A.2 Enhancement of partnerships – Focus Technology

SELECTED PARTNERSHIPS



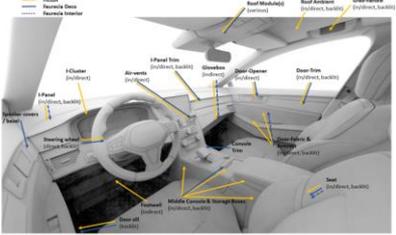
PLASTIC OMNIUM



RATIONALE:
Integrated solutions for Front-of-the car and Rear-of-the car



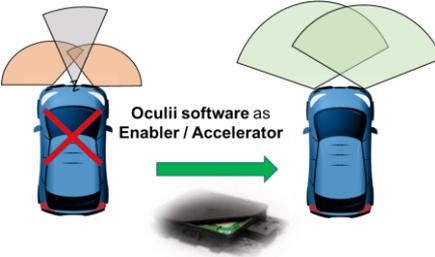
faurecia



RATIONALE:
Advanced surface/smart lighting solutions for the vehicle interior



OCULII



RATIONALE:
Target corner radar application to substitute central radar

STATUS

- **Joint development team** at the Drivery/Berlin established (2x5 resources)*
- **SmartFACE demonstrator** created within six months and showcased at IAA
- **Positive customer reactions**, e.g. >10 TechShows, >10 OEM meetings; **first customer pre-development won**
- **Possible expansion of collaboration**, e.g. integration of electronics components

- **Joint project team established** (2x2 resources)*
- **First joint series project won from German premium OEM**: integration of light guides in interior doors panels
- **Pre-development acquired for second premium customer**: door panel deco element incl. display and backlighting
- **Development of further integrated interior solutions**, e.g. surface backlighting illumination

- **Strategic HELLA investment** (~ 5 mill USD) and **partnership agreed** at the end of December 2019
- **Innovative radar signal processing** verified by **proof of concept**; **preparation of a joint prototype** for improved radar measurement capability by May 2020
- Start of **customer demos** planned for Q3/2020

*Acting as single interface of collaboration

To further strengthen its position in China, HELLA is intensifying its collaboration with powerful local partners

A.2 Enhancement of partnerships – Focus China

SELECTED PARTNERSHIPS



BHAP



RATIONALE:
Lighting and electronic solutions, primarily for BAIC



中国一汽 海拉
战略合作签约仪式
2013



RATIONALE:
Lighting system for the Chinese market, primarily for FAW



恒大集团
EVERGRANDE GROUP



RATIONALE:
Collaboration in the area of electromobility

STATUS

- Strong partnership established with **BHAP** in **lighting business** since 2014: **2 plants** and **1 R&D center** in operation
- New electronics joint venture with **BHAP** commissioned at the end of 2019: **manufacturing of control units** started (subsequent expansion of production portfolio)

- Joint venture with **FAW** subsidiary **Faway** since 2012, operating **2 plants** and **1 R&D center**
- Existing partnership expanded in 2019, e.g. to **strengthen product scope** and **development capabilities**, e.g. for rear combination lamps, interior and car body lighting; **JV as main supplier** nominated for **FAW premium brand “Hongqi”**

- Establishing a **JV** in the area of **Battery Management Systems High Voltage** under negotiation; **signing** expected by end of **February 2020**
- Additional cooperation planned in the **context** of the **NEV project** of **Evergrande**, e.g. as **supplier** of further **electronic components** and **lighting solutions**

HELLA follows a clear local-for-local approach to capture growth opportunities in regional core markets

A.2 Enhancement of global presence

HELLA POSITION

STRATEGY GOING FORWARD

<p>CHINA*</p>  <p>Sales FY 18/19: ~800 mill EUR</p>	<p>Plants: 10 Lighting: 7 Electronics: 3</p> <p>R&D center: 7 Lighting: 6 Electronics: 2</p> <p>Employees: ~5,500 thereof R&D: ~1,300</p>	<p>Growth aspiration until FY 24/25: >2x</p> <p>ELECTRONICS: grow in core business of components as well as in trend areas automated driving (77 GHz radar, camera software) and e-mobility (48V mild and HV-solutions), also by forming partnerships</p> <p>LIGHTING: drive JV business to penetrate related OEMs; develop local innovations (e.g. 11 pixel ADB) and low-cost modules to better target Chinese OEMs (incl. ramp-up of local R&D capabilities)</p>
<p>INDIA</p>  <p>Sales FY 18/19: ~75 mill EUR</p>	<p>Plants: 3 Lighting: 1 Electronics: 2</p> <p>R&D center: 5 Lighting: 3 Electronics: 2</p> <p>Employees: ~1,500 thereof R&D: ~710</p>	<p>Growth aspiration until FY 24/25: >3x</p> <p>ELECTRONICS: grow by selectively adding new products; prioritize products for e-mobility and driver assistance with multiple customer roll-out approach (e.g. explore low-cost version of Intelligent Battery Sensor)</p> <p>2 WHEELER / 3 WHEELER: spin-off of activities to better fulfill business-specific requirements; grow especially by offering motor & controller</p>
<p>AMERICAS</p>  <p>Sales FY 18/19: ~1,400 mill EUR</p>	<p>Plants: 7 Lighting: 3 Electronics: 4</p> <p>R&D center: 3 Lighting: 1 Electronics: 2</p> <p>Employees: ~7,800 thereof R&D: ~520</p>	<p>Growth aspiration until FY 24/25: ~1.5x</p> <p>ELECTRONICS: enhance product portfolio with local OEMs, especially Energy Management, Electrical Power Steering, Thermal Management, Driver Assistance Systems</p> <p>LIGHTING: increase business with the big 3 OEMs by stronger focus on regional customer/technology roadmaps; use market opportunities related to potential liberalization of ADB functions in the US</p>

* Including JVs

HELLA is also using attractive growth opportunities in Aftermarket and Special Applications to strengthen its business resilience

A.3 Strengthening of Non-Automotive Business

HELLA POSITION

HIGHLIGHT

<h4>AFTERMARKET</h4> 	<p>INDEPENDENT AFTERMARKET: strong market position, especially in Europe by</p> <ul style="list-style-type: none"> ▪ focusing on core competencies in Lighting & Electronics ▪ providing premium service, e.g. logistics/availability, product information, technical support, warranty handling <p>WORKSHOP SOLUTIONS: leading position in German-speaking markets by</p> <ul style="list-style-type: none"> ▪ sophisticated diagnostic and calibration tools ▪ comprehensive data know-how and services 	<h4>New Workshop Concept: “CheckPoint”</h4> <ul style="list-style-type: none"> ▪ IDEA: unique full service offer for independent workshops including diagnostics, calibration tools, services ▪ TARGET: increase customer retention of independent workshops and empower them to handle increasing complexities, e.g. in ADAS calibration and repair of electric vehicles and hybrids ▪ NEXT STEPS: pilot phase with 12 workshops finalized; roll-out of new concept as standard offering starting in February 2020 	
<h4>SPECIAL APPLICATIONS</h4> 	<p>Leading supplier for various commercial vehicles (e.g., agriculture, construction, bus, mining, and trailer) based on leveraging Automotive core know-how and SOE specific developments in</p> <ul style="list-style-type: none"> ▪ Lighting (e.g., continued LEDfication in standard and customer specific products as well as innovative solutions) ▪ Electronics (e.g., sensors, actuators, and energy mgmt. solutions) as well as selective portfolio extensions (e.g. radar) 	<h4>Smart Worklight System</h4> <ul style="list-style-type: none"> ▪ IDEA: intelligent control of individual worklights and LEDs for different working scenarios of agricultural and construction vehicles ▪ TARGET: enhance safety and comfort for operators, e.g., by avoiding blinding others as well as self-blinding caused by dazzling objects ▪ NEXT STEPS: pre-development projects with different lead customers ongoing; initial market launch expected for 12/21 	

Based on strict cost control HELLA ensures short-term profitability as well as additional scope for future-oriented investments

B.1 Strict cost control program

STRINGENT COST MANAGEMENT



- Early implementation of **group-wide cost control approach** in **October 2018**
 - installation of **stricter approval rules** and **dedicated release boards**
 - across all **functions, hierarchies** and **regions**
- **Initial focus** on **reducing travel, IT, service providers, logistics** as well as **marketing costs**

KEY ACHIEVEMENTS

FY 2018/2019

Generated savings

~60 mill EUR

SG&A ratio reduction
(year-on-year)

-0.7pp

FLEXIBILIZATION OF HEADCOUNT



- **Adjustment and flexibilization of headcount planning** according to market development
 - **Significant reduction of new hires**
 - **Flexibilization of production personnel:** for direct personnel 100% targeted, for indirect personnel 50% targeted
 - **Selective structural headcount reduction programs**

KEY ACHIEVEMENTS

Headcount reduction, as at November 2019, in FTEs

in reporting staff
(year-on-year)

1,650

of entire staff incl. temps
(year-on-year)

2,800

of reporting staff compared to
peak in September 2018

3,100

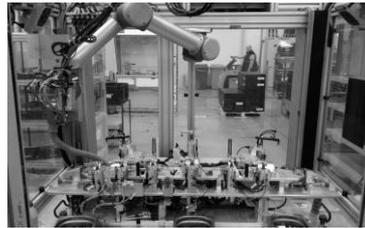
HELLA strengthens its competitiveness by consistent automatization and sustainable process improvements

B.2 Continuous optimization of structures and processes

MAJOR INITIATIVES

Smart Automatization

RATIONALE:
Increase productivity and quality by automatization of production processes, especially in Lighting



Software Robots

RATIONALE:
Raise efficiency in administration by automating repetitive standard processes



Business Service Organization (BSO)

RATIONALE:
Enhance service level and cost position by bundling and optimizing relevant tasks within designated hubs



STATUS

- More than **400 use cases** for **Collaborative Robots (CoBot)** identified
- **Work Package 1 (WP1)**: focus on **CoBot implementation** for **brownfield production** with **target headcount reduction** of **1,000** (current achievement level: ~300)
- **Drive further implementation** of **CoBots** in greenfield areas (WP2) and **define smart automation concept** for **modular assembly lines** (WP3)

- **Governance organization established** to **drive process digitalization** and **efficient use of new technologies**, e.g. **Robotics Process Automation (RPA)** for
 - automatic **invoice capture** and **data entry** for **major global suppliers**
 - automatic **creation of intercompany invoices**
- **Continuous investigation** of **new application areas** in **administration processes**

- **Business Service Organization** established with **4 centers** in **Romania** (largest hub), **India**, **China** and **Mexico**:
 - Ca. **400 FTEs** already **delivering services**
 - **Application** of methodology for **existing services**, e.g. in **Finance & Controlling**, **Purchasing**, **Human Resources** etc.
- **Shift of new service tasks** (e.g. regional bundling of **Foreign Trade administration**) to **BSO locations**, **150-200 additional FTEs** from **FY 2019/20 onwards**

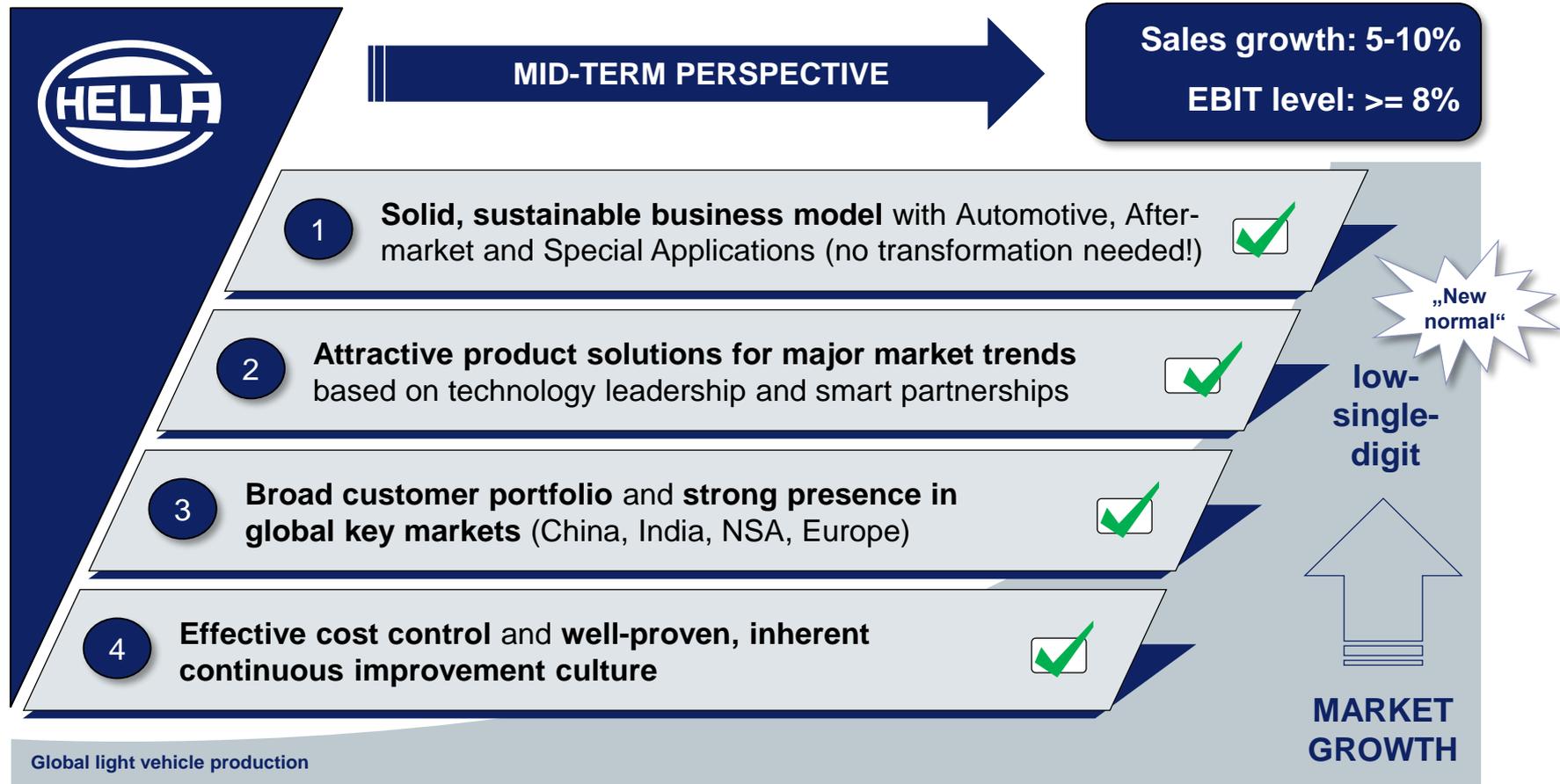
Based on clearly defined criteria and an active management approach, HELLA is continuously reviewing its business portfolio

B.3 Active portfolio management

CRITERIA	LATEST MAJOR DIVESTMENTS		
<p>Technology Leadership</p> <p>+</p> <p>Market Leadership (#1-3)</p> <p>+</p> <p>Fulfillment of financial KPIs</p>	<p>Wholesale Business</p> <p>Disposal of wholesale companies FTZ and Inter-Team to Mekonomen¹ and Hellanor to Aurelius²</p>	<p>Employees: ~2,750 Turnover: ~570 mill EUR Transaction price: ~395 mill EUR¹ Closing: Sept. 2018¹ / Dec. 2018²</p>	
	<p>Korean Joint Venture</p> <p>Transfer of 50% share in Joint Venture HSL Electronics to JV-partner SL</p>	<p>Employees: ~275 Total Turnover: ~100 mill EUR Transaction price: n/a Closing: September 2019</p>	
	<p>Behr Hella Service</p> <p>Transfer of 50% share in Joint Venture Behr Hella Service to JV-partner MAHLE</p>	<p>Employees: ~60 Total Turnover: ~ 150 mill EUR Transaction price: n/a Transfer: December 2019</p>	
	<p>Relay Business</p> <p>Disposal of relay business to Chinese company Hongfa</p>	<p>Employees: ~280 Turnover: ~ 43 mill EUR Transaction price: ~10 mill EUR Closing: December 2019</p>	

HELLA has all the prerequisites to continue its success path even in an only moderately growing market scenario ("New normal")

Strategic outlook



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16:00		End of Capital Markets Day 2020	
16:15-17:00 optional		Tour through THE DRIVERY	Timon Rupp Managing Director, The Drivery GmbH

HELLA further strengthens its competitiveness to stay on its profitable growth path

Major market developments and implications for HELLA

Accelerating industry change

- **Accelerating investments in trends** especially Efficiency & Electrification and Autonomous Driving
- **At the same time budget control** at OEMs
- **Tighten regulatory** framework

Stagnating global light vehicle production

- Impact of **Corona virus** not foreseeable, **FY 20/21 growth** expected to be impacted by low comparable basis
- **Weak** economic indicators in core markets
- **Mid-term production** environment growing only low-single digit

„New normal“

Major implications for HELLA to continue profitable growth path

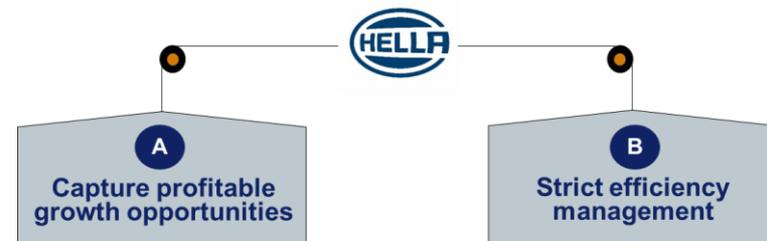
Underlying **financials solid** and **financial action plan still valid**



No change

Even more ...

Strong focus on **balancing** ...



HELLA finds the right balance between cost and efficiency management and investments in future growth and technologies

Major strategic priorities



BALANCING

Capture profitable growth opportunities

- A.1** Focus investments on **booked business** and **innovations** along main trends
- A.2** Benefit from **market and technology leadership** with acquisition success and value growth
- A.3** Secure business with **balanced portfolio** and **prudent finance**

Strict cost & efficiency management

- B.1** Enforce **strict cost control** to safeguard profitability
- B.2** Foster **automation** to increase flexibility and production efficiency
- B.3** Focus on **FCF generation** with tailored measures for Working Capital



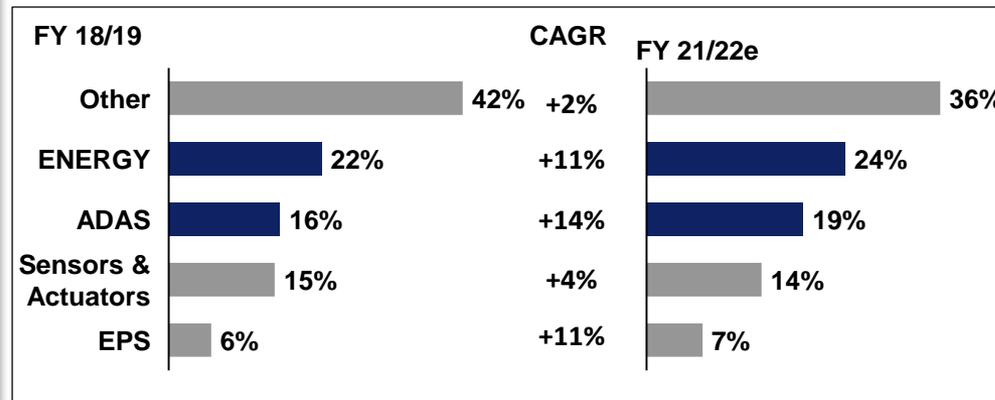
HELLA aligns sustainability and growth targets when allocating R&D and CAPEX

A.1 R&D & CAPEX: Develop booked business and further innovations

R&D & CAPEX ALLOCATION

- Group R&D Ratio <10% as overall boundary condition, mid- to long-term target around 9.5%
- Majority (~70%) of development expenses allocated to booked business²
- Electronics R&D share expected to rise to nearly 60% in FY 21/22
- Capitalization rate at around 15% according IFRS requirements
- Volume driven CAPEX/SALES ratio short term >9%
- Mid- to long-term CAPEX/SALES ratio <8% targeted
- Next to project CAPEX structural investments e.g. in automation

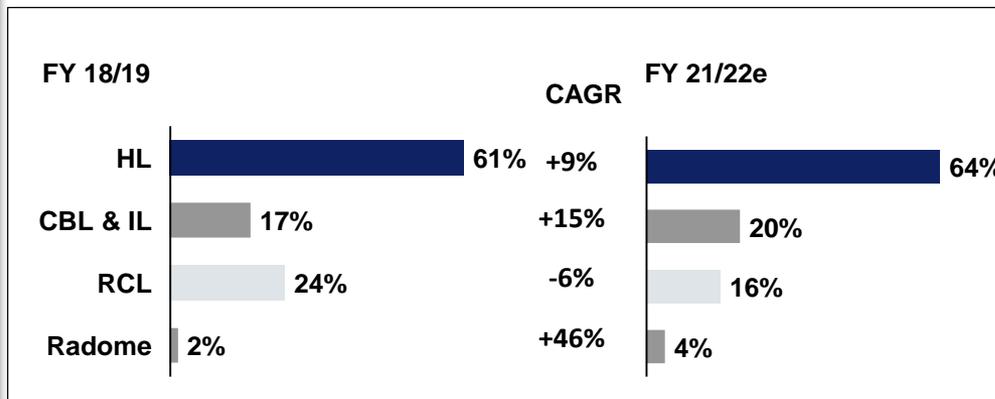
ELECTRONICS R&D ALLOCATION¹



DIRECTIONS

- Leverage **E-Mobility**
- Extend scope in **ADAS**
- Strengthen **backbone**
- Invest in **steering**

LIGHTING CAPEX ALLOCATION³



DIRECTIONS

- Invest in global **HD module**
- Invest in **complex IL** and **CBL** solutions
- Focus **RCL**
- Grow **Radomes**

1) Approx. 55% of Automotive R&D FY 18/19 (~580 mill. EUR) 2): remaining share allocated to pre-development, ground research, software, tools 3) Approx. 45% of Group CAPEX FY 18/19 (~550 mill. EUR)
 EPS= Electronic Power Steering, HL= Headlamp, CBL = Car Body Light, IL=Interior Lighting, RCL= Rear Combination Lamps

Given its attractive portfolio in selective markets, HELLA is able to grow within the target range of 5-10% in a stabilized market

A.2 Market & technology leadership: Strong portfolio in growth markets

ORGANIC GROWTH

- **Strong market position** of backbone business (especially Sensors and Actuators)
- **Strive for a leading market position in selected growth areas** (e.g. Efficiency & Electrification and Automated Driving)
- **Headlamp business with competitive edge** due to technological leadership position
- **Majority of business independent form combustions engine**

MARKET GROWTH ¹	MARKET SEGMENT	ASSESSMENT	KEY PRODUCTS	HELLA POTENTIAL ²
>10%	Autonomous Driving	Comprehensive radar portfolio, further invest in competitive and scalable L3 offering	24Ghz radar, 77Ghz radar, Camera software	↑
	Efficiency & Electrification	Strong portfolio, need to address Tier 2 and Tier 1 opportunities	BMS, DC/DC converter , IBS, FCM	↑
	Radome	Already good positioned, further market potential in China and North America	Cover (dome) in front of a radar system	↑
5-10%	Automotive Interior and Car Body Lighting	Strong market position to capture selective opportunities in IL Reprioritization of CBL portfolio and focus on Front of the Car opportunities	Interior lights, roof modules, ambient interior lighting Fog lamps, Light indicators, License plate lamps	→
	Steering	Potential for EPS as "fail operational" at premium and volume OEMs	Electric Power Steering	↑
	Automotive sensors	High penetration of existing products in markets, first-to-market innovations as driver	APS, Steering sensors, Position sensors, Medium sensors	→
	Actuators	Backbone business to be further strengthened with focus on main contributors	Engine Compartment Actuator, Thermal mgmt., Vacuum pumps	→
	Headlamp	Leverage excellent positioning with world wide application using SSL, harvest Xenon	LED headlamps, Halogen headlamps	→
<5%	Rear Combination Lamps	Reorganization and active customer collaboration to define selected opportunities	Reflectors, Light curtain, Edge light, Glowing elements	↓
	Lighting Electronics	Strong performance to address broader customer needs	Light control modules	↑
	Body Electronics	Changing market need (e.g. BCM), good position to catch opportunities with smart access	Car access, Body control modules	↑
	Independent Aftermarket	European Aftermarket is stagnating, consequent focus on key accounts, push e-commerce and OE products as success factors		→
	Special Applications	Strong market position with lighting products in European market, E/E and innovative lighting business as development		↑

APS= Accelerator Pedal Sensor, BMS= Battery Management System, FCM= Fuel Control Modules, IBS= Intelligent Battery Sensor

1) CAGR 18/19 24/25 2) HELLA growth potential vs. market

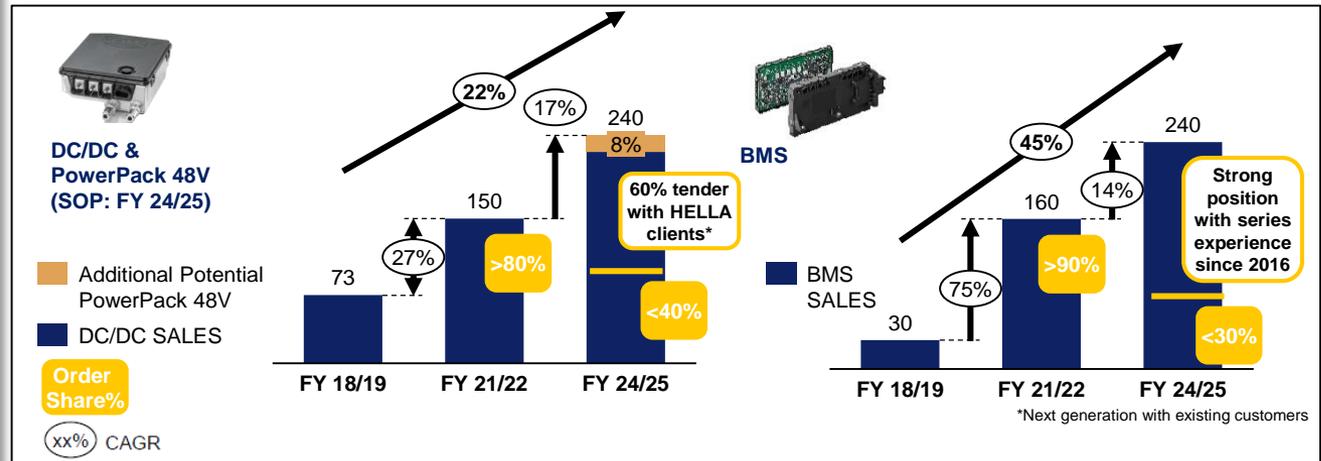
Market and technology leadership ensures acquisition success and drives order intake in selected growth areas

A.2 Strategic business fields with order-backed sales growth

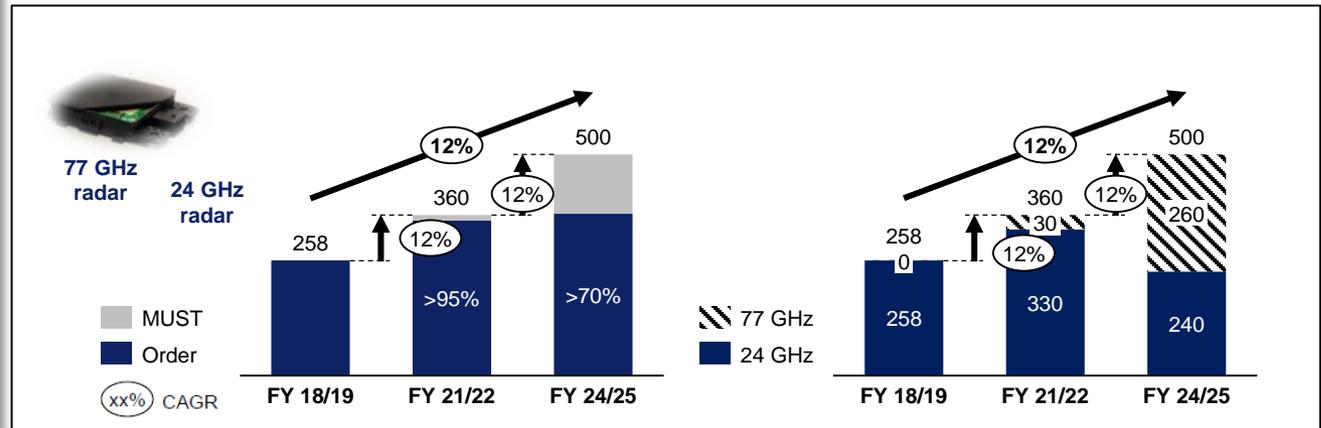
ORDER SITUATION EXAMPLE

- DC/DC & BMS strongly benefit from Hybrid and High Voltage trend in the coming years
- Mid-term growth strongly backed by orders, for FY 24/25 majority of tender still outstanding, thereof 60% with existing clients
- Shift from DC/DC to PowerPack 48V starting in FY 24/25 with sustainable growth and further ramp-up in the years beyond
- Market leader and with series production experience for complex BMS with excellent position to win business
- Radar growth driven by 24 GHz until FY 21/22; Growth beyond FY 21/22 coming from 77 GHz

ENERGY MANAGEMENT



AUTONOMOUS DRIVING



HELLA strives for prudent financing to secure business but also seeks shareholder participation in business success

A.3 Cash flow allocated to finance organic growth & bolt-on acquisitions

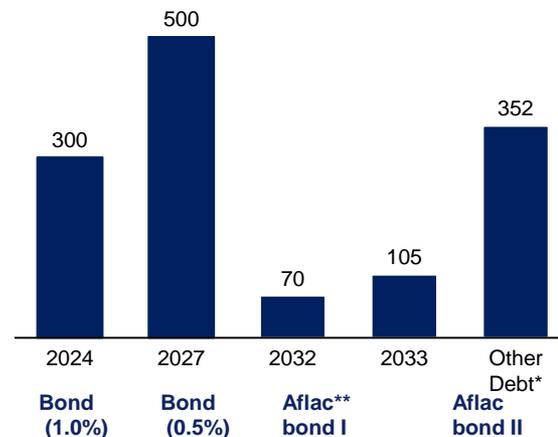
FINANCING PREMISES

- Financing stability with low leverage target: **NET DEBT/ EBITDA <1x**
- **Fully financed with long-term horizon**
- Keep **quality rating**

USE OF CASH

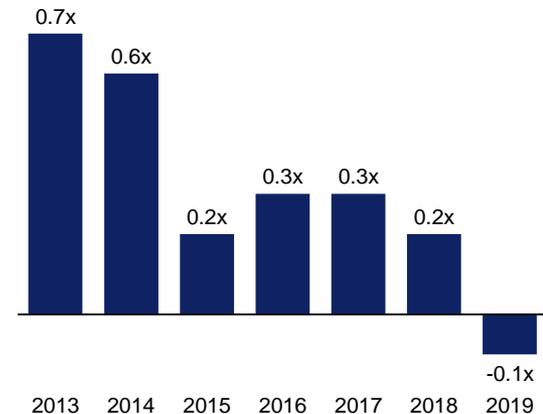
- **Continuity in dividend payments** envisaged
- Self-financed **organic growth**
- Possibility of **selected acquisitions** and to entering into **partnerships**

MATURE PROFILE



- **Successful refinancing** of EUR 500 mill. bond
- **Annual interest savings** approx. EUR 9 mill. with lower coupons
- **Flexibility** with undrawn revolving Credit (2022) of EUR 450m, refinanced with 10 core banks as **back-up facility**

NET DEBT/ EBITDA as of 31 May



- Adhered to **NET DEBT/EBITDA boundary in recent past**
- Last years with **continuous reduction** of **NET DEBT/EBITDA** ratio
- **Low leverage** secures room for maneuver

* Mostly long term debt; starting with Aug 2019 lease liabilities according to IFRS 16 ** Aflac bonds hedged values; Abbreviation for "American Family Life Insurance Company"

HELLA enforces consistent cost savings and structural improvements as basis for further investment in new technologies

B.1 Cost control and initiatives enforced 2018

COST CONTROL PREMISES	LEVER	INITIATIVES	IMPACT	OUTLOOK
<ul style="list-style-type: none"> Cost control measures monitored continuously and adopted depending on actual and outlook on market volumes Main levers are flexibilization of headcount, cost control (SG&A), structural improvements (implemented in time of limited growth) and the reduction of material costs Normalization of SG&A ratio around 9% Structural optimizations and purchasing program leading to improvement of Gross Profit Margin in coming years 	SG&A EXCELLENCE Reduce overhead and external costs	Stringent cost control focusing particularly on headcount, travel, IT, service provider, logistics as well as marketing costs globally	<ul style="list-style-type: none"> Savings of approx. 0.3ppt in FY 18/19 Further approx. 0.3ppt margin improvement H1 FY 19/20 	<ul style="list-style-type: none"> Strict continuation of cost control in foreseeable future Mid-long term release and continuous investments in IT system infrastructure
	Structural improvements establishing a business service organization to bundle corporate functions in designated hubs in best cost countries	<ul style="list-style-type: none"> Around 400 FTE (10% of CF) in scope, saving 0.2ppt in FY18/19 (mostly labor arbitrage) Approx. 0.1ppt margin improvement H1 FY 19/20 	<ul style="list-style-type: none"> Further transfer of functions and continuous improvement with reduced complexity and automation with high potential 	
	Freight and brokerage cost reduction with consolidated tendering and freight efficiency roadmap	<ul style="list-style-type: none"> Reduction of supplier base by 69% with savings 0.1ppt in FY 18/19 Approx. 0.2ppt margin improvement H1 FY 19/20 	<ul style="list-style-type: none"> Freight efficiency program continued from FY 19/20 to further increase efficiency, increase transparency, and harmonize requirements Relaunch of tender 	
	FLEXIBILIZATION OF HEADCOUNT Adjustment & flexibilization of headcount with regard to production volumes	Use headcount planning and flexibilization instruments on a month-by-month basis, depending on further market development	Headcount reduction (reporting staff) YOY ¹ <ul style="list-style-type: none"> FTEs by 1,650 incl. temps by 2,800 	<ul style="list-style-type: none"> Further adaption depending on market development
	RISING PURCHASING PERFORMANCE Next to commercial negotiation and design means on top stretch regarding material costs	Holistic material cost transformation: <ul style="list-style-type: none"> Fact based commercial negotiations (PPI & Bonus) Re-Design to Cost (DtC) Initiatives per BD e.g. "7 Levers" in Lighting 	<ul style="list-style-type: none"> Total savings in automotive purchasing of around 50 mill. EUR in FY 18/19 Approx. 30 mill. EUR additional price increases to be compensated in FY19/20 and targeted 	<ul style="list-style-type: none"> Further significant potential, period of favorable market conditions (falling prices, no shortages) used to generate further savings Compared to FY 19/20 higher savings in FY 20/21 targeted

1) per November 2019

Headcount program as key pillar to secure lean and flexible structures – continuation reflects market development

B.1 Deep Dive: World-wide headcount program with proven impact

HEADCOUNT PROGRAM

- **Program aims at different layers** depending on the type of personnel, their function and region
- **100% flexibilization of direct production personnel** targeted
- **Most possible flexibilization of indirect production personnel** maintaining stability of plants
- **Sales & Admin optimized** as part of the general **SG&A excellence** (automation & shared services)
- **Consequent management of R&D ratio** (e.g. best use of global R&D network)

HEADCOUNT excl. TEMPS	Nov 18/19	Nov 19/20	DELTA YoY	ACHIEVEMENTS	OUTLOOK
--------------------------	--------------	--------------	--------------	--------------	---------

PRODUCTION Direct	12,317	11,342	-8.6%	✓	In relation to sales decline of 2.3% over-proportional reduction
PRODUCTION Indirect	12,943	12,739	-1.6%	✓	Stability of plants and production must be secured
RESEARCH & DEVELOPMENT	7,706	7,828	1.6%	✓	Investments in R&D specialist in best cost countries
SALES & ADMIN	6,408	5,938	-7.3%	✓	BSO established with 4 centers
TOTAL	39,498	37,847	-4.2%	✓	

- **Reduction of working time accounts and temporary staff**
- **Flexibilization of direct OtD** via automation initiative
- **Leverage HR toolbox according needs** (e.g. short-time work, severance programs, early retirement)
- Further **shifts of function to Shared Service Center**
- **Only selected hiring** for administrative and sales functions
- **Digitalization of administrative processes**, e.g. payroll, learning administration

Improvement of purchasing performance is key to counter increasing material costs and to raise economic efficiency

B.1 Deep Dive: Strengthen Purchase Performance in Lighting

PURCHASING PERFORMANCE IMPROVEMENT

- **Set of measures to holistically change the need for material** and thereby reduce material costs
 - **Commercial negotiations and re-design to costs (Re-DtC)** as “standard” means
 - **Purchasing Projects on Business Division level**, e.g. “7 Levers” for Lighting
- **Purchasing department** as well as **product group management, production, R&D department** and **top management** involved
- **Material cost savings Lighting** expected to double in **FY 19/20**, further savings in **FY 20/21** targeted

Purchasing Improvement Lighting

**Commercial negotiation incl. bonus payments
Re-DtC**

Standard “Purchasing Toolkit”

“7 LEVERS”

Elimination of “over-specification”	Detection & challenging of “over-specification” of production process (e.g. packaging, testing, cleanliness) and products (e.g. tolerances)	Better fit specifications of heatsinks and Bare PCBs
HELLA Distribution	Systematic optimization of HELLA set part- and material management	Global consolidation of supply
Inbound Logistics	Systematic review Incoterms with supply base to optimize inbound logistic costs	Introduction of Area Forwarder Hubs
Localization	Systematic localization push and use of “B”-suppliers	Localization e.g. in China & Mexico
LEAN Approach	Systematic open book on site assessment (cycle time, scrap, weights, people, etc.)	LEAN workshops at selected suppliers
Material Optimization	Systematic review of mono- and polymer material substitution opportunities	Substitution of glass to silicon lenses
Market-tests (RFQ)	Systematic market-test (RFQ) assessment for all materials above a defined annual spend	Re-sourcing in all material groups

Further strengthening of purchasing performance

HELLA fosters automation with three main workpackages to improve flexibility and profitability of production

B.2 Early launch of Smart Automation program in lighting business

SMART AUTOMATION OVERVIEW

- With **increased quality of available CoBots**, and **other Automation** means ROI < 24 months is guaranteed
- Currently three Workpackages (WP)** defined, implemented sequentially in phases
- Over 400 use cases** already identified
- WP 1** with focus on brownfield production in **advanced implementation**
- WP 2 and 3** with **further significant potential**
- Global program** with world-wide **alignment** of all plants

WORK PACKAGE	STATUS	USE CASES	TARGETED HEADCOUNT REDUCTION
WP 1 Collaborative Robots (CoBots)	<p>Start Oct 18</p> <p>Advanced Implementation</p> <p>Jan 20</p> <p>Deep Dive</p>	~170	1,000
WP 2 CoBots and Preproduction	<p>Jun 19</p> <p>Start of implementation</p> <p>Nov 20</p>	~250	Final decisions along the identified use cases
WP 3 Modular Assembly-Lines	<p>Jan 20</p> <p>today</p> <p>Concept phase</p> <p>Nov 21</p>		

- WorkPackage 1** is focusing on **final assembly**
- WorkPackage 2** is focusing on **assembly and preproduction**
- WorkPackage 3** is focusing on **full line concept including partially automated logistics**

HELLA defined WP 1 with positive EBIT impact of approx. 6 mill. EUR in FY 19/20 – EBIT effect to triple incl. spill-over effects

B.2 WP 1 expected to support profitability in FY 19/20 by ~0.1ppt¹

SMART AUTOMATION WORK PACKAGE 1

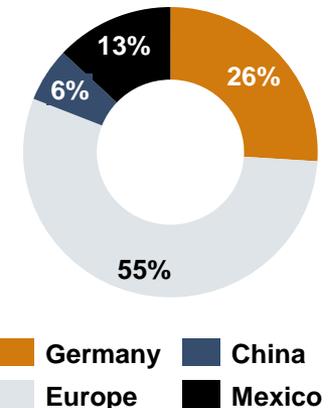
- **CoBots CAPEX** of approximately **22 mill. EUR** in FY 19/20
- **Payback time** of around **2 years**
- **Maintenance cost** and incremental manufacturing engineering costs for **CoBots** occur
- Headcount savings and thereby **savings of direct labor costs** realizable with less operators
- **Less non-quality expense** due to automated testing process give **additional cost savings potential**

ESTIMATION OF P&L EFFECTS

APPROXIMATION;
in mill. EUR

ITEM	FY 19/20	FY 20/21
Effective Costs	4.0	8.0
– Depreciation	1.0	3.0
– Maintenance & Incremental ²	3.0	5.0
Effective Savings	10.0	18.0
EBIT Impact	6.0	10.0³

REGIONAL SHARE HC REDUCTION FOR FY 19/20



- **WP 1 headcount reduction** via mostly **temporary workers** and **natural fluctuation**
- **More than 90 use cases** of WP1 already implemented
- Per January 2020 **over 350 headcount reduced, 800 in process** in FY 19/20

1) From mid point of FY 19/20 guidance 2) Manufacturing engineering for CoBots mainly in FY 19/20 3) excluding spill over effects from FY 19/20

Generation of Free Cash Flow crucial with tailored measures for Working Capital – program on track despite headwinds

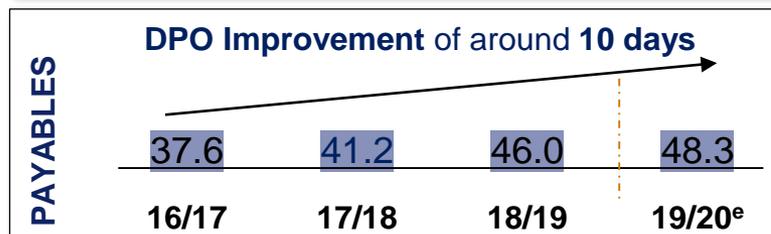
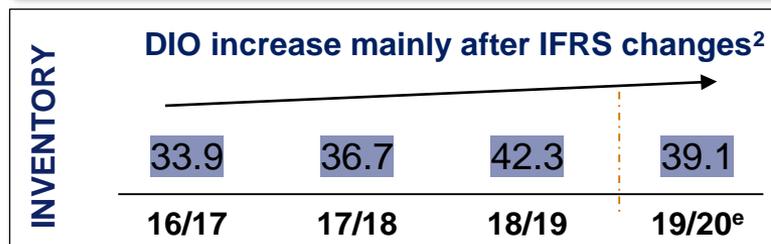
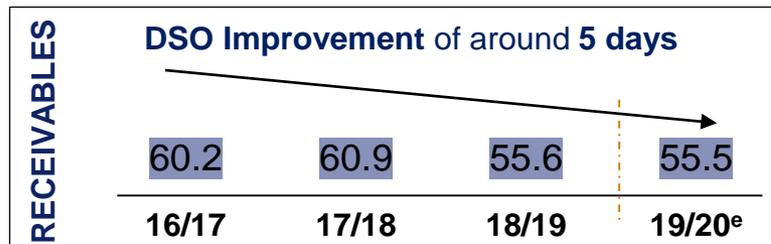
B.3 3ppt reduction to be achieved until end of FY 19/20

CASH CONVERSION PROGRAM

- Since initiation of program **committed improvements on track** with purely **operational measures**
- Improvement on DPO and DSO** as communicated
- Inventory market driven** at high level
- Until H1 FY 19/20 improvement of WC/Sales** by approx. 2.3ppt¹
- Further reduction** beyond FY 19/20 **possible** with **improvements on inventory and DPO**

ACHIEVEMENTS

SINCE INCEPTION UNTIL FY19/20e



PERSPECTIVE

- Market environment will put a **challenge on further improving DSO** while at the same time **pushing growth**

- Regional activities** to reduce operative inventory levels
- Roll out of **production planning project**

- Further potentials** for "re-negotiation" to be identified
- Consideration** of further **DPO improvement** means

- Actual improvements only first milestone**
- Continuous work to further **bring down ratio**

1) Normalized for seasonal effects, project stock and bank builds 2) excluding IFRS 15, flat development since FY 16/17

With strict savings & tailored investments, HELLA will be successful in the “new normal” market environment

Financial outlook



Capture profitable growth opportunities

A.1

HELLA R&D and CAPEX allocation **strengthens anchor business** and allocates **investments to growth and development** areas

A.2

HELLA generates **organic sales growth beyond LVP** with volume and value growth **based on strong market & technology position**

A.3

HELLA Balance Sheet ensures strong backbone to finance organic and inorganic growth

Strict cost & efficiency management

B.1

HELLA fosters a **stringent cost control programs** to **safeguard profitability** and free up means for future investments

B.2

HELLA focus on **automation and standardization** to **increase profitability** and **flexibility**

B.3

HELLA continuously focus on **improving Free Cash Flow generation**

- In the “New Normal” market environment HELLA is able to generate sales growth between 5-10%
- Profitability ratios of 8% and beyond are possible given successful savings and organic growth in the targeted range



Capital Markets Day 2020

Exceed Possibilities – Berlin, February 18, 2020

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10:30	30 min	Registration & Welcome	all
11:00	30 min	HELLA Group: Strategic Outlook	Dr. Rolf Breidenbach CEO
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	15 min	Market Place 2: Sensing II: SHAKE & PM2.5	Marco Döbrich
	15 min	Market Place 3: HD Light Design	Dr. Carsten Wilks / David Duhme
	15 min	Market Place 4: Front of the car	Alexander Kujumdshiev
	15 min	Market Place 5: The Drivery	Timon Rupp
16:00		End of Capital Markets Day 2020	
16:15-17:00 optional		Tour through THE DRIVERY	Timon Rupp Managing Director, The Drivery GmbH

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The lighting business of HELLA is well positioned and tailored towards major automotive market trends

HELLA Lighting – Overview

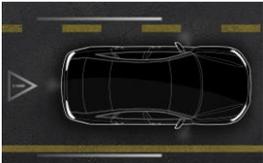
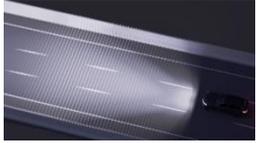
HELLA LIGHTING

KEY FACTS



SALES FY 2018/2019	€ 3,230 mill
SALES CAGR since FY 2013/2014	8.2%
# EMPLOYEES	19.350
# PLANTS*	17
# R&D CENTER*	14

PORTFOLIO – MAJOR PRODUCTS FOR MARKET TRENDS

EFFICIENCY & ELECTRIFICATION 	AUTONOMOUS DRIVING 	CONNECTIVITY & DIGITALIZATION 	INDIVIDUALIZATION 
 <p>BiLED / BI MATRIX</p>  <p>1 ROW MATRIX</p>  <p>2, 3 ROW MATRIX</p>  <p>SSL 100 / SSL HD</p>	 <p>Safety projections</p>  <p>Autonomous Driving Mode</p>  <p>Radomes</p>	 <p>SSL HD</p>  <p>Animation / Dynamization</p>  <p>Optical Sensor Support</p>	 <p>Ambient lighting</p>  <p>Tunnel light system</p>  <p>Edgelight</p>

* Without JVs

HELLA's leading position in the automotive lighting market is based on four major success factors

Key success factors

EFFICIENCY & ELECTRIFICATION



AUTONOMOUS DRIVING



CONNECTIVITY & DIGITALIZATION



INDIVIDUALIZATION



COMPREHENSIVE AND MODULAR PORTFOLIO



TECHNOLOGY LEADERSHIP AND CUSTOMER EXPERIENCE



STRONG PARTNERSHIPS



INDUSTRIALIZATION KNOW-HOW AND OPERATIONAL EXCELLENCE

By launching a “world headlamp” HELLA is able to reduce complexities and realize portfolio efficiencies

Modular Portfolio – World Headlamp: SSL 100

MOTIVATION

Develop a global headlamp solution with new strategic portfolio opportunities

Market situation



Standard module headlamp for global vehicle with multiple optical systems, modules and individual module development

Innovation



World wide module headlamp for global vehicle with single optical system, one module and single module development

SOLUTION

World Headlamp: SSL 100



UNIQUE SELLING PROPOSITION

- **Modular** and **standardized** headlamp module allowing for **highest possible integration across various vehicle models**
- Can be offered to customers in a **scalable manner** on **individual customer** requirements
- Standardization opportunities to **improve product** and **project maturity**
- Takes up **significantly less space in vehicle architecture** compared to Matrix LEDs
- **Reduces product complexity and costs on** for HELLA and end-customers

STATUS & NEXT STEPS

- **Miniaturized** matrix module with **advanced, large-scale integrated optical systems**
- 102 switchable CSP LEDs in 4 rows as building blocks for a **flexible beam solution** allowing for **highest performance**
- “Free-Form” pixel geometry to ensure high degree of
- **Start of Production in June 2020**

By promoting advanced lighting solutions HELLA offers unique customer experience and strengthens its technology leadership

Technology Leadership – Digital Light: SSL | HD

MOTIVATION

Offer an exceptional customer experience with distinct key technologies and unique functionalities



First to market launch to create **unique customer experience** and **significant value-add**



Strengthen **technology leadership** and HELLA's perception as **technology player**



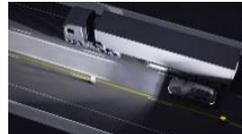
Address the **digitalization trend** of light functions with **digital lighting innovations**



Enable **new business model opportunities** with possible **pay per use software functions**

SOLUTION

Digital Light: SSL | HD



UNIQUE SELLING PROPOSITION

- Integrated, „**intelligent**“, pixelated LED as SSL | HD light sources with **over 30.000 individually controllable** pixels leading to **increased precision**
- Full-field-of-view high definition adaptive driving beam headlamp lighting with **ultra-compact light source** and **flexible module design**
- **Unique and attractive functionalities** for individual customer use cases
 - **optical lane assistant** to support safe and stable vehicle guidance
 - **projection of protection areas** for e.g. cyclists or pedestrians
 - **coming** and **leaving-home animations**

STATUS & NEXT STEPS

- **First series order** acquired; **SOP mid 2022**
- Further **roll-out** by utilizing „**first-to-market**“ advantages
- **Possible roll-out** of **best cost module** for volume segment

Based on the open cooperation with Plastic Omnium, HELLA works on comprehensive front-of-the-car solutions

Strong Partnerships – Plastic Omnium







L-Electronics



Car Body Lighting



Co-working space Berlin

Bumpers

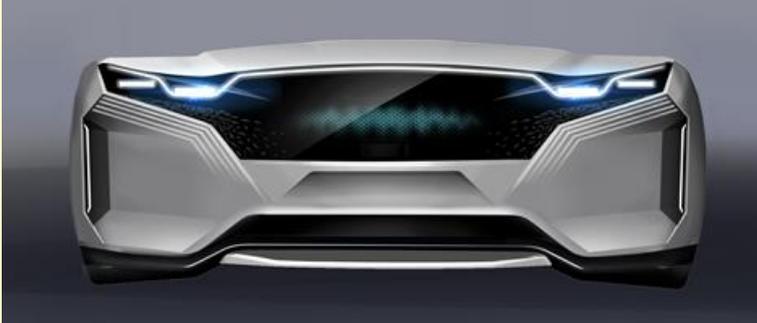


Tailgates



Body panels





ADAS Light



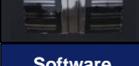
HL*-Modules



Radome (heated)



Software



Light carpet



Actuators



Sensor cleaning



ADAS sensors



Large radar transparent panel



LIDAR transparent panel



Communication panels



Docking station for ADAS





For software (incl. artificial intelligence)



For Lidar



AD system

JIS / JIT



Complex assy



HBPO as JV of PO (66%) and HELLA (33%) with full focus on just-in-time assembly of front-end modules

Current scope:

- MoU signed on Jan. 18
- Non-exclusive strategic cooperation to jointly develop and globally promote innovative integrated solutions that combine exterior plastic parts and lighting
- Target: create and market joint innovations and execute these in project-specific collaborations

Possible extension of collaboration scope:

"Car body lighting around the car including large panels with radome/lidar transparency" (including front/rear/doors but excluding today's HELLA radome business for rather small emblems)

Together with Faurecia, HELLA offers advanced and innovative solutions for the vehicle interior

 Strong Partnerships – Faurecia

MARKET SITUATION

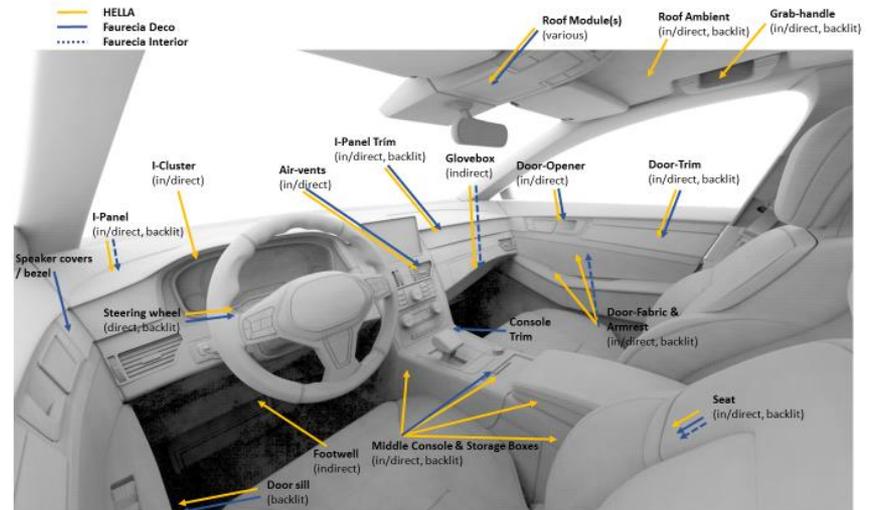
- Increasing importance of advanced ambient lighting and integrated surfaces over the next years
- Potential shift in awarding process for complete Interiors as Package towards one “single point supplier”

APPROACH



faurecia

- Joint target to **disrupt automotive interior market** through advanced surface/smart lighting solutions
- **Complementing product offerings** of HELLA and Faurecia with existing customer and market access
- **Streamlined logistics**, and **processes** to realize value chain opportunities and cost savings
- **Use-case driven approach**
- **Balanced non-exclusive relationship**



By rolling-out a smart automation approach, HELLA further strengthens its quality and competitiveness in lighting

Industrialization and operational excellence – Smart Automation

Measures



- Identification of **global use cases** that show optimization potential in the production process and roll-out in **three work packages (WP)**



WP1 – Collaborative Robots
Focus: **BROWNFIELD**



WP2 – Collaborative Robots and Preproduction
Focus: **BROWNFIELD/ GREENFIELD**



WP3 – Modular automated Assembly-Line/ Standardization
Focus: **GREENFIELD** (less **BROWNFIELD**: Main Focus Preproduction)

- Implementation of **tailored robotic solutions** up to a **modular automated assembly-line**
- **Strict measurement of potential impact** of direct labor cost and non-quality expense savings
- Stringent **Design for Manufacturing approach** to consider future technology production

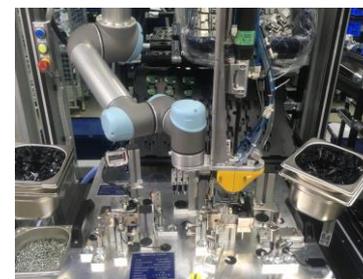
Use cases



Exemplary WP1 implemented use cases

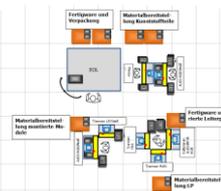


CoBot implementation at lighting development and production plant in Ljubljana, Slovenia.



CoBot used in headlamp manufacturing process in Mohelnice, Czech Republic.

Possible WP1 use cases



Current state: Manual assembly and testing process with manual transfer between working station, requiring several operators in several shifts.

vs.

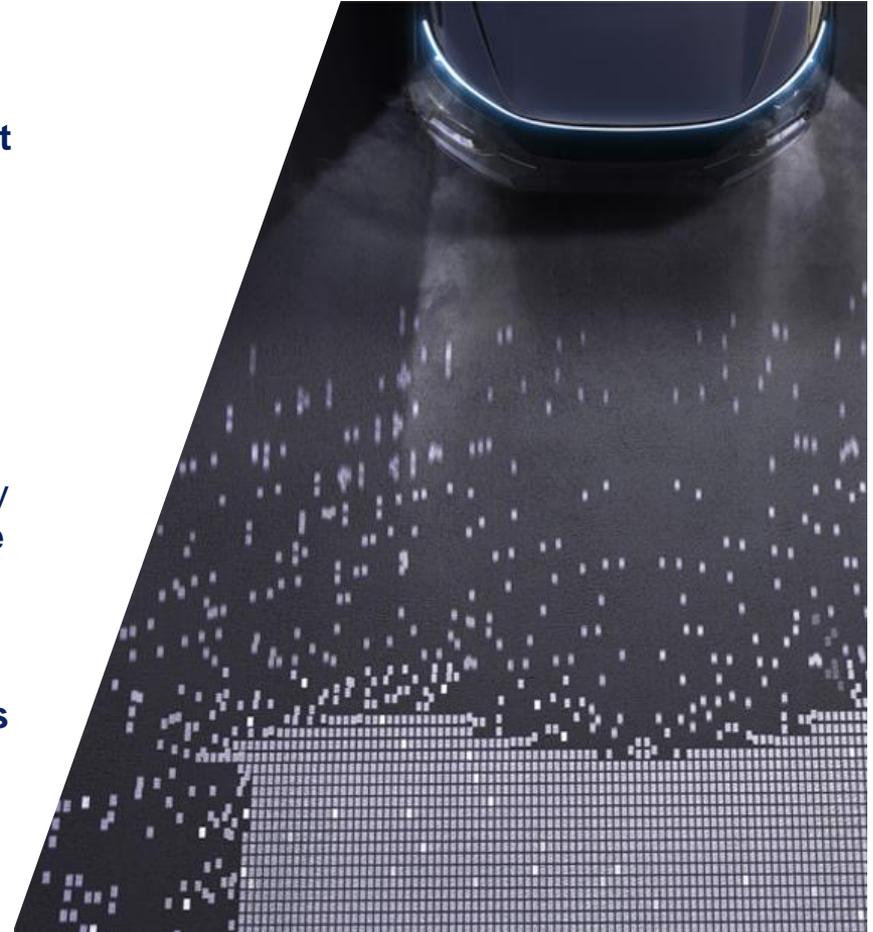


Planned state: Implemented automatic assembly, testing and transfer solution with no operators and significantly increased production speed.

HELLA's lighting business is well positioned to capture further growth opportunities

HELLA Lighting – Key Takeaways

- 1** HELLA focuses on an **exceptional customer experience** and promotes **unique selling propositions** with **distinct and innovative product solutions**
- 2** HELLA expands its reach by **balancing out the lighting product portfolio** with a **modularization and standardization approach**
- 3** HELLA strengthens its competitiveness by further increasing **operational excellence** through **increased smart automation**
- 4** HELLA offers **complex system solutions together** with its **partners** as a “**one system supplier**” solution



Capital Markets Day 2020

Exceed Possibilities – Berlin, February 18, 2020

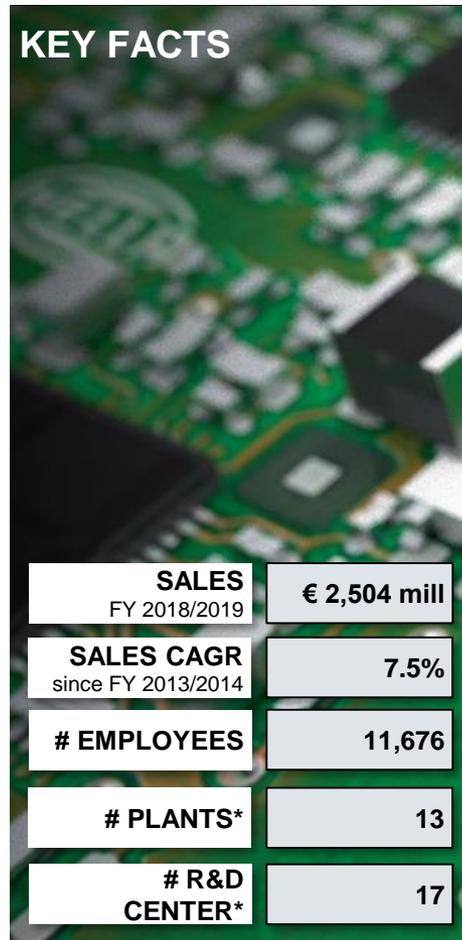
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16:15-17:00 optional		Tour through THE DRIVERY	Timon Rupp Managing Director, The Drivery GmbH

HELLA's electronics provides large opportunities thanks to a broad portfolio for major market trends and basic requirements

HELLA Electronics – Overview

HELLA ELECTRONIS

KEY FACTS



SALES FY 2018/2019	€ 2,504 mill
SALES CAGR since FY 2013/2014	7.5%
# EMPLOYEES	11,676
# PLANTS*	13
# R&D CENTER*	17

* Without JVs

PORTFOLIO – MAJOR PRODUCTS FOR MARKET TRENDS

EFFICIENCY & ELECTRIFICATION 

Battery Sensor

Voltage Converter

Battery Management System

Dual Voltage Battery Management

Charge Actuators

Motor Position Sensor

Thermal Management

AUTONOMOUS DRIVING 

24 GHz Radar

77 GHz Radar

SHAKE

Camera Software

Steering Electronics

CONNECTIVITY & DIGITALIZATION 

Radio Transmission Keys

PM2.5

Passive Access Systems



BASIC MOBILITY 

Accelerator Pedal Sensor

Position Sensors

Temperature Sensor

Headlamp Cleaning Systems

Vacuum Pumps

Rain Light Sensor

Medium Sensors

Engine Compartment Actuator (ECA)

Body Actuators

HELLA's strong market position in electronics is based on four central success factors

Key success factors

EFFICIENCY &
ELECTRIFICATION



AUTONOMOUS
DRIVING



CONNECTIVITY &
DIGITALIZATION



SUPERIOR BASE TECHNOLOGY

WITH VAST VARIETY OF APPLICATION



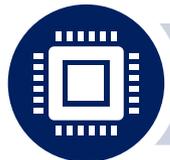
MODULAR DESIGN

FOR FLEXIBLE CUSTOMER SPECIFIC SOLUTIONS



SUB-SYSTEMS BASED ON COMPONENTS EXPERTISE

FOR FAST / FIRST TO MARKET SOLUTIONS



ADVANCED SOFTWARE SOLUTIONS

TO ENABLE FURTHER FUNCTIONS AND DIGITAL ADD-ON SERVICES



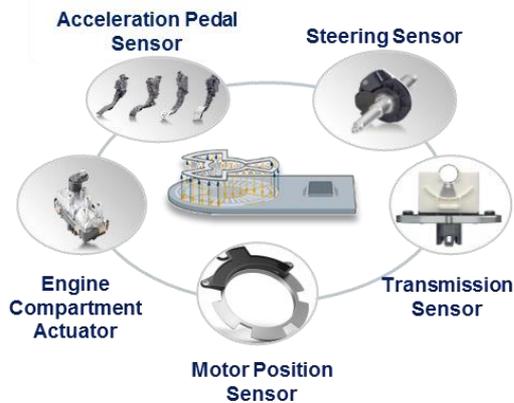
BASIC MOBILITY

CIPOS as strong base technology for basic mobility as well as electrification and autonomous driving

Basic mobility: Multi-use Motor Position Sensor

BASIS Innovative Contactless Inductive Position Sensor (CIPOS)

- Contactless position detection by using electromagnetic alternating fields
- Temperature-independent, mechanical and EMC robustness
- Over 800 million sensors in field



FURTHER DEVELOPMENT Multi-use Motor Position Sensor (MPS)



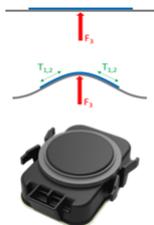
STATUS & NEXT STEPS

- First applications of MPS with major Tier 1 in field
- Volume roll-out end of 2020
- In the next step development of a standard MPS platform for wide variety of applications in high volume markets

HELLA's SHAKE sensor enables various new customer-specific functionalities and add-on cloud services

Autonomous Driving: Further use cases for SHAKE Sensor

BASIS Innovative Structural Health and Knock Emission (SHAKE) Sensor



Recognizes vibrations on its contact surface via piezoelectric elements

- Type of wave
- Frequency
- Energy
- Duration (transient waves)
- Stationarity (forced excitation)

Enables various customer-specific functionalities, e.g.

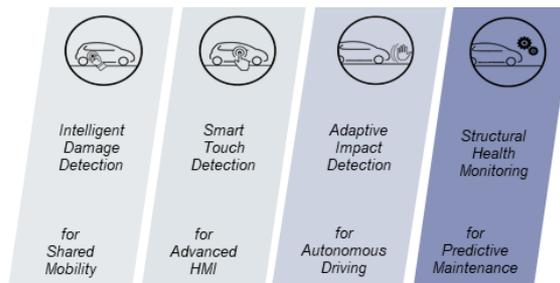
First SOP
implemented in
Porsche 911 for
wetness detection



Second SOP
input for highway
pilot for premium
customer in 2020



FURTHER DEVELOPMENT Further use cases and add-on cloud services



OUTLOOK

- **Multi-use sensor with modular approach enables various use cases**
- **Enables functionalities for safety, comfort and autonomous driving**



STATUS & NEXT STEPS

- **Volume roll-out road condition sensing as of 2021**
- **Development of enhanced road condition functionalities**
- **Roll out of further use cases**

HELLA is launching an innovative 77 GHz radar platform based on its leading position in 24 GHz radar sensing

Autonomous Driving: 77 GHz Radar Platform

BASIS

Leading position in 24 GHz radar sensing

- **Pioneer** in the field of **24 GHz automotive radars** for rear applications; over **30 million sensors manufactured** since 2006
- **Implementation of driver assistance systems** (e.g. blind spot detection, Lane change assistant, rear cross traffic alert) in **all automotive segments**
- **World-wide homologation** as **perfect fit for global platforms**

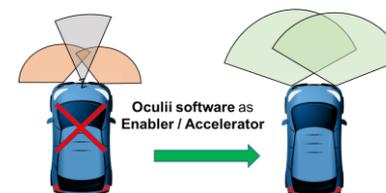


FURTHER DEVELOPMENT 77 GHz Radar Platform

 <p>• Cost optimized, e.g. for NCAP</p>	 <p>• Truck, e.g. turn assist (via ZF cooperation)</p>
 <p>• Performance Driven (70m), e.g. for automated parking</p>	 <p>• Performance Driven (150m), e.g. for highway pilot</p>

- **Scalable platform** for the **flexible implementation of NCAP and AD functionalities**
- **High performance and range**
- **Compact design and convenient vehicle integration for 360° environment perception**

OUTLOOK: Development partnership with Oculii to enhance performance



STATUS & NEXT STEPS

- **Preparation and implementation of the upcoming production ramp-ups for truck and passenger business, SOP April 2020**
- **Enhance performance of 77 GHz radar and substitute central radar for NCAP applications with Oculii** (market introduction planned for 2023)

HELLA develops innovative sub-system solutions for the fast growing mild hybrid market



Electrification: Dual Voltage Battery Management System

BASIS

Strong position in components business for power and battery electronics



Voltage Converters enable **bi-directional energy transfer** at high and intermediate power levels with **efficiency rate > 97%**



High Voltage Battery Management Systems ensure the **safe and reliable functioning** of lithium-ion batteries



Partnership network
e.g. for **battery** and **battery cell production**

FURTHER DEVELOPMENT

Dual Voltage Battery Management System



- Enables **savings of 5 to 6 grams CO2/km**
- Allows **efficient conversion** of vehicles with **internal combustion engines** to a **mild hybrid**
- Combines **12 V and 48 V battery**, as well as **voltage converter** within a **single product**
- Requires only the **existing package space** of a **conventional lead-acid battery**

STATUS & NEXT STEPS

- **Successful simulation** and **testing verification** for **CO2 saving potentials**
- **Further specification** in the **context** of **customer-specific development projects**, e.g. focusing on
 - **design** of the **air-based cooling concept** with **new prototype**
 - **redundant design** for **requirements** of **automated driving**
- **Market introduction** expected for **2024**

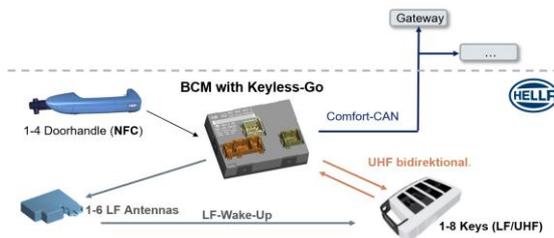
HELLA develops safe and comfortable vehicle access systems based on Ultra Wide Band

@ Digitalization: Smart Car Access

BASIS

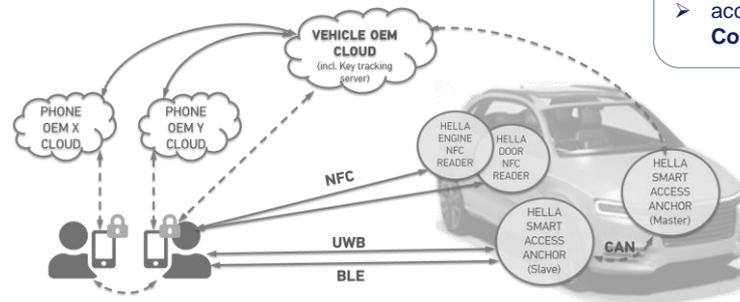
High expertise regarding radio keys and passive access systems

- More than **20 million radio keys** and **5 million systems produced annually**
- One of the **global market leaders** in the field of car access based on
 - system integration** competence
 - high safety level** and **protection against misuse** and **unauthorized vehicle access**
- Access solution based on **LF/UHF and NFC**



FURTHER DEVELOPMENT

Smart Car Access



- **IOS and Android compliant**
- acc. **Car Connectivity Consortium (CCC)**

COMFORT:
complete **hands-free activation** via Smartphone; **key sharing** and **personalized features**

SECURITY:
precise UWB localization to complete **protection** against **relay attacks** (Thatcham compliant)

SAFETY:
monitors **safety-relevant functions**, e.g. **autonomous parking**; no **unintended use**

STATUS & NEXT STEPS

- Presentation at IAA 2019** and at **CES 2020** together with an **Asian electronics company**
- Currently in development** with **European lead customer**
- Market launch expected in 2022**

The electronics business is well on track and profiting already today from major automotive market trends

HELLA Electronics – Key Takeaways

- 1** The electronics business is **continuing** to be a **major growth driver** for HELLA
- 2** The **business benefits** from a **strong technological base** that **addresses both core requirements** and **central market trends**
- 3** To fully **capture growth chances**, the electronics business is subject to **constant development towards focused subsystems** and **digitalized possibilities**



Capital Markets Day 2020

Exceed Possibilities – Berlin, February 18, 2020

TIME	TOPIC	WHO	
10:30	30 min	Registration & Welcome	all
11:00	30 min	HELLA Group: Strategic Outlook	Dr. Rolf Breidenbach CEO
11:30	30 min	HELLA Group: Financial Outlook	Bernard Schäferbarthold CFO
12:00	30 min	Q&A-Session	Dr. Rolf Breidenbach / Bernard Schäferbarthold
12:30	45 min	Lunch	all
13:15	20 min	Lighting: Pioneering technologies and customer solutions	Marcel Bartling Member of the Executive Board Business Division Lighting Product Centers Rear Combination Lamps, Interior & Car Body Lighting
13:35	20 min	Electronics: Key technologies for future mobility	Michael Jaeger Member of the Executive Board Business Division Electronics Product Center Components
13:55	20 min	Q&A-Session	Marcel Bartling / Michael Jaeger
14:15	15 min	Coffee Break	all
14:30	90 min	Market Places	all
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