



Technology with Vision

# Capital Markets Day 2019

**Passion for Clean Mobility**

Hamm, February 14, 2019



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# Capital Markets Day 2019

## Passion for Clean Mobility – Hamm, February 14, 2019

TIME		TOPIC	WHO
09:00	30 min	Registration & Welcome	all
09:30	30 min	HELLA Group: <b>Strategic Outlook</b>	<b>Dr. Rolf Breidenbach</b> CEO
10:00	20 min	HELLA Group: <b>Financial Outlook</b>	<b>Bernard Schäferbarthold</b> CFO
10:20	40 min	<b>Q&amp;A-Session</b>	<b>Dr. Rolf Breidenbach / Bernard Schäferbarthold</b>
11:00	45 min	Early Lunch	all
11:45	20 min	Trend Efficiency & Electrification <b>Our Passion for Clean Mobility</b>	<b>Björn Twiehaus</b> Member of the Executive Board Business Division Electronics Product Center Energy Management
12:05	20 min	Trend Efficiency & Electrification <b>HELLA Perspective on China</b>	<b>Frank Petznick</b> Member of the Executive Board Business Division Electronics Electronics China & Global Product Center Automated Driving
12:25	20 min	Trend Efficiency & Electrification <b>Manufacturing Excellence</b>	<b>Gerold Lucas</b> Member of the Executive Board Business Division Electronics Operations
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13:15	15 min	Coffee Break	all
13:30	75 min	<b>Market Places &amp; Plant Tour</b>	<b>all</b>
	15 min	<b>Market Place 1: Voltage Stabilizer / DC/DC Converter</b>	<b>David Küpper</b>
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	15 min	<b>Market Place 5: On Board Charger / BMS</b>	<b>Dr. André Körner / Benjamin Schoening</b>
14:45	30 min	Coffee Break & Farewell	all
15:15		End of Capital Markets Day 2019	

# The market environment for the global automotive industry is changing fundamentally



## Major market developments and implications

### CURRENT MARKET CHALLENGES



#### Worsening economic environment

- **Slowdown of global economic growth<sup>1</sup> 2019**  
Forecast as of Jul. 2018  Forecast as of Jan. 2019  
-40 basis points
- **Trade restrictions**, e.g. US/China, US/Europe still in discussion
- **Political uncertainties**, e.g. unsettled Brexit scenario, Italian debt crisis

#### Flattening industry outlook

- **Decline of global light vehicle production<sup>2</sup> FY18/19**  
+2.7% Forecast as of Jul. 2018  -2.6% Forecast as of Jan. 2019
- **Significant downturn especially in China** FY 18/19  
+4.2% Forecast as of Jul. 2018  -7.2% Forecast as of Jan. 2019
- **Regulatory impacts**, e.g. stricter CO<sub>2</sub> and NOx emission targets, ban of combustion engine cars

#### Transformation of automotive industry

- **Automotive trends are gaining speed, especially**  
 AUTONOMOUS DRIVING  EFFICIENCY & ELECTRIFICATION
- **China as global "frontrunner"** for trend acceleration
- Increasing number of **new players** and **partnerships** in industry



**Major implications to be considered:**

- Automotive **growth cycle** of the past years **is over**
- Growth engine **China loses speed**
- **Dissolution of established business models and customer portfolios**
- **Content value increase** towards **electronics**

<sup>1)</sup> IMF World Economic Outlook <sup>2)</sup> IHS



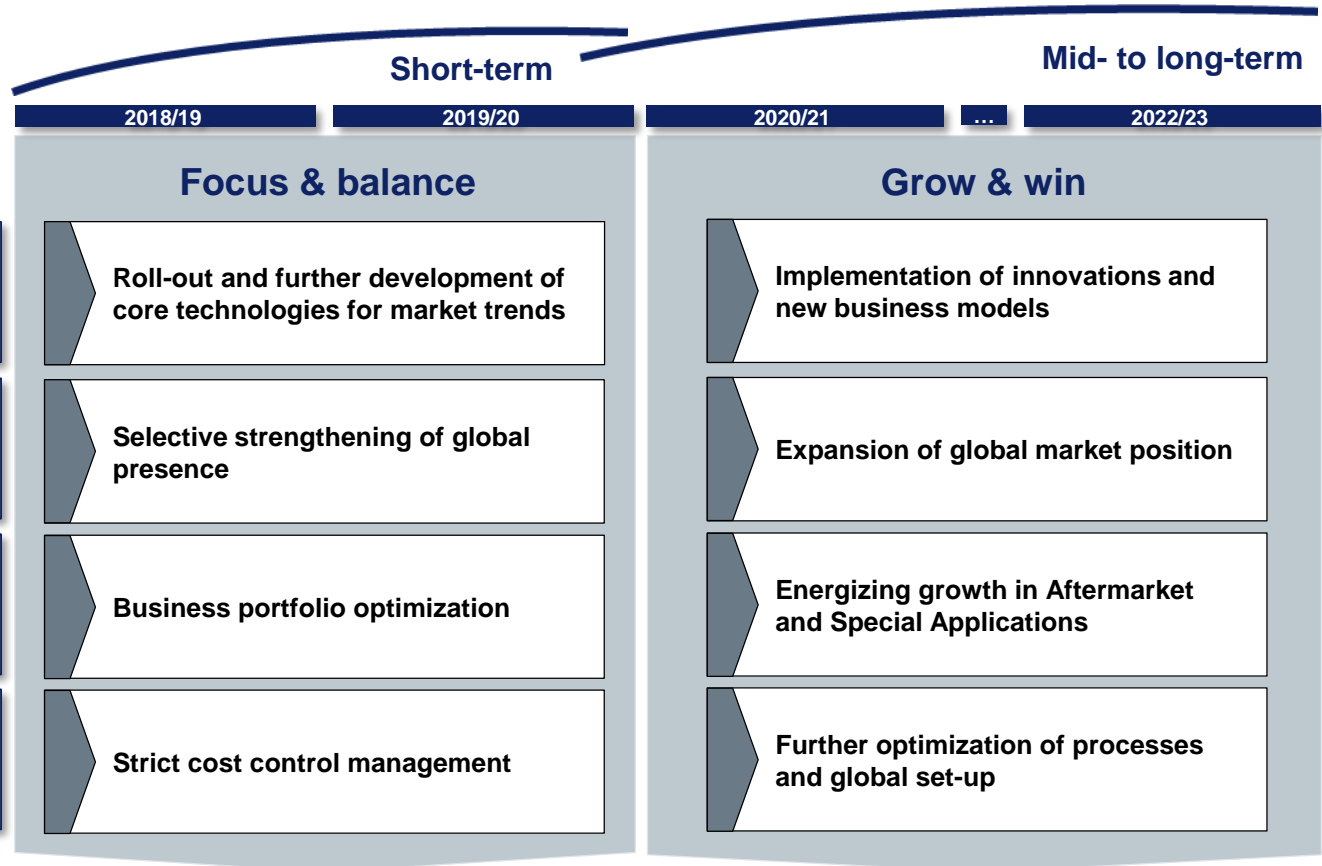
# The basic pillars of HELLA's strategy are still valid, but to cope with current market challenges HELLA has to adapt its behavior

## HELLA strategic perspective



### STRATEGIC FOUNDATION PILLARS

<b>A</b>	<b>Technology Leadership</b>
<b>B</b>	<b>Market Leadership</b>
<b>C</b>	<b>Resilient Portfolio</b>
<b>D</b>	<b>Operational Excellence</b>




# HELLA continues to invest in major market trends to expand innovation leadership and benefit from industry transformation


## A Technology Leadership

### MAJOR MARKET TRENDS

**AUTONOMOUS DRIVING**




**EFFICIENCY & ELECTRIFICATION**



**CONNECTIVITY & DIGITALIZATION**



**INDIVIDUALIZATION**



Short-term		Mid- to long-term		
2018/19	2019/20	2020/21	...	2022/23
<b>Roll-out and further development of core technologies</b>		<b>Implementation of innovations and new business models</b>		
<b>Strengthen position as component supplier with a complete portfolio in the area of sensing</b> <ul style="list-style-type: none"> <li>Roll-out of 24 GHz and 77 GHz radar components</li> <li>Realize camera software potential (focus on Levels 1-3)</li> <li>Complete product portfolio, e.g. SHAKE, LiDAR</li> </ul>		<b>Expand component strategy with system approach</b> <ul style="list-style-type: none"> <li>Become subsystem supplier for specific AD functions linking camera software and radar</li> <li>Offer specific functions as software product “on demand”</li> <li>Develop new lighting functionalities for AD scenarios</li> </ul>		
<b>Focus and strengthen business with components for different powertrain concepts</b> <ul style="list-style-type: none"> <li>Drive global product roll-out for ICE and hybrids, e.g. DC/DC converters, Intelligent Battery Sensors</li> <li>Roll out specific solutions for fully electrified vehicles, e.g. battery management systems</li> </ul>		<b>Enlarge product portfolio with new solutions addressing all stages of electrification</b> <ul style="list-style-type: none"> <li>Push subsystems for Mild Hybrids, e.g. Dual Voltage Battery Management, PowerPack 48V, On Board Charger</li> <li>Extend business model for Electrical Power Steering, e.g. shift to fail operational ECUs</li> </ul>		
<b>Roll-out digital product solutions</b> <ul style="list-style-type: none"> <li>Push market penetration of HD Matrix LED headlamp technologies</li> <li>Introduce new digital diagnostic services for workshops, e.g. digital multifunctional glasses</li> </ul>		<b>Offer new digital business models</b> <ul style="list-style-type: none"> <li>Further leverage digital innovations from HELLA incubator network and ventures ecosystem</li> <li>Introduce new mobility solutions for the Aftermarket, e.g. business models for fleet management and insurances</li> </ul>		
<b>Push market penetration of lighting-based styling features</b> <ul style="list-style-type: none"> <li>Introduce customizable interior lighting concepts with RGB LED modules of the second generation</li> <li>Further roll-out of multi-lense-array solutions for light projections, e.g. welcome scenarios</li> </ul>		<b>Advance business with comprehensive interior and car body lighting solutions</b> <ul style="list-style-type: none"> <li>Accelerate interior lighting solutions for a personalized cockpit environment</li> <li>Drive holistic integration of lighting technologies into the vehicle exterior</li> </ul>		

# HELLA's 77 GHz radar family approach covers almost all market needs for assisted and automated driving

## A Technology Leadership – Autonomous Driving

### AUTONOMOUS DRIVING



### EXAMPLE:

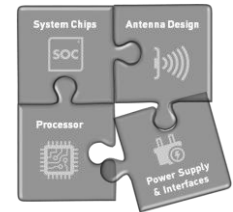
### MODULAR PLATFORM APPROACH FOR 77 GHZ RADAR

#### MARKET SITUATION

- **24 GHz radar is common technology** for standard assistance functions
- **77 GHz radar** is satisfying requirements for **Assisted and Automated Driving**
- **Replacement of 24 GHz radar by cost effective 77 GHz “System on Chip”** solutions has already **started**
- **Highest volume growth driven by NCAP and level 2/3 functionalities** in price driven market for standard corner radars
- **Mid/high performance** solutions needed for **higher automation levels (L3+)** based on cost competitive, modular, scalable sensors and system designs

#### HELLA APPROACH

- **Further roll-out of successful 24 GHz radars**
- **Offering 77 GHz radar platform as component or system business** from HELLA sales channels or with cooperation partner ZF
  - **Modular platform** (focus on different interfaces)
  - **Scalable** sensor solutions (processor performance & antenna set-up)
  - Maximize **synergies** (focus on reuse of SW components)
  - **Flexible** software deployment (decentralized or centralized functions)



#### 77 GHz radar product family



➤ **Unique Selling Proposition** with performance driven **150m corner range radar sensor**

#### KEY ACHIEVEMENTS

- **Key supplier for 24 GHz radar** with more than 20 million sensors on the market; **booked business will more than triple HELLA's volume**
- **77 GHz radar platform under development:** successful business acquisition for **passenger cars** (premium & volume) and **Truck**
- **Pre-development phase for next generation technologies** (e.g. "Antenna on Chip") and **parking Application** with Premium OEM

# HELLA offers scalable camera software platform for NCAP and advanced ADAS functionalities

## A Technology Leadership – Autonomous Driving

### AUTONOMOUS DRIVING



### EXAMPLE: FRONT CAMERA SOFTWARE

#### MARKET SITUATION

- Transition to **Automated Driving increases penetration rates of cameras**<sup>1</sup>

~20 million cameras 2020 → 2x → ~40 million cameras 2025

- Especially **growth in NCAP market accelerating**, pushing **front camera market** size to<sup>1</sup>

~3.5bn US\$ in 2025

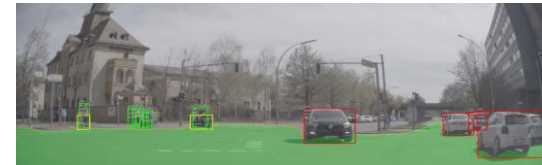
- OEMs push vehicle intelligence** and **sensor demand** in Europe and NSA, **governmental push** in China for ICV and intelligent infrastructure
- OEM customers require** camera software to offer **L3+ scalability**

#### HELLA APPROACH

- Flexible, scalable approach** from cost optimized (NCAP) to complex image processing functions (L3)
- Differentiated customer approach** depending on level, customer freedom of choice for vision and SOC IP and creating own USP
- Attractive **price per function** model
- Increasing function portfolio:**



AI based vulnerable road user and automatic emergency braking in low cost NCAP camera



AI based wide Field of View L2/L3 camera perception on ultra-low power System On Chip (SoC)

#### KEY ACHIEVEMENTS

- Camera software series launch for NCAP market** with major European OEM
- Successful acquisition of series orders**, e.g. L2+ camera software with European OEM, L1 camera for Chinese OEM, testing services for Korean Tier1
- NCAP software offering available on platforms of 4 semiconductor partners**
- Successful demonstration of new AI based L2/L3 perception function** on ultra low-power SoC and Camera-lidar integration on AEye next generation lidar **at CES2019**

<sup>1</sup>) Strategy Analytics

# HELLA has the chance to become one of the top-3-ECU suppliers for Electrical Power Steering

## A Technology Leadership – Efficiency & Electrification

### EFFICIENCY & ELECTRIFICATION

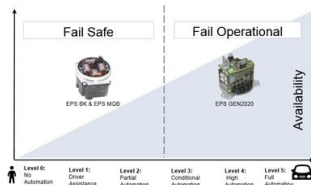


### EXAMPLE: ELECTRICAL POWER STEERING (EPS)

#### MARKET SITUATION

- Stricter CO<sub>2</sub> targets are driving market penetration of EPS in passenger cars
- EPS acts also as enabler technology for automated driving

- EPS ECUs with higher reliability needed (“fail operational” instead of “fail safe”)



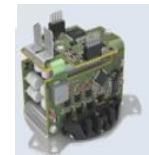
- Transition from fail safe to fail operational will drive growth of EPS ECU market
- Penetration of EPS into heavier vehicles possible

#### HELLA APPROACH

- Extend business model from partial EPS ECU supplier to full range development
  - Built to print
  - ECU co-design
  - Full ECU design
- Unique Selling Proposition through proven reliable electronic design, industrialization and development know-how
- Intensify focus on steering technology for automated driving solutions
  - Pursue shift from “fail safe” to “fail operational” product portfolio
  - Strengthen position in steer-by-wire solutions (e.g. Steering Wheel Actuator, Road Condition Detection)



Fail Safe



Fail Operational

#### KEY ACHIEVEMENTS

- Strong established business relation as independent Tier-2 EPS ECU supplier
- Pre-development projects on fail operational ECU successfully concluded; already awarded serial development by major steering supplier, potential market entry 2020
- Strategic partner for pre-development of advanced automated steering solutions

# HELLA is working on innovative mobility solutions along the digital Aftermarket value chain

## A Technology Leadership – Connectivity & Digitalization

### CONNECTIVITY & DIGITALIZATION



#### EXAMPLE:

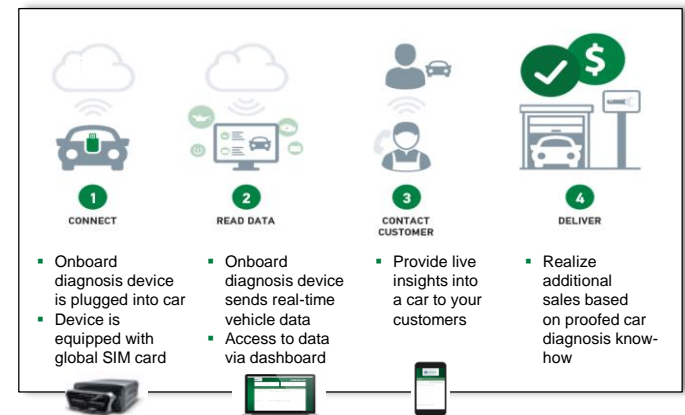
#### MOBILITY SOLUTIONS WITH DIGITAL SERVICES FOR WORKSHOPS

##### MARKET SITUATION

- **Share of digital-related revenues expected to triple to almost 20 percent in the global automotive aftermarket until 2030<sup>1</sup>**
- **OEMs are increasing invest in car driver retention with connected vehicles**
- **IAM and Intermediates require an open interface into the vehicle**
- **Retrofit dongle solutions available** in a highly fragmented market of telematics suppliers
- **No common standard** (hardware or software) for **dongle retrofit solution** with varying degrees of quality

##### HELLA APPROACH

- **Create tailor-made maintenance and repair offers reducing waiting times and downtime** by passing vehicle data (e.g. tire pressure, battery condition) on to independent repair shops without prior workshop visit
- **Introduce B2B remote, retrofit onboard diagnosis solution** (with Dongle) based on standardized hardware
- **Utilize existing data** from stationary diagnostics to improve telematics solution
- **Build customer segment specific use cases**, e.g. for fleet companies



##### KEY ACHIEVEMENTS

- **Leading position for stationary diagnostics and repair services** in DACH
- **Partnership with San Francisco based telematics start-up CarForce** established
- **Pilot solutions** to enable workshops to manage connected cars **already running in EU**
- **Launch of fleet solution and driver app** planned for 2019

<sup>1</sup>) McKinsey&Company, The changing aftermarket game, Advanced Industries, June 2017

# HELLA offers innovative lighting designs and functionalities for the inside and outside of the car

## A Technology Leadership – Individualization

### INDIVIDUALIZATION



### EXAMPLE:

### TAILORED CAR BODY AND INTERIOR LIGHTING SOLUTIONS

#### MARKET SITUATION

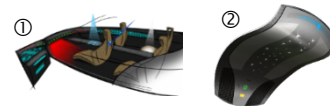
- Increasing **demand for personalization** of vehicle
- **Lighting is becoming a key styling element of the vehicle exterior** and is **penetrating** all car segments
- Interior solutions with **increasing complexity** due to styling demands and functionalities focused on individualization
- Introduction of **functions on demand**, e.g. multicolor illuminations in- and outside
- Both interior and exterior lighting solutions **support sensor** operations for **complex use cases**, e.g. auto pilot

#### HELLA APPROACH

- Offer **innovative designs** and **functionalities enabling integrated solutions and connectivity** for the **inside** and **outside** (front, end, side) car

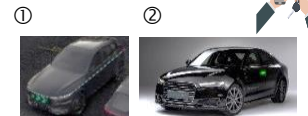
##### INTERIOR OF THE CAR

- **Smart light as information carrier**, supporting various driving scenarios and occupant modes<sup>1)</sup>
- **Roof Module** with added functionalities and seamless design<sup>2)</sup>



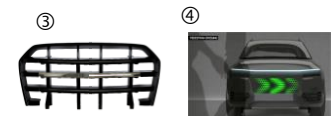
##### SIDE OF THE CAR

- **Side AV communication and safety**, e.g. Contour illumination<sup>1)</sup>
- **Electric integration** with remote control / smart phone<sup>2)</sup>



##### FRONT OF THE CAR

- **“Light from nowhere”** with semi transparent lenses for metallic appearance and logo animations<sup>3)</sup>
- **Front panel interactions** to communicate V2X<sup>4)</sup>

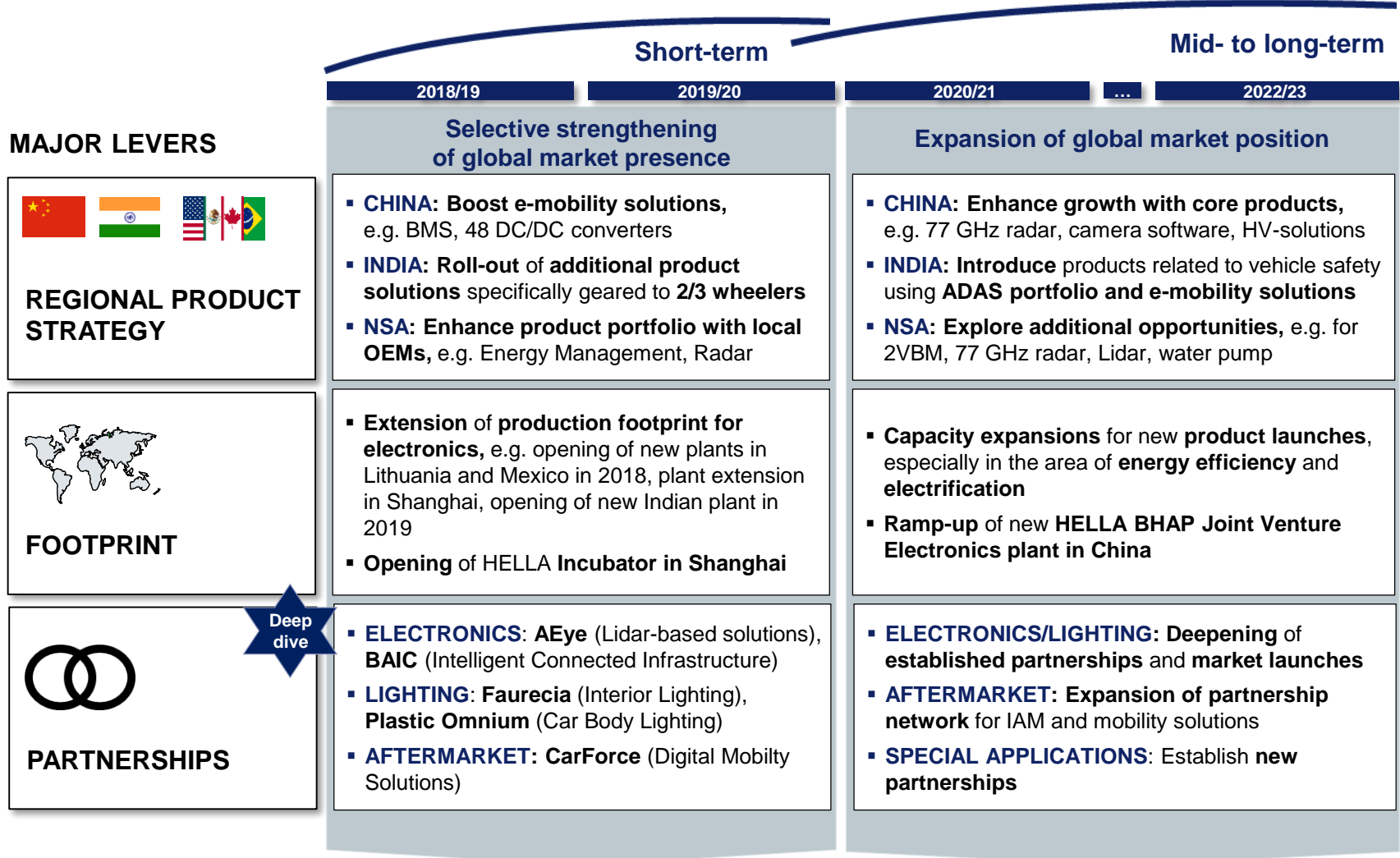


#### KEY ACHIEVEMENTS

- **Expansion of customer base for light projections** (with multi lense array solutions), e.g. for welcome scenarios
- First **customer orders** for **illuminated logo/radome**
- **Series developments** for **advanced ambient illumination** and **advanced roof module**
- **Next generation of grille illumination** available, first customer projects in development
- **Strategic partnership** with **Faurecia** for interior and **Plastic Omnium** for exterior solutions










# HELLA strengthens its leading position by tailored market strategies and expansion of its global network

## B Market Leadership



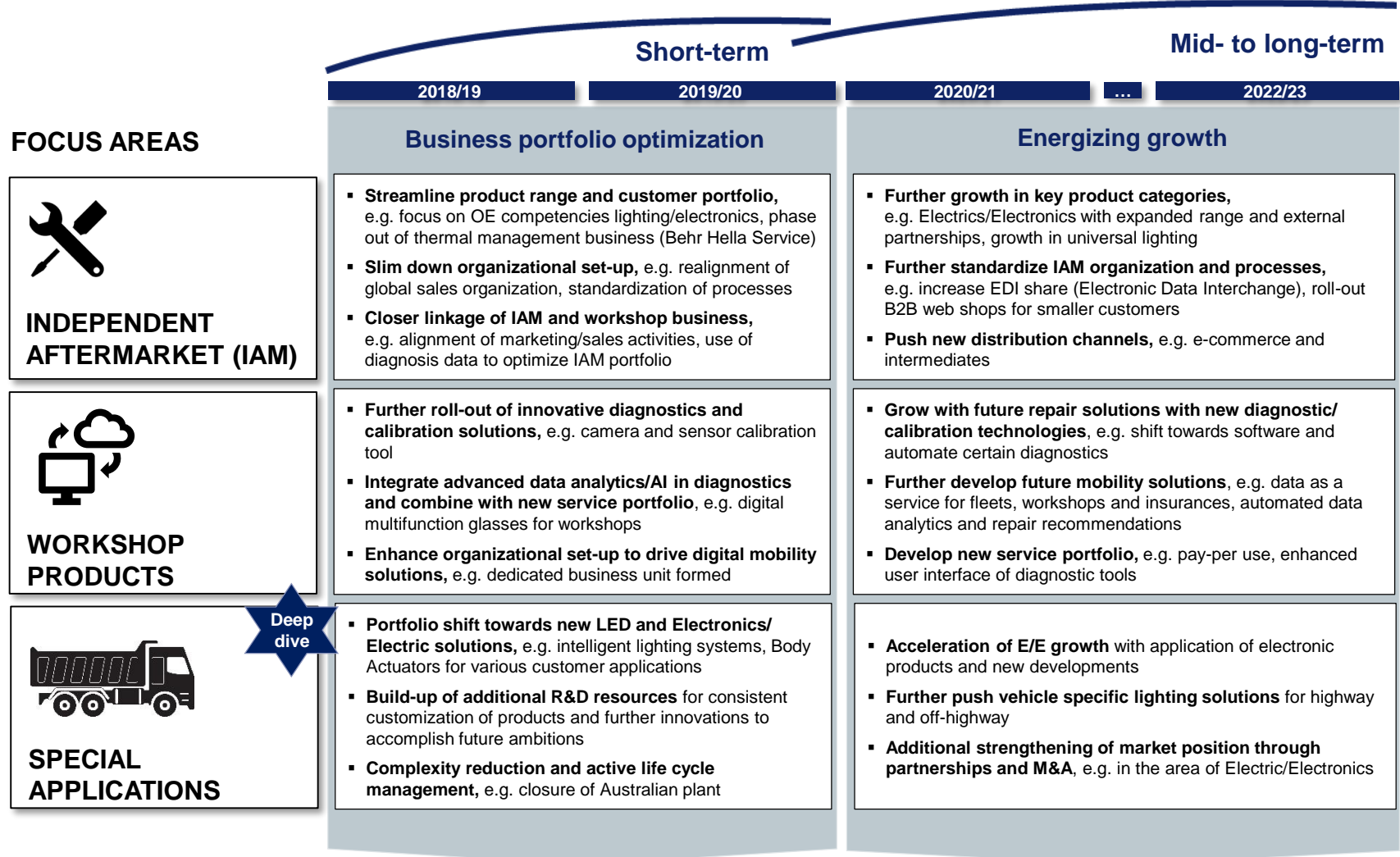
# HELLA is establishing additional open partnerships to further enhance innovation speed and efficiency and capture growth chances

## B Market Leadership – Latest partnerships

FIELD OF COOPERATION	HELLA CONTRIBUTION	PARTNER CONTRIBUTION	SCOPE OF PARTNERSHIP
INTERIOR LIGHTING	 <ul style="list-style-type: none"> <li>Innovative products and proven expertise in the field of <b>interior lighting</b>, e.g. (dynamic) interior lighting solutions to support drivers safety and comfort</li> </ul>	 <ul style="list-style-type: none"> <li>Innovative solutions for the cars interiors</li> <li>Expertise as a <b>complete system integrator</b> for vehicles</li> </ul>	 <ul style="list-style-type: none"> <li><b>Interior lighting solutions</b> for a comprehensive personalized cockpit environment (“cockpit of the future”)</li> <li><b>Joint development</b> with special focus on surface-lighting and dynamic-lighting</li> <li><b>First results demonstrated</b> at Paris Motor Show 2018</li> </ul>
CAR BODY LIGHTING	 <ul style="list-style-type: none"> <li>Advanced <b>know-how</b> with respect to <b>light-based styling features</b> and functionalities for the car body exterior</li> </ul>	 <ul style="list-style-type: none"> <li><b>Competence</b> regarding design, development, and assembly of front and rear exterior body systems</li> <li>Special know-how in plastics processing</li> </ul>	 <ul style="list-style-type: none"> <li>Holistic, innovative <b>integration of lighting technologies into the vehicle exterior</b>, especially for the front and rear areas</li> <li><b>Bundling of dedicated development resources at one site</b> planned</li> </ul>
LIDAR	 <ul style="list-style-type: none"> <li><b>Automotive experience</b></li> <li>Know-how in <b>embedded software</b></li> <li><b>Image processing</b> expertise</li> <li><b>Industrialization</b> capabilities</li> </ul>	 <ul style="list-style-type: none"> <li><b>iDAR™ technology</b>, new form of intelligent data collection that fuses LIDAR with a low-light HD camera and embedded AI to intelligently capture data at the sensor level</li> </ul>	 <ul style="list-style-type: none"> <li><b>Customized sensing and perception solutions</b> for ADAS and Automated Driving based on LIDAR sensor and iDAR™ system development</li> <li><b>First results demonstrated</b> at CES 2019</li> </ul>

# HELLA shapes its Aftermarket and Special Applications business to ensure further growth

## C Resilient Portfolio



# HELLA is leveraging its strong OE competence to target groups in Special Applications

## c Resilient Portfolio – Special Applications

### SPECIAL APPLICATIONS

### EXAMPLE: LEVERAGE OF OE LIGHTING & ELECTRONICS EXPERTISE

#### MARKET SITUATION

- **Increasing demand for tailored LED and E/E solutions** for special vehicles, e.g. buses, construction vehicles, agrotechnical vehicles
- **Stronger demand for system competencies**
- **Small car manufacturers** like e-car manufacturers **are gaining more and more relevance** for HELLA as **major target group** in Special Applications
- **Small car manufacturers** often ask for “**bundle solutions**” enclosing lighting and electronics components

#### HELLA APPROACH

- **Leverage HELLA's strong OE competence to special vehicles**

##### LIGHTING

- **Drive LEDfication**, e.g. LED headlamps & work lights
- **Develop innovative lighting solutions**, e.g. application of intelligent lighting for SOE customers, communication via projection technologies

##### ELECTRONICS

- **Apply established OE electronics portfolio**, e.g. actuators, sensors, accelerator pedal sensor, energy management solutions
- **Extend product range with innovative E/E solutions** incl. ramp-up of application engineering and R&D resources, e.g. medium sensors
- Strengthen market position by **strategic partnerships** as well as **M&A approach**

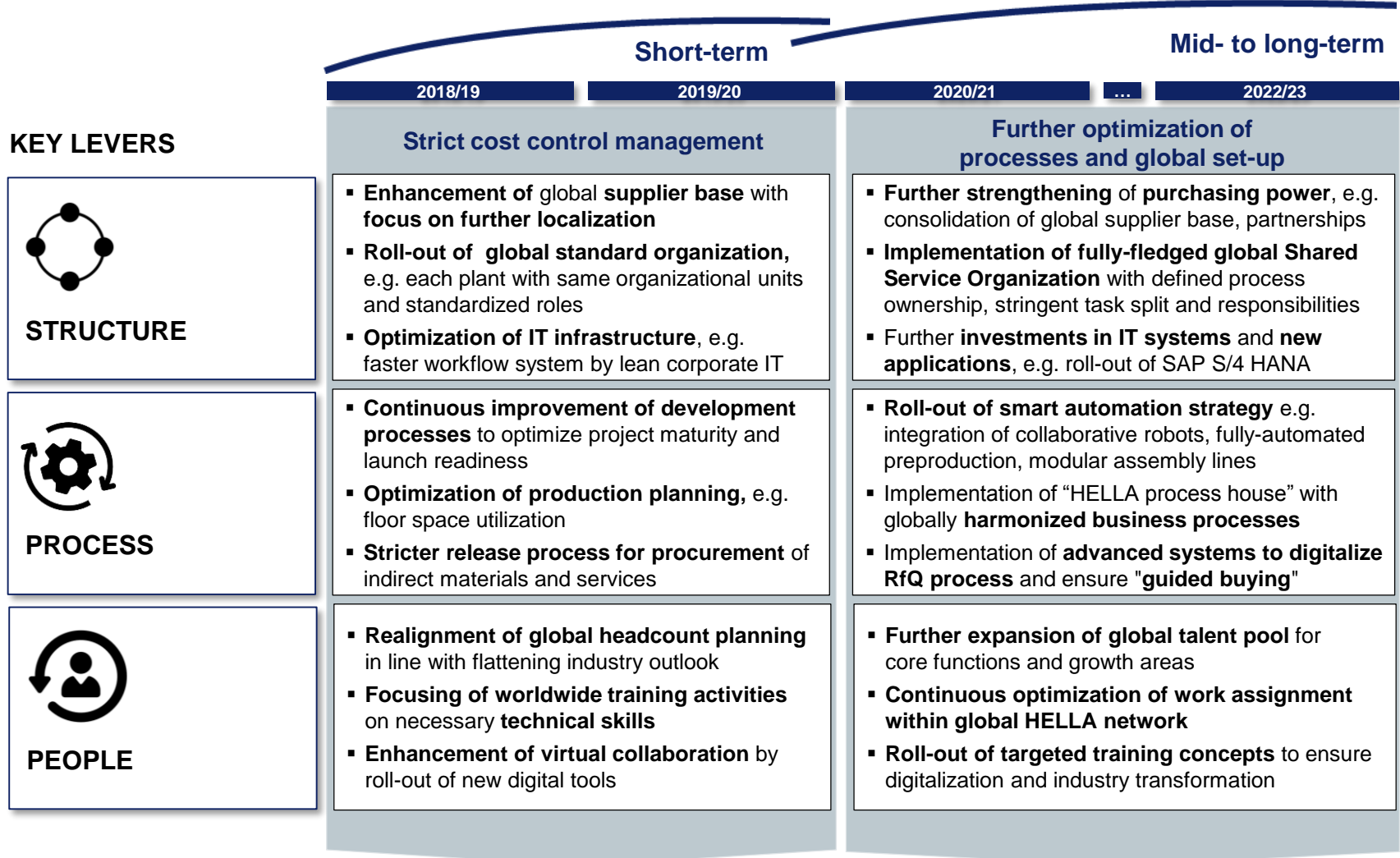


#### KEY ACHIEVEMENTS

- **Customized intelligent lighting solution**, e.g. for Aston Martin and Marco Polo busses
- **Market launch of projection technology VISIOTECH**
- **Successful roll-out of core E/E products**, e.g. intelligent battery sensor, rain/light sensor
- **Development of first radar application initiated**

# HELLA strengthens its global competitiveness by continuously advancing its corporate set-up and processes

## D Operational Excellence



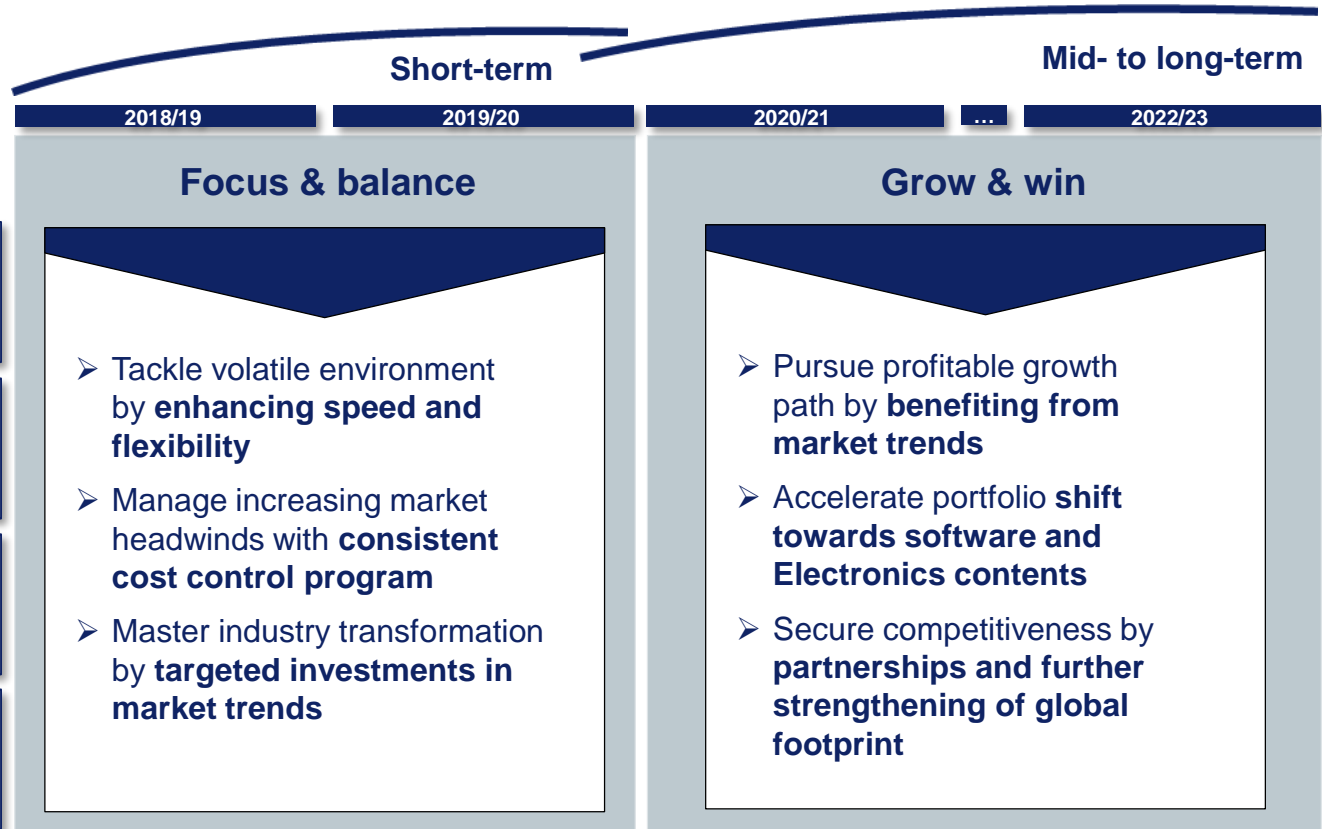
# HELLA is well prepared to continue its success path despite a more challenging market environment with lower growth rates

## Strategic Outlook



### STRATEGIC FOUNDATION PILLARS

<b>A</b>	Technology Leadership
<b>B</b>	Market Leadership
<b>C</b>	Resilient Portfolio
<b>D</b>	Operational Excellence



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14:45	30 min	Coffee Break & Farewell	all
15:15		End of Capital Markets Day 2019	

# The changing market environment has to be incorporated into HELLA's financial drivers action plan

## Major market developments and financial implications

### CURRENT MARKET CHALLENGES

#### Macroeconomic

- **Worsening of general economic indicators in core markets**
- **Increasing trade restrictions and tariff payments**
- **Weakening of several currencies, e.g. Renminbi**
- **Increasing raw material prices and rising labor costs**

#### Microeconomic

- **Declining global light vehicle production by 2.6%**
- **Stricter regional regulatory requirements, e.g. potentially higher local content according to USMCA**
- **OEMs with strict control of budgets towards accelerating investment needs in autonomous driving and electrification**
- **Shortage of certain components and well-qualified specialists**



**Major implications to be considered:**

- **Increasing market risks** require **short-term responsiveness** and **strict cost control**
- **Missing volume growth** requires **stringent portfolio management** by **focusing more on content/value growth areas**
- **Acceleration of autonomous driving and electrification** in combination with **strong order book** require **high R&D and CAPEX spending** in **supporting products and technologies**
- **Further intensification of partnerships** and **M&A** to **strengthen technology and market leadership**

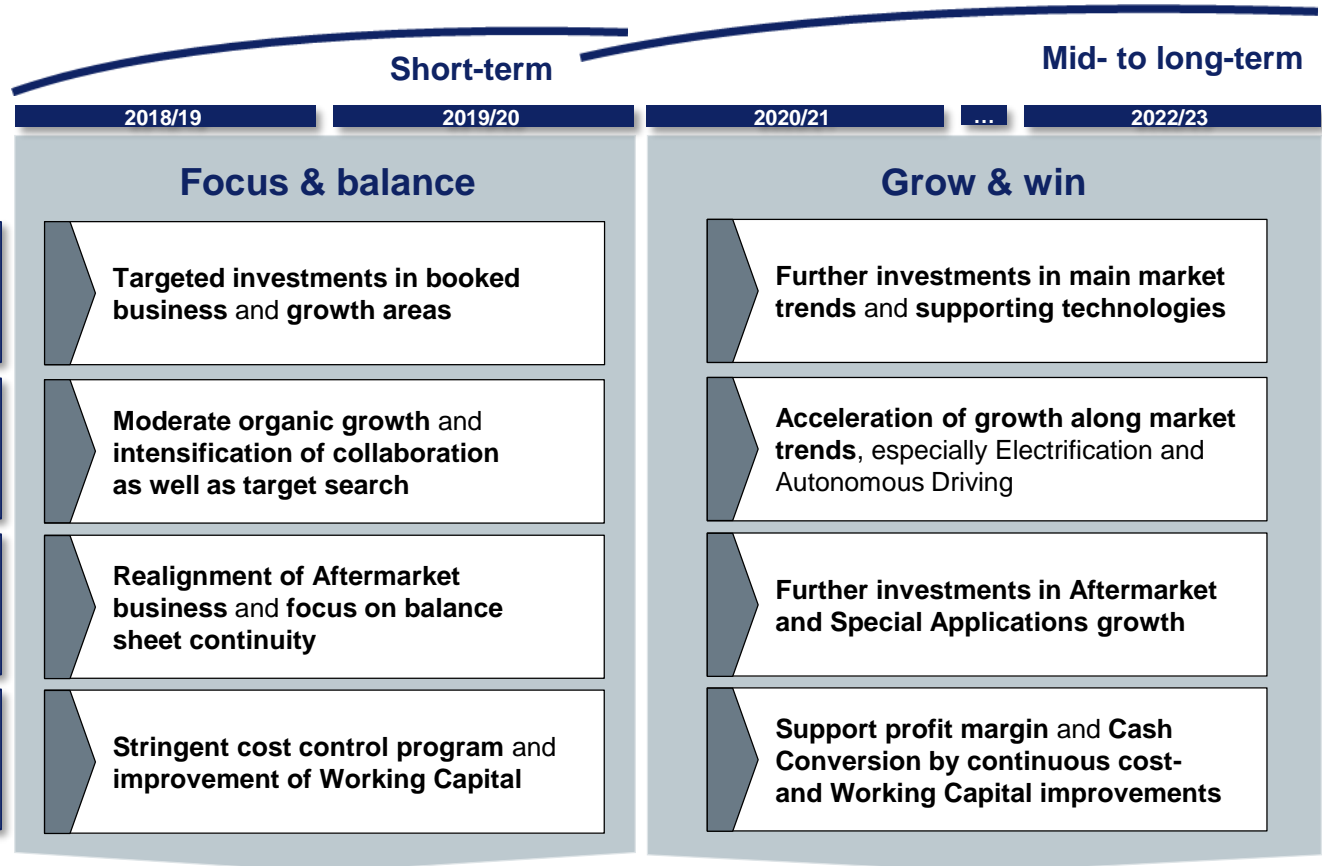
# HELLA's mid- to long term target is to continue its profitable growth path despite increasing market headwinds

## HELLA's financial drivers action plan



### FINANCIAL DRIVERS

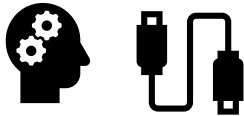
- A** Continuously strong investments in R&D and CAPEX
- B** Continuous **organic sales growth** and selective M&A
- C** **Balanced portfolio** and **prudent financing**
- D** **Tailored measures** for GPM, SG&A and FCF generation



# HELLA is currently allocating its R&D and CAPEX spending mainly on booked business and major growth areas

## A Continuously strong investments in R&D and CAPEX

### FINANCIAL DRIVERS



#### R&D RATIO



#### CAPEX / SALES

	Short-term		Mid- to long-term	
	2018/19	2019/20	2020/21	2022/23
	Targeted investments in booked business and growth areas		Further investments in main market trends and supporting technologies	
	<ul style="list-style-type: none"> <li>Focus on <b>order book fulfillment</b> with majority of R&amp;D investments in developing booked business</li> <li><b>Active steering of R&amp;D budget</b>, differentiated allocation of means to innovation, growing and harvesting product categories</li> </ul>		<ul style="list-style-type: none"> <li>Further rollout of <b>established product and technology portfolio</b> e.g. electronics component business</li> <li>Focus on benefitting from <b>autonomous driving and electrification</b> with intensified R&amp;D investments</li> </ul>	
	Ratio increase driven by lower leverage possible to >10%		Normalization of R&D Ratio on targeted level of around 9.7%	
	<ul style="list-style-type: none"> <li><b>CAPEX</b> investment in <b>booked business</b>, short term only limited capacity expansion</li> <li><b>Efficient CAPEX allocation</b> and flexibilization of production <b>crucially important</b>, focus on re-use of equipment, automatization, and platform concepts</li> </ul>		<ul style="list-style-type: none"> <li>Further investment in <b>capacities</b> especially with <b>acquisitions</b> of subsystem business in <b>Electronics</b></li> <li><b>Overall easing of relative CAPEX requirements</b> with growing electronics business</li> </ul>	
	CAPEX/Sales ratio possible to >8%		Mid- to long-term target ratio unchanged at around 7.5%	

# HELLA's mid- to long-term growth perspective is intact, but short-term slowdown of growth expected due to lacking market support

## B Continuous organic growth and selective M&A

### FINANCIAL DRIVERS



#### ORGANIC GROWTH



#### M&A AND PARTNERSHIPS

### Short-term

### Mid- to long-term

2018/19

2019/20

2020/21

...

2022/23

#### Moderate organic growth and intensification of collaboration and target search

**Growth potential with existing product portfolio despite lower market volumes**

- **Core products and new technologies with strong potential**, e.g. energy mgmt. sensors, and interior
- **LED penetration ongoing**, standardized solution in focus

**Market driven slowdown of growth expected for FY 19/20**

#### Acceleration of growth along market trends

**Trend acceleration building a momentum for electrification and automated driving**

- **Electronics growing** with core portfolio and new business portfolio
- **Growth within Lighting** tailored to opportunities in Interior and CBL, headlamp with take rats shift to more standardized solutions offering lower content

**Higher growth dynamics targeted for FY 20/21 onwards**

Deep dive

#### Existing partnerships and intensified M&A in focus

- **Develop existing partnerships** (e.g. BAIC, Plastic Omnium & Faurecia) and enter market
- **Target screening** for all segments especially **Electronics, Special Applications** and **diagnostics**

**Ramp-up of existing and new partnerships**

#### Development of partners and further M&A to secure future growth

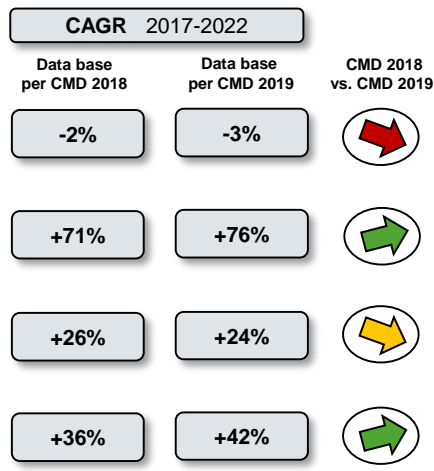
- Further **strengthen partnership network** and **harvesting**
- **Potential M&A transaction** to secure marketed and technology leadership position and to continue profitable growth path

**Expand and monetize partnership network**

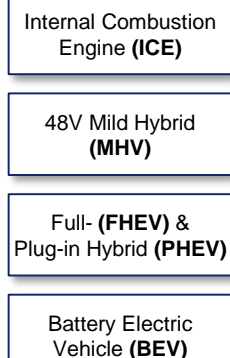
# HELLA is energizing its long-term profitable growth path by offering attractive products for all stages of electrification

## B Organic growth – Efficiency & Electrification

Number of manufactured vehicles\*

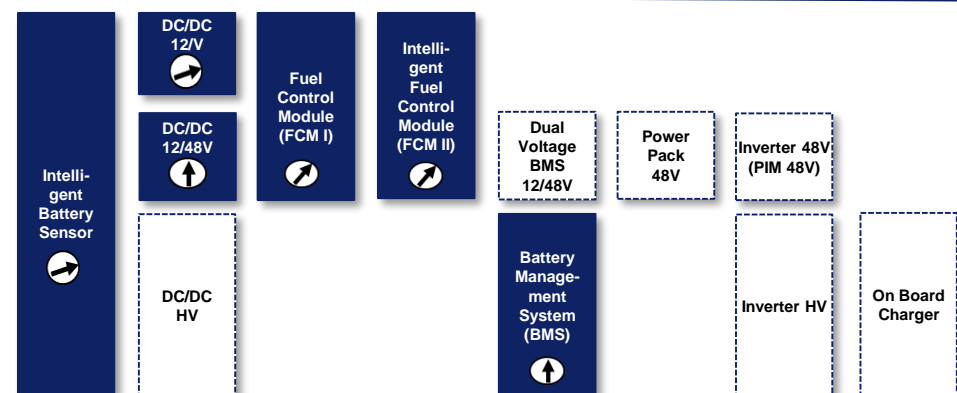


### Efficiency & Electrification



CAGR >25% >10-25% <10%

### HELLA Offering



### MARKET Development

- **Shift within powertrain concepts** with higher dynamics
- **Increasing focus on 48V systems** as bridging technology for OEM's to reach regulated targets
- **Start-stop technologies growing** next 5 years, **pure ICE with sharp decline**, ICEs until 2030 still relevant technology

### HELLA Position

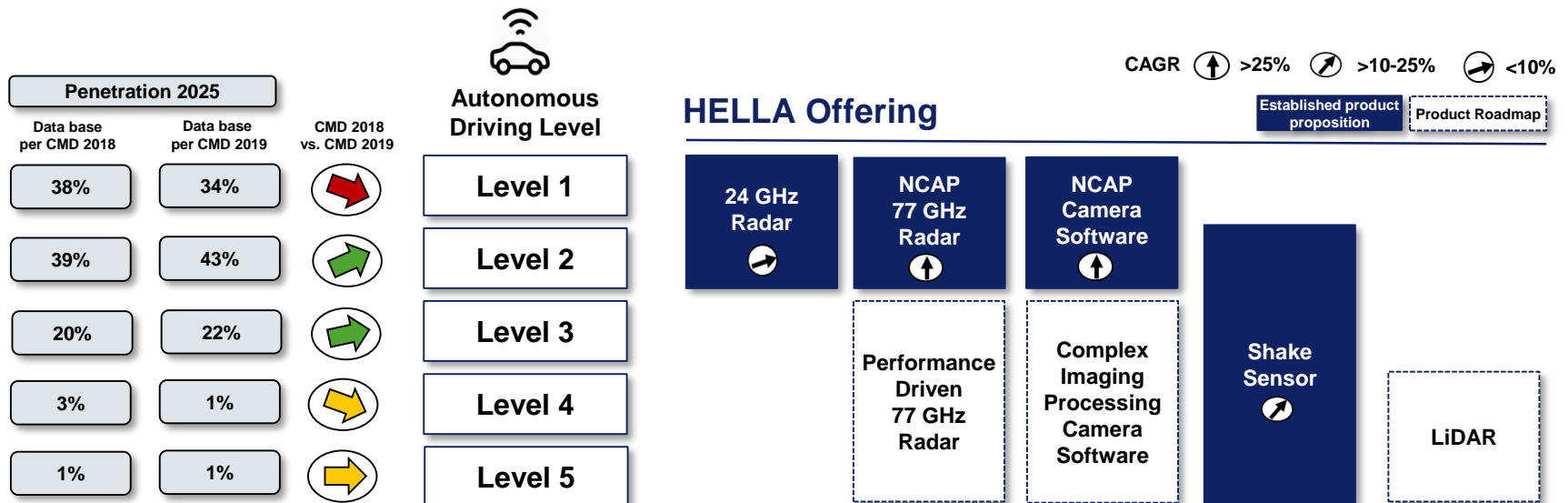
#### Strong growth perspective with established products and product roadmap

- Further **roll-out of components** and foster **market** penetration of e.g. DC/DC converters and IBS
- **Leverage Hybrid and Electric Vehicle competence** to benefit from increasing trend for mild-hybrids with further **investments** in new products like Dual Voltage BMS and Power Pack 48V
- **Further resources allocation** to **BMS** and **High voltage** products like Inverter and On Board Charger

\* Based on global LVP, source: IHS Engine Database January 2018, 2019; HELLA analysis

# HELLA is already benefiting from trend towards Autonomous Driving by focusing on solutions for L1-L3 requirements

## B Organic growth – Autonomous Driving



### MARKET Development

- **Strong ADAS penetration** especially penetration of lower levels (L2 and L3) increasing
- **ADAS sensors demand increasing globally**, especially camera, radar and lidar with strong growth
- **Estimated penetration of L4 and L5 moved further away**, penetration starting notably in 2030

### HELLA Position

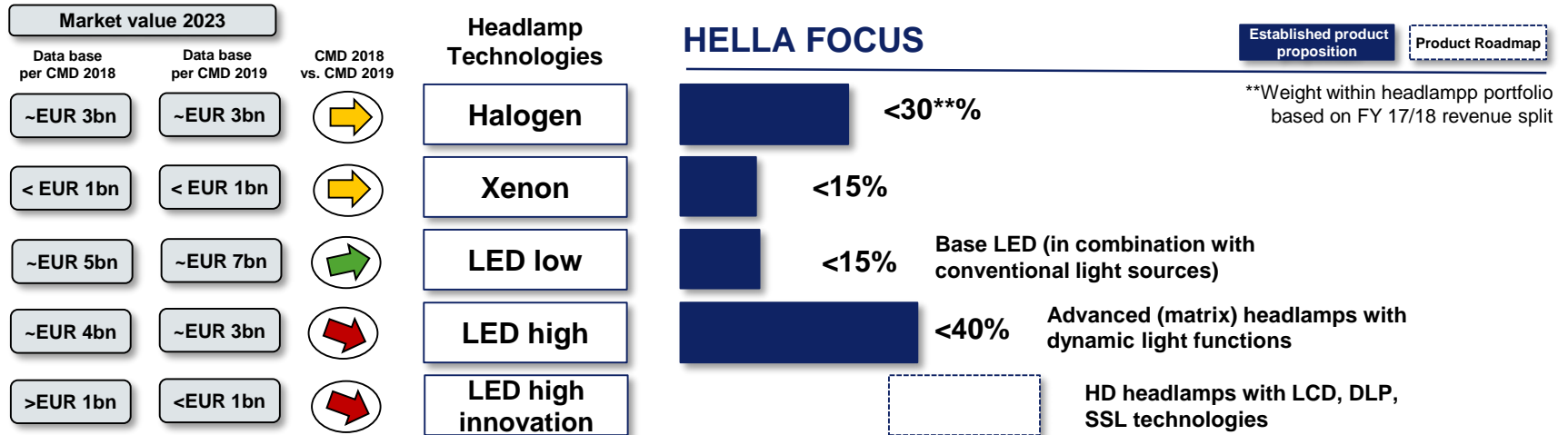
#### Strong growth perspective with established products and product roadmap

- **HELLA as key supplier of ADAS**, pushing front camera software, radar portfolio e.g. 24 Ghz and 77Ghz low cost and supplement shake sensor
- Develop **new products** together with **partners** like **AEye** for **LiDAR** to offer new use cases
- **Allocate resources** to **complex Image Processing** and **77 Ghz performance radar** to continuously enhance products and offer **L3+ functionalities**

\* Based on global LVP, source: Strategy Analytics November 2017, 2018; HELLA analysis

# HELLA focuses on LED technologies and higher standardization of headlamp offering to secure continuous organic growth

## B Organic growth – Development of headlamp technologies



### MARKET Development

- **LED penetration growth ongoing** with similar penetration rates compared to last CMD, **absolute basis lower** due to downsized LVP assumptions
- **Demand for standard solutions growing**, especially in **NAFTA and China**
- **Market for high innovative solutions declined**, price decline and shift to lower value-add solutions
- **Low cost LED very standardized** even with facelift no design changes, further price declines

### HELLA Position

- **Localization strategy and ramp-up of resources** to serve high LED demand in China and NSA for low cost LED
- **Value and content growth headlamps not as expected** – focus on standardization and profitability
- **Only selective investments in High Definition (HD) technologies and at lower cost point**, no need to offer fully fletched portfolio short term

Source: IHS Forward Lighting Database September 2017, 2018; HELLA analysis

# Strong balance sheet and diversified business portfolio provide stability and support further growth perspective

## c Balanced portfolio and prudent financing

### FINANCIAL DRIVERS

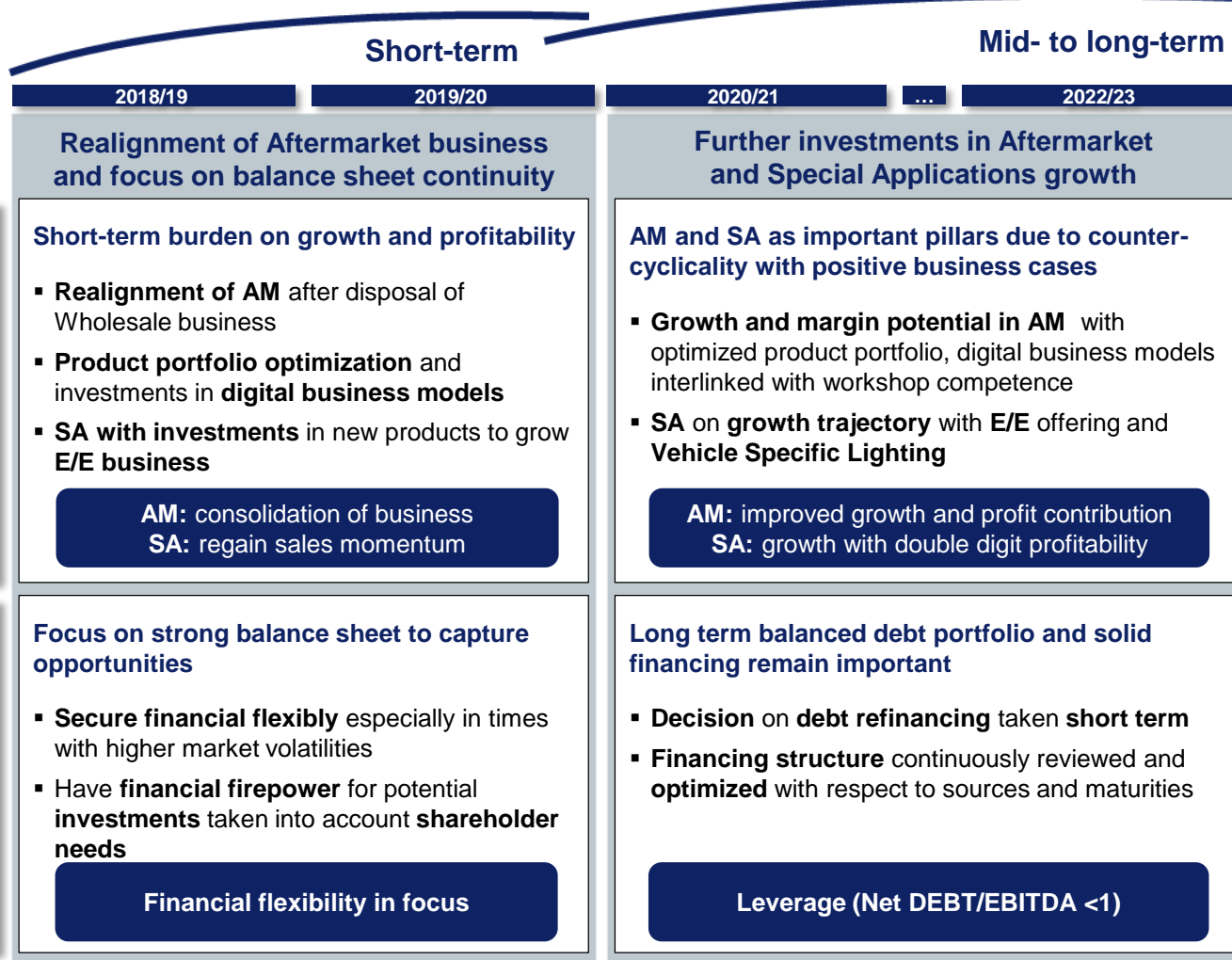


#### BALANCED PORTFOLIO

with strong Aftermarket (AM) and Special Applications (SA)



#### STRONG BALANCE SHEET AND LOW LEVERAGE



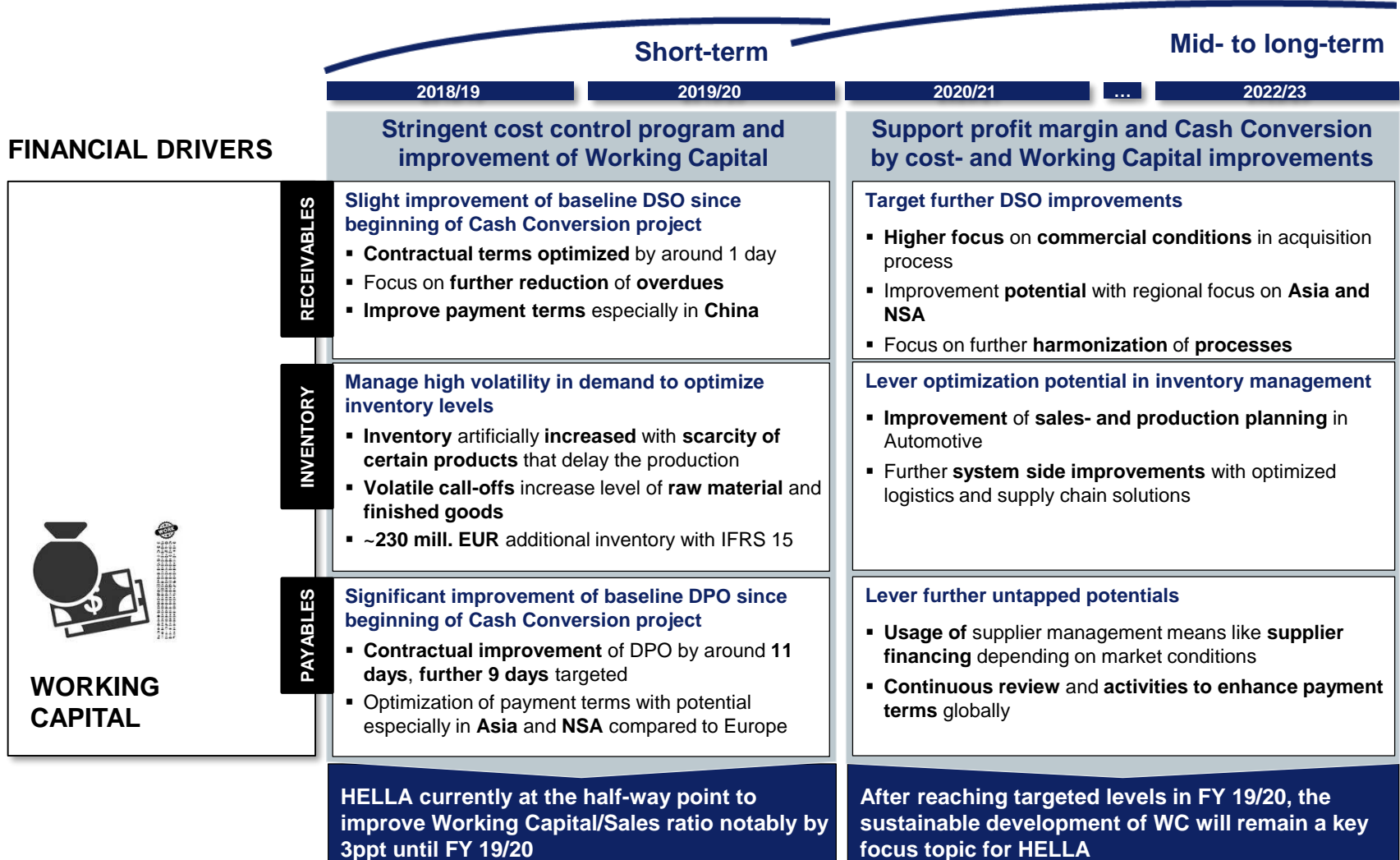
# HELLA is currently enforcing a strict cost control approach to counteract market challenges and to safeguard profitability level

## D Tailored measures for GPM, SG&A and FCF generation

MAIN LEVERS	MAIN FOCUS	SELECTED MEASURES	Safeguard profitability level
1 CUSTOMER INITIATIVES	Manage volume deviations	<ul style="list-style-type: none"> <li>Continuous <b>exchange with customers on project volumes</b> and consistent <b>addressing volume shortfalls</b></li> </ul>	
2 PORTFOLIO OPTIMIZATION	Optimize allocation of R&D resources	<ul style="list-style-type: none"> <li><b>Scrutinize existing portfolio and exit categories</b> when necessary</li> <li><b>Only selected investment</b> in new technologies</li> </ul>	
3 SG&A EXCELLENCE	Reduce overhead costs	<ul style="list-style-type: none"> <li><b>Realignment of headcount planning</b></li> <li><b>Strict savings at purchased services and external expenditures</b>, e.g. reduced procurement of IT &amp; office equipment, limitation of business trips, reduced use of external services, focused marketing activities</li> </ul>	
4 DIVISIONAL IMPROVEMENT PROGRAMS	Strengthen profitability of business divisions	<ul style="list-style-type: none"> <li><b>Design-to-cost process</b> during development phases</li> <li><b>Pilot project to process customer call-offs more evenly</b> by levelling production over several weeks to avoid production peaks</li> </ul>	
5 PURCHASING INITIATIVE	Tackle increasing raw material prices	<ul style="list-style-type: none"> <li><b>Bundling of purchasing volumes</b>, e.g. bundled tendering of freight and logistics services, clustering of routes and</li> <li><b>Centralized management</b> and IT-side improvements</li> </ul>	
6 CAPEX BOARDS	Improve capital efficiency	<ul style="list-style-type: none"> <li><b>Review all investments case by case</b></li> <li><b>Focus on utilization</b>, e.g. enforce reuse of equipment, improve production planning</li> </ul>	

# Generation of Free Cash Flow is still of crucial importance, Working Capital measures are on track despite market headwinds

## D Tailored measures for GPM, SG&A and FCF generation



# HELLA is well prepared to continue its success within a more challenging market environment with lower growth rates

## Financial Outlook



### FINANCIAL DRIVERS

**A**

Continuously strong **investments** in **R&D** and **CAPEX**

**B**

Continuous **organic sales growth** and selective M&A

**C**

**Balanced portfolio** and **prudent financing**

**D**

**Tailored measures** for GPM, SG&A and FCF generation

### Short-term

2018/19

2019/20

### Focus & balance

- **Only moderate organic growth** due to lacking market support
- **Focus investments on booked business** and main **growth areas**
- **Safeguard profitability level** through strict cost control

### Mid- to long-term

2020/21

...

2022/23

### Grow & win

- **Acceleration of profitable growth path** along market trends
- **Investments in growth areas** and **normalization of ratios** through positive **leverage**
- **Increase profitability and cash flow**



# Capital Markets Day 2019

## Passion for Clean Mobility – Hamm, February 14, 2019

TIME		TOPIC	WHO
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<b>10:00</b>	20 min	HELLA Group: <b>Financial Outlook</b>	<b>Bernard Schäferbarthold</b> CFO
<b>10:20</b>	40 min	<b>Q&amp;A-Session</b>	<b>Dr. Rolf Breidenbach / Bernard Schäferbarthold</b>
11:00	45 min	Early Lunch	all
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13:15	15 min	Coffee Break	all
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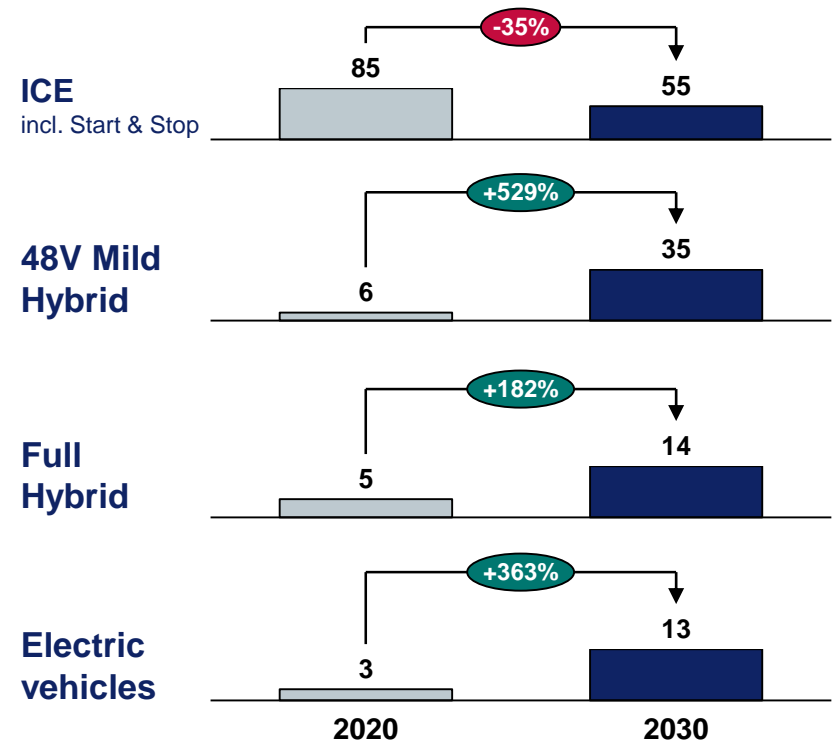
# The growth of the global e-mobility market will be especially dominated by an accelerating market penetration of Mild Hybrids

## E-Mobility – Latest market insights and implications

### Drivers and levers

- **Increasing market penetration of electrified vehicles** is mainly supported by
  - **challenging global CO<sub>2</sub> targets** resulting in reduced ratios for vehicles with pure Internal Combustion Engines (ICE)
  - **advancing technologies**, e.g. batteries and cells
- **48V Mild Hybrids** as **fast step** of electrification by far the **highest growth rates**, due to
  - **high potential** in terms of **energy savings**
  - relatively **convenient integration** into existing vehicle architectures
- **Increasing market penetration of full electric vehicles** highly depends on further extension of required **infrastructure and end-customer acceptance**

### Development of share per powertrain in million units and change in %\*



### Implications

- **Intelligent, fast solutions required** that are **designed** for **Mild Hybrids, Full Hybrids and Electric Vehicles**
- **Clear trend** for almost **100% electrification** supported by “at least” **48V hybridization**
- **48V Mild Hybrid Solutions** as **innovative extension** of existing **HELLA electronic portfolio**

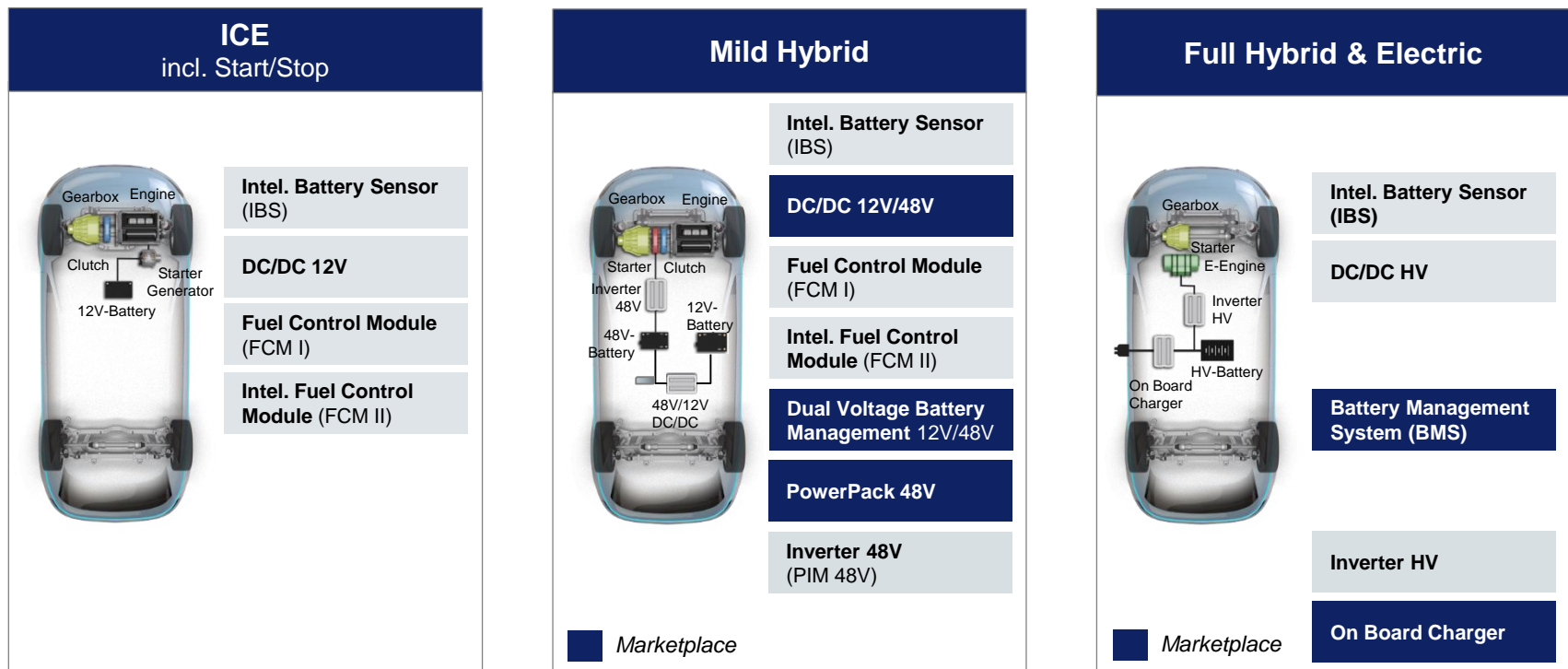
\* Source: IHS Engine Database, January 2019



# HELLA accompanies customers comprehensively on their way towards E-Mobility

Targeted product roadmap for all stages of electrification

## DEVELOPMENT STAGES OF ELECTRIFICATION



**Strategic  
Direction**

- **Intelligent components** for battery sensing and for fuel pump control reduce CO<sub>2</sub> emissions for non-electrified vehicles (e.g. Start/Stop)
- **Solutions for 48V Mild Hybrids** allow advanced driving functions such as recuperating, coasting & boosting
- **Supported by experience in 48V power electronics and High Voltage (HV) BMS**, HELLA faces several attractive business opportunities



# HELLA pursues a clear strategy to capture growth potential from the trend towards increasing electrification

## HELLA's strategic approach to E-Mobility



### STRATEGIC APPROACH TO E-MOBILITY



A

#### Strong supplier of core components

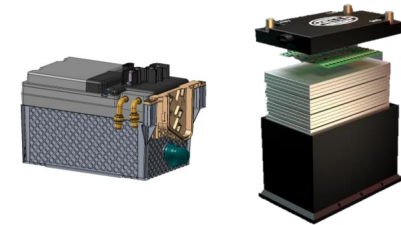
- **Scalable and cost optimized electronic products as Tier 1**
- **Strong market reputation** thanks to early market entry with voltage stabilizers/converters and leading position in Intelligent Battery Sensor business



B

#### Innovator & Partner

- Beneficial usage of **established global innovation network and partnerships** for worldwide joint market approaches
- **Potential partners** for battery cells and strategic partnership for joint market approaches



C

#### Subsystem provider

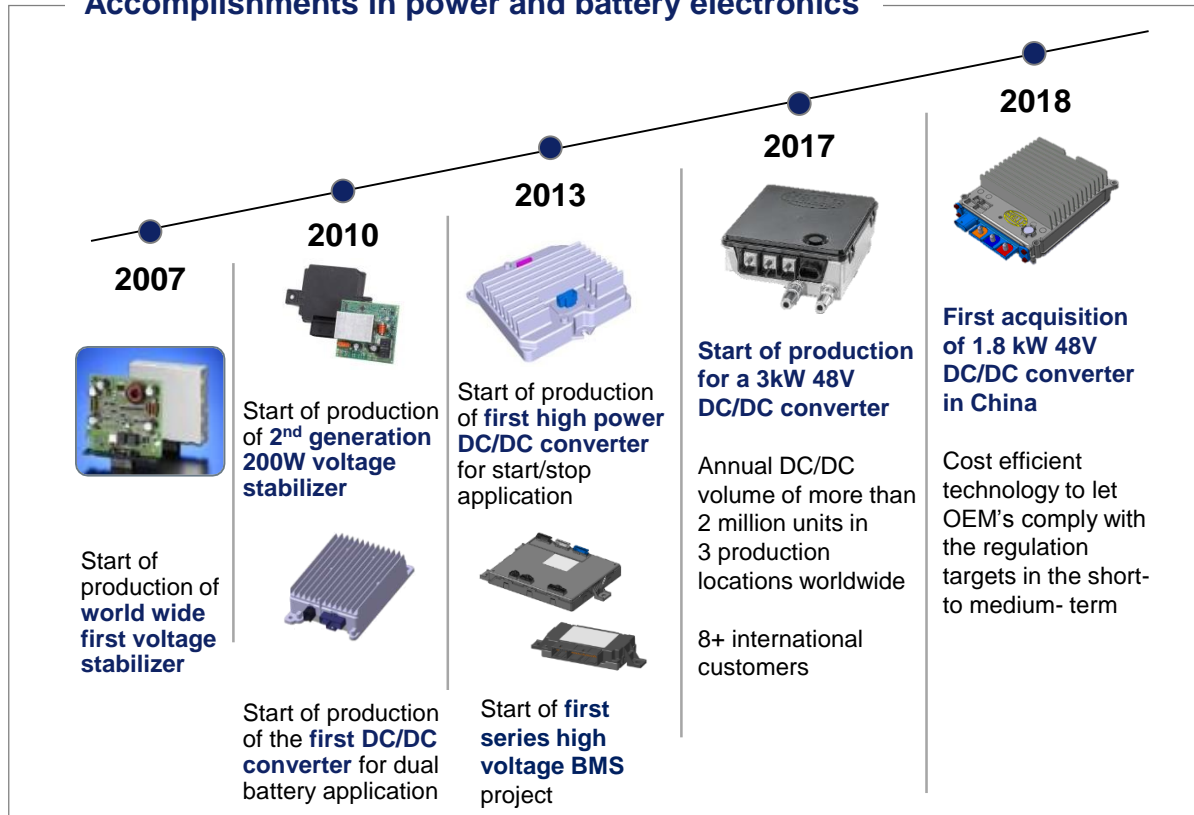
- **Innovative battery solutions as Tier 1** to reduce costs and complexity by optimized requirement management, interfaces and validation needs
- Specific **know how in power electronics and battery management** enables advantage against competitors for modular system approach



# HELLA has built up a unique positioning for the 48V Mild Hybrid market with extensive experience in battery and power electronics

## A Proven expertise for core components

### Accomplishments in power and battery electronics



- **Pioneer role** by early market entry in 12V converter business and battery sensor for lead-acid battery business
- **Evolutionary development** transfer of the USP in production, development and technology from 12V components to the 48V and high voltage applications in conjunction with HELLA's market reputation
- **Revolutionary implementation** from component supplier to subsystem provider

### PRODUCT EXAMPLE: Market leader for 48 Volt DC/DC Converter



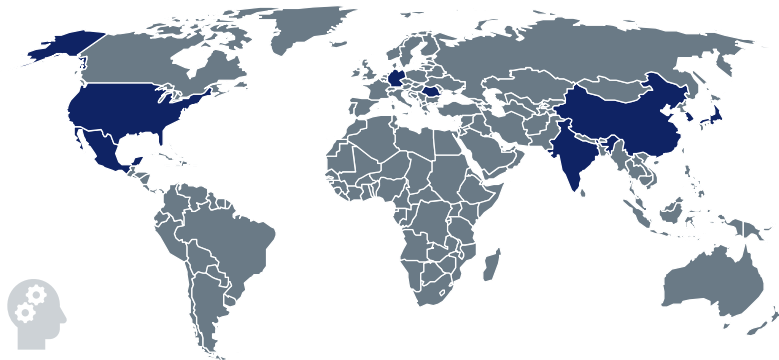
- **Cost efficiency** for 12V/48V energy transfer at all power levels
- **Continuous improvement**, e.g. cooling concept, higher power class, size reduction
- **Flexible hardware and mechanic design** for easy adaption to customer needs



# Usage of global network to further strengthen market and technology leadership regarding electrification

## B Innovator & Partner – Global innovation network

### D&D Footprint

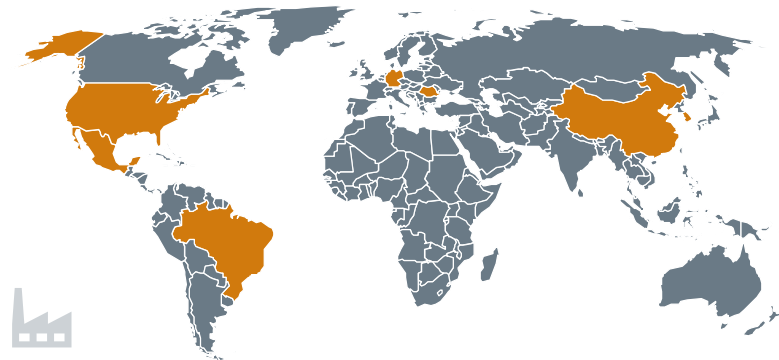


**Plymouth**  
(OBC, DC/DC, FCM, IBS)  
**Tlaquepaque / San José** (FCM)

**Lippstadt**  
(Headquarter: all products)  
**Berlin** (BMS)  
**Arad / Timisoara** (BMS, DC/DC, FCM, IBS)

**Nanjing** (BMS, DC/DC, FCM, IBS)  
**Pune** (DC/DC)  
**Daegu** (IBS)  
**Tokyo** (Customer Interface)

### Production Footprint



**Flora** (DC/DC, HM, IBS)  
**Tlaquepaque / San José** (IBS)  
**Sao Paulo** (FCM)

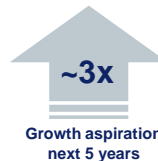
**Lippstadt** (Headquarter)  
**Hamm** (DC/DC, IBS)  
**Arad / Timisoara** (BMS, DC/DC, IBS)

**Shanghai** (BMS, DC/DC, FCM, IBS)  
**Incheon** (FCM)  
**Daegu** (IBS)

### HELLA Energy Management

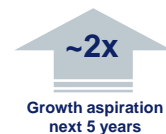
#### Total Sales

**~250** € million sales in FY 2017/18



#### D&D Headcounts

**~450** employees worldwide



- HELLA Energy Management established a **global production and D&D network**
- Strategic partnerships** with international companies (e.g. with Bender, Farasis, Valmet, EDAG, Meellogic, Embeddeers, Silver Atena, eMotorWerks)

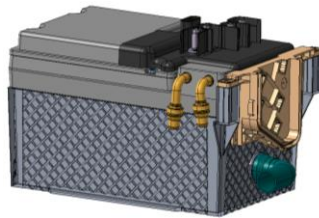


# HELLA supports OEMs to handle increasing complexities and costs by offering system solutions especially for 48V Mild Hybrids

## c Positioning of HELLA with innovate subsystems

### PRODUCT SOLUTION

#### PowerPack 48 Volt



#### Dual-Voltage Battery Management



### TARGET GROUP

Larger vehicles (middle- and premium class)

More power consumers and high power for comfort and performance

Compact class

Reduction of weight and volume with minimal change of conventional board system

### UNIQUE SELLING PROPOSITION

Modular solution for high power needs in mild hybridization

- **Functional combination of 48V battery and DC/DC converter** into a modular device with minimal change of conventional vehicle architecture
- Bundling of competence and wide experience for Power Electronics and Battery Management in one single HELLA division

Power and efficiency of 48V in a “12V package”

- **Functional combination of 48V & 12V battery** including power electronics into a single device within the size of a conventional 12V battery
- HELLA first and unique to market

# HELLA is going to benefit from the accelerating transformation towards E-Mobility thanks to well-defined approach

## Strategic outlook – HELLA's E-Mobility business

- 1** **HELLA offers (sub-) systems as well as components** in the context of E-Mobility **from (Mild) Hybrid to Electric Vehicles.**
- 2** **HELLA enables and accelerates E-Mobility with solutions for efficient battery/thermal management,** for more comfort through connectivity/digitalization solutions in all driving situations (e.g. boosting, recuperation, charging).
- 3** **48V Mild Hybrid solutions as innovative extension of existing HELLA electronic portfolio** via linkage between core competencies of power and battery electronics
- 4** **Passion for Clean Mobility** supported by **global innovators and partners**



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# China is and will remain the key market for the global automotive industry, even if it currently faces weakened demand

## China – Latest market insights and implications



### LATEST MARKET INSIGHTS

#### Economic and industry trends

- **Economic growth in China is continuously slowing down** (6.9% in 2017 vs. 6.2% in 2020)<sup>1</sup>
- **Flattening long-term vehicle production and total sales volume**
- **Strong growth opportunities linked to accelerated mobility transformation towards electrified and intelligent vehicles**, supported by **government push and capital investment**<sup>2</sup>

#### OEM trends

- **Volume-wise slight tendency towards international OEMs over Chinese OEMs**, with the latter growing slightly faster
- **Sales data indicates that especially Chinese OEMs are dropping more significantly**, resulting in **potential consolidations of Chinese OEMs** ahead in 2019
- **As per recent regulation no requirement for local JV partner necessary anymore**



#### Major implications to be considered:

- **Despite the current market drop, China will definitely remain the most important automotive market:** In 2023, the **Chinese automotive market** will have the **size of the European plus the American market combined**
- **China is frontrunner for trend development**, particularly in terms of **electrification, connectivity and autonomous driving**
- **Market entry of many new industry players and consolidation of Chinese OEMs**

1) World Bank – China Data 2) Made in China 2025 policy, NEV and CAFC targets



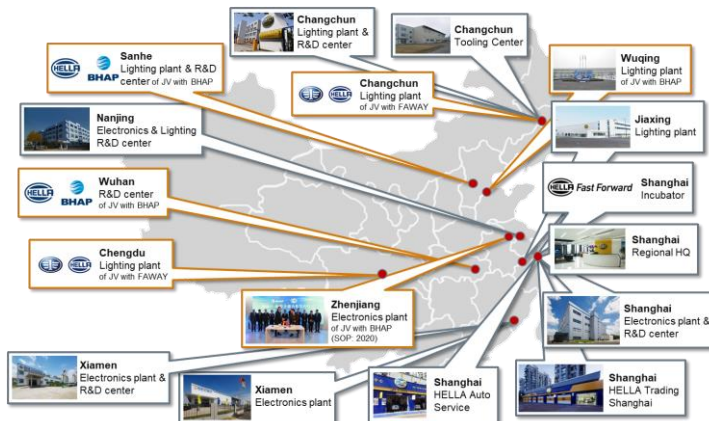
# HELLA can rely on a powerful development and production network in China to capture growth opportunities

## HELLA Footprint in China

### HELLA FOOTPRINT



- **Start of production in China in 1992**
- **17 entities**, including 5 joint ventures
- **8 technical centers**, dedicated to local design, research and development
- **about 6,200 employees**, thereof ca. 1,300 in research & development
- **Two-pillar strategy:**
  - 100 percent **HELLA subsidiaries**
  - Dedicated **joint ventures with local partners**



### HELLA in China Facts & Figures

**844**

€ million

**sales** in FY2017/18



+14 percent compared with prior year

**19.0**

percent

**average sales growth**



FY 2013/14 through 2017/18

**~21**

percent

**share of OE business**



with local customers in China in FY2017/18

# The trend towards E-Mobility is becoming a major growth driver for HELLA in China

## Latest insights on E-Mobility trend in China



### LATEST INSIGHTS ON E-MOBILITY TREND

#### Market Parameters

- **48V mild hybrids** rapidly gaining market share as **cost efficient bridging technology** to reach **regulated targets**

0.5 million units in 2020  16.6 million units in 2030

- **China is projected** to field **half** of the **global high voltage applications** in **2030**
- **60 percent increase** of **EV sales** in **2018 vs. 2017**
- **Increasing affordability of electric vehicles** in comparison to internal combustion engines, e.g. due to **lower battery cell production costs**

#### Regulatory Push

- **Ambitious increase** in **emission targets** and **production ratio** through **2025** and **2030** ("sticks & carrots policy")
- **Support of E-Mobility solutions** along the **full value chain** including **battery cell manufacturing**
- **Market challenges** lead to **OEMs lobbying** for **continuous** or **extended subsidies**
- **Infrastructure solutions** for **widespread battery charging** continue to be driven by governments

#### Market Fragmentation

- **Influx of new players**, especially **start-up OEMs** for **NEVs** (e.g. NIO, Byton, Xpeng), **mobility providers** (e.g. Didi, Meituan, EV Card) and **battery manufacturers** (e.g. CATL, Farasis)
- Increased **fragmentation** is leading to **accelerated innovation** and **new partnership models**
- OEMs strive to **acquire battery competencies** either through **cooperation** or **building up** their **own capabilities**



#### Major implications to be considered:

- **E-Mobility** as major growth driver for **HELLA in China**
- Clear **development focus** on **48V systems** in view of **increasing relevance** for **electrification**
- **Chinese OEMs** are actively **searching** for **system partners** due to **limited system competence**



# Our HELLA team in Nanjing is developing and tailoring product solutions for E-Mobility in China

## HELLA Footprint for Energy Management in China



### HELLA FOOTPRINT ENERGY MANAGEMENT

- Strong D&D Setup including leading technology in HV safety areas as *HELLA unique selling point*
- Established production footprint at HELLA Shanghai Electronics
- High standards in product development and manufacturing processes

#### HELLA Technical Center Nanjing

- Founded in 2012
- R&D Center for **Energy Management & Lighting Electronics**
- Development of **Low and High Voltage product solutions** according to China specific requirements and local standards
- Highlighted projects in Energy Management:
  - **Battery Management System**: Developing a product platform and related customer projects for rollout of an ASIL C BMS in China
  - **48V DCDC Converter**: Developing a product platform and related customer projects for China mild hybrids
  - Market introduction of **48V battery systems**
- **Full development and validation capabilities** along the Automotive process chain



#### SELECTED Facts & Figures

**85+**

R&D experts  
in Energy Management

**29%**

of business with local  
OEMs

**40+**

Running Projects

**25+**

Customers for products  
in Energy Management

# Successful market entry for new products by combining build-up of know-how with partnerships

## HELLA's strategic approach to E-Mobility in China

### GENERAL E-MOBILITY STRATEGY



**Focus  
HELLA**

**A**

**Strong supplier of  
core components**

**Roll-out of core components  
tailored for Chinese market**



**Battery Management  
System (BMS)**

1. Focus acquisitions on OEM's, NEV companies and battery suppliers
2. Roll out starting with first customer SOP 2021



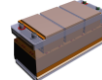
**48V DCDC Converter**

1. Significant market potential identified due to high increase in 48V hybrids
2. Enables applications such as stop / start and idle cruising

**B**

**Subsystem  
provider**

**Launch roll-out of 2VBM and  
PowerPack jointly with partner  
for cell and/or battery  
assembly**



**Dual-Voltage  
Battery Management  
(2VBM) and  
PowerPack (48V)**

1. CO2 savings of ~5,5 g/km to comply with worldwide environment targets
2. Enables 48V mild hybrid applications such as coasting and recuperation

**C**

**Innovator &  
Partner**

**Work with existing and future  
partners to tap market  
potentials**

**Vertical  
Integration:  
Market Access**



- Cooperation with Tier1 / OEM or supplier
- Migration along the value chain, e.g. HELLA BHAP Electronics (JV)

**Horizontal  
Integration:  
Technology / System**



- Cooperation with technology / system partners
- 'Speedboat approach' through Incubator setup, e.g. HELLA Fast Forward Shanghai

# HELLA is well-prepared to capture growth potential from China's accelerating transformation towards E-Mobility

## Strategic outlook – HELLA's E-Mobility business in China

- 1** **China sets the pace** for E-Mobility, driven by regulation and significant investment capital
- 2** HELLA is well positioned to suit customers with **E-Mobility solutions tailored in and for China**
- 3** **Continuous build up of resources and know how transfer** to ensure growth path for Energy Management products in China
- 4** **Development of cooperation models** along all dimensions of the value stream needed



# Capital Markets Day 2019

## Passion for Clean Mobility – Hamm, February 14, 2019

TIME		TOPIC	WHO
09:00	30 min	Registration & Welcome	all
<b>09:30</b>	30 min	HELLA Group: <b>Strategic Outlook</b>	<b>Dr. Rolf Breidenbach</b> CEO
<b>10:00</b>	20 min	HELLA Group: <b>Financial Outlook</b>	<b>Bernard Schäferbarthold</b> CFO
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15:15		End of Capital Markets Day 2019	

# With 15 plants worldwide, HELLA has a powerful global operations network for electronics

## Global production footprint for electronics

### HELLA PRODUCTION FOOTPRINT ELECTRONICS – FACTS & FIGURES

**15**

**plants** (without joint ventures)

**350**

**million products produced**  
per year in FY 2018/19

**415**

**production lines**  
including 33 SMT lines

**110**

**thousand m<sup>2</sup> production**  
**shopfloor** in FY 2018/19

#### ▪ Global production network with 15 plants

**Germany (3):** Hamm, Recklinghausen, Bremen

**Romania (2):** Timisoara, Arad

**Lithuania (1):** Kaunas (SOP: 2018)

**Mexico (2):** San Jose Iturbide, Apaseo el Grande (SOP: 2018)

**USA (1):** Flora, Illinois

**Brazil (1):** Indaiatuba (SOP: 2016)

**China (3):** Shanghai (extension 2019), Xiamen (two sites)

**India (2):** Dhankot, Gujarat (SOP: 2019)

#### ▪ Globally standardized production layout

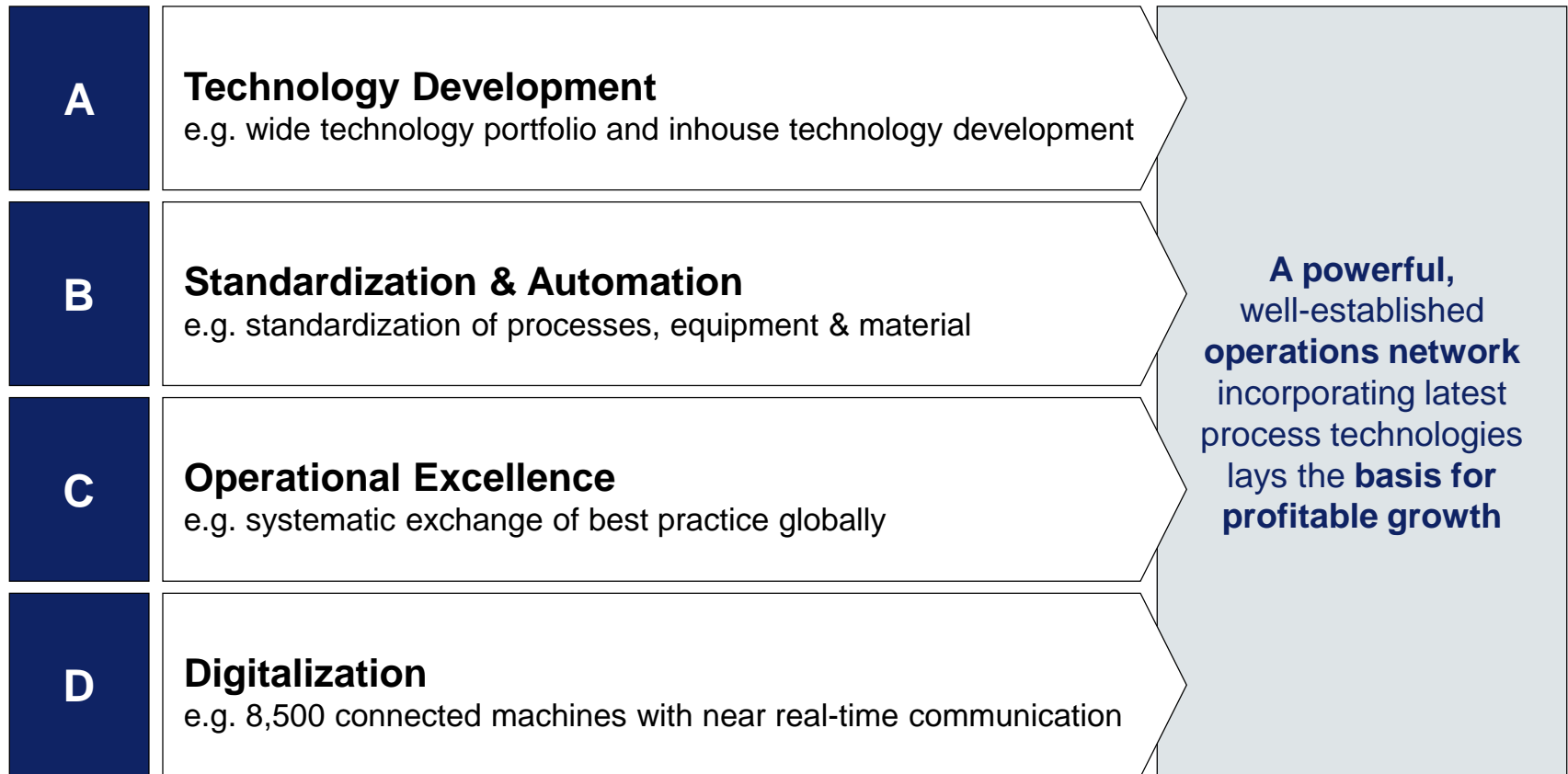
#### ▪ **Plants** are divided into **internal factory** with **high entrepreneurial level**

#### ▪ Performance-driven **Group Work Approach (GroW)**

# HELLA's manufacturing excellence approach in electronics is based on four key levers

## Four pillars of Manufacturing Excellence

### MAIN PILLARS OF MANUFACTURING EXCELLENCE AT HELLA



# HELLA consistently advances and implements sophisticated state-of-the-art production technologies

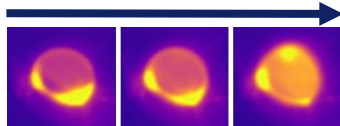

## A Technology Development

### A TECHNOLOGY DEVELOPMENT

- **Wide technology portfolio** of over **45 core technologies**
- **Advanced in-house technology development**
- **Core competence** for **test technologies in-house**



### EXAMPLE: ARTIFICIAL INTELLIGENCE FOR LASER WELDING

- **Implementation and roll-out** of new **Deep Learning methods in production processes** in collaboration with **HELLA subsidiary** and **software specialist HELLA Aglaia**, e.g. for laser welding
  - **STEP 1:** Recording of **heat distribution** during **welding** and **cooling phase** by **thermal imaging camera**
  - **STEP 2:** **Training** through **reference data** (correct input-output relationship), to **teach the algorithm** the **correct relationship**
  - **STEP 3:** **Computer-based** evaluation of **camera recordings** based on "**learned**" algorithm
- **Next steps: technology transfer** and **gradual application** of **deep learning methods** for **further production areas**, e.g. into **electronics plants in Romania**
- **First successful pilot project** carried out for the **production of control units for electronical power steering**
  -   
Correct cool-down process after laser welding
  -   
Incorrect cool-down process after laser welding
- **Reduction of direct labor** as well as **further automation** of **packaging process**

# HELLA is continuously increasing the level of standardization and automation of its electronics plants

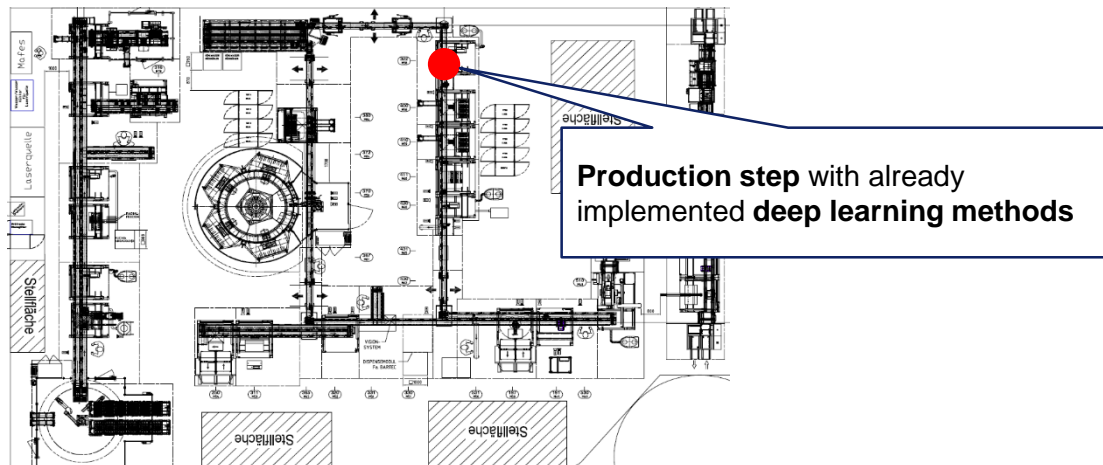
## B Standardization & Automation

### B STANDARDIZATION & AUTOMATION

- High Level of automation in all plants
- Standardization of equipment & material
- Strategic partnerships with components supplier & integrators



### EXAMPLE: PRODUCTION LAYOUT FOR ELECTRICAL POWER STEERING



#### Pre-Production

SMD



Standard  
Machines

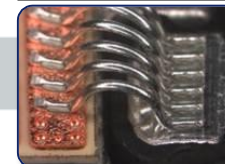
ICT  
Testing



Inhouse  
Built-up

#### Final Assembly

Final  
Assembly



High Process  
Know-how

End of Line  
Testing



Inhouse  
Built-up

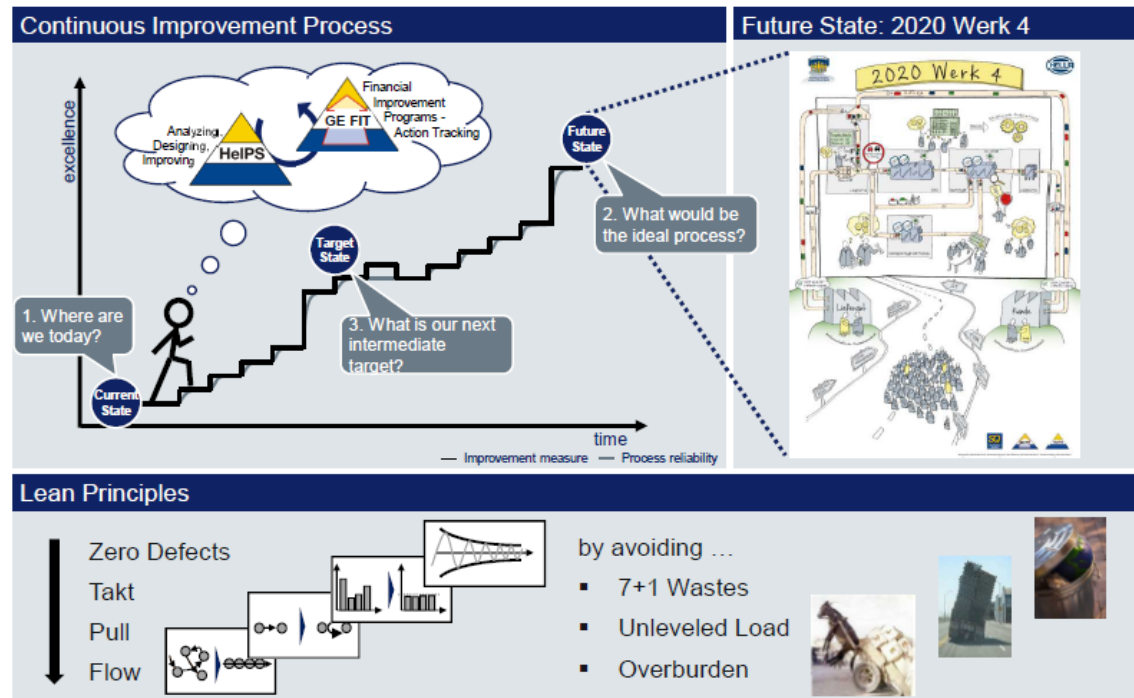
# With a continuous improvement approach HELLA is further enhancing quality performance and profitability

## C Operational Excellence

### C OPERATIONAL EXCELLENCE

- **HELLA Production Systems** applied at all **plants** on our **needs**, e.g. target setting programs
- **Systematic exchange of best practice** and **knowledge transfer** globally
- **Every day one Improvement Workshop** in the **global electronics network** at HELLA

### EXAMPLE: CONTINUOUS IMPROVEMENT PROCESS



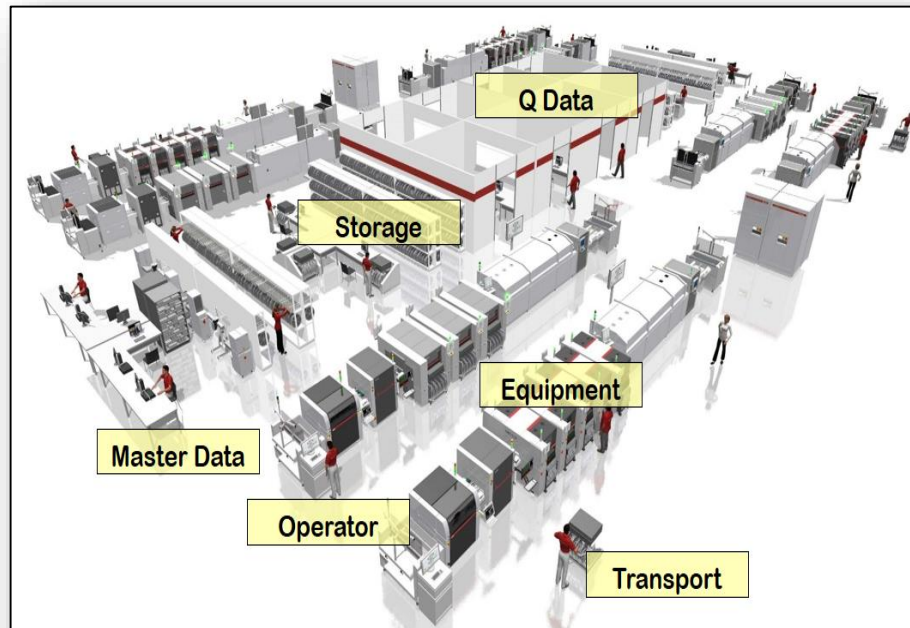
# HELLA is using the potential of digitalization to further optimize its production set-up

## D Digitalization

### D DIGITALIZATION

- **Operation** in a complete **high volume data structure, decentral** with near **real-time data**
- **MES** provides **basement data** for **digital solutions**, e.g. **advanced planning** and **scheduling**, **automated backflush**, **automated material** ordering, **simulation**
- **Example plant 4, Hamm**: currently **95,000,000 bookings** and **400 GB data volume** per month

### EXAMPLE: MANUFACTURING EXECUTION SYSTEM (MES)



**8,500+**  
machines connected

**25 ms**  
average  
communication time

**34**  
plants installed  
(Lighting and Electronics)

# The plant in Hamm acts as blueprint for production processes and quality standards within the global electronics network of HELLA

## Electronics plant Hamm

### ELECTRONICS PLANT HAMM – FACTS & FIGURES

- Factory construction and SOP:** 1961
- Employees:** ~ 1,100
- Manufacturing area:** ~ 22,000 m<sup>2</sup>
- **Lead plant** in the **HELLA electronics network** for **Energy Management, Radar, Electrical Power Steering** and **Radio Transmitter Keys**



#### Selected product lines and products

- **Energy Management**
- **Body Control Modules**
- **Components Car Access**
- **Driver Assistance Systems**
- **Electrical Power Steering**



(Powerconverter)

(Trailer Tow Modul)

(Kessy Key)

(Radar)

(Steering Control Modul)

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Technology with Vision

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