

The background features a glowing blue and orange digital car driving through a tunnel of binary code. The car is rendered in a wireframe style with a bright orange glow along its bottom edge. The tunnel walls are composed of curved lines of binary code (0s and 1s) in shades of blue and purple, creating a sense of depth and motion. The overall aesthetic is high-tech and futuristic.

PARAGON®

paragon GmbH & Co. KGaA
Analyst / Investor Presentation

Eigenkapitalforum | November 25-27, 2019

Agenda

— Business Overview

— Latest Developments & Current Situation

— Financials

— Outlook

Business Overview

paragon in a Nutshell

<p>2018 revenue: 187 €m 2019e: 200-210 €m</p>	<p>> 30 yrs experience</p>		<p>> 10 locations in Germany, China & USA</p>	<h2>Continuous Growth</h2>
	<h2>Market Leader</h2> <p>> 300 different electronic and electromechanical systems and products</p>			
<p>26% of 1.057 employees in R&D</p>	<p>> 25 OEMs as direct customers</p>	<p>> 220 OEM car models with paragon's products inside</p>	<p>Globally, every 7th car equipped with paragon technology</p>	<h2>Family-Owned</h2> <p>Approx. 20 yrs Stock Listed</p>

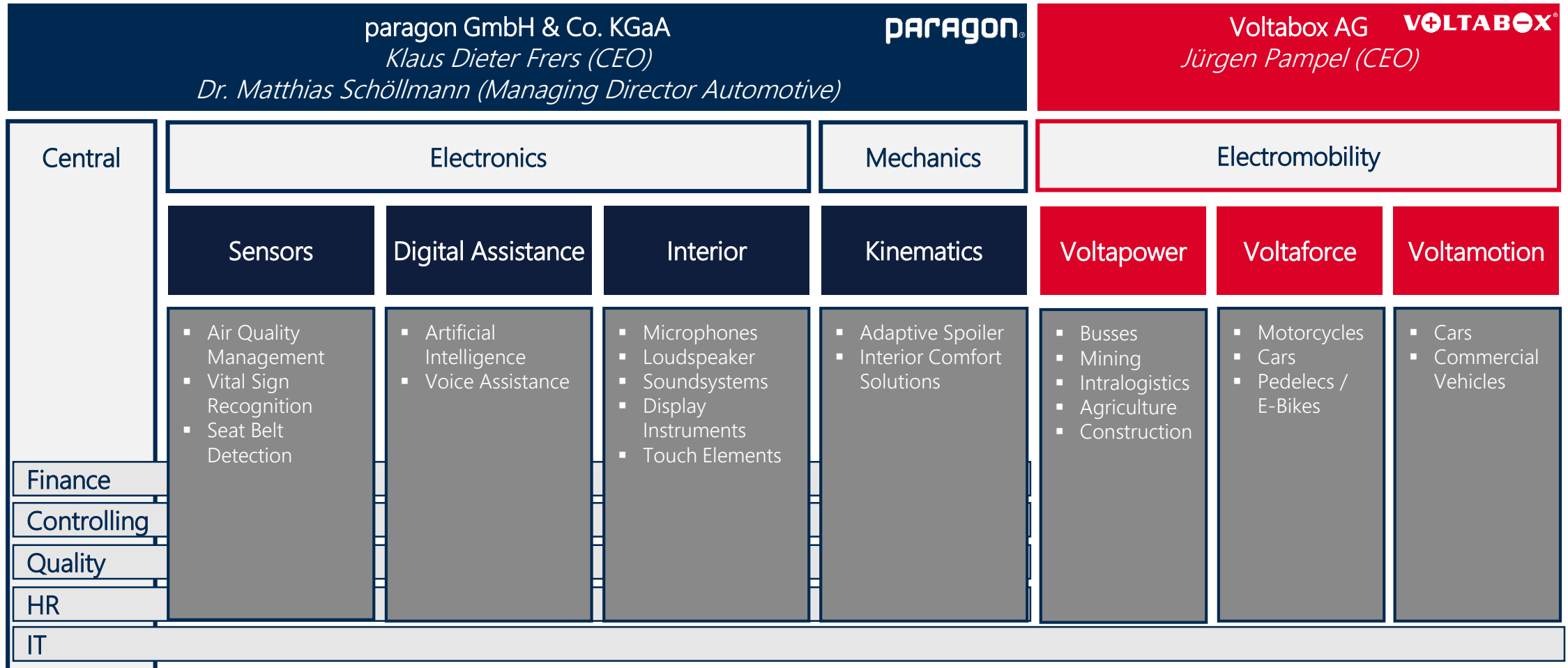
Business Overview

More Than 30 Years Automotive Experience

<p>1988 Founded as electronics manufacturer in Delbrück</p> 	<p>1993 Launch of sensor development and production</p>	<p>2000s paragon's IPO and various acquisitions</p> 	<p>2011 Development of modular kits for electro mobility</p>	<p>2014 Spin-off of the electro mobility division to Voltabox (Germany/USA)</p>	<p>2017 Voltabox' IPO / Acquisition HS Genion GmbH</p> 
<p>1991 Plant in Zella-Mehlis</p>	<p>1995 New production location in Suhl</p> 	<p>2007 Artega[®] spin-off initiated as reference object</p>	<p>2012 New division Body Kinematics</p>	<p>2015 paragon Kunshan founded in China</p> 	<p>2018 paragon AG converts to Partnership Limited by Shares (KGaA) Takeover of SemVox GmbH, LPG and ETON Deutschland Electro Acoustic GmbH,</p>

Business Overview

Organizational Structure



AQS® Air Quality Sensor

Detects harmful gases such as diesel vapors and prevents, that these gases pass the air conditioning system and get into the vehicle.

CO2 Sensor

Globally first CO2 Sensor for automotive applications. Prevents the vehicle interior from pollution – also for CO2 air conditioning systems.

AQI® Air Quality Improver Ionair

Fine dusts, gases and smells are bound by oxygen ions – the system contributes to the wellbeing and safety of the vehicle's passengers.

Particulate Matter Sensor (PM 2.5) DUSTDETECT®

Measures the ultra fine dust particles in the vehicle interior and exterior. This input is shared with the HV Plasma Filter and allows a clean vehicle interior for a better passenger's health.

HV Plasma Filter DUSTPROTECT®

Reduction of the fine dust particle up to 95% in the vehicle interior by (de)activating the HV plasma filter – longer filter exchange intervals.

Odorifier System

Enables that there is a special degree of individuality as well as a higher degree of well-being in the vehicle interior.



PARAGON®

f
iving

Digital
Assistance

geni:OS

Operating system for smart assistants allowing for an empathic, contextual and adaptive interaction based on the unique concept of Interactional and Linked AI.

EDWIN embedded

Pre-defined and ready-to-use use-cases for bringing smart assistants embedded into the car – available in all driving situations independent from any network connection.

EDWIN air

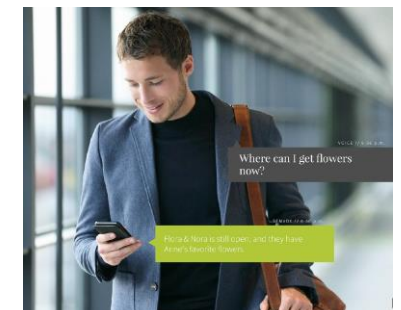
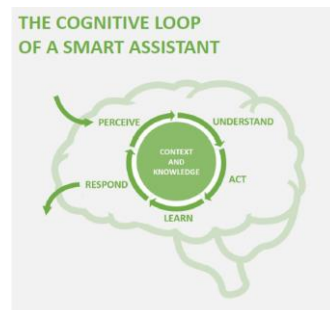
Smart assistants available via cloud detached from any hardware in contrast to the embedded solution.

EDWIN drive

Combining the software stack of EDWIN with dedicated hardware – the fastest way of bringing a smart assistant into a car.

EDWIN go

Mobile solution offering the smart assistant via cloud on your mobile device as part of an app – no integrated hardware needed in the vehicle.



PARAGON®

Interior

Interior and Exterior Microphones

Optimal voice quality for hands-free systems and voice control by smart solutions, mini belt microphones and robust exterior microphones.

Perfect Subwoofer & Loudspeaker

Quality sound although being 50% smaller than conventional products. Ingenious chassis design with intelligent software control.

Exterior Loudspeaker

More safety for pedestrians next to quiet hybrid and electric vehicles by exterior sound – since June 2019 mandatory.

Luxurious analogue display and touch elements

High manufacturing expertise, applicable design and precision engineering combined with software and electronics competence.

Wireless Charging

Smart charging and access of the mobile phone antenna signal to pass on to external antennas. Individual design & position.

MirrorPilot®

An entry solution for head units consequently based on a comprehensive mobile phone integration.



Body Kinematics

Spoiler Systems

Series development and production of spoiler systems for premium automotive manufacturers.

Drive Unit

Development and production of stepless adjustable spoiler kinematics.

Automatically adjustable 3D Wind Deflector

Fully automated wind deflector and linkage flaps for windshots and side panels.

Rolls Royce: Spirit of Ecstasy (Emily)

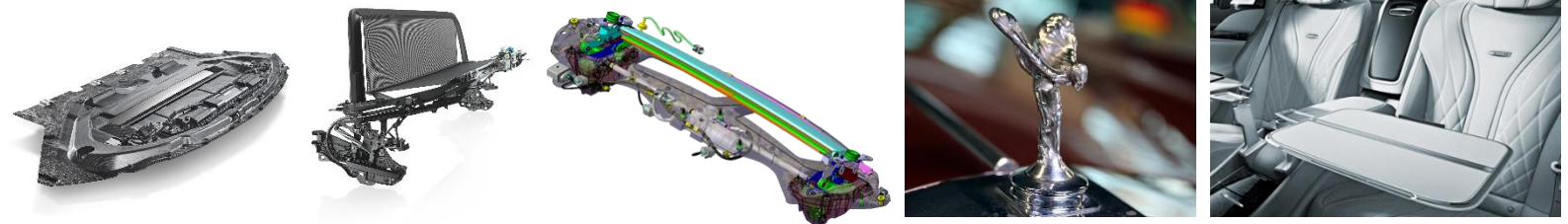
Electric lowering mechanism for the mascot with integrated anti-theft and front protection.

Foldable Table for the Vehicle Interior

Development of vehicle table solutions for the vehicle interior with exclusive design requirements.

Seat Cushion Depth Position

Electric adjustment of the seat cushion depth position.



Battery Modules

Comprehensive modular kit of scalable, mass produced battery modules containing different state-of-the-art cell types and chemistries perfectly fitting for the relevant mission profile.

Li-Ion Battery Systems

High-performance, reliable and technologically-advanced battery systems – customized for use in any industrial application – for demanding purposes, manufactured under the most stringent standards.

Standardized Battery Solutions

Li-Ion based standardized accu packs, starter batteries as well as high-capacity motorsport batteries for commercial mass market applications.

Battery Management System

Advanced and self-developed BMS in the fourth generation with enhanced balancing functions including power-usage forecast capability for maximized efficiency based on real-time data.

Drivetrain Components

800V Drivetrain components including power electronics enabling the full electrification of high-performance vehicles, for example including inverters, chargers, DC/DC-converters, electric machines.



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paragon After First 9 Months – Affected by One-Offs

PARAGON® GmbH & Co. KGaA

Markets
Segments

Automotive

Electronics

Mechanics

Electromobility VOLTABOX® 60% stake

Electromobility

Integration / Restructuring
>> consolidation costs



Launch of spoiler product
>> financial burden



New cell generation
>> temporary production stop in H2/2019

Last-minute change requests of US customer
>> sales postponed to 2020

paragon Automotive Status After First 9 Months

PARAGON®

Automotive

Automotive business continues to provide stable support

Positive development of paragon Automotive confirmed. Despite weak sales of key customers, paragon Automotive is proving very resilient.

Sales increase in the first nine months by 11.2% y-o-y

Focusing on future trends at an early stage increasingly makes paragon a beneficiary of structural change in the automotive industry.

Growth drivers Body Kinematics and Digital Assistance

Business with active spoilers booming (+28.2% y-o-y); AI software for voice processing reaches mass market (+100% y-o-y).

Sustainable improvement in earnings situation fully on target

Third quarter shows first effects of comprehensive measures to adjust earnings situation. Significant reduction in fixed costs achieved in 2020.

Forecast confirmed: 2019e sales at € 130m (+8% y-o-y)

Concentration on premium segment and beneficial megatrends largely robust against supposedly weak development of the industry.

Voltabox Status After First 9 Months



Electromobility

Sales increase by 13.2% to € 37.9m

Focus on battery modules for intralogistics; current technology still in demand. Value-saving reduction of inventories in 2019 and 2020.

Announced one-off effects affect Q3 figures as expected

Foreseeable sales postponements now noticeable. Focus on inventory reduction and restructuring.

Progress in adjusting the cost structure

Drastic personnel adjustments and cost savings secure a 30% reduction in fixed costs in 2020. Newly developed battery module uses state-of-the-art cell technology from several suppliers to avoid future bottlenecks and generates margin.

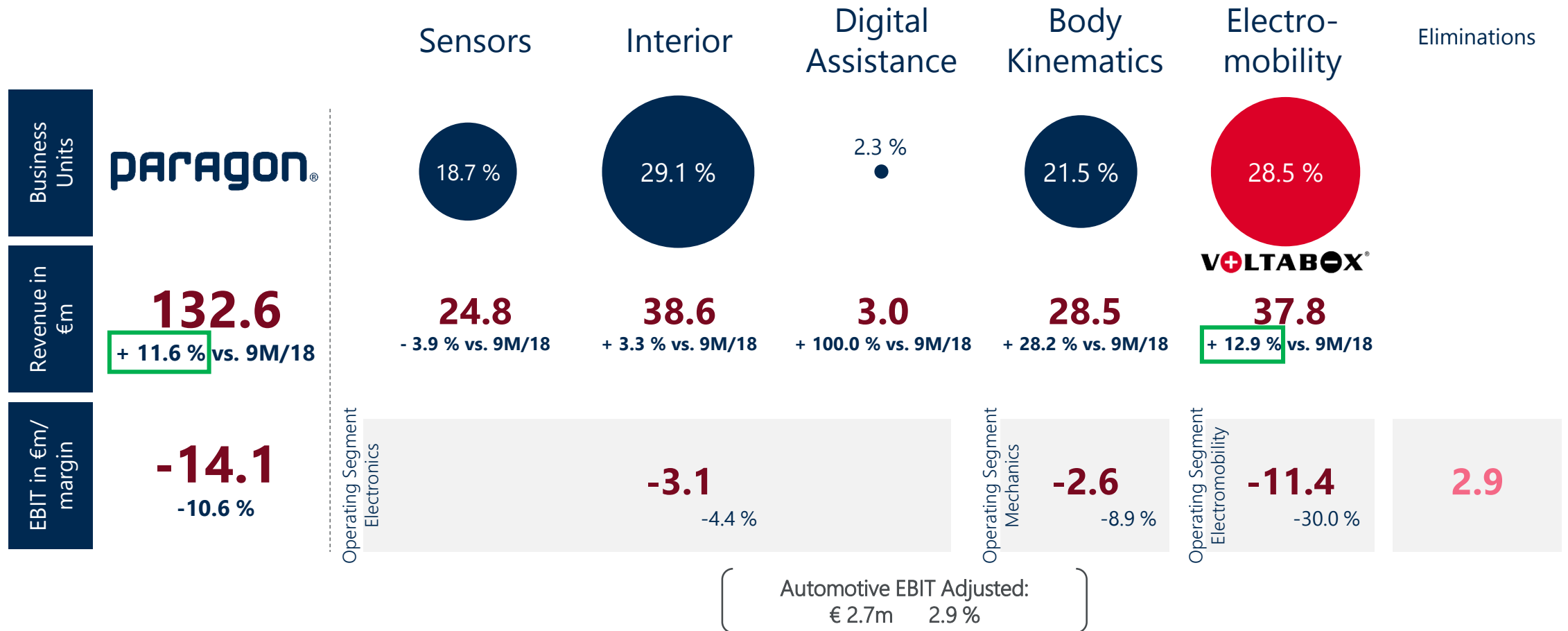
Consequent focus on a successful year 2020

Concentration on Li-ion battery systems for industrial markets and mass applications. New business model in mobile energy storage with good prospects for the future.

Sustainable growth

Greater planning security through new planning procedure with support from renowned auditing and consulting company; plausibility check of medium-term planning also aimed at. Achievable sales potential 2020 much higher than conservative-realistic planning.

Q3 Figures Reflect Announced One-Off Effects



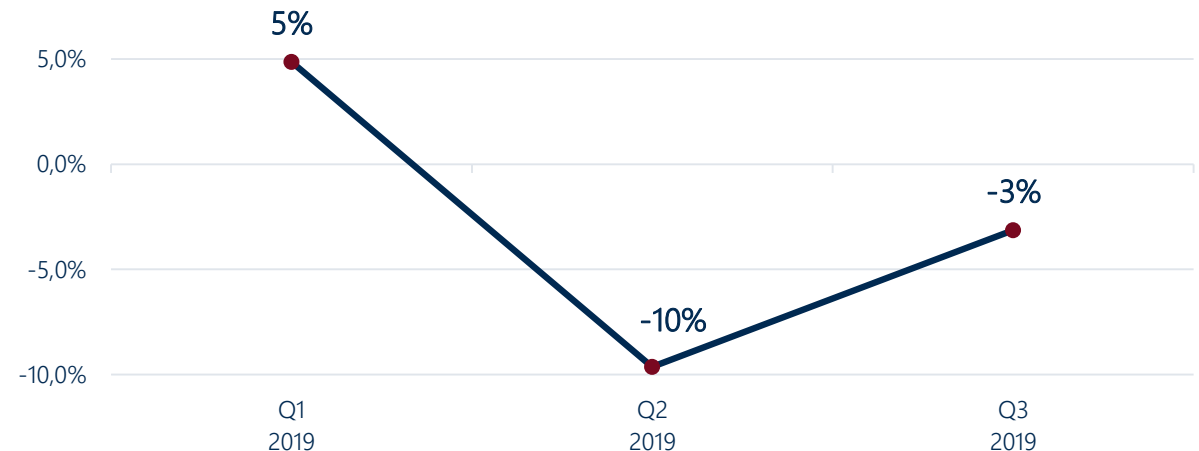
Cost Adjustment Measures

Overview – paragon Automotive Improving Profitability

- Adjustments in employee structure already effective in Q3 - full effect in Q4
- Capacity adjustment and efficiency increase in value-added processes already have an impact
- Further progress in site consolidation and integration of new subsidiaries
- ERP implementation at movasys and semvox

paragon Automotive	Q1 2019	Q2 2019	Q3 2019
EBIT absolute per quarter €m	1,476	-3,240	-967
EBIT margin per quarter	4.9%	-9.6%	-3.1%

EBIT Development paragon Automotive 2019



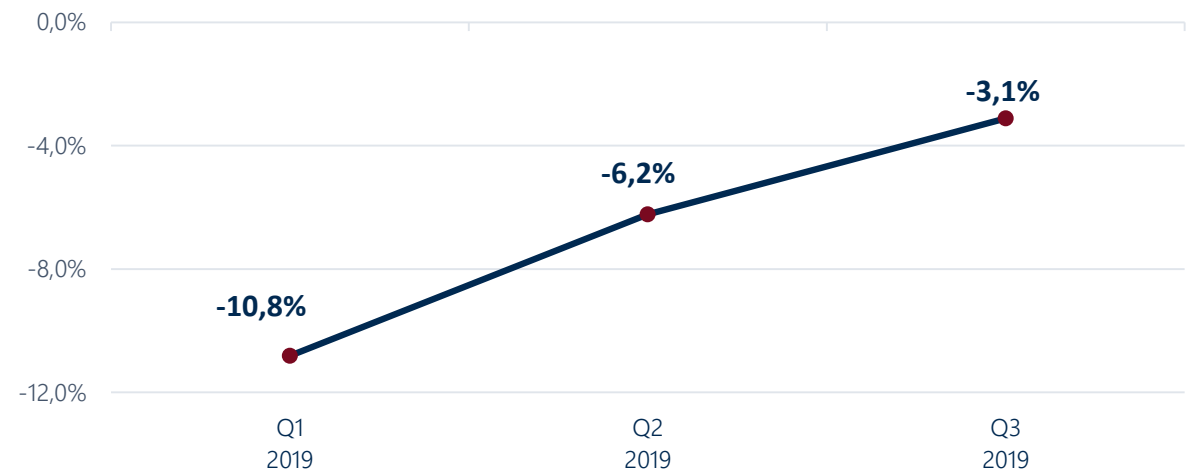
Decline in EBIT stopped, recovery in Q3

Key: Successes at paragon movasys GmbH Subsidiary

- Capacity adjustment and efficiency increase in value-added processes already have an impact
- Further significant revenue increase in Q3/2019
- ERP introduction (Microsoft AX)

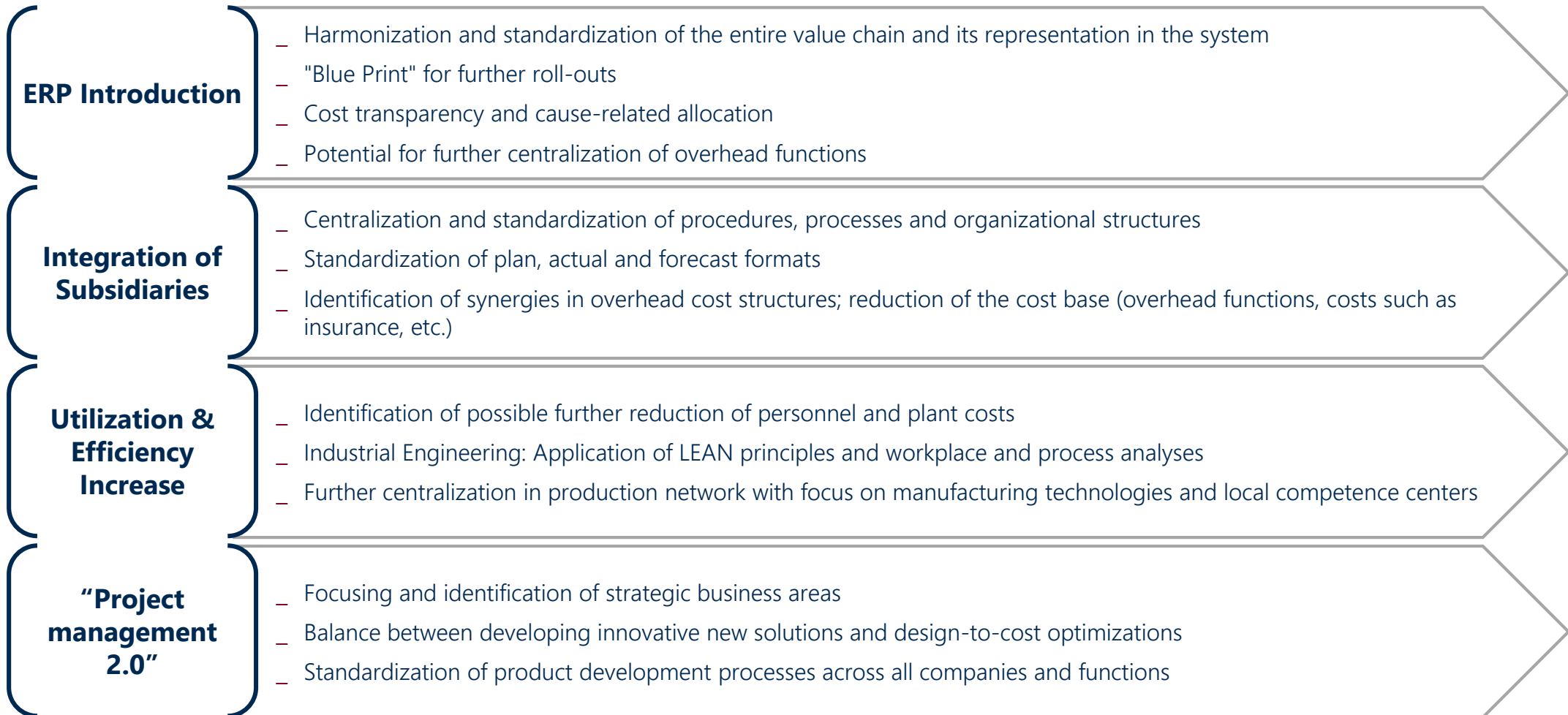
Business Unit Body Kinematics	Q1 2019	Q2 2019	Q3 2019
EBIT absolute per quarter €m	-957	-628	-306
EBIT margin per quarter	-10.8%	-6.2%	-3.1%

EBIT Development paragon movasys 2019



Decline in EBIT stopped, recovery in Q3

paragon Automotive – Further Ways to Cost Reduction



Overview – Voltabox Improving Profitability

1	Personnel cost adjustments (Delbrück)	Large reduction of annual personnel costs and reduction of temporary workers - mainly effective from 01.01.2020	✓
2	Personnel cost adjustments (Austin)	Reduction of personnel costs in 2019 already effective today	✓
3	Sharpening of development focus	Focus on 38 projects (including 23 projects with higher priority) with stringent controlling	✓
4	Material savings through double size technology	Especially cost optimization of battery module for new cells of several manufacturers	✓

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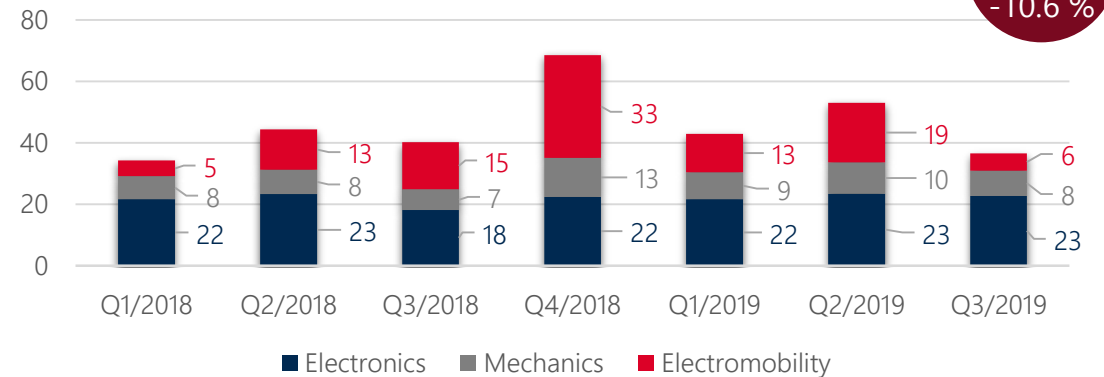
— Outlook

Further Growth Despite Sales Shifts, Focus on Earnings

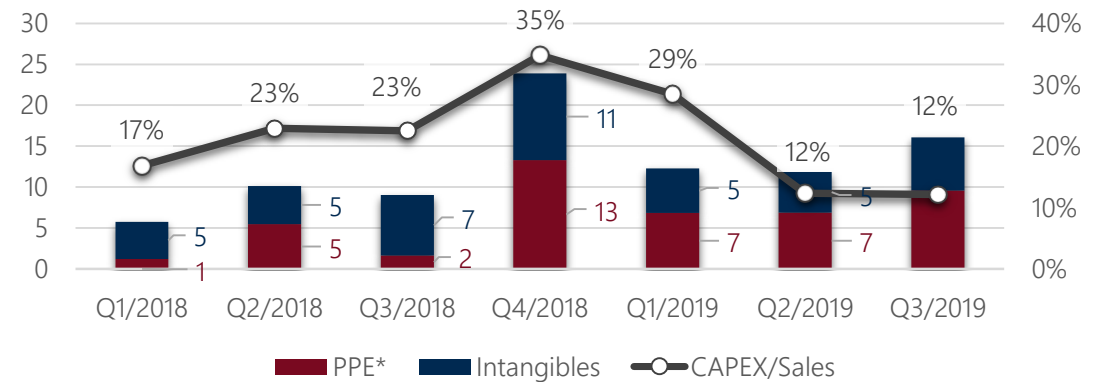
- Revenue growth about 11.6 % to € 132.6m
- Electromobility operating segment + 12.9 %
- Mechanics operating segment + 21.2 %
- Robust automotive business in light of supposedly worse underlying conditions in the automotive industry
- Voltabox consistently focused on 2020 and return to profitability
- EBIT at € -14.1m; EBIT margin at -10.6 %
- CAPEX* € 40.2m / Net debt € 121.7m
- Forecast 2019: Revenue between € 200m and € 210m, EBIT margin between -1 and -2 %

EBIT margin: -10.6 %

Revenue in €m



CAPEX in €m



* Property, Plant and Equipment.

P&L Marked by Revenue Postponements

- Due, among other things, to upstream production output for 2020
- Below-average increase in capitalized development costs

€ 158.5m

Total Operating Performance 9M/19

50.9 %

Gross Profit Margin 9M/19

66.0 %

Material Input Ratio 9M/19

- High proportion of pre-series production at Voltabox required higher procurement costs in the meantime
- Higher expenses at Voltabox for use of previous cell technology

€ 3.1m

EBITDA 9M/19

2.3 %

EBITDA margin 9M/19

34.8 %

Personnel Expense Ratio 9M/19

- Increase in personnel from 2018 onwards due to originally expected revenues
- Meanwhile successfully counteracted and adapted

Increase of Balance Sheet Total

Assets

€ **380.7m**
(y-o-y: + **5.1 %**)

Balance Sheet Total

Equity and Liabilities

Noncurrent Assets + € 29.1m

- Property, Plant and Equipment + € 21.3m through first-time application of IFRS 16 (Leasing), real estate investments, new production lines
- Intangible Assets + € 4.8m

Current Assets - € 10.7m

- Inventories + € 39.5m due to supply of material (mainly cells) for production from 2020 onwards
- Cash and Cash Equivalents - € 36.3m due to expansion of business activities and scheduled repayments
- Trade Receivables - € 20.0m through payments from Voltabox customers

Equity - € 17.4m

- Consolidated Net Income - € 14.2m

Noncurrent Liabilities + € 33.9m

- Finance Lease + € 5.2m through first-time application of IFRS 16 (Leasing)
- Bonds + € 30.4m due to CHF bond in Q2

Noncurrent Liabilities + € 1.8m

- Trade Payables + € 13.7m
- Loans - € 7.6m
- Other - € 6.9m

Group Cash Flow Normalizes

- Significant improvement in cash flow compared with prior-year period
- Significant decrease of € 13.6m in trade receivables as agreed with Voltabox main customer Triathlon
- At the same time, € 11.6m higher increase in inventories used for production for projects already underway and starting from the beginning of 2020
- Operating cash flow clearly positive in Q3 only, FCF still negative in Q3 only due to investments

Free Cash Flow*:
€ -54.6m
(9M/2018: € -88.9m)



* Operating Cash Flow – CAPEX.

Voltabox Q4 incl. Exceptional Effects Through Divestments



Trends Free Cash Flow Full Year 2019

	FCF 2018	FCF 9M/2019	FCF H2e/2019	FCF trend full year 2019e y-o-y
Voltabox AG	€ -68,4m	€ -24,9m	 Slightly positive	 Significantly improved earnings compared to prior-year period
paragon GmbH & Co. KGaA	€ -102,3m	€ -54,6m	 Slightly positive	 Significantly improved earnings compared to prior-year period

Agenda

— Business Overview

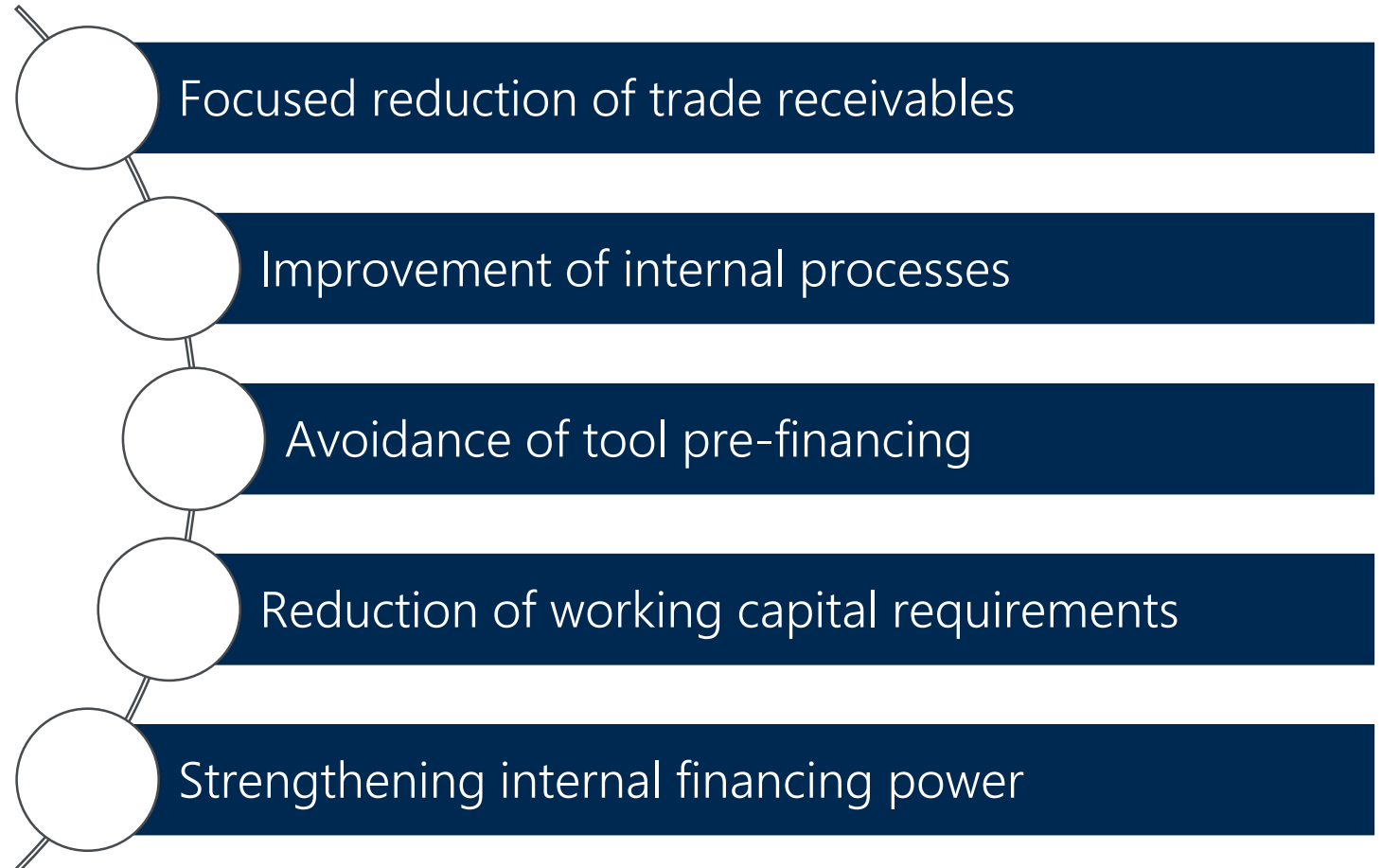
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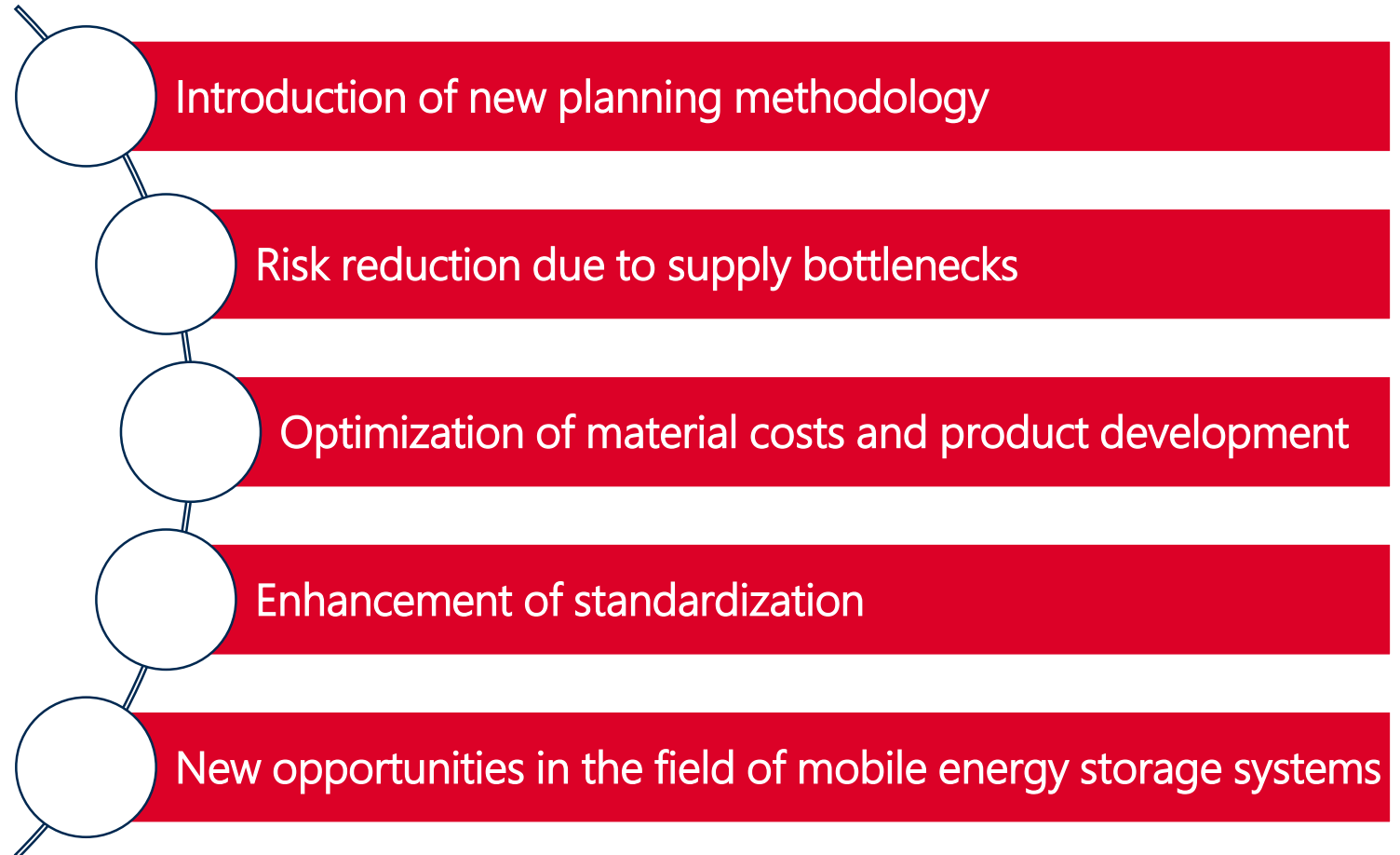
paragon Automotive Conclusions from the Developments in 2019

- Consistent insisting on payment of outstanding one-time and change costs
- Improved internal documentation processes / payment prerequisites for one-off costs
- Stricter internal processes for ex ante cost approval for customer-induced changes
- New terms of payment for customers and suppliers to drastically reduce the pre-financing of tools and customer-owned equipment
- Harmonization of payment conditions for series deliveries



Voltabox Conclusions from the Developments in 2019

- Shifts in sales have increased sensitivity to external, uncontrollable variables; large risk discounts on time scale of future projects
- Approval of further suppliers of prismatic NMC cells (CALB, SVolt) to reduce dependencies on existing suppliers
- Focusing and optimizing product portfolio in development and sales
- In-house developed solution with great market chances for value-conserving use of inventories



New Series Ramp-Ups and Expansions in Sensor Technology



- _ First nomination by Geely Auto Group (China) for Dustdetect®
- _ SoP at mid 2020 at Kunshan plant
- _ Project duration: 7 years



Particle sensor
Dustdetect®



Mercedes-Benz

- _ SoP in Oct. 2018
- _ Increase of Dustdetect® units for Mercedes-Benz by min. 35% in 2020
- _ Project duration: 9 years

Promising Markets

Digital Assistance - Strongly Increasing Automotive Business

- Automotive
- Industry 4.0, Logistics & Robotics
- Medical Devices & Technology
- Chatbots/e-Commerce
- Consumer Electronics

CUSTOMERS	PRODUCTS	PROJECTS
<p>>120 customers</p> <p>use the paragon semvox technology in PoCs, products and applications.</p>	<p>>17 million</p> <p>products and applications will be equipped with paragon semvox technology over the next 5 years.</p>	<p>>400 projects</p> <p>have been realized in recent years based on the products of paragon semvox.</p>

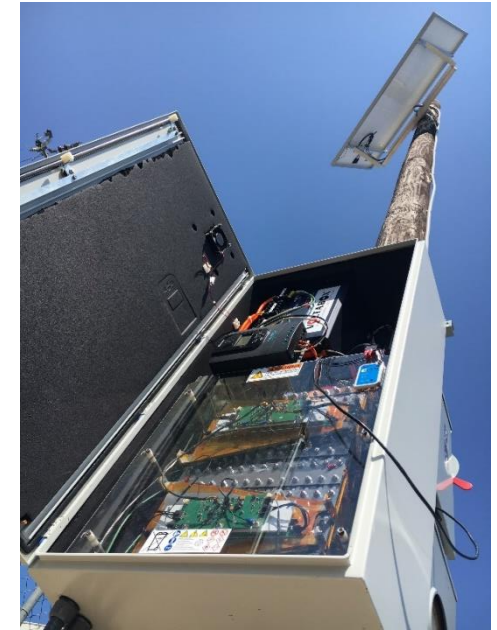


Voltabox Li-Ion Batteries for 5G Network

- New requirements of the US customer already implemented
- Start of series production in 2020 at US plant
- Sales contribution 2020 expected up to € 19m

- Studies show demand for 750,000 to 1.2 million 5G mobile masts in Germany

- Compared to conventional lead-acid batteries, Voltabox lithium-ion batteries are **lighter, smaller, more durable and maintenance-free**



Images: Prototype installations of the Voltabox systems in Austin/TX



Market Entry in 2020 - Conversion of Diesel Buses



- Sales expectation in higher single-digit million range in 2020 - strong increase in sales figures from 2021 according to e-troFit
- Newly validated cells at Voltabox are ideal for application (cost and functional benefits) - Voltabox as sole battery system supplier
- e-troFit battery module can also be used for intralogistics (less dependence on previous main cell supplier)

Energy Thought Flexible – Voltabox Mobile Power Units

- Voltafox are the new mobile energy storage devices from Voltabox – Portable Lithium-ion battery system for a wide range of applications
- Voltabox uses its ready-developed and powerful forklift battery system for this purpose
- >> Optimum use for stock of prismatic NMC cells/modules (1. Generation)

- Various scalable designs and performance features possible
- Calendar week 46: Construction of prototypes
- Calendar week 49: Start of pilot project in Austin

4 core markets

Construction

Event

Disaster Relief

Border Patrol

National Parks

Construction (e.g. welding)

Mobile Broadcasting (TV crew)

Further potential application areas

Medical Support

Field Hospital

Agriculture

Etc.

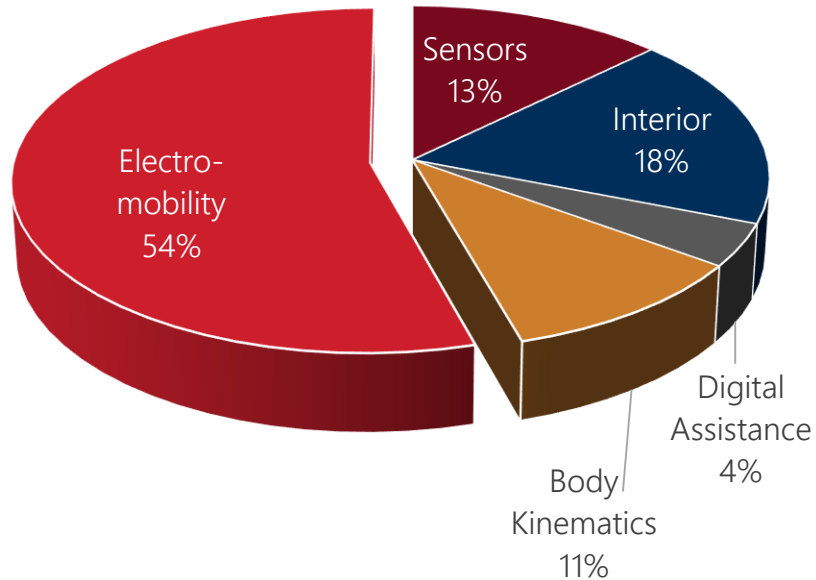


Characteristics

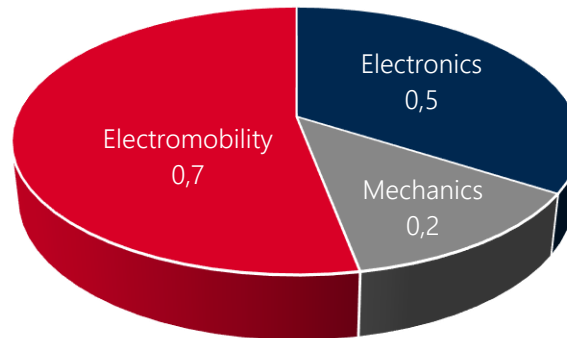
- LTE/3G/4G/GPS connectivity
- Remote control via Web-APP
 - Proactive recommendations for exchange by providers
 - Location determination, anti-theft protection

60-Months Cumulative Order Backlog (Weighted)*

60-months cumulative order backlog (weighted)*
(€2.1bn) as of June 30, 2019
by segments/units



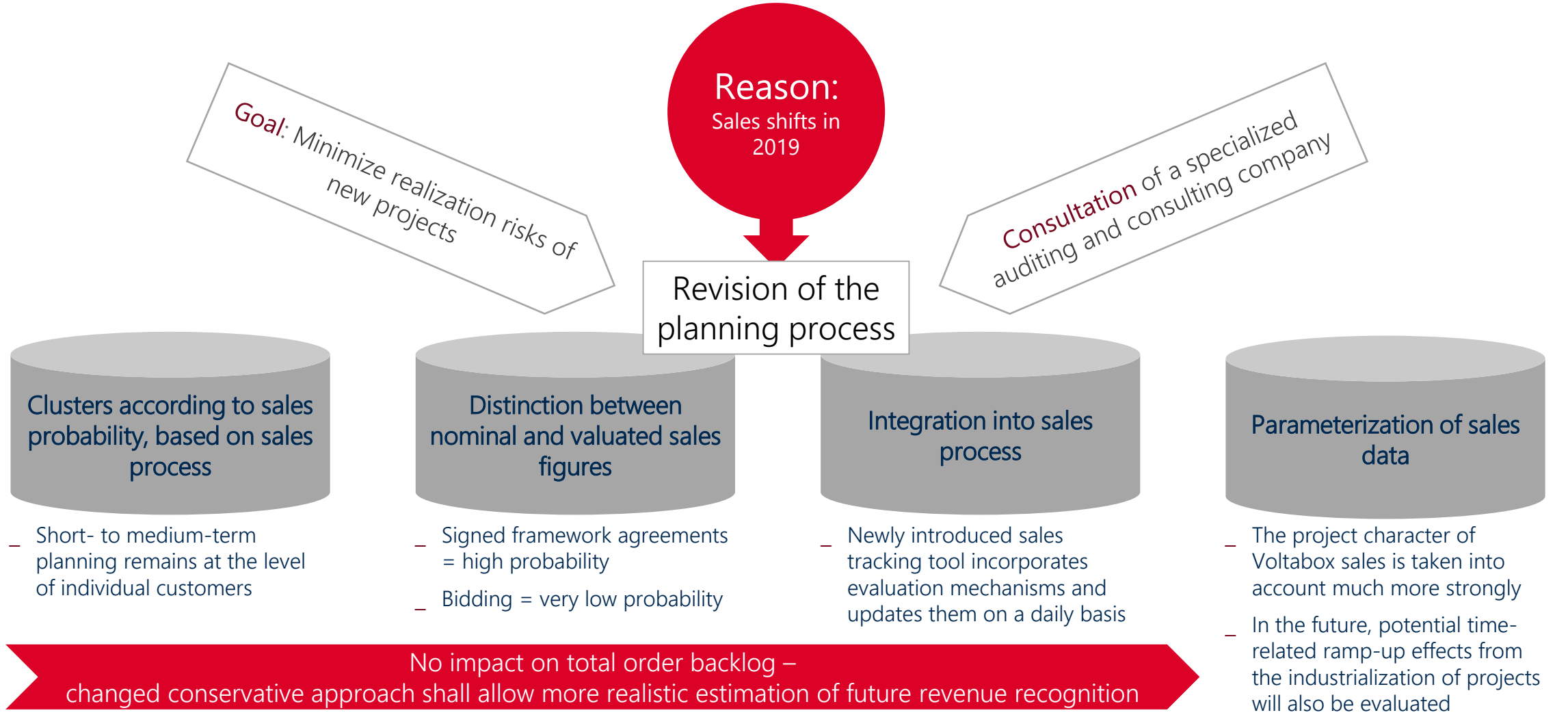
60-months cumulative orders on hand*
as of June 30, 2019 (in €bn)



- Approx. €2.1bn total 60-months cumulative order backlog (weighted)* (Dec. 31, 2018: €2.1bn)
- Estimated order backlog is weighted according to the expected lifetime and the probability of occurrence
- Serves as base for planning
- Evaluation system in place since IPO in FY 2000
- Thereof approx. € 1.1bn attributable to Voltabox (Dec. 31, 2018: € 1.1bn)

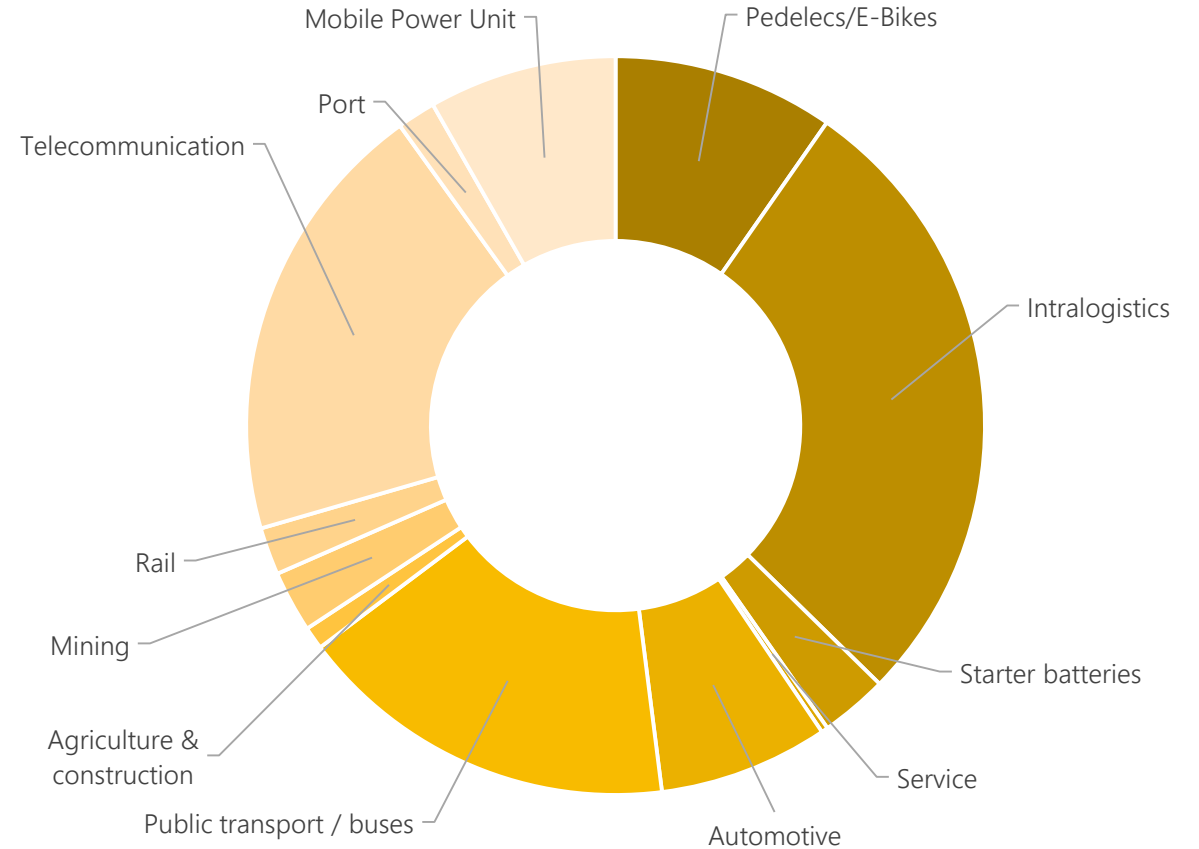
* Including framework agreements.

New Planning Process at Voltabox



Sales by Markets in 2020

- Continuation of significant reduction in bulk risk with regard to major customer in intralogistics sector
- Focusing within entered markets and further development of standardized solutions allows more efficient development and shorter time-to-market
- New (sub-)sales markets in the following areas
 - Public transport / buses (conversion of diesel buses)
 - 5G network
 - Mobile Power Unit (mobile battery storage for flexible use)
 - Port and rail applications



Market Drivers 2020 – Underlying Conditions Brighten Up

Handelsblatt Online edition 23.10.2019

Ausgerechnet die Autobranche könnte das ganze Land technologisch nach vorn bringen

Auf die Leitindustrie kommen schwierige Zeiten zu. In der konjunkturellen Krise müssen sich die Autohersteller auf ihre Kraft zur Innovation besinnen.

AUTOMOBIL PRODUKTION Online edition 12.07.2019

Trendwende dank China

Audi-Verkäufe legen wieder zu

Frankfurter Allgemeine Print edition 14.11.2019
ZEITUNG FÜR DEUTSCHLAND



manager magazin Online edition 09.10.2019

09.10.2019
Absatz in USA und China wächst deutlich

Chinesen reißen sich um Porsche

AUTOMOBIL PRODUKTION Online edition 29.10.2019

Deutsche dominieren

Premiumfahrzeugmarkt in China wächst weiter

Automobilwoche Online edition 30.10.2019
DIE BRANCHEN- UND WIRTSCHAFTSZEITUNG

Trotz Umweltdebatte und schwacher Konjunktur: Eigene Beschäftigte schätzen die Automobilindustrie

STUTTGARTER ZEITUNG Online edition 07.11.2019

Absatz steigt weiter

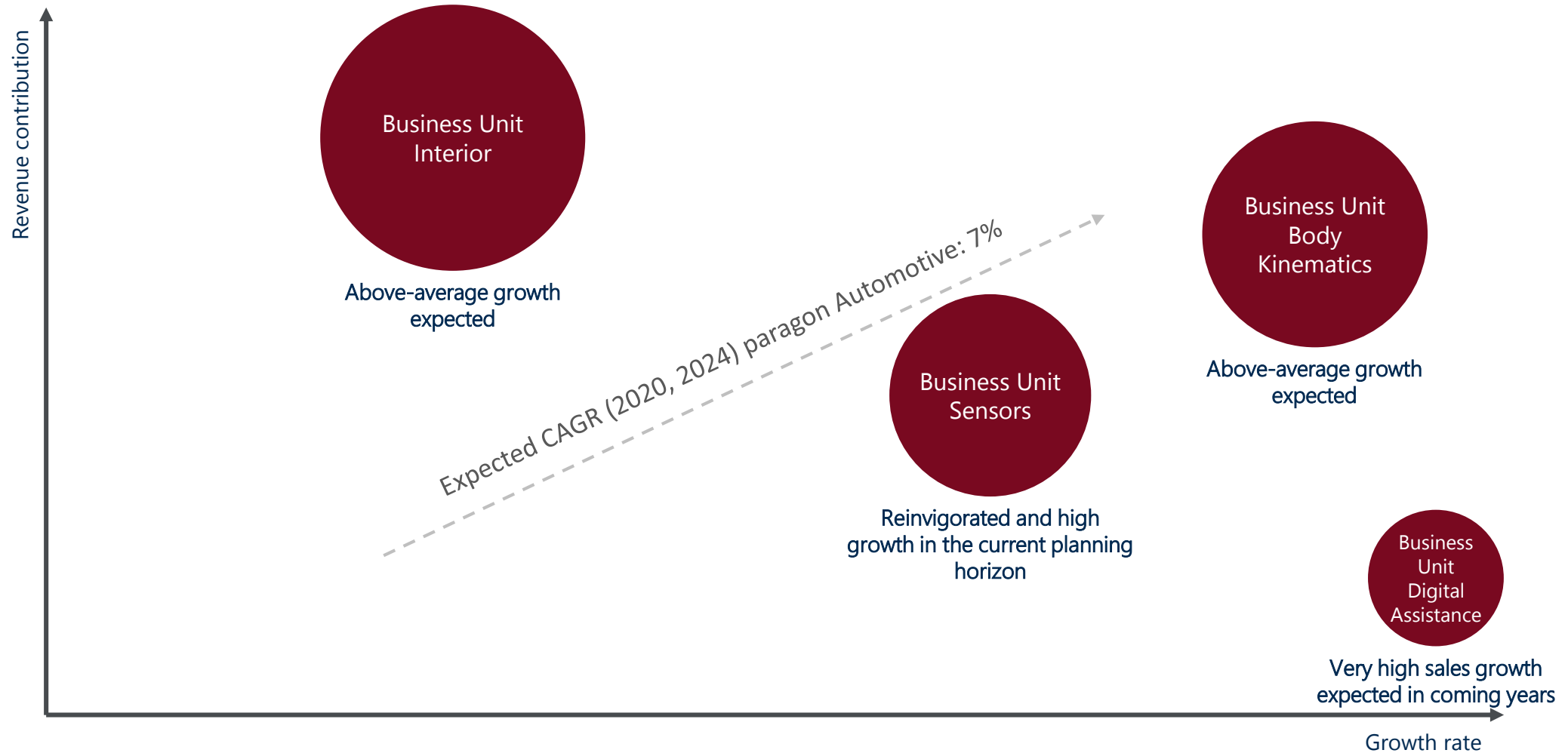
Daimler verkaufte im Oktober mehr Autos

AUTOMOBIL PRODUKTION Online edition 24.06.2019

SUV-Autos werden kleiner

Branchenexperte: Trend zu kleinen SUVs speist das Wachstum

Drivers paragon Automotive Business 2020 ff.

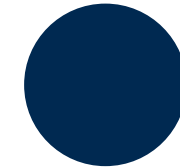


Forecast by Group Sectors 2020



Global automotive market
0,1 %

paragon customers
4,3 %



Trade conflict:

No deliveries of paragon products between USA and China



Diesel crisis, less combustion engines, etc.:

paragon products are independent of the engine or rather beneficiaries of the change



Significantly reduced production volumes, falling demand, "long-term dent":

paragon concentrated on premium segment and beneficial megatrends for years and profits from growing market shares and higher added value per vehicle

Revenue

~ € 140m

VBX: € 85m to € 100m

EBIT margin

5% to 7%

VBX: 5% to 7%

EBITDA margin

15% to 17%

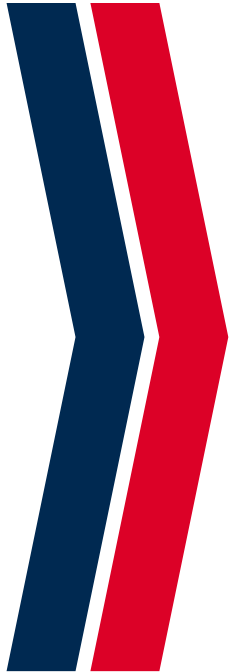
VBX: ~15%

Overview – Forecast for 2019

		Results 2018	Forecast 2019e	Forecast 2020e
paragon Automotive	Revenue	€ 120.5m	~ € 130m	~ € 140m
	EBITDA margin	17.2%	12% to 13%	~ 16%
	EBIT margin	5.6%	2% to 3%	~ 6%
	Investments	€ 35.2m	~ € 26m	~ € 20.0
	thereof IAS38	€ 12.2m	~ € 10m	~ € 10.75m
Voltabox	Revenue	€ 66.9m	€ 70m to € 80m	€ 85m to € 100m
	EBITDA margin	14.3%	~ € 2m	~ 15%
	EBIT margin	8.4%	-8% to -9%	5% to 7%
	Investments	€ 13.6m	~ € 14m	~ € 12.5m
	thereof IAS38	€ 2.9m	~ € 8m	~ € 8.75m
Group	Revenue	€ 187.4m	€ 200m bis € 210m	€ 225m to € 240m
	EBITDA margin	16.2%	8% to 9%	15% to 16%
	EBIT margin	7.9%	-1% to -2%	5% to 7%
	Investments	€ 48.8m	~ € 40m	~ € 32.5m
	thereof IAS38	€ 15.1m	~ € 18m	~ € 19.5m

Basis for Sustainable, Profitable Growth

2019/2020



- _ High investments of past years pay off – market and product strategy in automotive sector proves to be extremely robust
 - _ Outlook continues to promise significantly faster growth than market
 - _ Focusing and optimized forecasting of Voltabox increases planning reliability
 - _ Reduction of production costs and bundling of central functions at subsidiary paragon movasys - reorganization of locations in Germany
 - _ Normalization of cash flow achieved – positive free cash flow expected in 2020
 - _ Cost adjustment at Voltabox leads to noticeably leaner organization
- >> paragon Group to return to earnings figures of 2018 level - basis created for successful realization of medium-term prospects

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