

The background features a digital tunnel composed of curved walls of binary code (0s and 1s). A glowing blue car is driving through the tunnel, leaving a bright orange and yellow light trail behind it. A large, semi-transparent hand is shown holding a smartphone, positioned in the foreground. The overall color palette is dominated by blues, purples, and oranges.

PARAGON®

paragon GmbH & Co. KGaA
Investor / Analyst Presentation

September 27, 2019

Agenda

— Business Overview

— Latest Developments & Current Situation

— Financials

— Outlook

paragon Group

paragon in a Nutshell

2018 revenue:
187 €m
2019e: 200-210 €m

> 30 yrs
experience



> 10
locations
in Germany, China & USA

Continuous Growth



Market Leader
> 300 different electronic and electromechanical systems and products



25%
of 1.164
employees
in R&D

> 25
OEMs as direct
customers

> 220
OEM car models
with paragon's
products inside

Globally, every
7th
car equipped with
paragon
technology

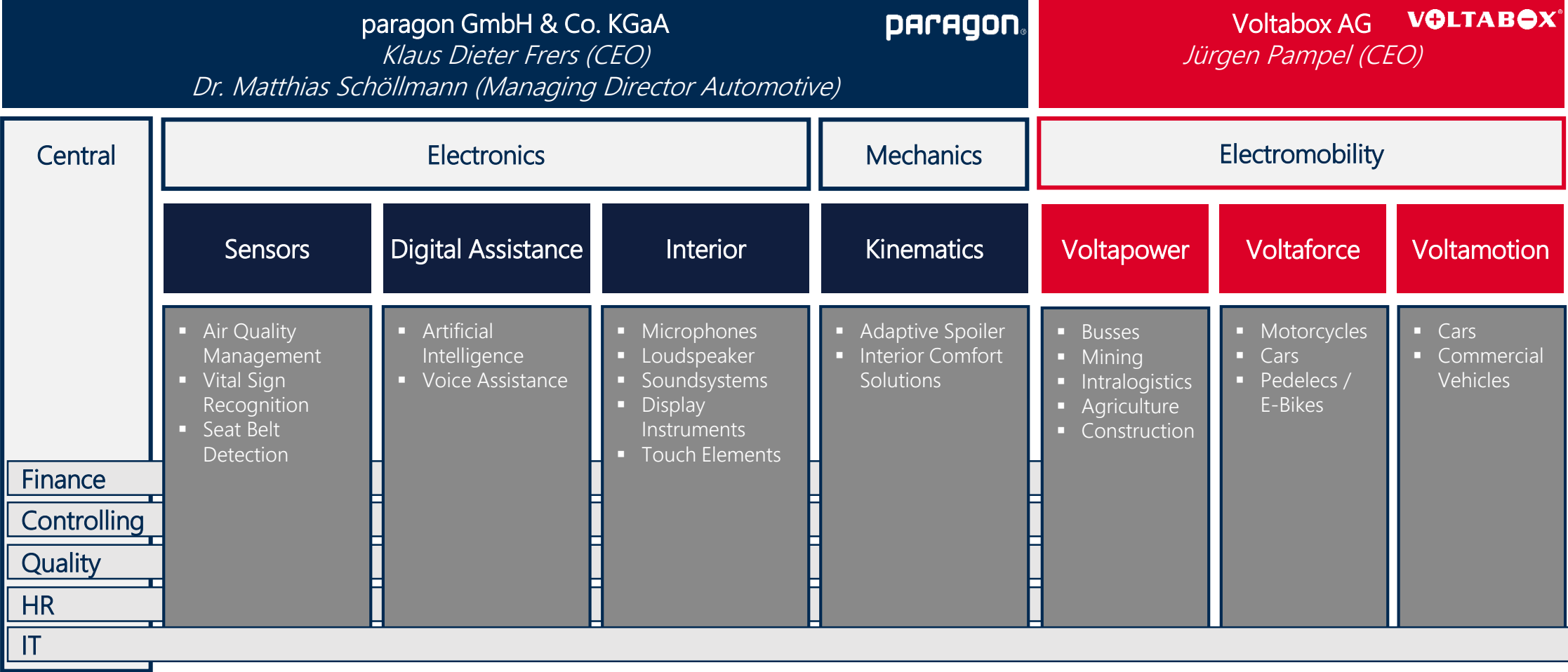
**Family-Owned
Stock Listed**

paragon Group

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>

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.





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

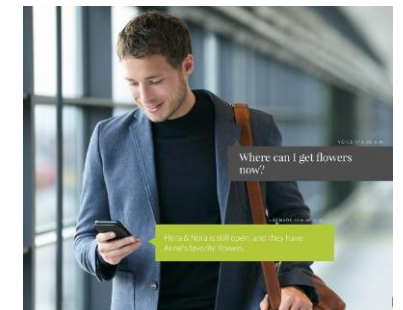
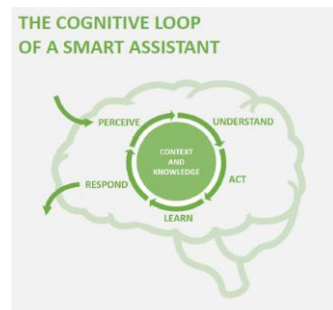
Smart assistants available via cloud detached from any hardware in contrast to the embedded solution.

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

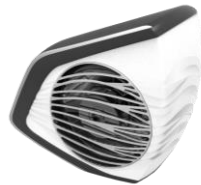
High manufacturing expertise, applicable design and precision engineering combined with software and electronics competence.

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)

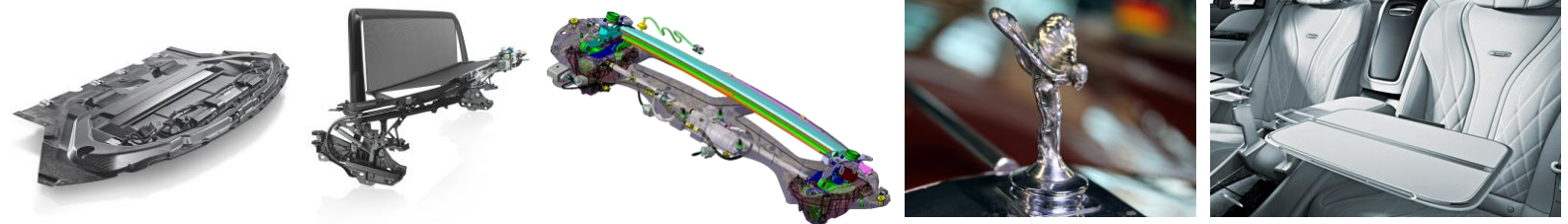
Electric lowering mechanism for the mascot with integrated anti-theft and front protection.

Foldable Table for the Vehicle Interior

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

Seat Cushion Down Position

Electric adjustment of the seat cushion down 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.



Agenda

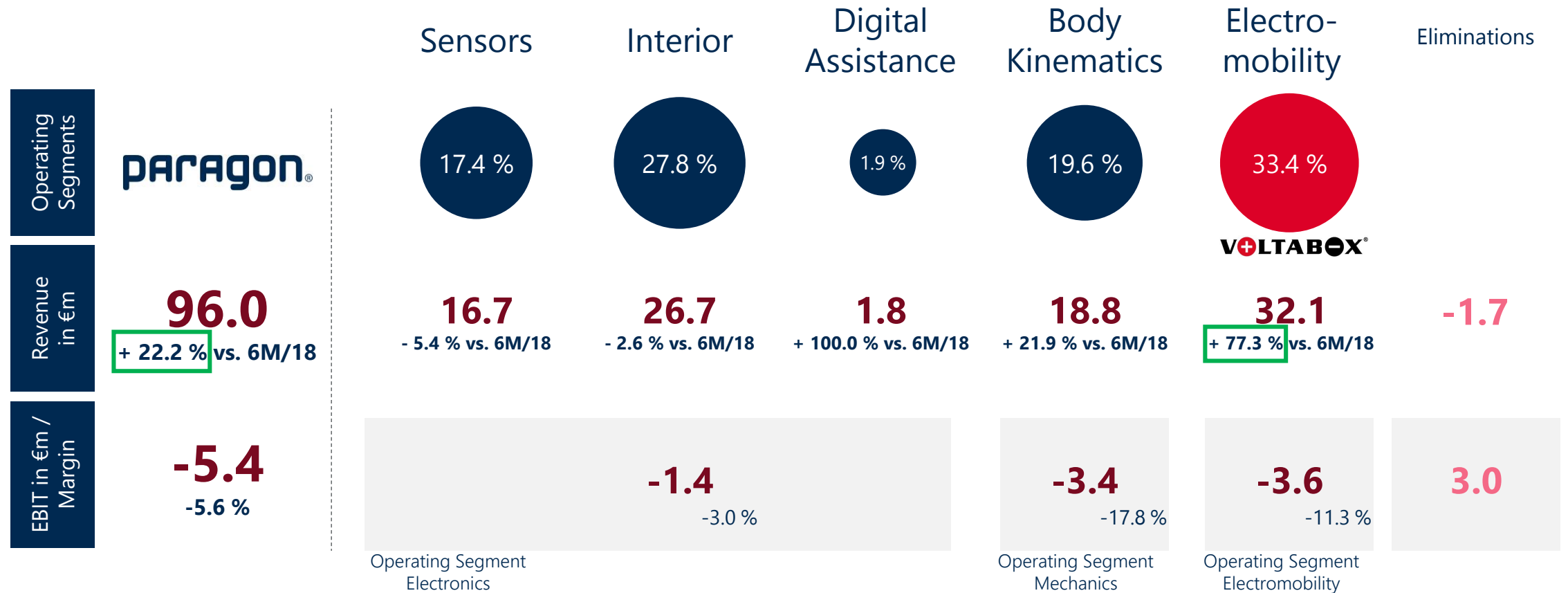
_ Business Overview

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Revenue and Profitability of Business Units



Summary of Major Events in 6M/2019

PARAGON® Automotive

- Q1: Satisfying development
- Q2: OEM-customer market share declines even more sharply
- Cockpit division and Body Kinematics business unit above plan
- Expectations 2019e at € 130m (previously: € 115m to € 135m)
- No sales problem at all
- Unfavorable product mix leading to weaker profitability

V+LTABOX® USA

- US sales sluggish Intralogistics > new regional US sales offices
- Plan: compensation through high-margin major order (5G)
- First order USD 22m postponed to 2020 in particular due to last minute customer requirements
- Loss in the USA in the first half year cannot be fully offset
- US sales expectation € 16m lower than planned

V+LTABOX® EU

- 2nd half of year 2019: Planned conversion of a supplier to the latest cell technology
- Suddenly: Delivery stoppage for 2 to 3 months
- 3 to 4 months of interruption in sub-areas of production
- Sales shift of at least € 12m into the year 2020
- Material usage rate too high due to short-term procurement campaigns

Construction of Infrastructure for the New 5G Technology

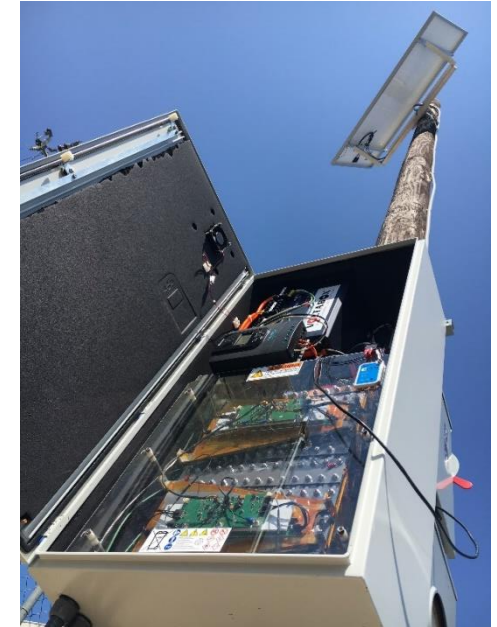
- _ In large cities one transmission tower every 300m, ca. 3,000 to 5,000 5G masts in total per city
- _ Studies on the need in terms of setting-up the German 5G network: 750,000 to 1.2 million 5G transmission towers
- _ **Back-up-Batterie** for bridging power failures
- _ Compared to conventional lead-acid batteries, **Voltabox** Li-Ion batteries are **lighter, smaller, more durable and maintenance-free.**



Large Initial Order for Voltabox Back-up Systems

- _ Client: located in Austin, active in 5 federal states
 - _ Alpha Prototype: June 18, 2019 (1 piece)
 - _ Beta Prototype: July 2019 (5 pieces)
- _ Volume First Order: 2.200 pieces
- _ New customer requirements in 08/2019:
 - _ 44 hrs durability instead of 33 hrs
 - _ 1,500 cycles instead of 3,600 cycles

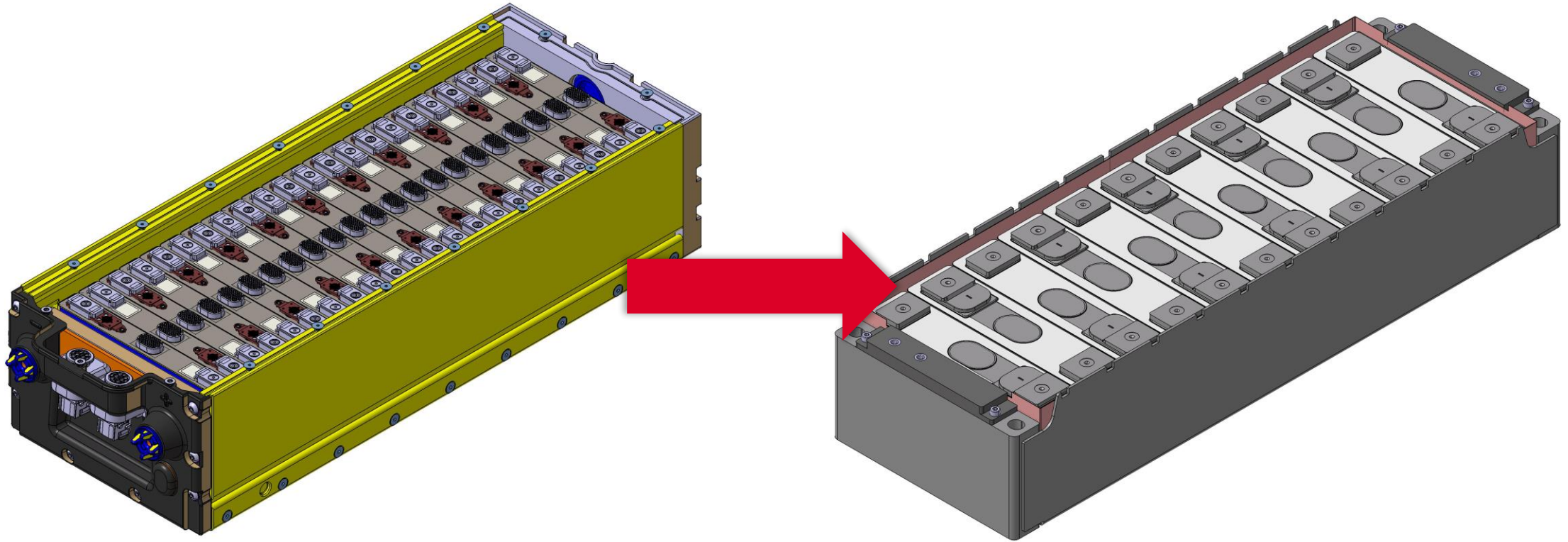
- _ Technically not challenging
- _ Impact on battery size and management
- _ New validation necessary >> Time delay



Prototype installations of the Voltabox systems in Austin/TX



Change of Technology: Single Size vs. Double Size Cells



Alternative cells in approval process
to prevent future delivery stops

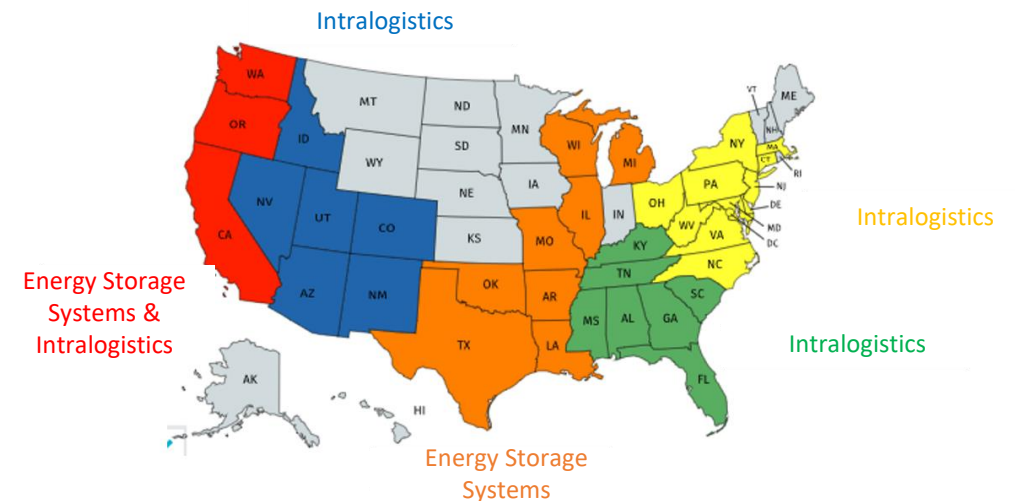
Voltabox: Securing the targets for 2020

- _ Focus on profitable growth markets with innovative standard systems
 - _ Value analysis of portfolio products completed
 - _ Focus on major projects
- _ Future high margins through new cell technology
- _ Entering new high-margin markets (e.g. 5G) as innovation leader
- _ Realignment of the Texas site as a technology center and production site for the 5G market
- _ Regional sales network for intralogistics

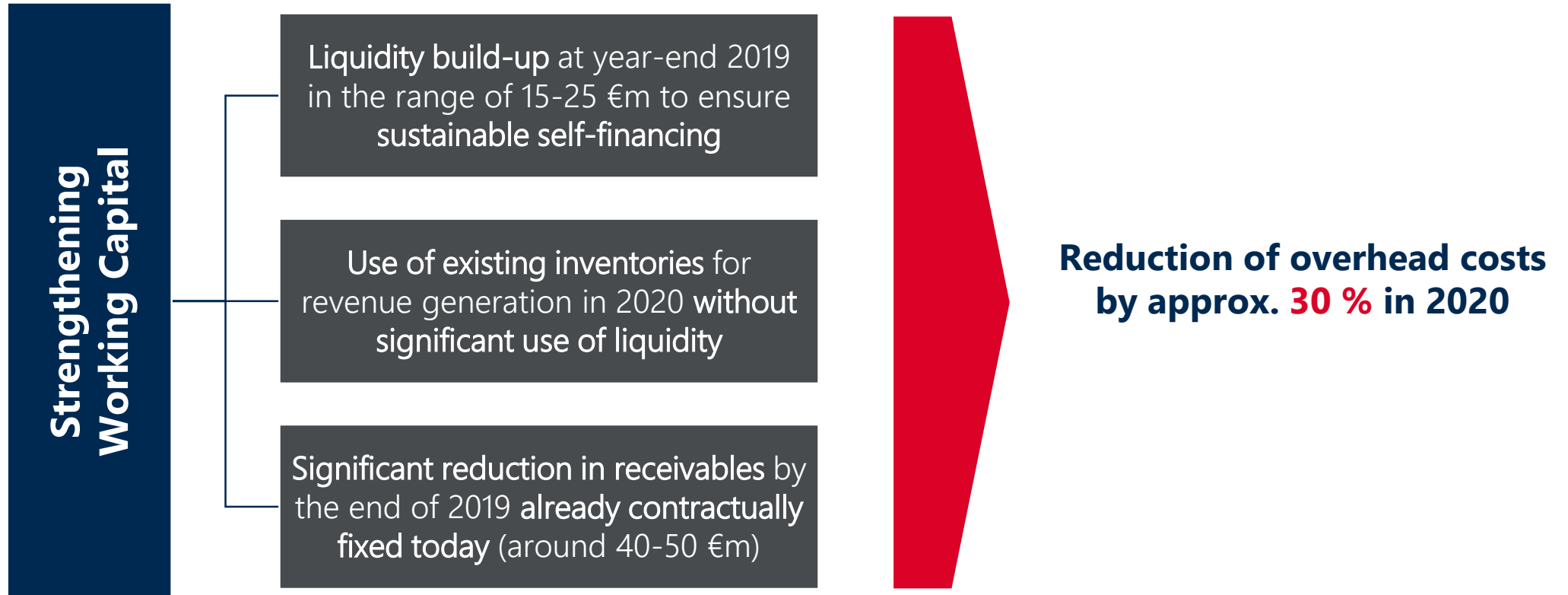


Thomas Marc Becker (39):
New CFO Voltabox USA

Graduate business economist and industrial engineer with professional background gained at Continental Automotive Systems in China and USA, most recently Head of Finance/IT in Santa Teresa (Texas, USA)

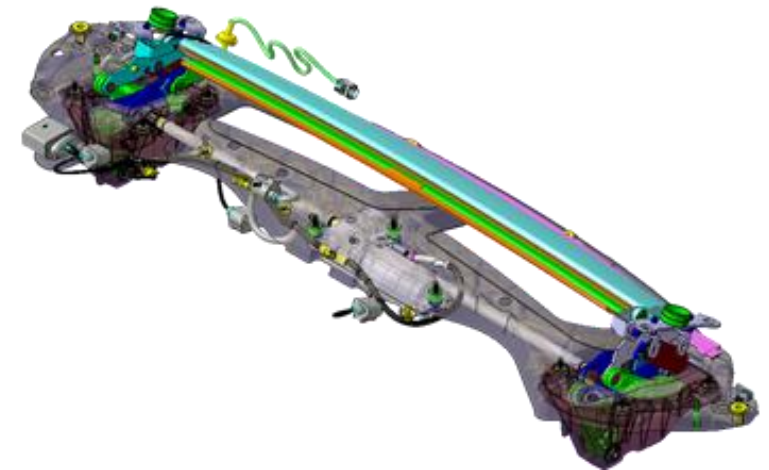


Voltabox: Securing the targets for 2020



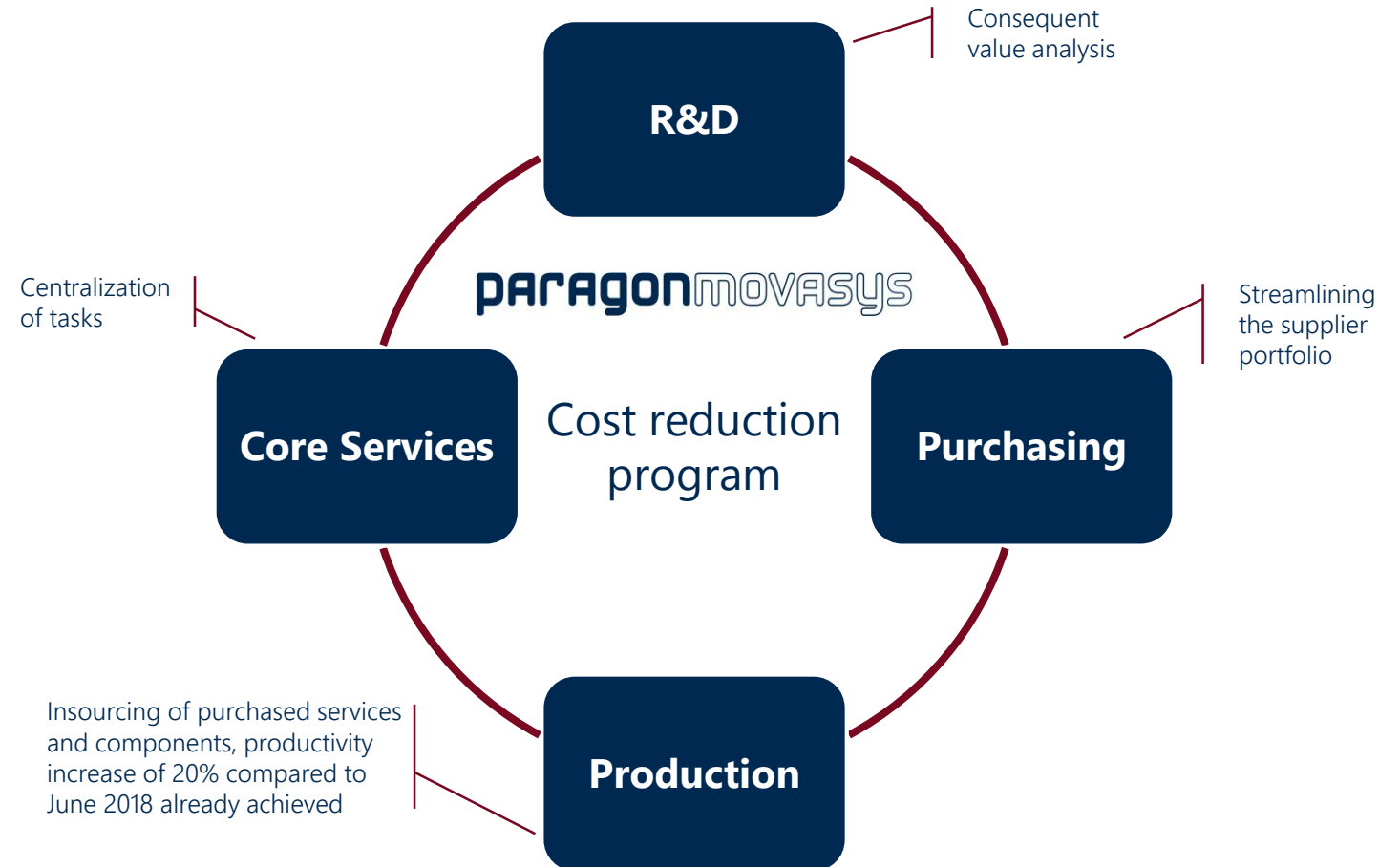
Ramp-up Problems with the Porsche 992 Project

- _ Order won by HS Genion GmbH (11/2017 acquired by paragon)
- _ Critical Porsche spoiler concept for a premium sports car, rejected by paragon in quotation phase
- _ High accuracy requirements mainly for set parts on which paragon has little influence
- _ Subsequent changes (new visible surfaces, acoustic requirements) by OEM led to bottlenecks and considerable additional expenditure
- _ Massive support from Delbrück for Landsberg am Lech site
- _ Number of units increased by >30 %
 - >> Threshift operation already at ramp-up



paragon Automotive – Reduction of overhead costs by approx. 15 % in 2020

- Sustainable safeguarding of a strong equity base and stable liquidity through optimization of working capital
- Critical review of all planned investments including construction projects
- However, investments in future projects will be continued



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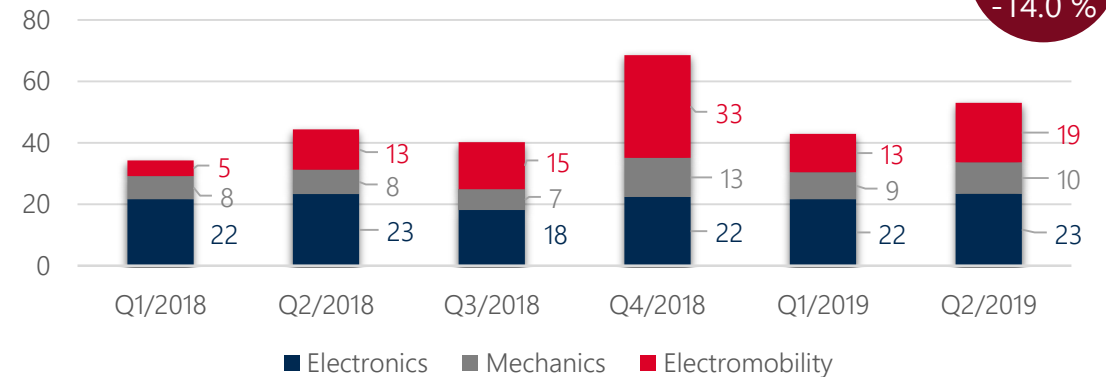
_ Outlook

Clear Growth despite Sales Postponements, Focus on Earnings

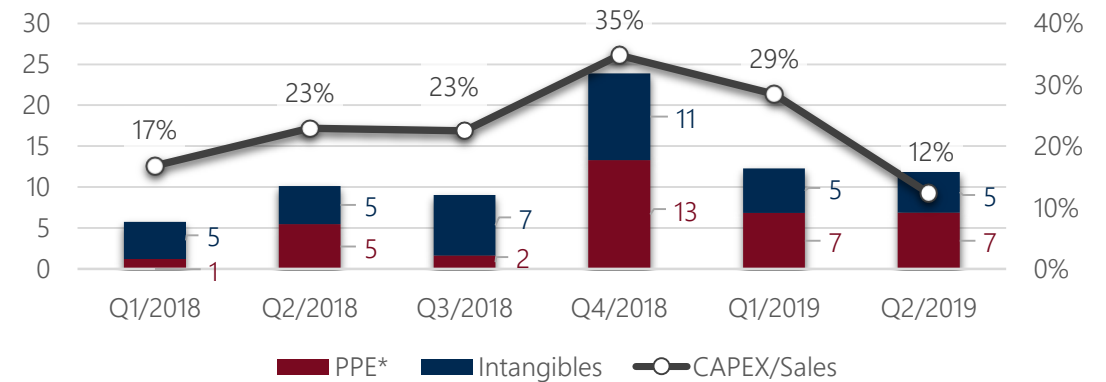
- Revenue growth about 22.2 % to € 96.0m
- Electromobility operating segment + 77.3 %
- Mechanics operating segment + 21.9 %
- Robust automotive business in light of noticeable problems of competitors
- Voltabox business model remains attractive - sales only postponed
- EBIT at € -5.4m; EBIT margin at -5.6 %
- CAPEX* € 24.1m / Net debt € 110.6m
- Forecast 2019: Revenue between € 200m and € 210m, EBIT margin between -1 and -2 %

EBIT margin: -14.0 %

Revenue in €m



CAPEX in €m



* Property, Plant and Equipment.

Key Figures in 6M/2019

Total operating performance

€ 111.3m

(6M/2018: € 89.8m)

Output remains high – including other operating income of € 3.4m

Material input ratio

62.9 %

(6M/2018: 55.5 %)

Short-term, expensive orders, especially for old cell-technology

Personnel expense ratio

32.3 %

(6M/2018: 29.5 %)

Increase in personnel in the second half of 2018 due to business expansion and M&A

Cash Flow Statement 6M/2019

- _ Increase in depreciation of fixed assets according to plan
- _ Increase in trade receivables - but significantly less than in the same period last year
- _ Significant decrease in non-cash expenses
- _ Significant increase in inventories due to supply of materials for the 2nd half of the year
- _ 60 percent of the planned CAPEX investments for the year as a whole realized

Free Cash Flow*:
€ -50.9m
(6M/2018: € -43.5)

€ -26.8m
(6M/2018: € -27.6m)
Cash Flow from Operating Activities

€ -24.1m
(6M/2018: € -15.9m)
Cash Flow from Investment Activities

€ 19.1m
(6M/2018: € -2.3m)
Cash Flow from Financing Activities

* Operating Cash Flow – CAPEX.

Tendency Free Cash Flow

	FCF 2018	FCF – First six months 2019	FCF – 2nd half year 2019	FCF Trend FY2019e vs. FY2018
Voltabox AG	€ -68,4m	€ -24,1m	<p>Slightly positive result</p>	<p>Significantly improved, double-digit negative result</p>
paragon GmbH & Co. KGaA	€ -102,3m	€ -50,9m	<p>Slightly positive result</p>	<p>Significantly improved, mid double-digit negative result</p>

Latest Developments & Current Situation



Adjustment of Forecast for 2019

paragon Automotive	Results	Forecast (old)	Forecast (new)
	FY 2018	FY 2019	FY 2019
Revenue	120.5 €m	115 to 135 €m	130 €m
EBIT margin	5.6 %	7 to 8 %	ca. 3 % (adjusted: 8 %)
Investments	35.2 €m	26 €m	26 €m
<i>thereof: IAS 38</i>	<i>12.2 €m</i>	<i>10 €m</i>	<i>10 €m</i>
Voltabox AG	Results	Forecast (old)	Forecast (new)
	FY 2018	FY 2019	FY 2019
Revenue	66.9 €m	105 to 115 €m	70 to 80 €m
EBIT margin	8.4 %	8 to 9 %	-8 to -9 % (adjusted: 9 to 10 %)
Investments	13.6 €m	14 €m	14 €m
<i>thereof: IAS 38</i>	<i>2.9 €m</i>	<i>8 €m</i>	<i>8 €m</i>
paragon GmbH & Co. KGaA	Results	Forecast (old)	Forecast (new)
	FY 2018	FY 2019	FY 2019
Revenue	187.4 €m	230 to 240 €m	200 to 210 €m
EBIT margin	7.9 %	ca. 8 %	-1 to -2 % (adjusted: 8 to 8,5 %)
Investments	48.8 €m	40 €m	40 €m
<i>thereof: IAS 38</i>	<i>15.1 €m</i>	<i>18 €m</i>	<i>18 €m</i>

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Outlook – Innovation Highlights

Example: Innovative Sound Solutions

CAR & HiFi

*Edition 5/2019:
„Klangfeuerwerk“ – One of the
world’s best car-audio speaker!*



Outlook – Innovation Highlights

Example: Technology Leader in the Field of AI Assistants

- 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 GmbH.</p>



PORSCHE



Outlook – Innovation Highlights

Example: Technology Leader in the Field of AI Assistants

Positioning paragon semvox against its competitors



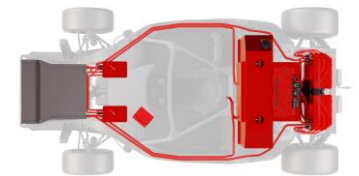
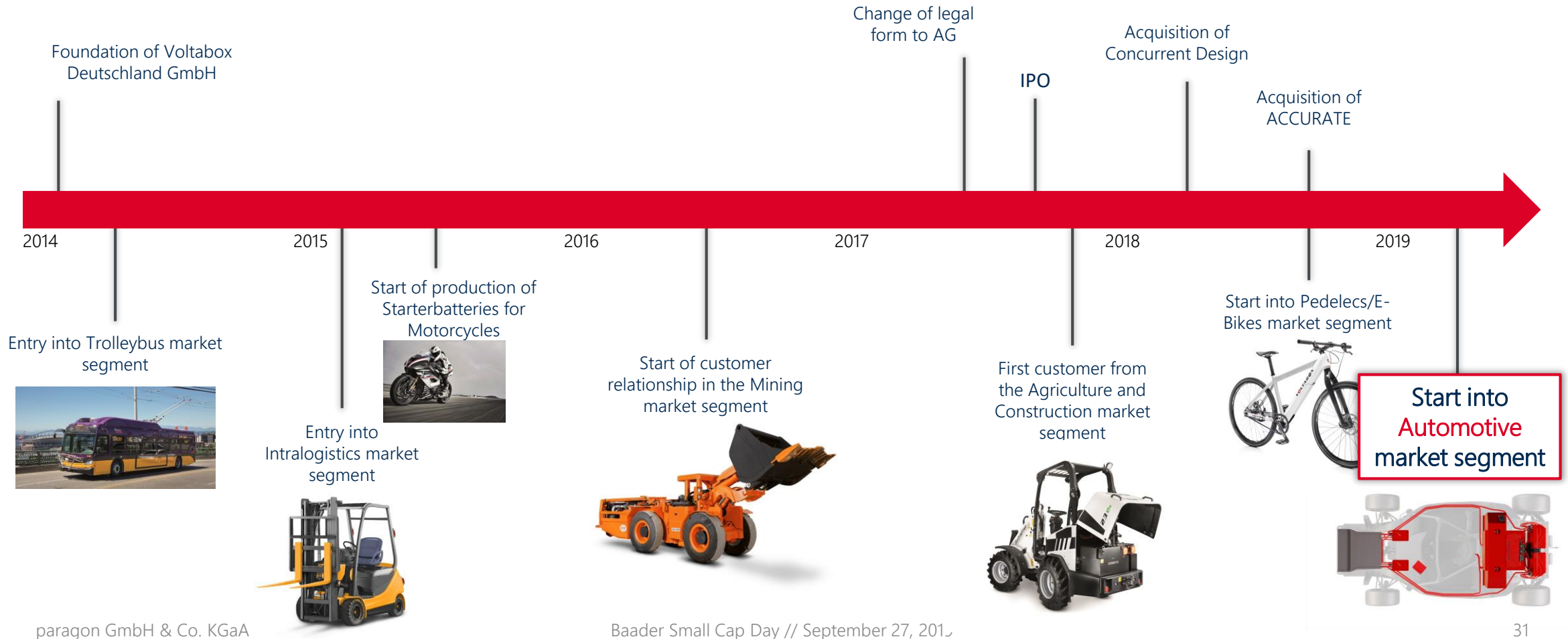
USPs compared to main competitors

Technology	Embedded	Proactivity	Context	Multimodality	Adaptation	Full data control	B2B
ODP S3	✓	✓	✓	✓	✓	✓	✓
Google Assistant	✗	✓	✓	✗	✓	✗	✗
Microsoft Cortana	✗	✓	✓	✗	✗	✗	✓
IBM Watson	✗	✓	✓	✗	✓	✗	✓
Amazon Alexa	✗	✗	✓	✗	✗	✗	✓
Hey Siri	✗	✗	✓	✗	✓	✗	✗

connect

Edition 10/2019:
 "Meisterstück" (Audi e-tron)

Expansion of Industrial Submarkets to Include Mass Markets



New Market for Voltabox: 5G Mobile Transmission



With the 5G technology the basis is created for...



Smart Cities

Autonomous Driving



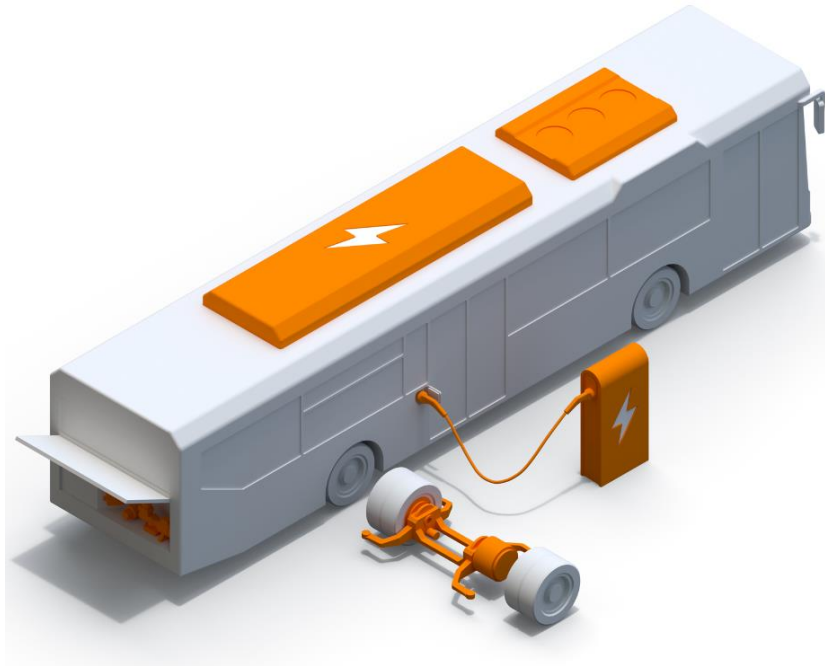
Smart Factories and Industrial Internet of Things (IIoT)



Smart Homes and Smart Buildings



e-trofit Project



o|l|o deutscher  mobilitätspreis
An excellent partnership



- Retrofitting of diesel buses to 100 % electric drive
- Up to 50 % cheaper than new procurement
- Extension of the operating lifetime of older vehicles
- Federal & state funding programmes are possible

V+LTABOX®

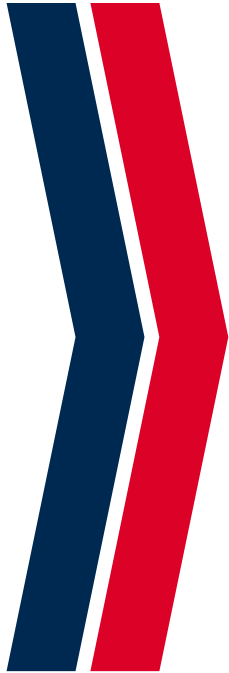
ZF | AFTERMARKET



e-trofit

The Right Levers Are Gripped!

2019/2020



- _ Business model absolutely intact
- _ Equity ratio remains high
- _ Adequate liquidity position, robust financial foundation - focus on reducing net working capital
- _ Voltabox focus on high-yield, high-cash core themes and balanced, qualitative growth
- _ Comprehensive range of measures to improve earnings side
- _ Current measures and investments in 2019 secure significantly lower fixed costs and high profitability in 2020
- _ Medium-term outlook intact

APPENDIX

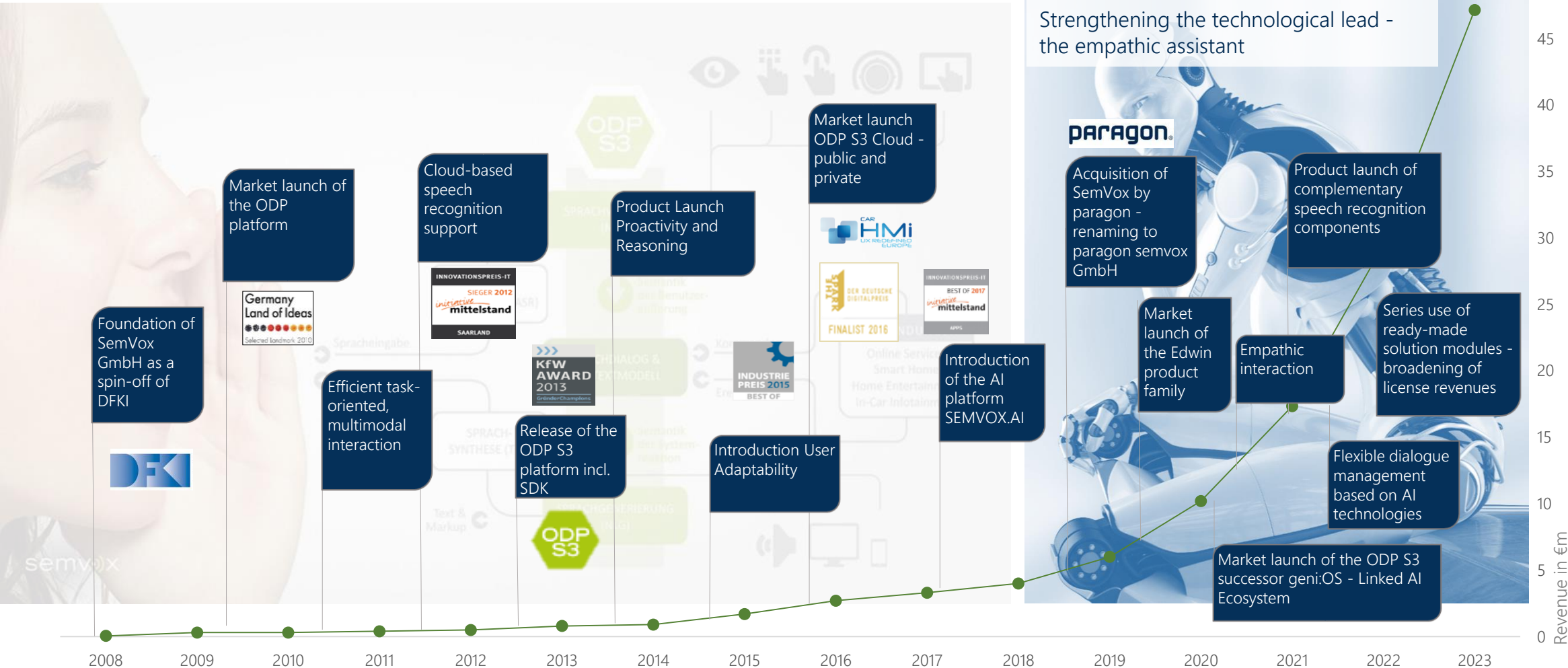
Key Data Net Assets (IAS)

In €m / as indicated	June 30, 2019	Dec. 31, 2018	Change
Assets Total	380.8	362.3	5.1 %
Equity	168.4	177.8	-5.3 %
Equity Ratio (in %)	44.2	49.1	n/a
Available Liquidity	31.5	48.9	-35.6 %
Interest bearing liabilities	142.0	110.6	28.4 %
Net debt*	110.6	61.7	n/a
Net Debt*/EBITDA	20.0	5.6	257.1 %

* Defined as: Interest bearing liabilities – Available liquidity.

Outlook – Innovation Highlights

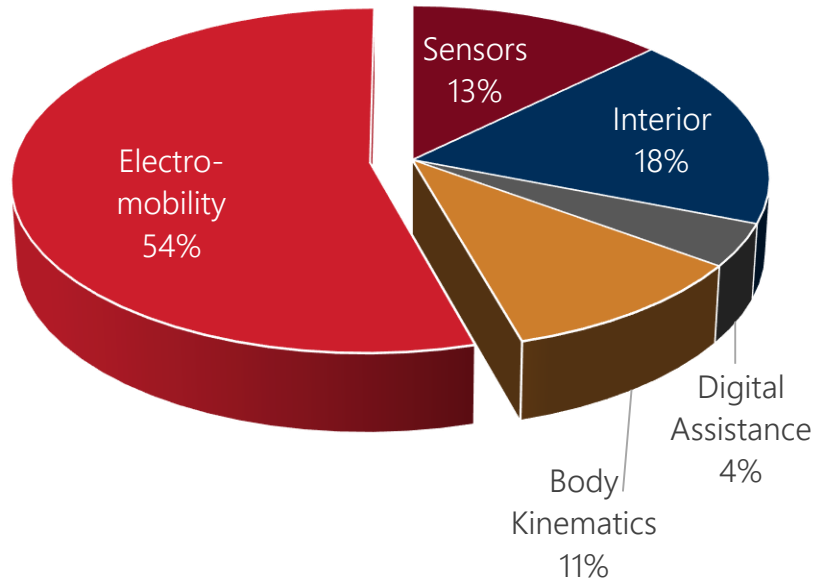
Market Potential for AI Assistants



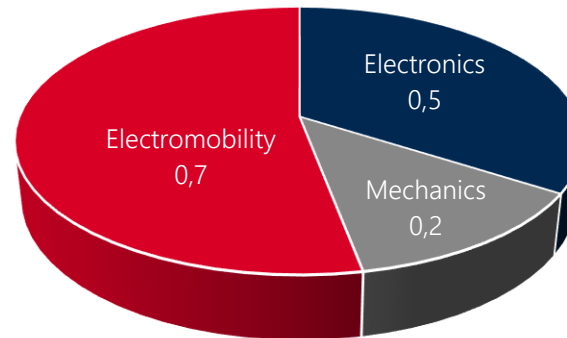
Outlook

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.

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