

PARAGON®



paragon GmbH & Co. KGaA

H1/2018 PRESENTATION

August/September 2018

Agenda

_ At a glance

_ Push automotive mega trends

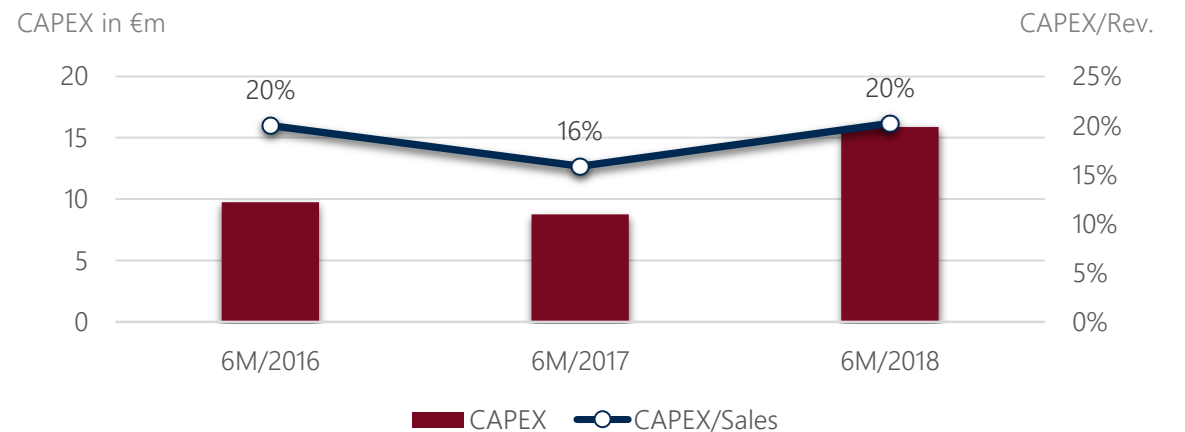
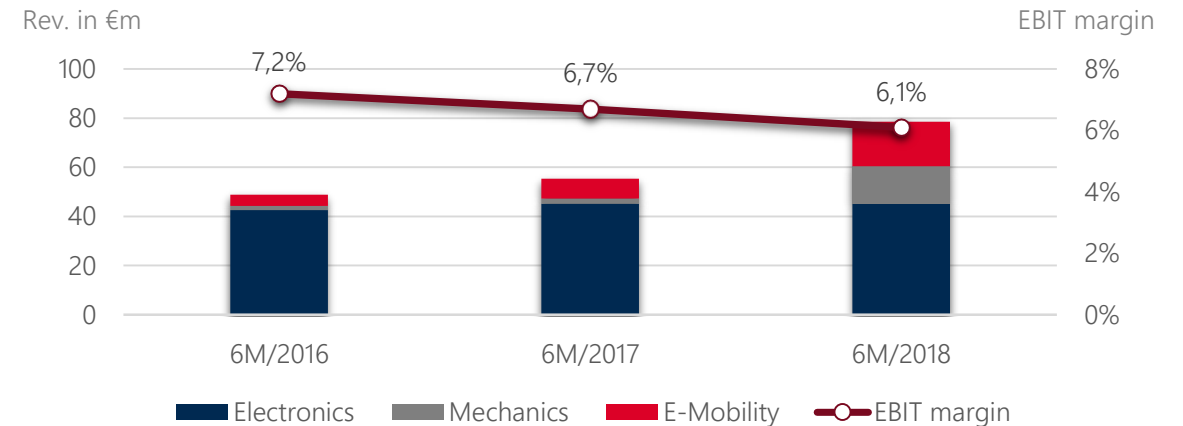
_ Segments

_ Financials

At a glance

Highlights from first half 2018

- Continued top line growth +42%
- Automotive sector sales up 28%
- Main driver E-Mobility and Mechanics sales more than tripled
- FY18 Revenue outlook raised from € 175m to € 180-185m, operational profitability expectations confirmed
- Voltabox: 2018 add. expenses (€ 2m) from rearrangement of intralogistics partner agreement
- New EBIT margin of approx. 8% considers this special item



At a glance

PARAGON®

paragon – 30 years of corporate development in automotive

- Established in 1988 as an electronics manufacturer in Delbrück
- Development into an automotive Tier-1-supplier of electronics and electro-mechanics
- IPO in 2000
- Current market cap* of € 229m
- Establishment of three operating segments (Electronics, Mechanics, E-Mobility) and several value-adding acquisitions
- Carve out of E-Mobility segment as Voltabox AG and IPO in 2017 with current market cap* of € 323m (60% stake held by paragon AG)

Selected Tier-1-partners:



* As of June 30, 2018.

At a glance

The paragon principle – business strategy

- _ Growth strategy: early entry into high margin/fast growing market segments
- _ Key technologies for and geared to megatrends
- _ Interdisciplinary team of experts (electronics, mechanics, chemistry, production technology)
- _ Pioneering and active product development
- _ Excellence in mass production (high degree of automation)
- _ Unique product portfolio and market position

Mission Statement

Early occupation
of **high-margin** niches
in **premium market**
segments with
enabling technology
for existing **megatrends!**

At a glance



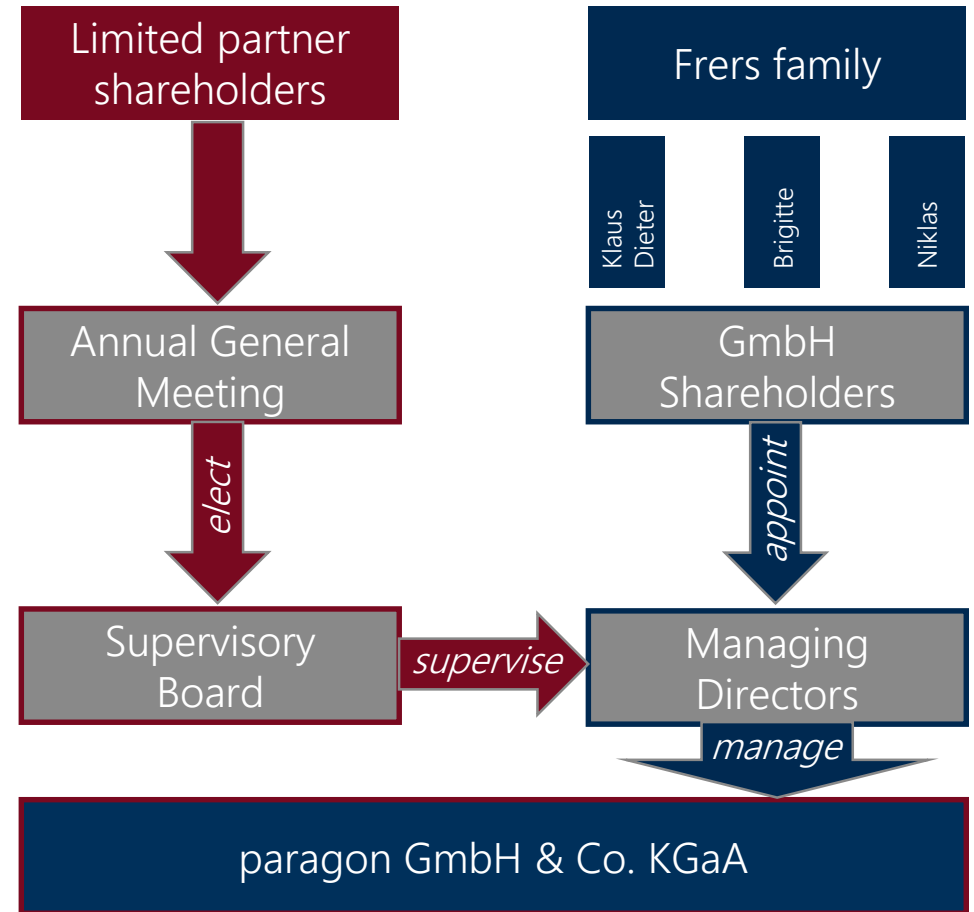
Current portfolio positioning

Segments	Electronics			Mechanics	E-Mobility
Business Units	Sensors	Cockpit	Acoustics	Body Kinematics	V+LTABOX®
Key products	AQS®, AQI®, DUSTDETECT	Analog luxury instruments, MirrorPilot®	Speech control & hands-free microphones, belt-mic®, ICC, (3D+ In-car-audio)	Active mobile aerodynamic systems	High performance battery systems, battery modules, starter batteries
Key customers	Audi, BMW, VW	Porsche, Daimler, VW	Audi, VW	Daimler, Audi, Porsche, Rolls Royce	Triathlon Batterien, Kiepe Electric, Komatsu Mining, BMW Motorcycles
Growth potential					
Competitive strength					
Market entry barriers	Patents & mass production	Quality & OEM relations	Know-how & mass production	Quality & OEM relations	Modularity & specialization
Main markets	Automotive				Public transportation Industrial

At a glance

From AG to KGaA: strengthening for future growth

- _ Change of legal structure from a stock corporation into a partnership limited by shares completed.
 - _ Important prerequisite for growth to a € 500m Company within few years
 - _ Free space for corporate financing
 - _ Preservation of successful combination of family orientated business and listing
 - Approval rights of Supervisory Board / Corporate Governance mostly like German AG
 - Rules of Securities Acquisition and Takeover Act (WpÜG) still valid



At a glance

Management



Klaus Dieter Frers

- _ Chairman of the Board of paragon GmbH
- _ Chairman Supervisory Board of Voltabox AG
- _ Founder and major shareholder* of paragon GmbH & Co. KGaA



Dr.-Ing. Matthias Schöllmann

- _ Managing director of paragon GmbH (as of Sep. 1, 2018)
- _ Head of Automotive business
- _ Previous function: Managing Director at Hella GmbH



Dr.-Ing. Stefan Schwehr

- _ Managing director of paragon GmbH
- _ Head of digital issues and corresponding collaborations
- _ Previous function: Head of series development controls and displays at Daimler AG

** 50% plus one share; Incl. attribution acc. to section 22 securities trading act.*

Agenda

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- _ Push automotive mega trends**
- _ Segments**
- _ Financials**

Push automotive mega trends

Urbanization



Increasing air
pollution

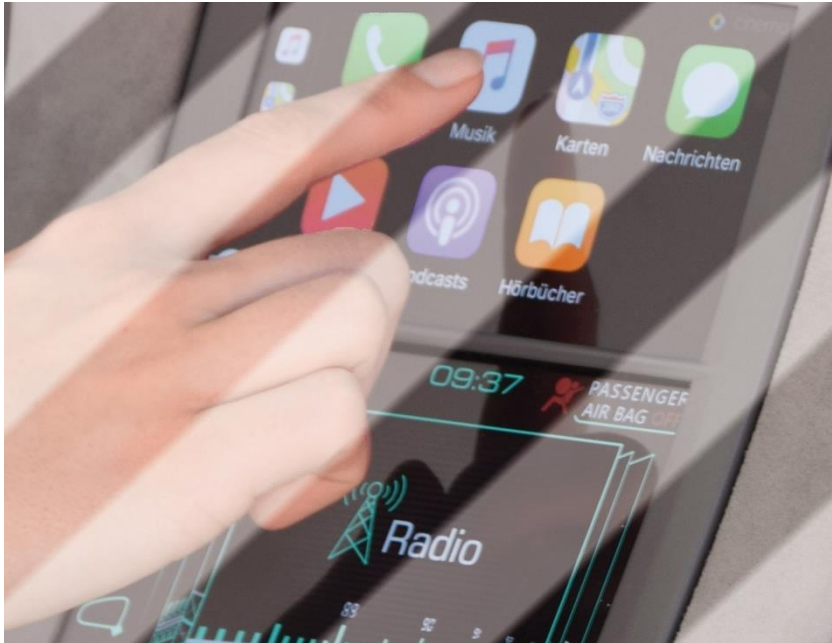
Shared mobility

Current developments & internal projects:

- Geely Auto Group as first Chinese customer for particle sensor DUSTDETECT (2.5 μm) (SOP: H2/2020) - increasing market penetration in China
- Development of the particle filter DUSTPROTECT completed, which is six times more effective than regular modern HEPA air filters
- Current development projects for robo-taxi of a Silicon Valley startup company

Push automotive mega trends

Digitization



Autonomous driving

Connectivity

Current developments & internal projects:

- Development of sensor technology for contactless recording of drivers vital data for autonomous cars of levels 3 and 4
- Active-Road-Noise-Cancelling as additional feature in the existing 3D+ sound system
- Presentation of a 3D+ streaming service for multi-channel music to OEMs
- Pilot customer series release of the car sharing module based on the MirrorPilot completed

Push automotive mega trends

Climate change / carbon reduction



Sustainable Mobility

Range efficiency
of vehicles

Current developments & internal projects:

- Li ion battery systems for several underground mining vehicle types under development
- Monobloc Li ion battery system solution incl. onboard charger and charger cable
- Unique approach towards customers: paragon movasys is the only supplier worldwide that can offer complete mobile aerodynamic systems from a single source
- Ramping-up series production of the newest generation of rear spoilers for several car models

Push automotive mega trends

Comfort requirements of a digital lifestyle



Current developments & internal projects:

- Integration of voice assistant into MirrorPilot©
- Upgrading of Mirror Pilot© for handling the radio tuner via a 3rd party app
- Development of innovations aiming on increasing convenience for drivers and co-drivers

Convenient
interaction

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Electronics: lifecycle effects with increasing take rates



Sensors

- Air quality sensor AQS®
- Air improvement system AQI®/IONAIR
- A/C-purifier AQC©
- CO₂ sensor
- Particle sensor DUSTDETECT©



Cockpit

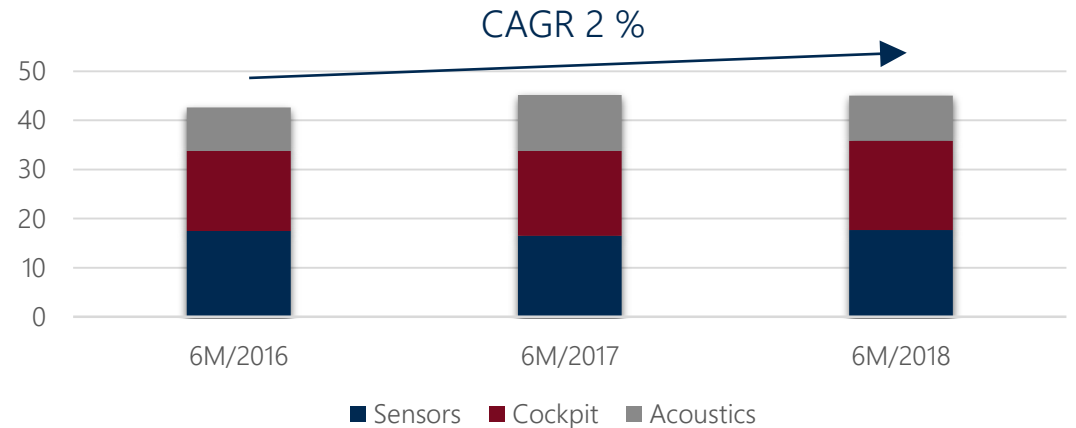
- Display instrumentation
- Camera and monitor systems
- Charging trays / Cradles
- Connectivity solutions / Media interfaces
- Controls and stepper motors



Acoustics

- Hands-free microphones
- Noise measurement microphones
- belt-mic® seat belt microphone

Business unit revenues in €m



TOP customers



Mechanics: world market leader in active aerodynamics



Movable body components

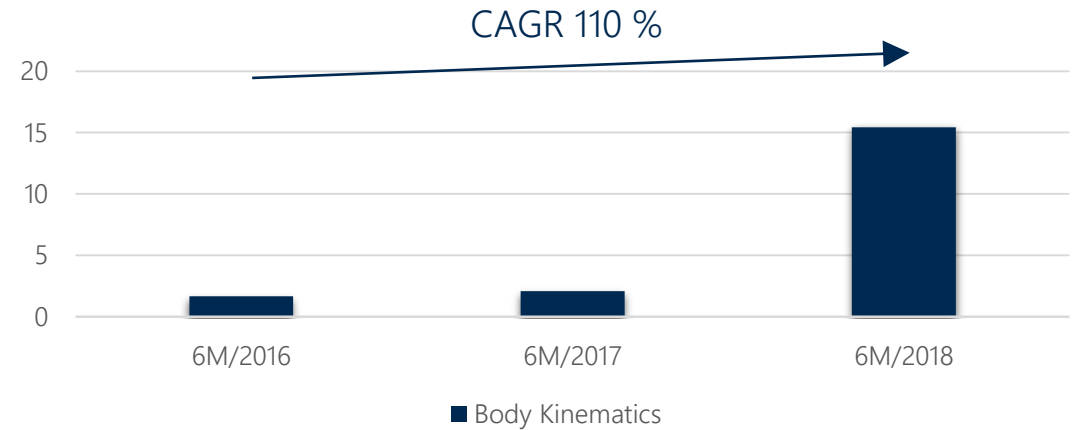
- Active aerodynamics
- Actuators for rear spoilers



Movable interior comfort

- Rear folding tables for Mercedes S-Class et al.

3rd party business unit revenues in €m




TOP customers



E-Mobility: leading market positions in fast growing niches



Public transportation
• Trolley buses




Intralogistics
• Forklifts & Automated Guided Vehicles (AGVs)



Underground mining
• Battery Hauler & Big Bertha

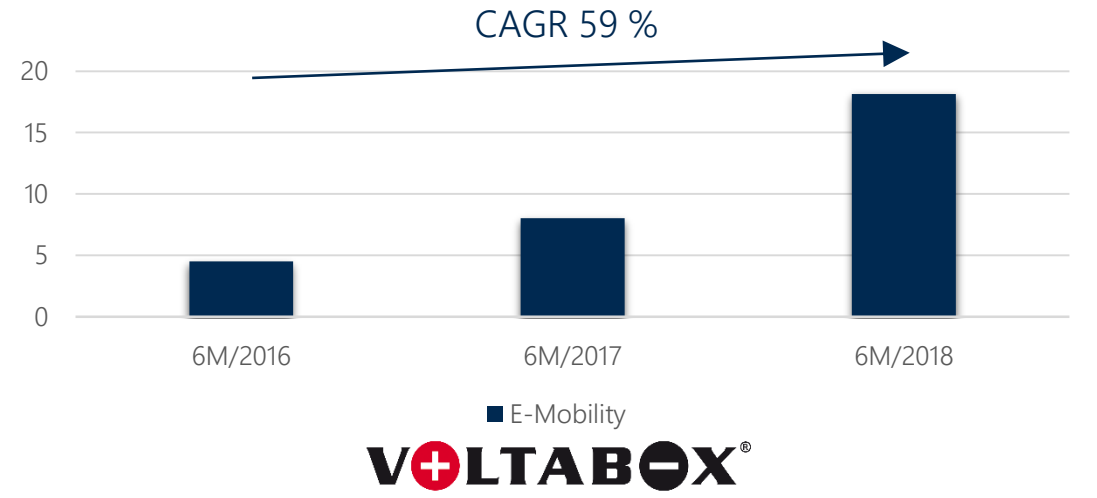


Agriculture & construction
• Schäffer front wheel loader



Starter batteries
• BMW motorcycles (HP4)

3rd party business unit revenues in €m



TOP customers



Shifting from component to system provider

- Automotive Electronics**
 - Long-standing OEM relations and well filled product pipeline
 - Business units “Cockpit” and “Acoustic” will merge into “Interior” Division
 - Next step: Formation of “Digital” Division
- Automotive Mechanics**
 - Full service provider for complete active mobile aerodynamic systems
 - High-class base of development resources for future innovations
 - Dominant world market position
- E-Mobility**
 - Modular concept: short time to market at minimum development costs
 - Rearrangement of intralogistics partner agreement required for targeted market leadership
 - Business development: one-stop solution provider for full electrification

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Financials

Key figures I

- Material usage ratio stable at 56.6% (H1/2017: 56.0%)
- Personnel expenditure ratio regressive at 29.5% (H1/2017: 30.3%)
- EBITDA up 38.0% (margin now 14.0%; H1/2017: 14.5%)
- EBIT up 29.4% (margin now 6.1%, H1/2017: 6.7%)
 - Ramp-up costs in Business Unit Mechanics, still redundant positions
 - Upfront personnel expenses in E-Mobility

Much higher profitability in H2/2017 expected

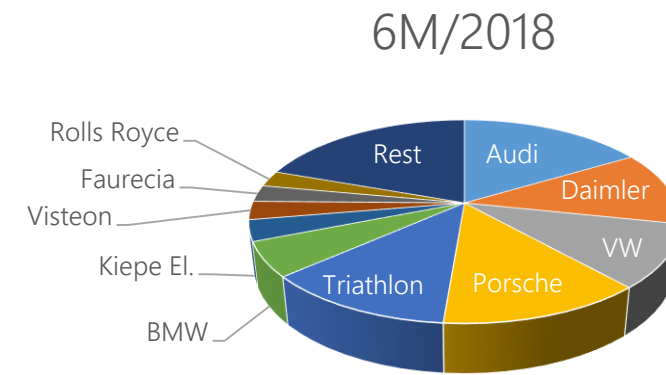
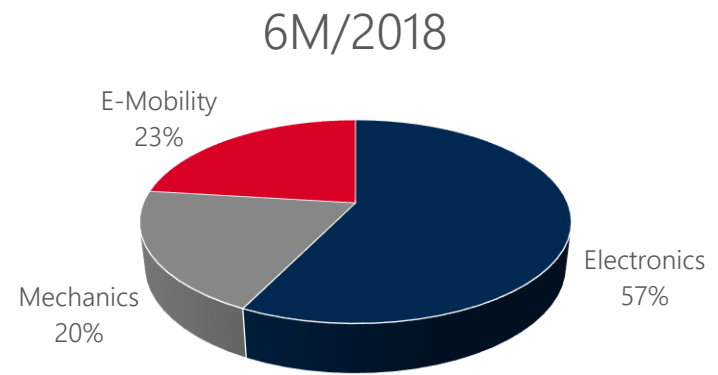
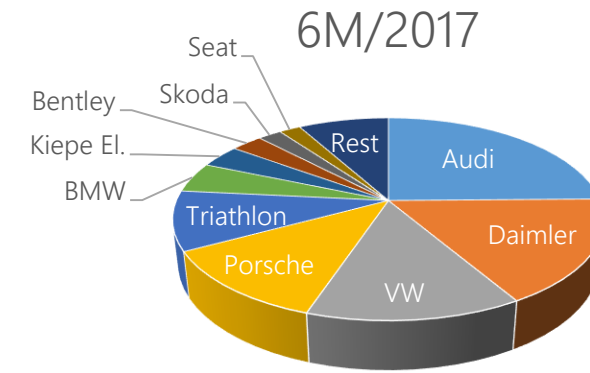
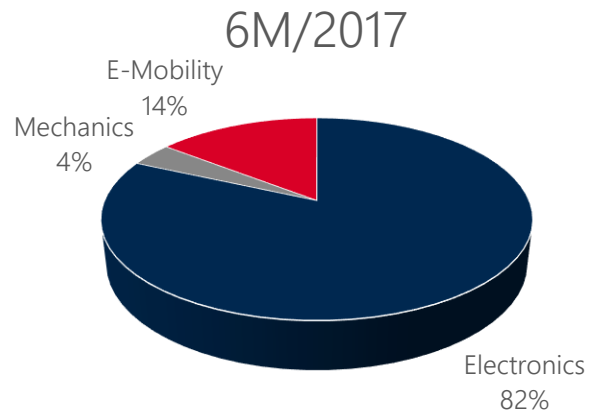
Key figures II

- _ Equity ratio stable at 55.9% (H1/2017: 56.8%)

- _ Cashflow reduced to € -27.6m (H1/2017: € 1.7m)
 - _ Sales financing support for main Voltabox partner (limited to 2018)
 - _ Higher inventory for ramping-up production

- _ Financial budget position: € 100.1m (H1/2017: € 8.7m)

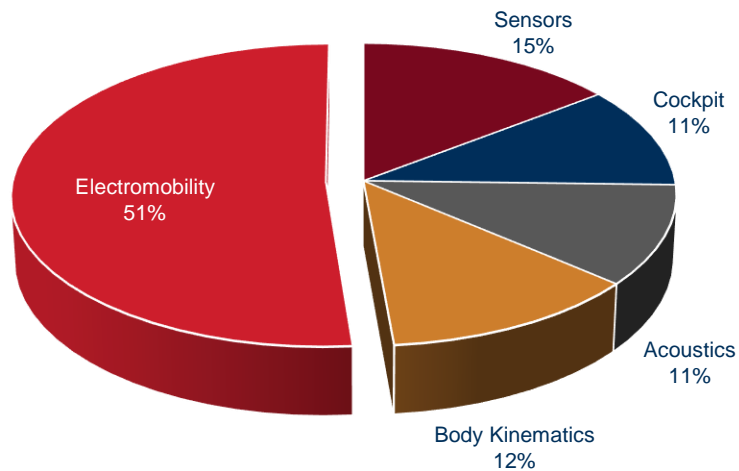
Broadening portfolio and customer structure



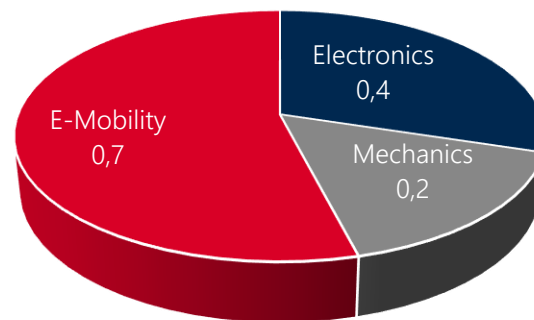
Financials

60-months order backlog

60-months order backlog (€ 2bn) as of H1/2018 by segments/units

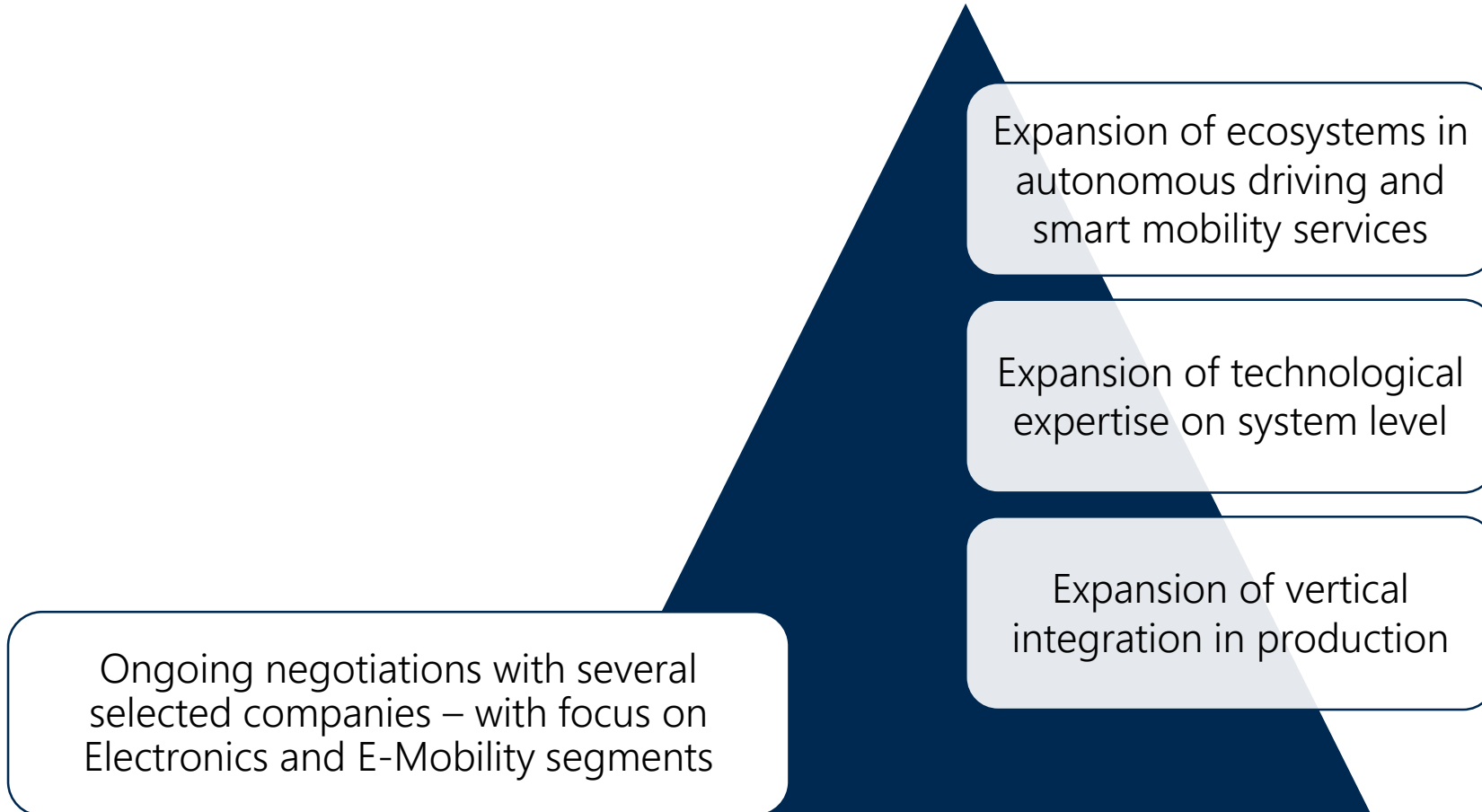


60-months order backlog with 100% weighting as of H1/2018 [in €bn]



- Approx. € 2bn total 60-month order backlog (H1/2017: € 1.6bn)
 - 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. € 1bn attributable to Voltabox (H1/2017: € 0.8bn)

M&A strategy



Latest M&A transactions

Mechanics: HS Genion GmbH (€ 15.2m)

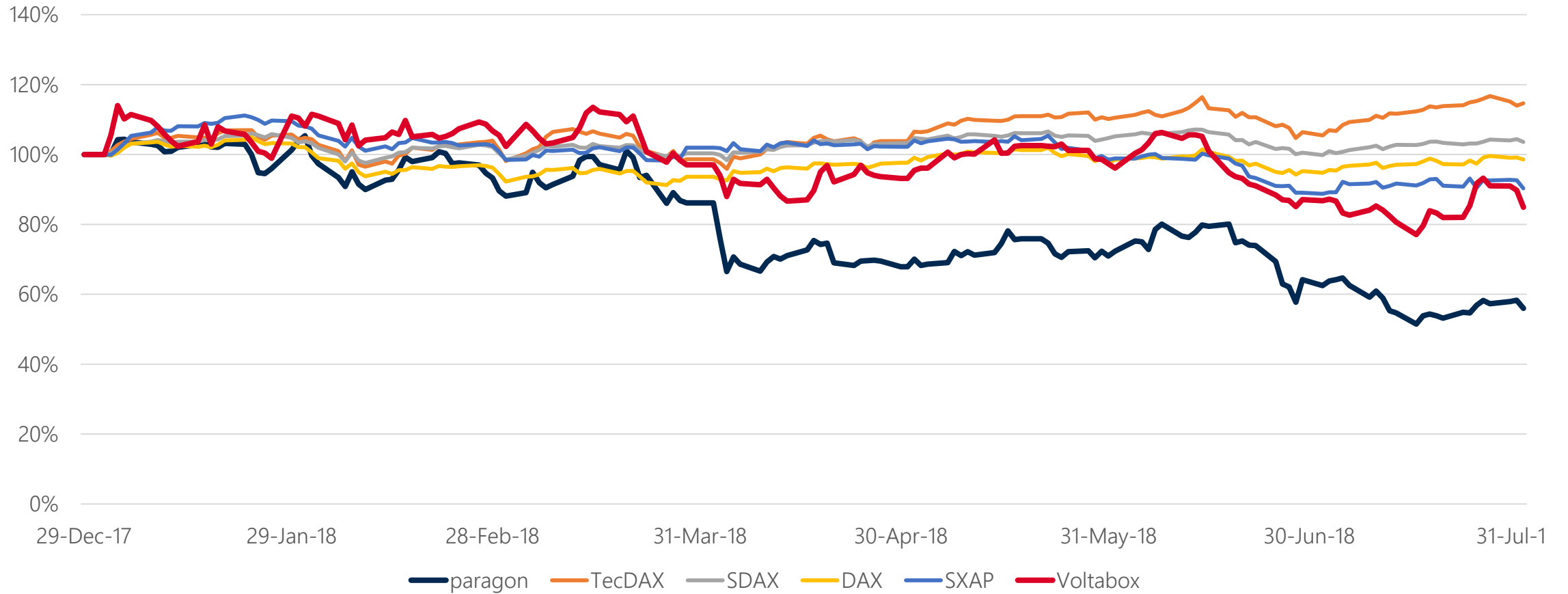
- Acquisition of approx. 100 employees and € 25m revenue w/ strong order backlog
- Revenue contribution since Dec. 2017
- Complimentary technologies
- Rebranding as paragon movasys GmbH
- Profitability still burdened by redundant functions
- € 3 to 5m synergy effects until FY 2021

E-Mobility: Voltabox acquisitions of

- Concurrent Design (Austin, Tx.) (€2.6m)
 - Addition of engineering services company
 - Additional development resources, i.e. for complex underground mining systems
 - Revenue contribution since Apr. 2018
- Navitas Systems* (Illinois & Michigan) (€37m)
 - US market leader for battery systems in intralogistics w/ Fortune 500 customer base
 - Engagement in several industries w/ own production facilities (incl. cell production)

** Closing and consolidation/revenue contribution expected throughout Q3/2018.*

Share performance in 2018



Forecast update

PGN	Result 2017	Year-to-date/	Forecast 2018	
	12 Months	H1/2018	As of Mar. 9, 2018	As of Aug. 21, 2018
Group revenue	€ 124.8m	€ 78.6m	Approx. € 175m	€ 180 – 185m
EBIT margin (unadjusted)	6.1 %	6.1 %	Approx. 9 %	Approx. 8 %*
Investments	€ 37.7m	€ 15.9m	Approx. € 35m	Approx. € 35m

VBX	Result 2017	Year-to-date/	Forecast 2018	
	12 Months	H1/2018	As of Mar. 9, 2018	As of Aug. 21, 2018
Group revenue	€ 27.3m	€ 18.1m	Approx. € 60m	€ 65 – 70m
EBIT margin	2.1 %	0.6 %	Approx. 10 %	Approx. 7 %*
Investments	€ 6.3m	€ 3.5m	Approx. € 13.4m	Approx. € 13.4m

* Considering € 2m add. expenses from rearrangement of intralogistics partner agreement.

Summary

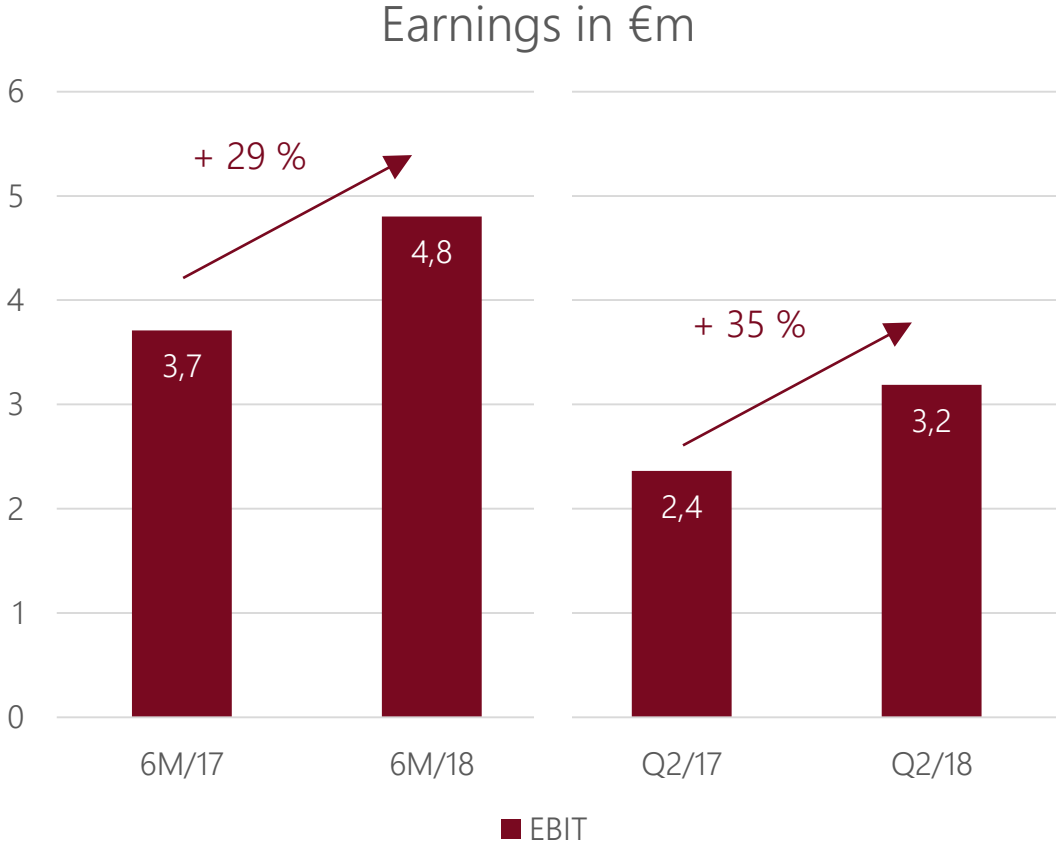
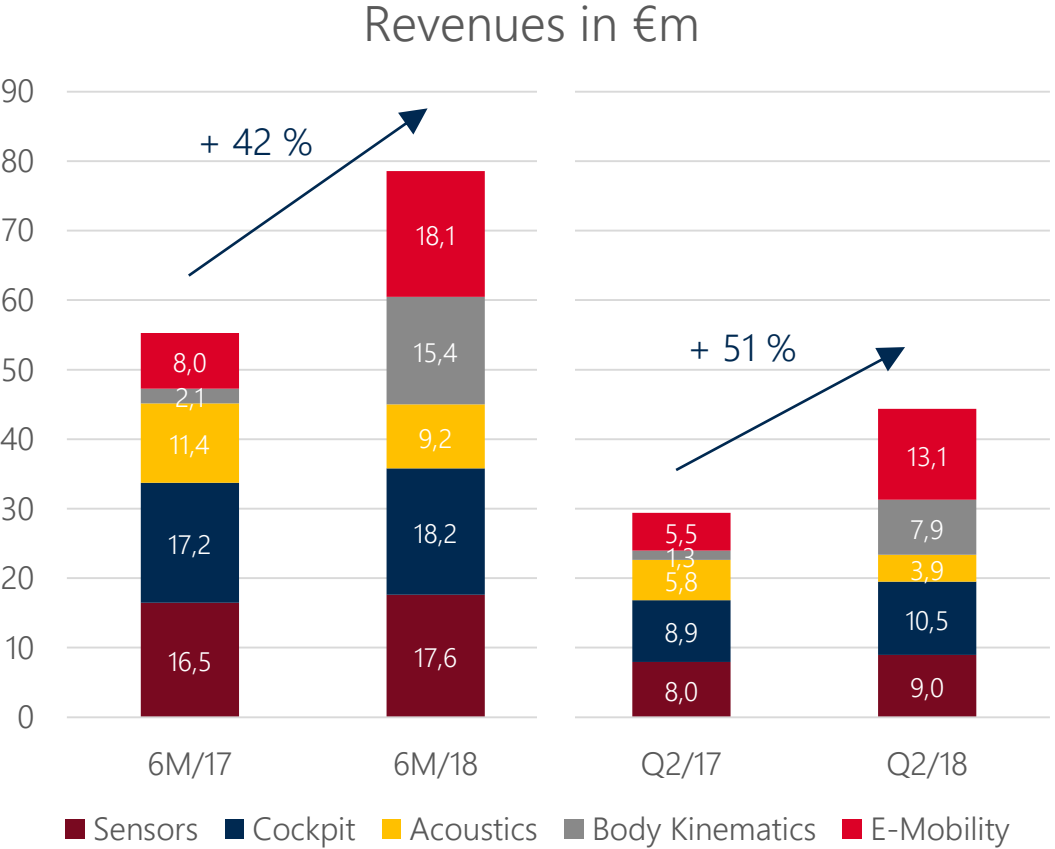
Much faster growth than automotive sector

- Increasing disengagement of sector constraints
- No additional risks seen coming from e.g. US politics, Diesel scandal, WLTP bottlenecks

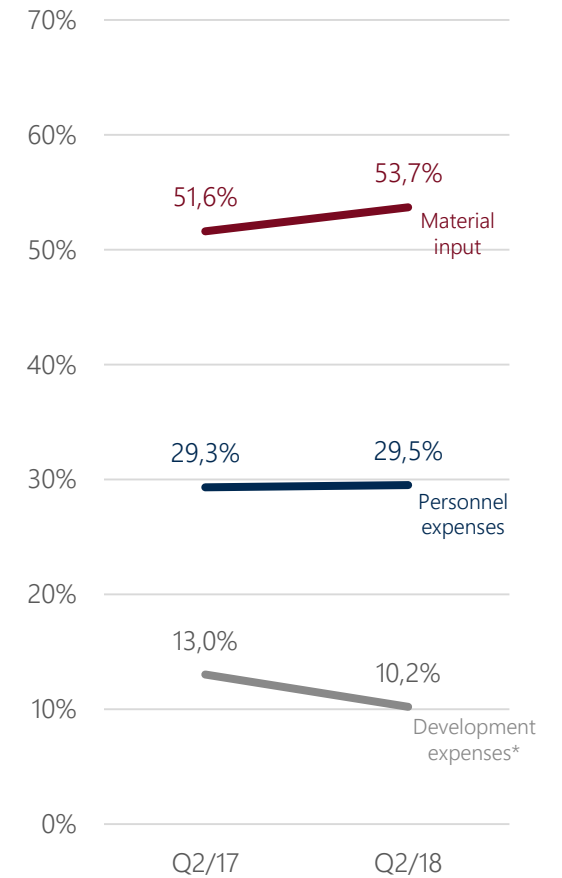
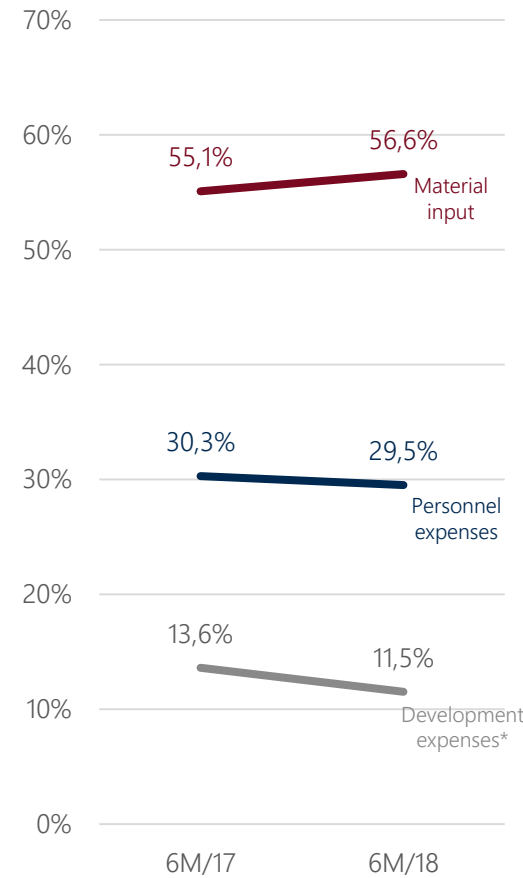
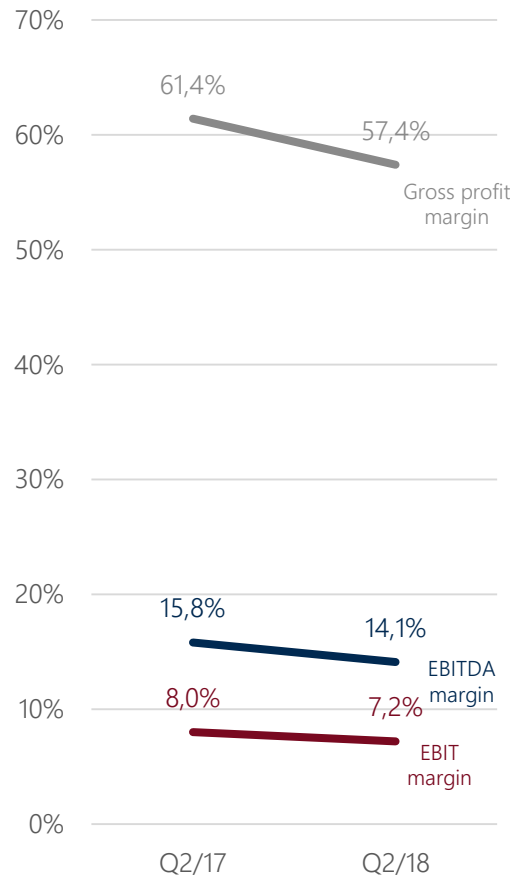
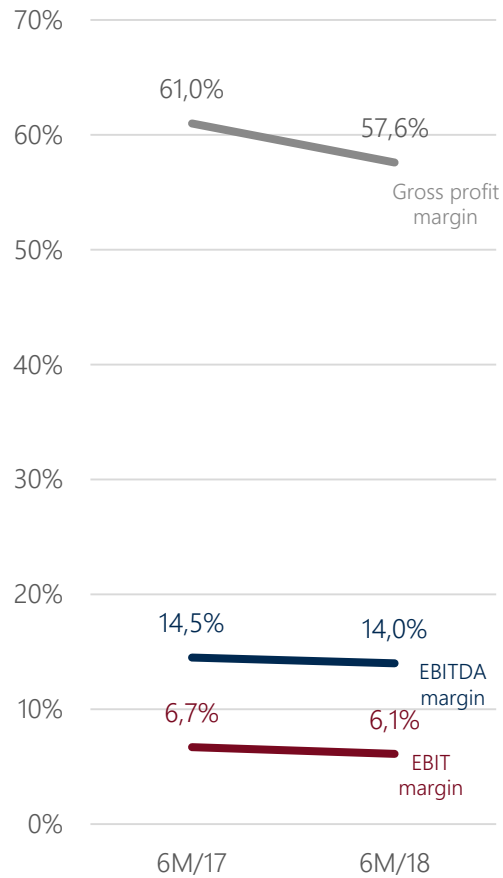
Robust order backlog

Significant growth in E-Mobility and Mechanics
with economies of scale driving profitability

Key figures revenues and earnings



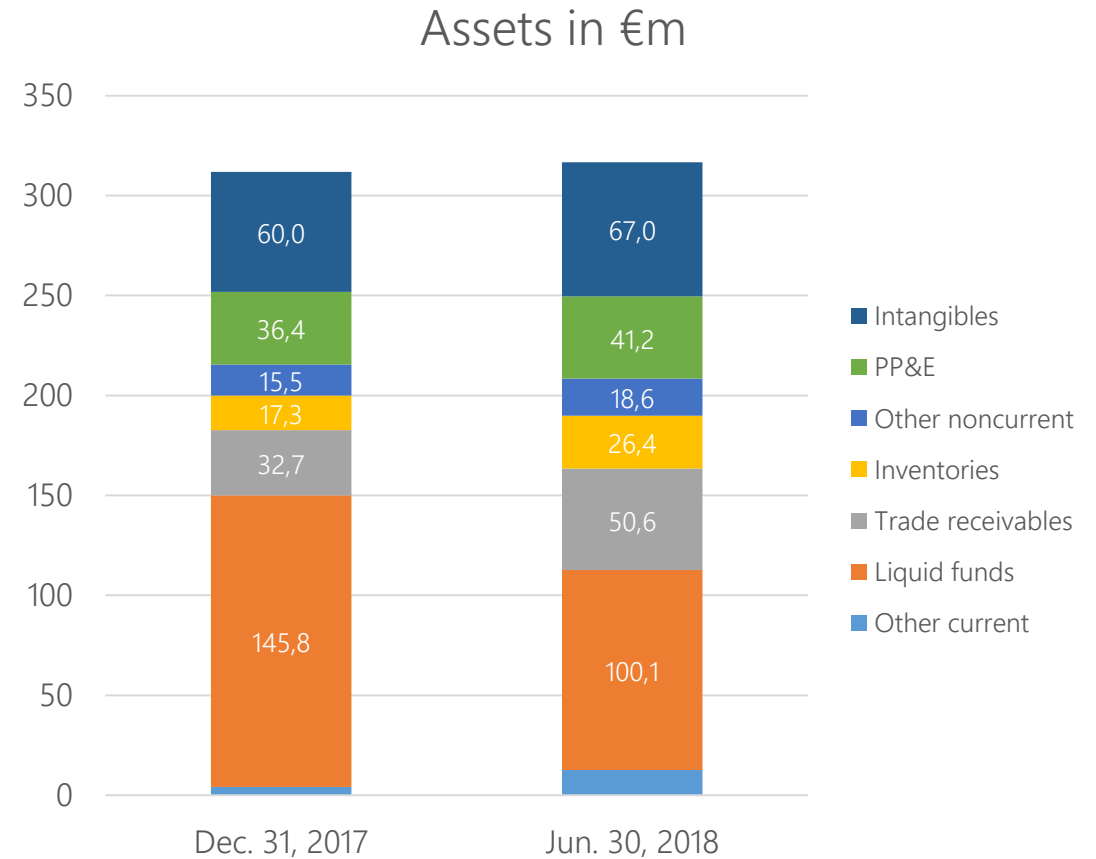
Key figures profitability and expense ratios



* IAS 38.

Key developments of Group assets

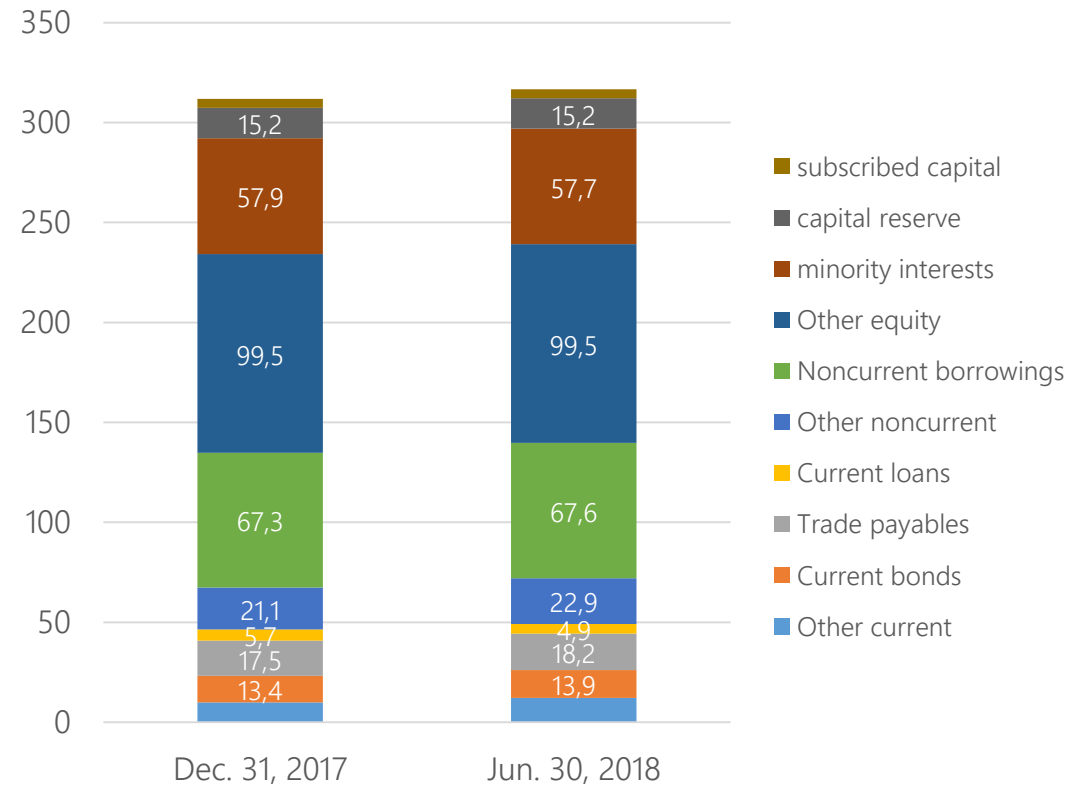
- Increase in noncurrent assets by € 15m
 - Intangible assets + € 7.0m – own work capitalized
 - Goodwill + € 2.7m – acquisition of Concurrent Design, Inc. by Voltabox
- Decrease in current assets by € 10.3m
 - Inventories + € 9.1m – further business growth
 - Trade receivables + € 17.9m – mainly because of Voltabox sales supporting activities in intralogistics
 - Other assets + € 8.5m – capitalization of the one-time investment subsidy for capacity expansion granted by Voltabox due to the revised cooperation agreement with partner Triathlon
 - Cash and cash equivalents - € 45.7m – mainly due to expenses for operating activities in connection with the organic growth of the new units



Key developments of equity & liabilities

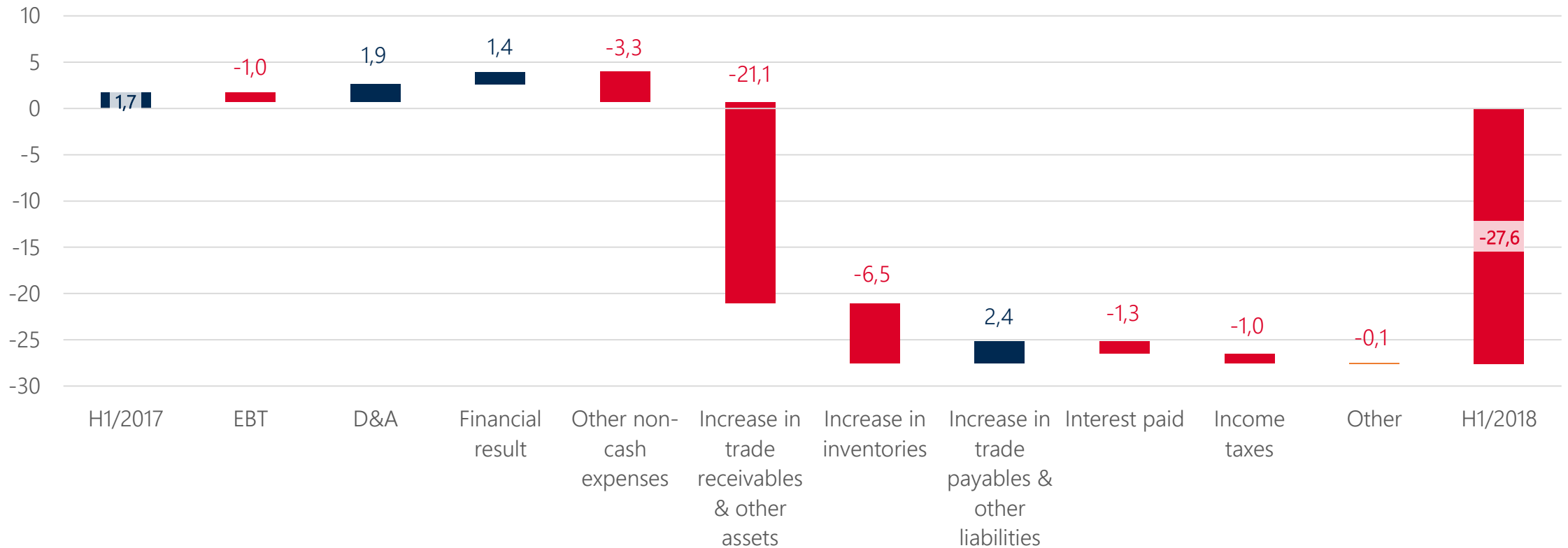
- Slight increase of noncurrent provisions and liabilities by € 2.1m
 - higher deferred tax liabilities and increase in noncurrent bonds
- Slight increase of current provisions and liabilities by € 2.8m
 - Increase in trade payables of € 0.7m and
 - Increase in other provisions of € 1.0m while
 - Short-term loans decreased by € 0.8m
- Equity remained virtually unchanged at € 177.0m
 - Equity ratio slightly down to 55.9% (December 31, 2017: 56.8%) as a result of the somewhat higher balance sheet total

Equity and liabilities in €m



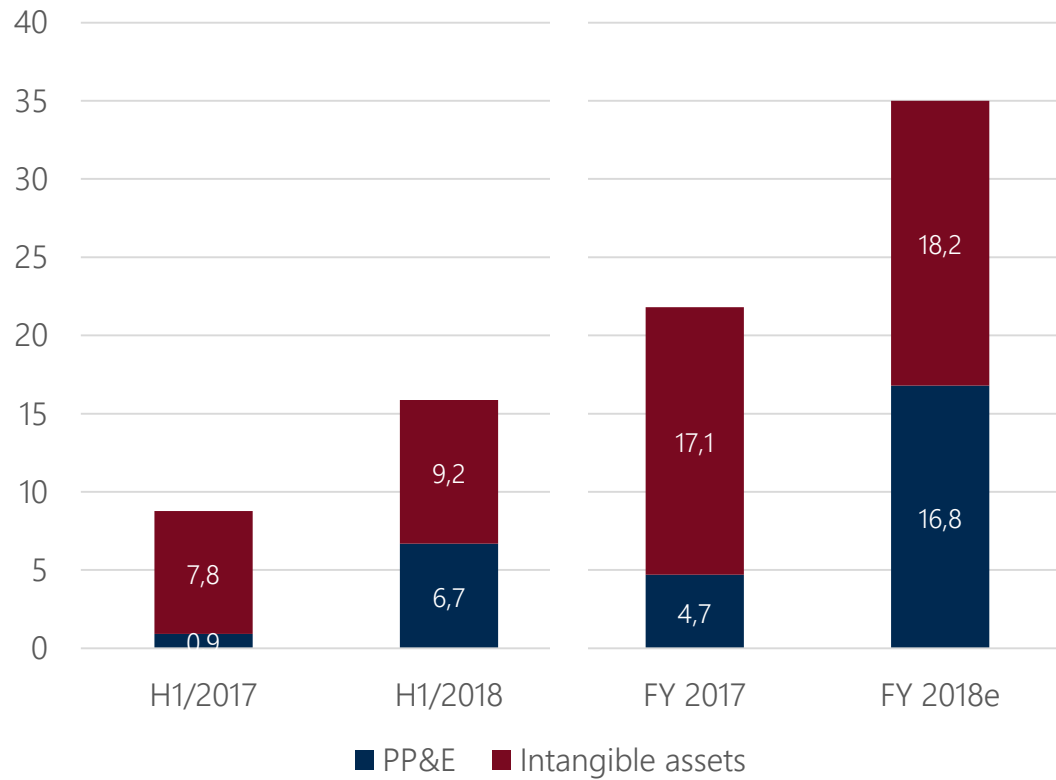
Key cash flow developments in H1/2018

Operating cash flow bridge [in €m]

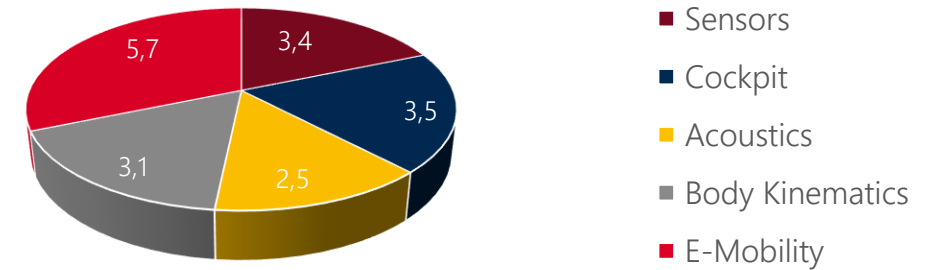


Investments 2018

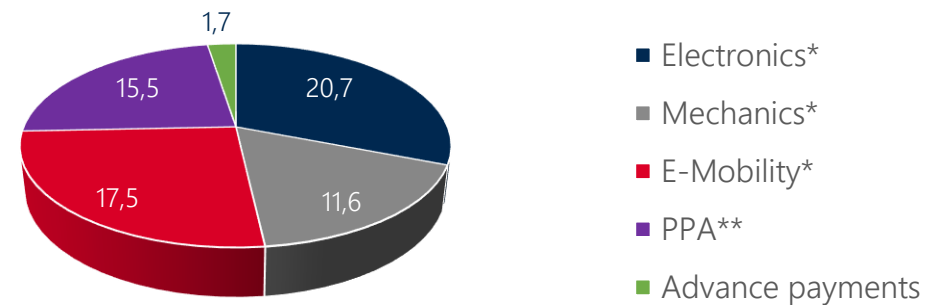
CAPEX



Own work capitalized FY 2018e [in €m]



Intangible assets H1/2018 [in €m]



* IAS 39

** Licenses, patents, software/customer lists.

PARAGON[®]

Financial Calendar* 2018

– Jan. 11/12,	Oddo Forum, Lyon
– Feb. 1,	Bankhaus Lampe German Corporate Conference, London
– Feb. 21/22,	12. Oddo-BHF German Corporate Conference, Frankfurt am Main
– Mar. 13,	Annual report 2017
– Apr. 18-20,	Bankhaus Lampe Deutschlandkonferenz, Baden-Baden
– May 8,	Interim release as of March 31 – 3 months
– May 8,	Annual general meeting paragon AG, Delbrück
– May 9,	Annual general meeting Voltabox AG, Delbrück
– May 14-15,	Equity Forum Frühjahrskonferenz, Frankfurt am Main
– May 16,	Berenberg Investor Forum at The Battery Show, Hannover
– Jun. 7,	quirin Champions 2018, Frankfurt am Main
– Jun. 21/22	Berenberg Pan-European Discovery Conference, Provence Côte d’Azur
– Aug. 21,	Interim release as of June 30 – 6 months
– Sep. 3/4,	Equity Forum Herbstkonferenz, Frankfurt am Main
– Oct. 25	Berenberg Discovery USA Conference, New York
– Nov. 13,	Interim release as of September 30 – 9 months
– Nov. 26-28,	Deutsches Eigenkapitalforum 2018, Frankfurt am Main

** Expected dates for paragon GmbH & Co. KGaA and Voltabox AG.*

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