

SMA SOLAR TECHNOLOGY AG

Analyst / Investor Presentation: Macquarie Green Energy Conference / Roadshow London



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Managing Board Lowered 2018 Guidance due to Further Price Decline and Project Postponements as a Result of the Market Decline in China



Executive Summary

Top Line

- In H1/2018, SMA increased volume to >4 GW (+12% y/y) and sales to €395m (+ 4% y/y) mainly driven by positive development in EMEA and APAC - SMA America increased sales in Residential only.

Profitability, Bankability

- EBITDA increased by 40% to €41m in H1/18 compared to H1/17; both reporting periods were impacted by positive net effects.¹
- Rock solid balance sheet structure with >50% equity ratio, c. €400m net cash and €100m long-term credit facility

Outlook 2018

- Market outlook adjusted in 08/2018 mainly due to China's feed-in tariff suspensions: In 2018, we expect global new PV installations of 83 GW, thereof 25 GW in China and global addressable market of €6.1bn, thereof €0.8bn in China.²
- Management lowers 2018 guidance with sales of €800m to €850m and break-even to slightly negative EBITDA (after one-off effects from restructuring).³
- The SMA Managing Board is anticipating sales growth and positive EBITDA for 2019.

Strategic Highlights

New subsidiary



New products



Awards



Sunny Central Storage
Intersolar 2018



ennexOS
Intersolar 2018

1. H1/18 net EBITDA effect of €8m: release of general warranty provision + €33m, devaluation of inventories - €14m and - €11m for single warranty provisions; H1/17 included the book gain from the sale of the Railway division (high single-digit €m-amount)
2. Previously: Global new PV installations of 109 GW thereof 50 GW in China and global addressable market of €7.0bn, thereof €1.4bn in China
3. Previously: Sales of €900 million to 1,000 million and EBITDA of €90 million to €110 million

H1/2018 EBITDA is Affected by Adjustments of Warranty Provisions and Devaluation of Inventories with a Net Impact of +€8 Million¹



Key Financials (in € million)

	H1/17	H1/18	Change
MW sold	3,830	4,305	12%
Sales	381	395	4%
Residential	106	83	-22%
Commercial	125	132	6%
Utility	122	151	23%
Storage	28	29	4%
Digital Energy	0	0	
Gross Margin (in %)	19%	25%	
EBITDA ¹	29	41	40%
Depreciation	27	26	-1%
EBIT	3	15	n.m.
Net income	9	11	27%
Free Cash Flow (adj.)	26	-44	n.m.
Net CapEx (incl. R&D)	13	17	27%

	2017/12/31	2018/06/30	Change
Net cash	450	393	-13%
Total assets	1,216	1,159	-5%
NWC ratio (in %) ²	19%	21%	

	2017/2018			
	Q3	Q4	Q1	Q2
Sales	211	299	183	212
Residential	64	63	39	44
Commercial	63	84	57	75
Utility	67	100	67	84
Storage	17	52	20	9
Digital Energy	./.	./.	0	0
Gross margin	25%	25%	21%	27%
EBITDA	26	42	18	23

1. H1/18 net EBITDA effect of €8m: release of general warranty provision + €33m, devaluation of inventories - €14m and - €11m for single warranty provisions; H1/17 included the book gain from the sale of the Railway division (high single-digit €m-amount)

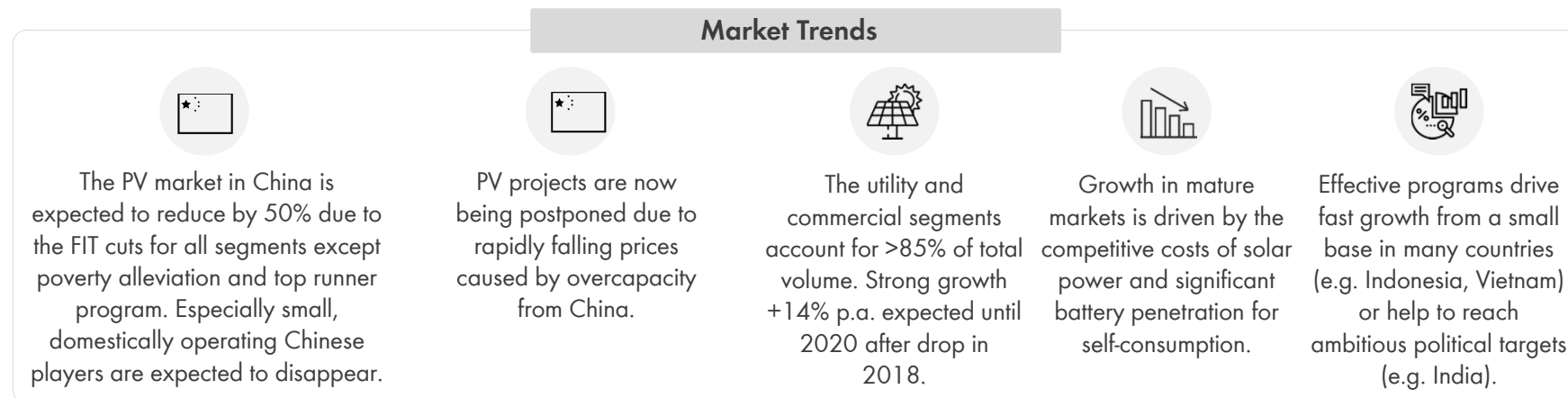
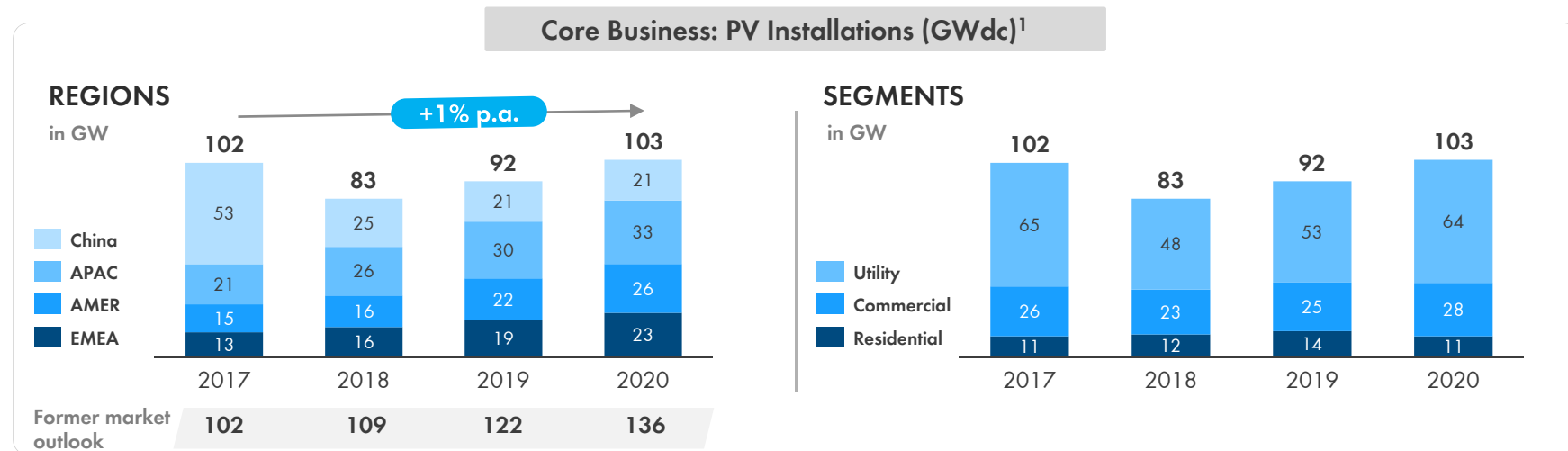
2. NWC ratio as of 2018 reporting includes advanced payments; the year end figure 2017 has been adjusted accordingly (see back up slide for more details); Net Working Capital ratio: inventory + trade receivables - trade payables (advanced payments included); as of last twelve months sales

GLOBAL MARKET OUTLOOK REDUCED MAINLY DUE
TO SUDDEN REGULATORY CHANGES IN CHINA

FIT CUTS IN CHINA LEAD TO ACCELERATED PRICE
PRESSURE IN INTERNATIONAL MARKET

SMA EXPECTS MARKET CONSOLIDATION OF
INVERTER MANUFACTURERS TO ACCELERATE

Global Outlook Reduced by Cumulated 89 GW Until 2020, Mainly in China due to FIT Cut Announcement of Government



> **Most recent price drop may accelerate volume growth in coming years.**

1. SMA Market Model Q3 2018; New PV installations, Res ≤10kW plants, Com >10kW to 1MW plants, Uti >1MW plants

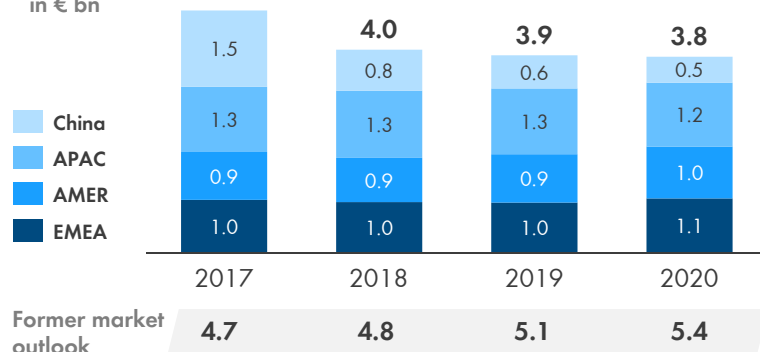
China Volume Correction and Strong Price Decline Leads to a Value Decline of -7% p.a. Until 2020



Core business: PV Inverter Revenue (€ bn)¹

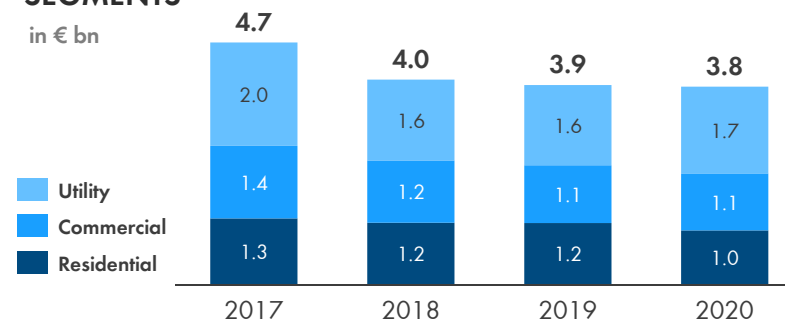
REGIONS

in € bn



SEGMENTS

in € bn



Market Trends



The suspension of FIT in China effective June 2018 lead to increasing price pressure on PV inverters for all segments. Annual price drop between 10% and 25%.



Many customers in all regions wait with purchase decision until prices stabilize.



Projects compete on the cost of energy independent from the technology.³ Key success factors for ground-mounted projects are the right market focus and cost-competitiveness over lifetime.



In contrast, roof-top projects compete for the best site. Key success factors are the right segment focus, the technical know-how to integrate the solution and the brand.



Regulatory framework (import tariffs, NEC) impact market development as well.

1. SMA Market Model Q3 2018; PV Inverter incl. new and repowering installations, Res ≤10kW plants, Com >10kW to 1MW plants, Uti >1MW plants

2. Power Purchase Agreement
3. Wind, PV, Gas

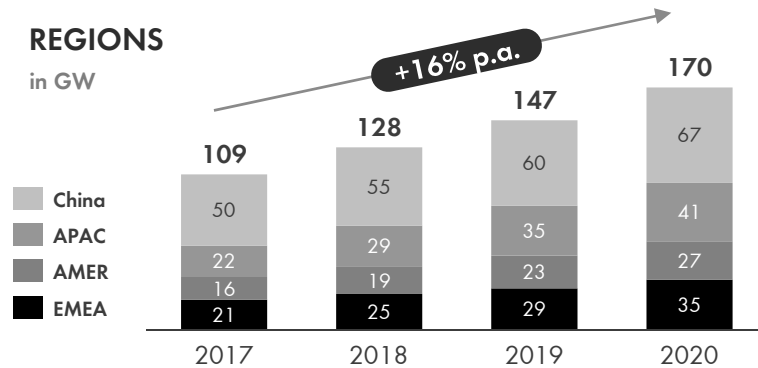
PV Projects >250 kW move Towards long-term Service Contracts – Battery Storage will Accelerate Growth in Service



Core Business: Annual New O&M Contracts by Region¹

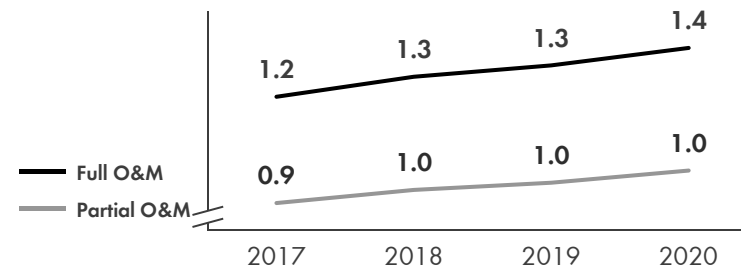
REGIONS

in GW



GLOBAL

in € bn



Market Trends



As Capex for equipment constantly declines, after sales and O&M service are becoming more important.



In mature markets O&M is a business on its own. Independent service providers (ISP) are selected separately from the EPC to ensure data integration, analytics and qualified PV technicians.



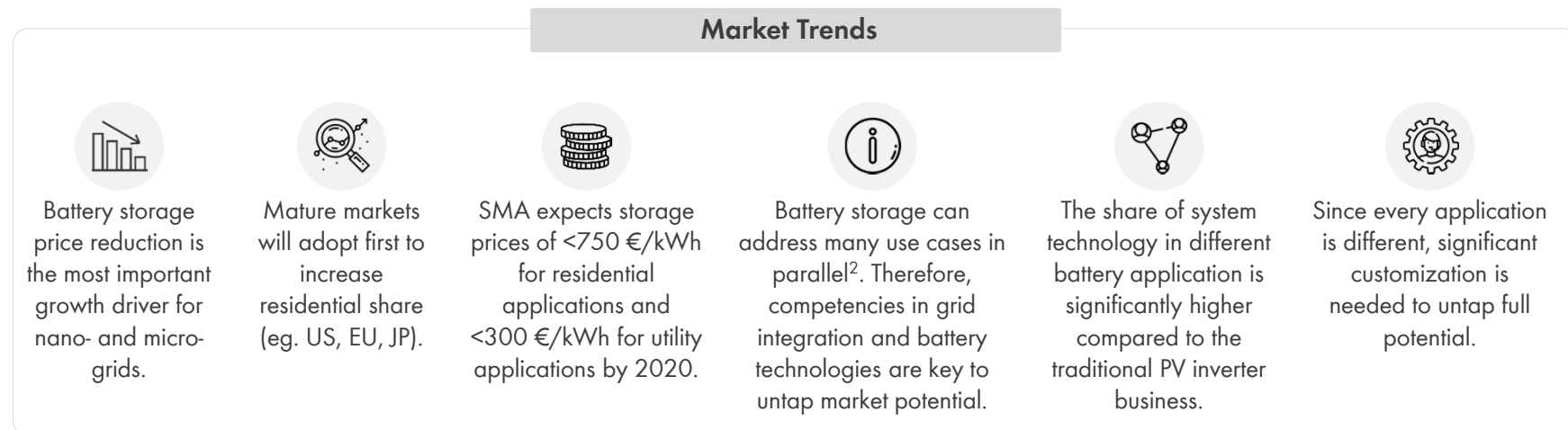
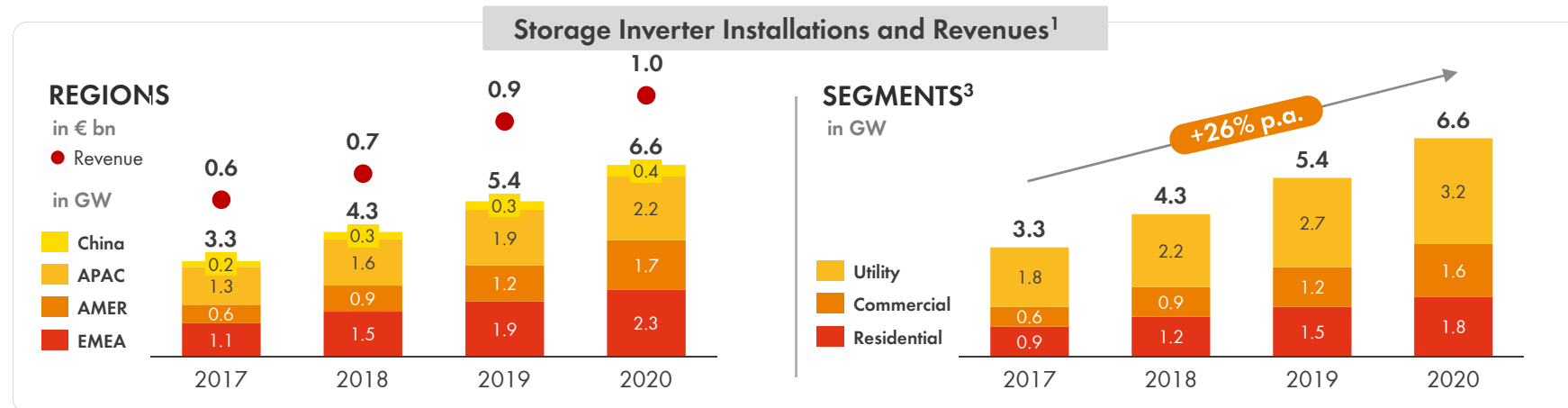
For large-scale PV plants investors/asset managers reject string inverters due to the potential of slower outage response time and higher O&M service costs.



The fast growing battery storage business offers huge growth potential for ISP with technical expertise and global service infrastructure.

> **Contracts shift from all-inclusive, fixed price models to service plans and customer specific scope of work**

Battery Storage will Increasingly be Integrated in New and Existing PV Systems and thus Increase Complexity



> **Greater complexity will lead to lower commodization of PV inverter equipment.**

The Disruption in the Energy Sector will Open up New Value Pools for Technology Driven Companies such as SMA

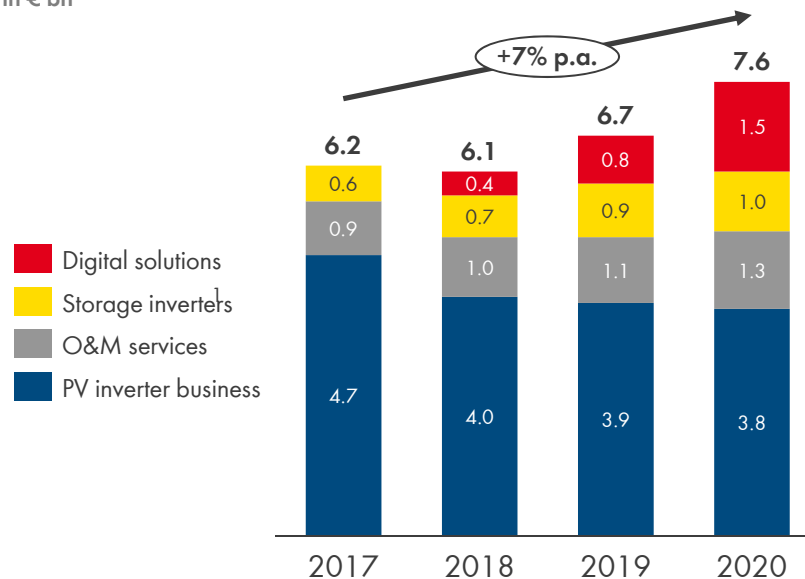


Core and New Business: Global Market Outlook by Sector (in € bn)

New PV Installs²
in GWdc

102 83 92 103

in € bn



Market Comments

- The megatrends decarbonization, technical cost decrease, sector convergence and digitalization will lead to a higher share of renewable energy and its growth.
- The need for digital solutions and battery storage will create new value pools.
- PV-inverters will serve as the backbone for smart grids solutions connecting the components and collecting data.
- The traditional PV market is expected to grow outside China in volume until 2020. The stabilization of price pressure is expected towards 2020.
- O&M services gain importance with continuously declining equipment prices and are key for sustainable PV investments.

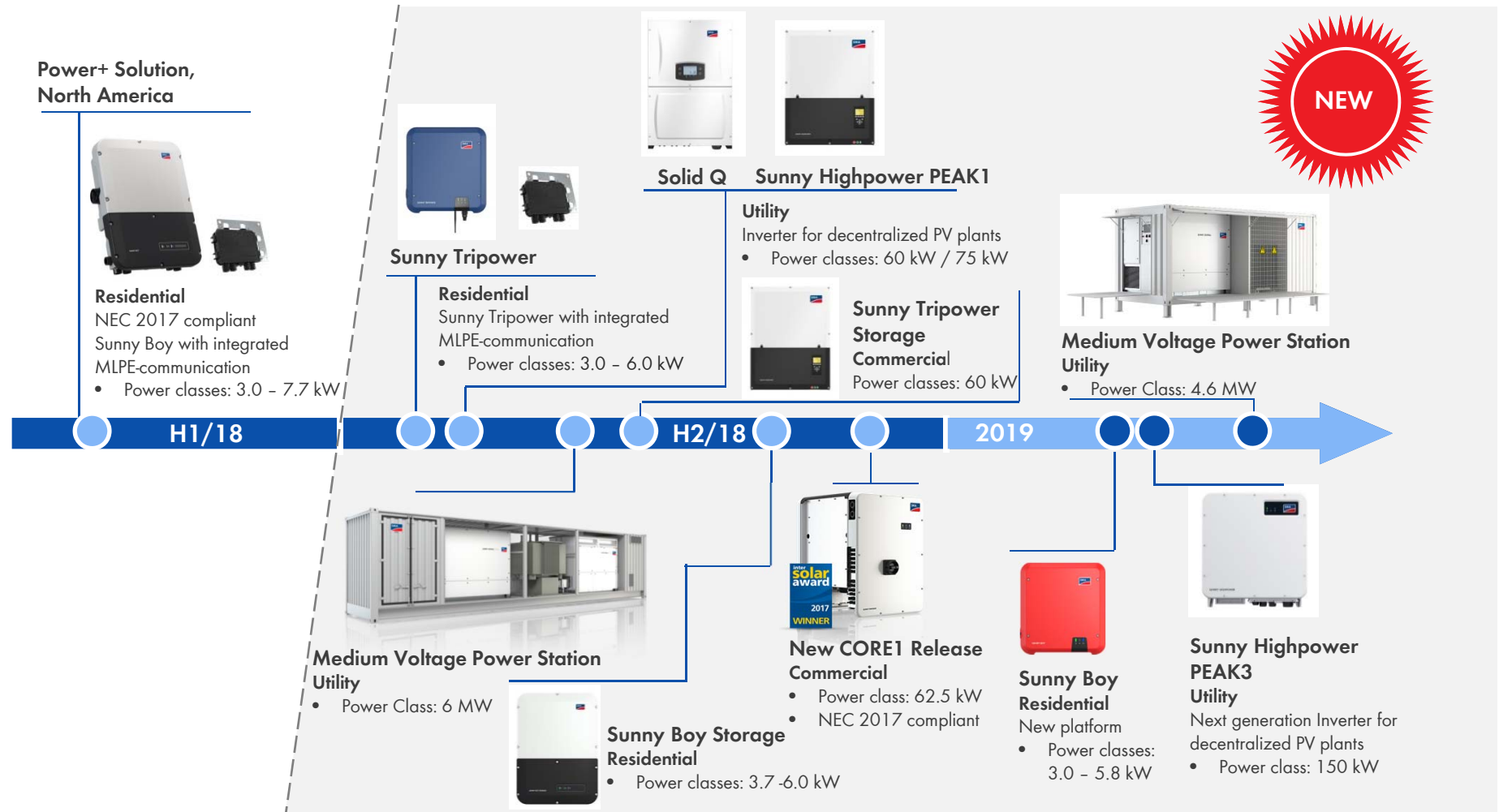
> The China announcement changed the PV market landscape. Going forward, SMA expects market consolidation of inverter manufacturers to accelerate.

1. Full O&M
2. SMA Market Model Q3 2018

SMA WILL LAUNCH COST IMPROVED PRODUCTS
IN ALL SEGMENTS IN THE NEXT 6 TO 12 MONTHS

SMA WILL RESTRUCTURE THE INFRASTRUCTURE TO
LOWER FIXED COSTS

SMA Will Launch New Cost Improved Products in All Segments in the Next 12 Months to Improve Variable Cost



> SMA received positive customer feedback on new products during the trade shows in Australia and the U.S.

SMA Residential Improves Cost Competitiveness with all new 3- Phase Inverter and Storage Inverter



New Sunny Tripower decentral Power Plant design

- Start of delivery: H2/2018
- Power classes: 3.0 – 6.0 kW
- Cost reduction: > - 25%

Easier- Higher Yields– More Convenient

- Increased functionality reduces BOS1- cost up to 15%
- 30% faster installation
- >60% lower service costs through smart connected

Old Product



Sunny Tripower

50% lighter,
50% less volume

Integrated TS4-
communication

H2/18 Residential Product Launch



Sunny Tripower



Increasing Customer Value



Smart Connected

- Automatic replacement service for more convenience



Sunny Portal

- Comfortable PV system monitoring



Sunny Design

- Plant design, simulation and analysis



SMA Repowering

- New products and tools for growing repowering market



Sunny Boy Storage

- H2/2018
- 3.7-6.0 kW

> In medium-sized PV plants, battery size doesn't equal PV output. Therefore, SMA's AC coupled solution offers customers more flexibility.

1. BoS: Balance of System
2. CCA: Cloud Connect Advanced

With the Core 1 Inverter Customers for Commercial Roof Top Application do not Require MLPE to Improve Energy Yield



H2/18 Commercial Product Release



Sunny Tripower Core 1

- Start of delivery: Q3/2017
- Fully ramped up in Q3/2018
- New product release: Q4/2018
- Power classes: 33 / 50 / 62 kW
- Cost reduction: - 20%

Stands on its Own

- 6 MPP trackers make MPLE technology redundant
- Ease of installation: 60% faster
- NEC 2017 compliant

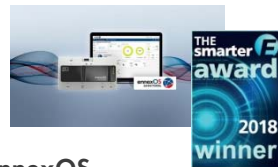


Increasing Customer Value and create new business models



ennexOS

- Energy Next Operating System – SMA's new cross sector IoT platform for energy management



Sunny Tripower Storage

- H2/2018
- 60 kW



New subsidiary

- Providing energy-related services for private and commercial customers



Direct Selling

- All necessary interfaces for direct marketing

> **SMA does not only provide hardware. With SMA ennexOS and SMA Spot we enter into higher margin segments.**

New Products for Decentralized and Centralized Power Plant Design Improve our Competitiveness



Sunny Highpower PEAK1

- Start of delivery: H2/2018
- Power class: 75 kW
- Cost reduction: > - 25%

SMA Medium Voltage Turnkey Station, 6MW

- Start of delivery: H2/2018
- Power class: 6 MW
- LTM¹ Power Up of +20%

Decentralized Power Plant Design

75 kW, 1,000 V

150 kW, 1,500 V



SUNNY HIGHPOWER PEAK1 (H2/2018) SUNNY HIGHPOWER PEAK3 (2019)

Centralized Power Plant Design

6 MW, 1,500 V (H2/2018)



Medium Voltage Power Solution (H2/2018)



Increasing Customer Value



Sunny Central Storage

- Grid-Forming Capabilities



SMA Repowering

- Repowering Market Potential until 2020: >+40%



Availability guarantees

- SMA Utility provides 99.9+% uptime



Response time guarantees

- SMA uses the most up-to-date technology for 24/7 real time monitoring



O&M services

- #5 O&M provider
- >3GW O&M under contract

> **SMA has the competency and tools to conduct grid studies in order to speed up the commissioning process.**

1. LTM= Last Twelve Months

Due to the High Price Pressure SMA has to Lower the Fixed Cost Base as well to Remain Profitable



Key Restructuring Measures

1

Reduce Complexity in R&D and Production

SMA operates sites in Germany, Poland and China. Going forward, SMA will consolidate its footprint to lower fixed costs and complexity.

2

Adjust Service Concept

SMA operates field service teams and contact centers in all key regions. Going forward, SMA will outsource certain activities to improve efficiency.

3

Adjust Portfolio and Regional Coverage

SMA serves all segments and regions. Going forward, SMA will streamline the portfolio to reduce complexity and close small subsidiaries.

4

Restructuring of Overhead

SMA will adjust processes and work scope to increase efficiency across all overhead functions.



Strategy and Timing

- The strategy 2020 remains in place.
- SMA will accelerate its effects to become a system and solution provider to enter into higher margin business.
- SMA will foster its service business to capitalize on its installed base of 65 GW.
- SMA will continue to offer energy services (Coneva) to benefit from the transition in the energy sector
- SMA's management will negotiate the restructuring concept with the workers council until end of 2018.
- Implementation is planned for 2019. EBIT effectiveness of restructuring measures will take beyond 2019.

> One-offs for key restructuring measures will amount to an upper double-digit million euro figure. Details will be disclosed once negotiations with workers council are completed.

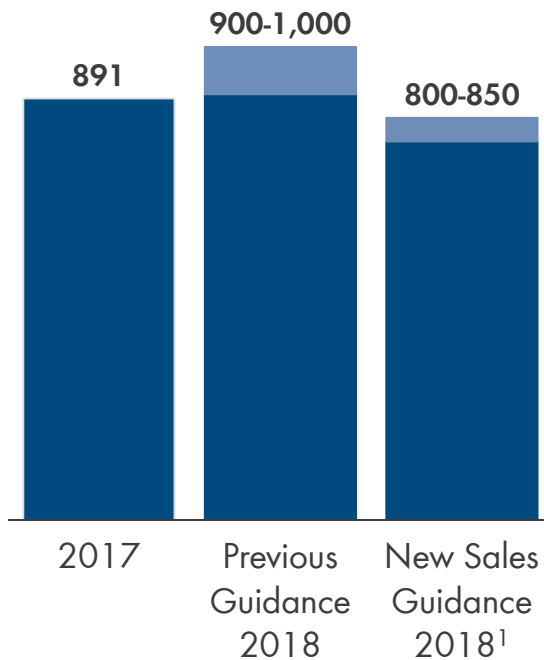
MANAGEMENT EXPERIENCED ACCELERATED
PRICE PRESSURE IN ALL SEGMENTS AND
POSTPONEMENTS OF PROJECTS IN RECENT
WEEKS

ON SEPTEMBER 27, MANAGEMENT LOWERED
SALES AND EARNINGS GUIDANCE AND
ANNOUNCED RESTRUCTURING

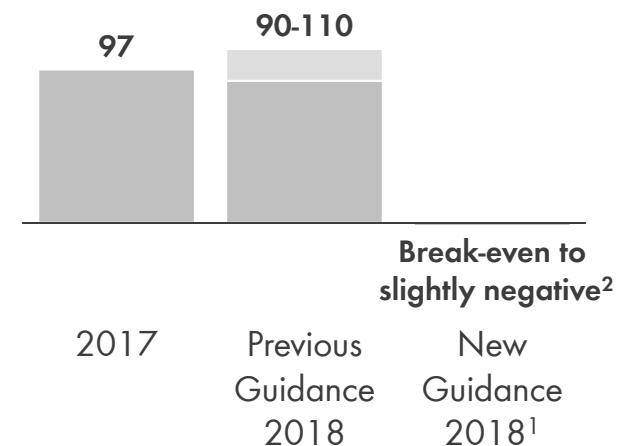
For 2019 Management Expects Slight Sales Growth and Positive EBITDA



Sales Guidance 2018 (in € million)



EBITDA Guidance 2018 (in € million)



> One-offs for key restructuring measures will amount to an upper double-digit million euro figure. Details will be disclosed once negotiations with workers council are completed.

1. Published on September 27, 2018

2. After one-off effects from restructuring

SMA is a Leading player for PV Inverters, Storage and O&M



Investment Highlights

Uniquely positioned in the solar market / best brand

- A leading global specialist for photovoltaics system technology with 65 GW installed base
- Complete portfolio to serve all PV segments
- 20 subsidiaries with strong service capabilities and access to all channels
- Award-winning 20 GW production to achieve scale

Leverage PV expertise to enter into high margin business

- Strong partnerships to create a new ecosystem
- Know-how & products to benefit from strong growth in the field of battery storage
- With ennexOS¹, SMA has set the basis to manage the complexity of integrated solutions
- Infrastructure to expand into data-driven business models and services



Key Financials 2018

Sales

€ 800 m - € 850 m

EBITDA

Break-even to slightly negative



Key Product Innovation 2018



> **SMA has an experienced management team with a proven track record.**

ENERGY
THAT
CHANGES



SOCIAL MEDIA
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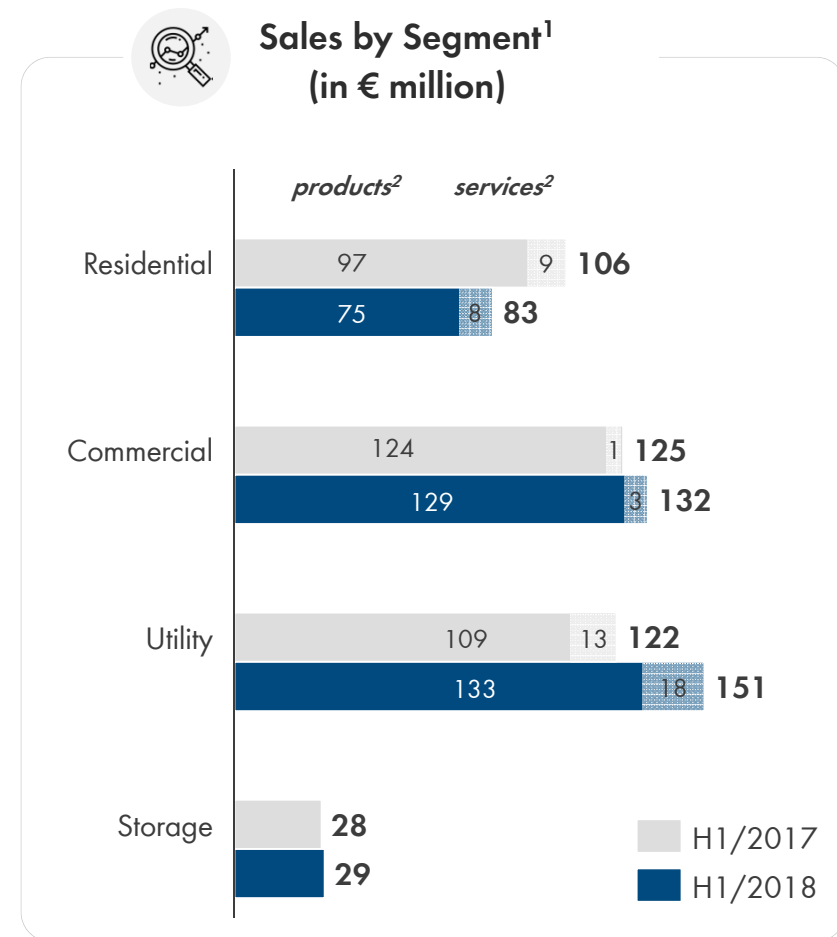
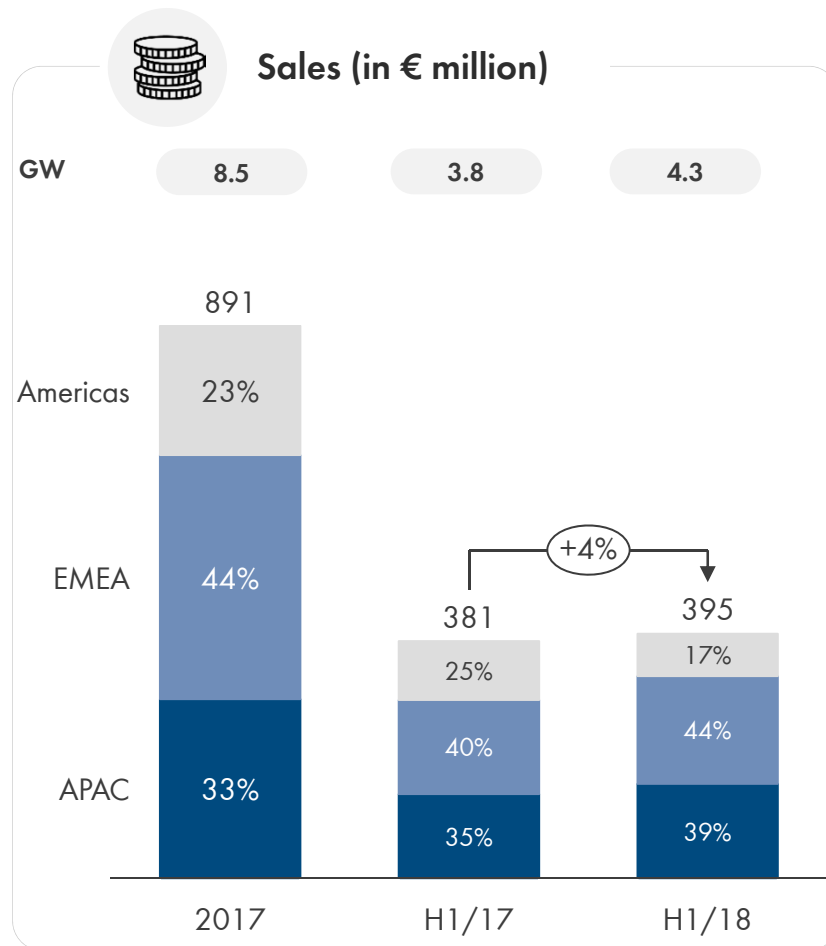




BACK UP



Sales Growth in H1/2018 Mainly Driven by Positive Development in EMEA and APAC



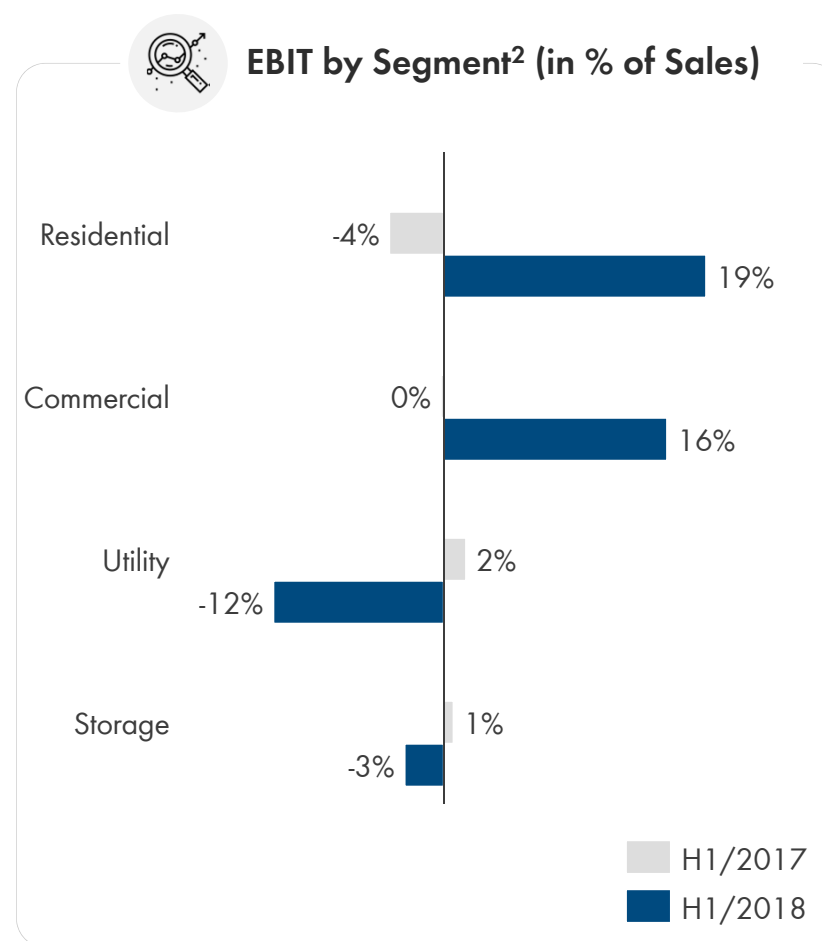
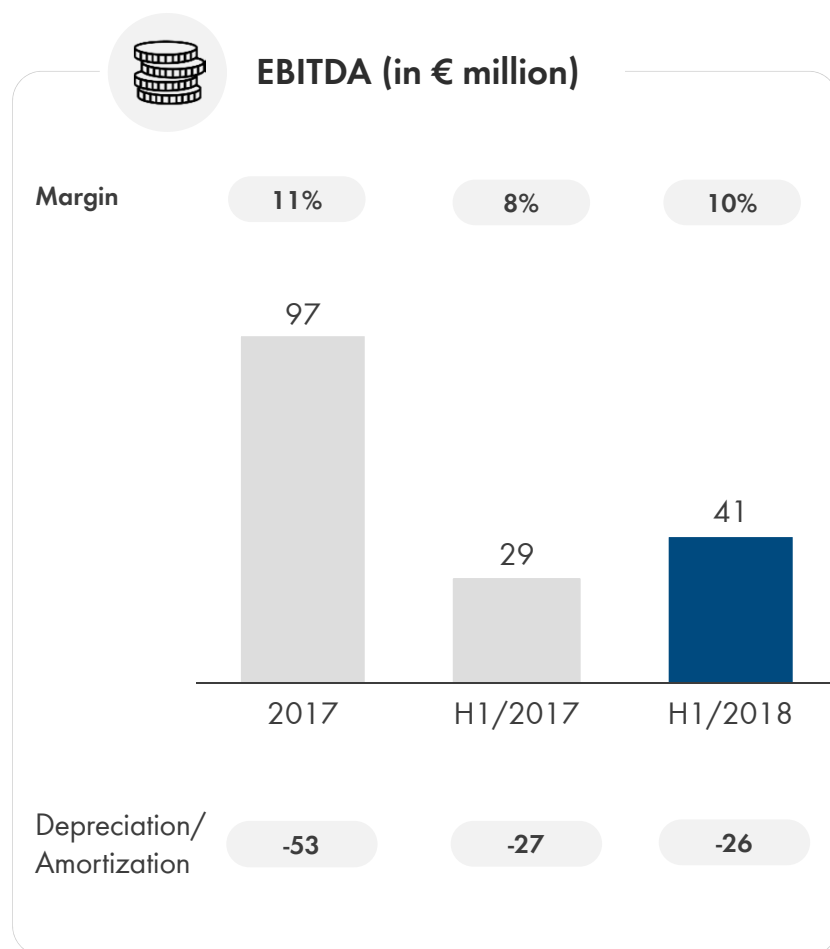
> **U.S. market remains below expectations in the commercial and utility segments.**

1. w/o Digital Energy

2. New Segment information according to IFRS 15 shows sales with external services per segment. Thereby, External Services are unlike the former Service segment and include commissioning, extended warranties, service and maintenance contracts, operational management, remote system monitoring and digital energy services. External Product Sales include inverters, storage systems, communication products, spare parts and accessories. See back up for further information.



EBITDA is Affected by Adjustments of Warranty Provisions and Devaluation of Inventories with a net Impact of +€8 m¹



> **EBITDA of H1/17 included the book gain from the sale of the Railway division (high single-digit €m-amount)**

1. H1/18 net EBITDA effect of €8m: release of general warranty provision + €33m, devaluation of inventories - €14m and - €11m for single warranty provisions

2. w/o Digital Energy



Strong Balance Sheet with equity ratio of > 50 % - Provisions Declined Significantly due to Adjustment of Warranty Provisions



Net Working Capital (in € million)

NWC ratio¹

19%

21%



Trade receivables
 Raw materials and consumables
 Unfinished goods
 Finished goods
 Trade payables
 Advanced Payments



Group Balance Sheet, reclassified (in € million)

	2017/12/31	2018/06/30	Change
Non-current assets	358	347	-3%
Working capital	325	336	4%
Other assets	63	63	0%
Total cash	470	413	-12%
Shareholder's equity	612	611	0%
Provisions ³	156	124	-20%
Trade payables	130	130	0%
Financial liabilities ⁴	20	19	-6%
Other liabilities ³	298	275	-8%
Total	1,216	1,159	-5%

> **Net Working capital increased due to a build-up in inventories to ensure the ability to deliver in the Residential and Commercial segments.**

1. Net Working Capital ratio: inventory + trade receivables - trade payables (advanced payments included); as of last twelve months sales

2. NWC ratio as of 2018 reporting includes advanced payments; the year end figure 2017 has been adjusted accordingly (see back up for further information)

3. Not interest-bearing

4. w/o not interest bearing derivatives: € 2.5m (2017: € 0.4m)



Cash Flow from Operating Activities Lower than Previous Year Mainly due to Tax Payments and Higher Inventories²



Cash Flow (in € million)

	H1/2017	H1/2018	Change
Net Income	9	11	24%
Gross Cash Flow	22	3	- 87%
Cash Flow from Operating Activities	39	-27	n.m.
Net Capex ¹	-13	-17	27%
Free Cash Flow (Adj.)	26	-44	n.m.
Net Investments from Securities and Other Financial Assets	-50	-6	- 87%
Acquisitions/ Divestitures	17	0	
Free Cash Flow (IFRS)	-7	-51	n.m.

> **SMA's business is not capital intense. SMA will generate a positive Free Cash Flow in 2018 due to a stronger second half of 2018.**

1. Thereof R&D capitalization: H1/2018: €10m (H1/2017: €8m)

2. Income tax paid: H1/2018: - €20m; H1/2017: + €4m; change in inventories H1/2018:- €55m, H1/2017 - €16m

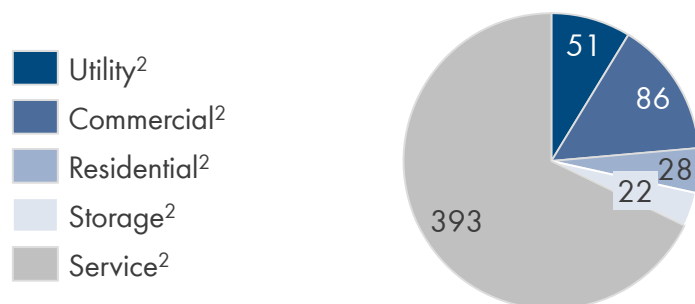


Order Backlog Decreased due to Higher Ability to Deliver, Market Uncertainties and Imminent Product Changes

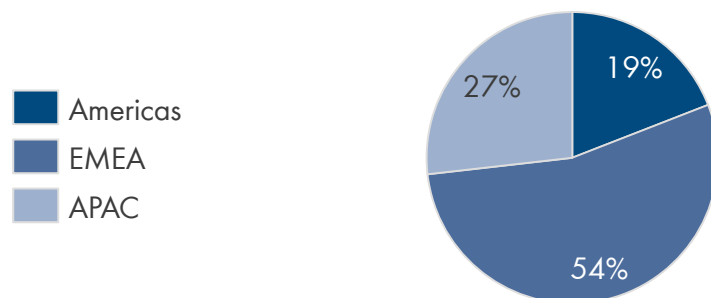


Order Backlog by Segment (in €m) and Region (in %)

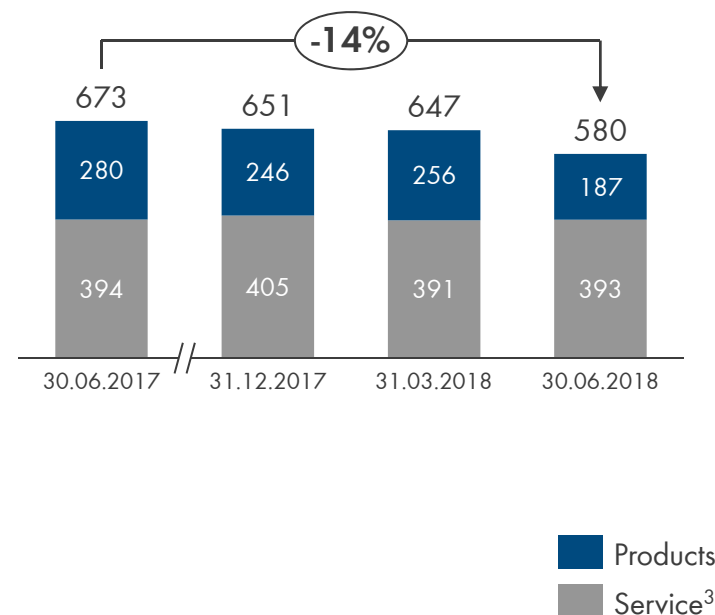
Total order backlog: €580m (June 30, 2018)¹



Product order backlog by regions (in%)



Order Backlog Development (in € million)



> The order backlog is expected to remain on the same level in the months to come.

1. Thereof €187m for products

2. w/o „Service“

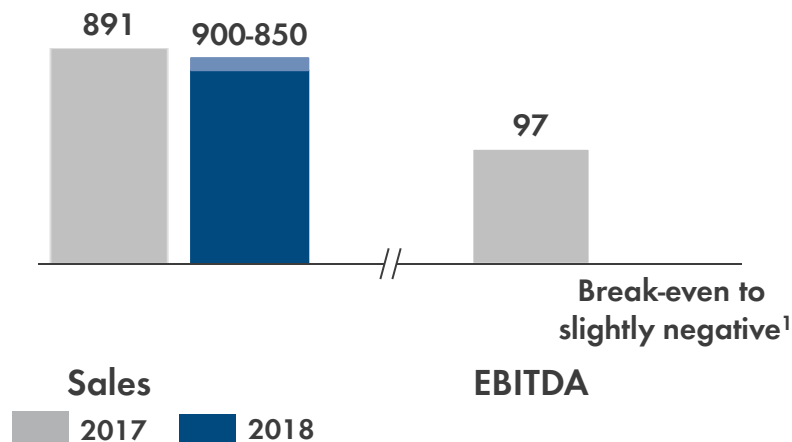
3. Order backlog attributable to the former segment „Service“, which will be recognized over a period of 5 to 10 years



For 2019 Management Expects Slight Sales Growth and Positive EBITDA



Guidance 2018 (in € million)



2018

Expenses for Digital Solutions	>€10m
NWC-Ratio ²	19-23%
Tax Ratio	c. 25-30%
CapEx (incl R&D) ³	c. €50m
Depreciation / Amortization	c. €50m



Management Comment

- SMA plans to increase market share, mainly in APAC (China, Japan, Australia).
- Strong sales growth in Commercial due to new products and less supply constraints.
- Supply constraints impacted SMA's business in H1/2018, but will have only a small impact in H2/2018.
- Energy Management and digital solution business will only have limited sales contribution.
- Price pressure in Utility remains high. Higher price reductions than initially expected in Residential and Commercial.
- Acquisitions in the fields of energy management technology and O&M (total volume €50-100 m) possible.

> One-offs for key restructuring measures will amount to an upper double-digit million euro figure. Details will be disclosed once negotiations with workers council are completed.

1. After one-off effects from restructuring

2. As of 2018, the net working capital ratio includes advanced payments: inventory +

trade receivables-trade payables (incl. advanced payments); as of LTM

3. Incl. c. €20m for R&D

SMA has a Sound Strategy in Place to Benefit from the Disruption in the Energy Sector



O1

GLOBAL MARKET LEADER in all Segments

We want to be #1 in the RESIDENTIAL, COMMERCIAL, UTILITY, SERVICE and STORAGE segments.

O2

SMA is a Provider of Systems and Solutions

By 2020, sales of non-PV inverters are expected to rise from around 20% of total sales to > 40%.

O3

Sustainable Profitability and low Capital Intensity

SMA strives for continuous efficiency improvements. If necessary, the profitability will be ensured by means of reductions in structural costs.

O4

Development of SMA by means of Disruptive Approaches

We want to achieve this by focusing on three disruptive initiatives. "Energy Services" and "Energy Portal" are technology-driven, data-based business models while "Energy Shop" is an end-to-end sales model to digitize our sales channel.

O5

SMA is an ATTRACTIVE COMPANY

We live by our values and provide freedom for responsible entrepreneurial action. We stand out due to fairness, internationality and sustainability.

SMA has a Stable Shareholder Structure



Shareholder Structure¹

