

# SMA SOLAR TECHNOLOGY AG

## Analyst / Investor Presentation: dbAccess Berlin Conference

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# Price Development during the First Five Months is in Line with Management's Expectation



## Top-Line

- > SMA generated sales of €173m (Q1/2016: 248m); in line with Q1/17 guidance.<sup>1</sup>
- > All Segments were impacted by bad weather conditions in key regions (Utility -58% Y/Y; Residential -25% Y/Y; Commercial -6% Y/Y).
- > Sales declined in Americas and EMEA (-63% and -29% Y/Y), Strong sales in APAC in all segments (+45% Y/Y).

## Profitability/ Bankability

- > Weak sales had a negative impact on gross margin (Q1/2017: 19%; Q1/2016: 25%).
- > Accordingly, EBITDA declined to €16m (Q1/2016: €41m) despite reduced fixed costs (Depreciation/amortization of €13m in Q1/2017).
- > Rock solid balance sheet structure with 50% equity ratio, > €410m net cash and €100m long-term credit facility.

## Outlook

- > Positive medium-term outlook; importance of PV is expected to increase due to low cost point and climate targets.
- > Market Outlook 2017 remains unchanged: global inverter revenues to decline to €4.9bn (-6% Y/Y) because of a shrinking Chinese solar market. Global revenues w/o China are expected to be flattish in 2017; decline in traditional segments is offset by strong growth in the storage segment.
- > Management confirms guidance with sales of €830m to €900m and EBITDA of €70m to €90m.
- > Guidance is backed by a strong order backlog of €646m at the end of April 2017, thereof €252m products.
- > SMA will introduce new products in 2017 and beyond to protect the gross margin.

**> SMA's management expects the second half year to be stronger than the first six months 2017.**

1. Guidance Q1/2017: Sales €165-175m; EBITDA €15-18m

# SMA is Rock Solid With an Equity Ratio of 50% and Net Cash + Credit Facility of >€510m



Key Financials (in € million)			
	Q1/16	Q1/17	Δ
MW sold	2,075	1,661	-20%
Sales	248	173	-30%
Residential	50	37	-25%
Commercial	60	57	-6%
Utility	115	49	-58%
Service <sup>1</sup>	13	15	+12%
Other Business	10	15	+60%
Gross margin	25%	19%	
EBITDA	41	16	-61%
EBIT	25	3	-90%
Thereof One-Offs <sup>2</sup>	0	-1	
Free cash flow (adj.)	49	35	-28%
Depreciation	16	13	-18%
Capex (incl. R&D)	7	7	0%

Key Financials (in € million)				
	2016/12/31	2017/03/30	Δ	
Net cash	362	413	+14%	
Total assets	1,211	1,202	-1%	
NWC ratio <sup>3</sup>	24%	22%		
		<b>2016</b>	<b>2017</b>	
	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>
Sales	234	227	238	173
Residential	53	43	33	37
Commercial	64	71	68	57
Utility	90	84	108	49
Service <sup>1</sup>	12	14	6	15
Other Business	15	15	23	15
Gross margin	24%	27%	27%	19%
EBITDA	30	37	34	16
One-Offs	-2	-9	-20	-1

1. External sales

2. Q1/2017 w/o the book gain from the sale of the Railway Technology business division: Impairment on working capital (neg.); thereof in COGS (€-1m)

3. NWC= inventory+trade receivables-trade payables (no advanced payments included); as of last twelve month's sales

FLATTISH GLOBAL PHOTOVOLTAICS MARKET  
WITH 5 BILLION EUR SALES

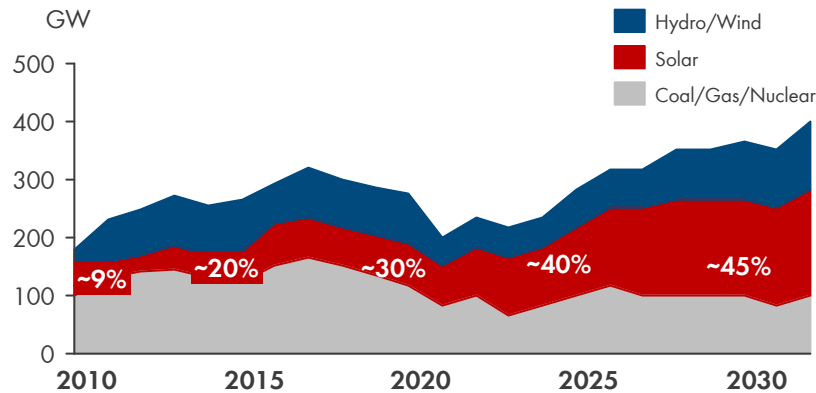
SYSTEM TECHNOLOGY FOR STORAGE WILL BE THE  
MAIN GROWTH DRIVER UNTIL 2019

SMA HAS BEEN THE GLOBAL NUMBER 1 IN SALES  
FOR THE LAST 2 DECADES

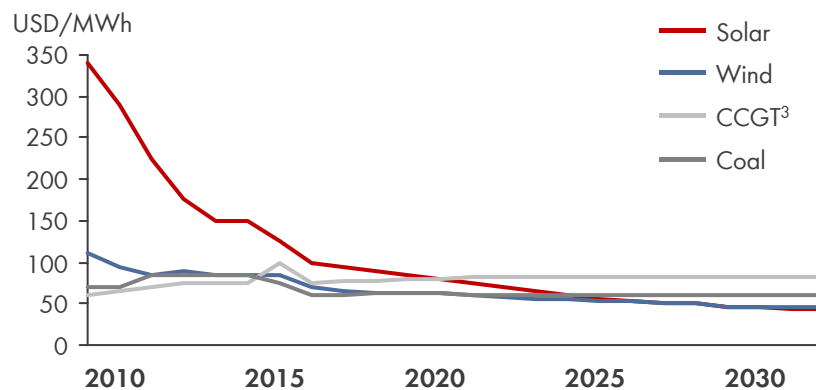
# The Importance of Photovoltaic Power is Expected to Increase Significantly due to Low Cost Point and Climate Targets



## Additions to Global Power Generation p.a.<sup>1</sup>



## Global Average Energy Cost (USD)<sup>2</sup>



## Growth Drivers

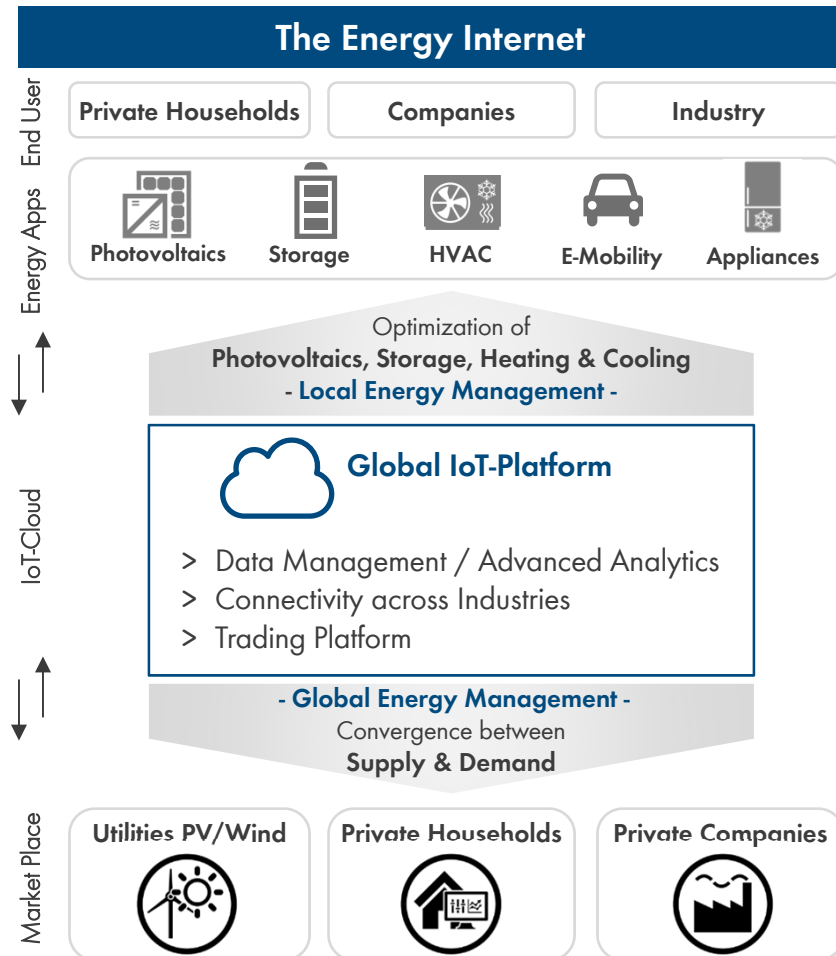
- > In 2030, new solar installations are expected to increase to c. 200 GW.
- > Global energy consumption is expected to increase by 2% p.a. especially due to the economic growth in emerging countries.
- > The replacement of fossil energy sources by renewables is expected to accelerate due to the fast reduction of consumer cost of electricity from solar and wind.
- > Climate targets will lead to new regulations. As a consequence, oil- and gas-fired boilers will be replaced by eco-friendly solutions.<sup>4</sup>
- > Mandatory CO<sub>2</sub> emission reduction targets will increase the population of hybrid and electrical vehicles.

**> By 2030, PV will be the most important energy source, because power is produced where it is consumed. PV technology has still room for further cost reductions.**

1. SMA (Solar data 2010-2020); Bloomberg New Energy Finance 2014 (data until 2015, except Solar) and BNEF NEO 2016 (2016-2030)  
 2. Bloomberg article on Energy Costs from January 3, 2017

3. CCGT= Combined Cycle Gas Turbine  
 4. Denmark will restrict the usage of oil-gas fired boilers already in 2019.

# Automated Energy Management Will Become the Backbone of the Future Energy Market



## Impact of Advanced Analytics

- > Matching of supply and demand across sectors (PV, storage, e-mobility, HVAC<sup>1</sup>, load managed appliances) is paramount to reduce overall energy costs.
- > Complexity of the convergence between sectors is automatically managed by energy apps; no compromise in lifestyle or work processes.
- > Leverage of cost savings across micro-grids is secured with open IoT architectures.
- > Additional services will arise within the next 3-5 years, once the energy market has the same level of digitization as other industries (retail, telcos or banking) have today.

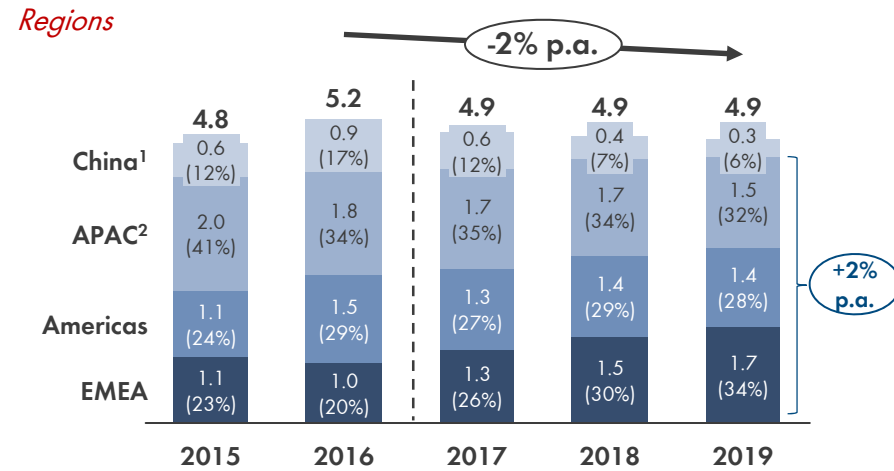
> **SMA will form alliances with key players to improve positioning and remove market entry barriers.**

1. Heating, ventilation & air conditioning

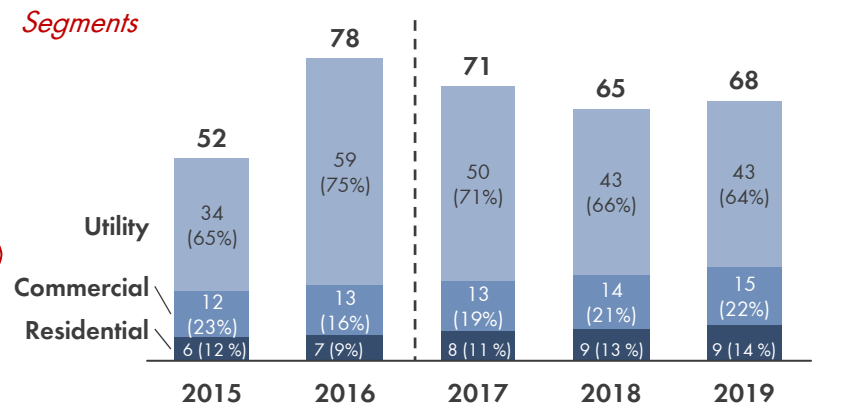
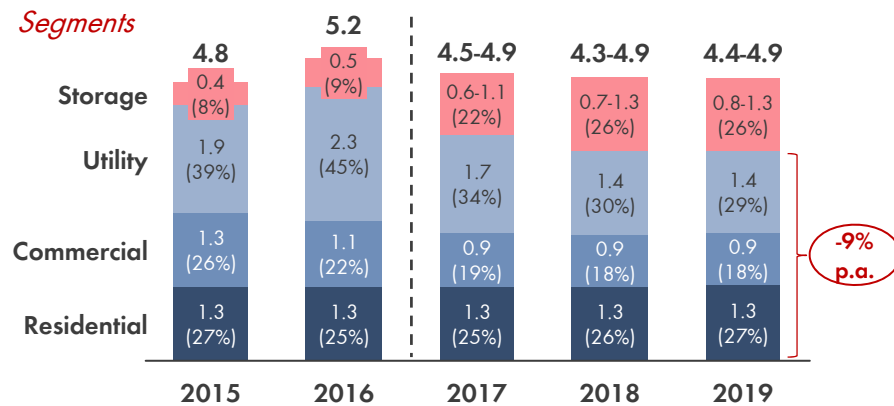
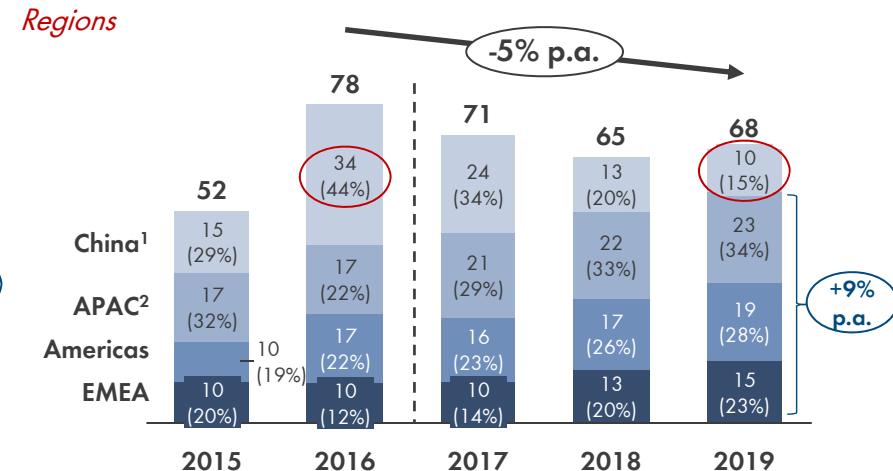
# The Chinese Solar Market is Expected to Decline by 70% Until 2019 – International Markets are Expected to Grow by 9% p.a.



**Global Inverter Revenues by Region/Segment (bn€)<sup>3,4,5</sup>**



**Global New PV Install. by Region/Segment (GWdc)<sup>3,4</sup>**



> Today, utility PV plants (<10 MW) are installed for less than 1 USD per watt in the US.

1. China reduced the feed-in-tariff (FIT) by the end of June 2016 and set further FIT reduction for 2017; new national solar target set in 13<sup>th</sup> Five-Year-Plan for power released on Nov. 7<sup>th</sup> 2016 by NEA  
 2. w/o China

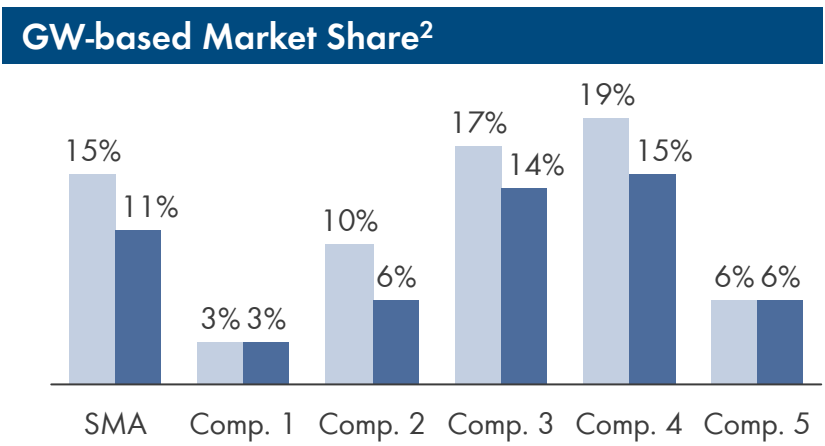
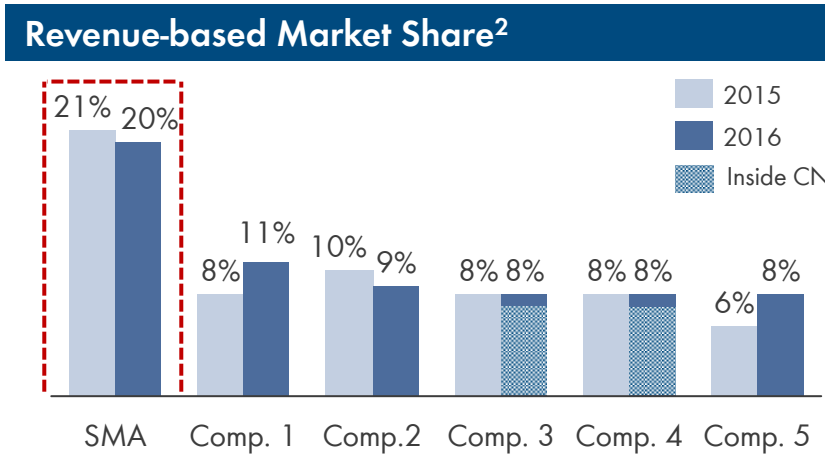
3. SMA MI Market Model Q1 2017; Res ≤10kW plants, Com >10kW to 1MW plants, Uti >1MW plants  
 4. Incl. ~1 GW Off-Grid installations p.a.: residential, remote and micro-grid applications  
 5. Incl. inverter potential for retrofit



# Two Decades of Market Leadership Have a Name: SMA Accounts for 20% of Global PV Inverter Sales



- > There is NO global inverter market. Due to the local requirements and the wide range of applications<sup>1</sup> the inverter market is very fragmented.
- > SMA is the only global player with a complete portfolio in all segments. Therefore, SMA has had the highest market share in sales for more than two decades.
- > Some competitors mainly benefit from local market developments. The biggest Chinese solar inverter player only shipped inverters for \$40m in the first nine months of 2016 in international markets, while domestic sales accounted for 95% of its sales.
- > Some other competitors benefit from little or no competition in certain PV applications (e.g. optimizer/micro inverters).
- > Some large conglomerates survived in the PV inverter business only because of cross-subsidization (e.g. with medium voltage technology).



> **According to IHS, quality is the most important decision factor for PV inverter technology.**

1. Optimizer, Residential, commercial, utility, storage, off-grid, etc.  
 2. SMA: inverter revenues; competitors: SMA analysis based on financial reports of companies, public

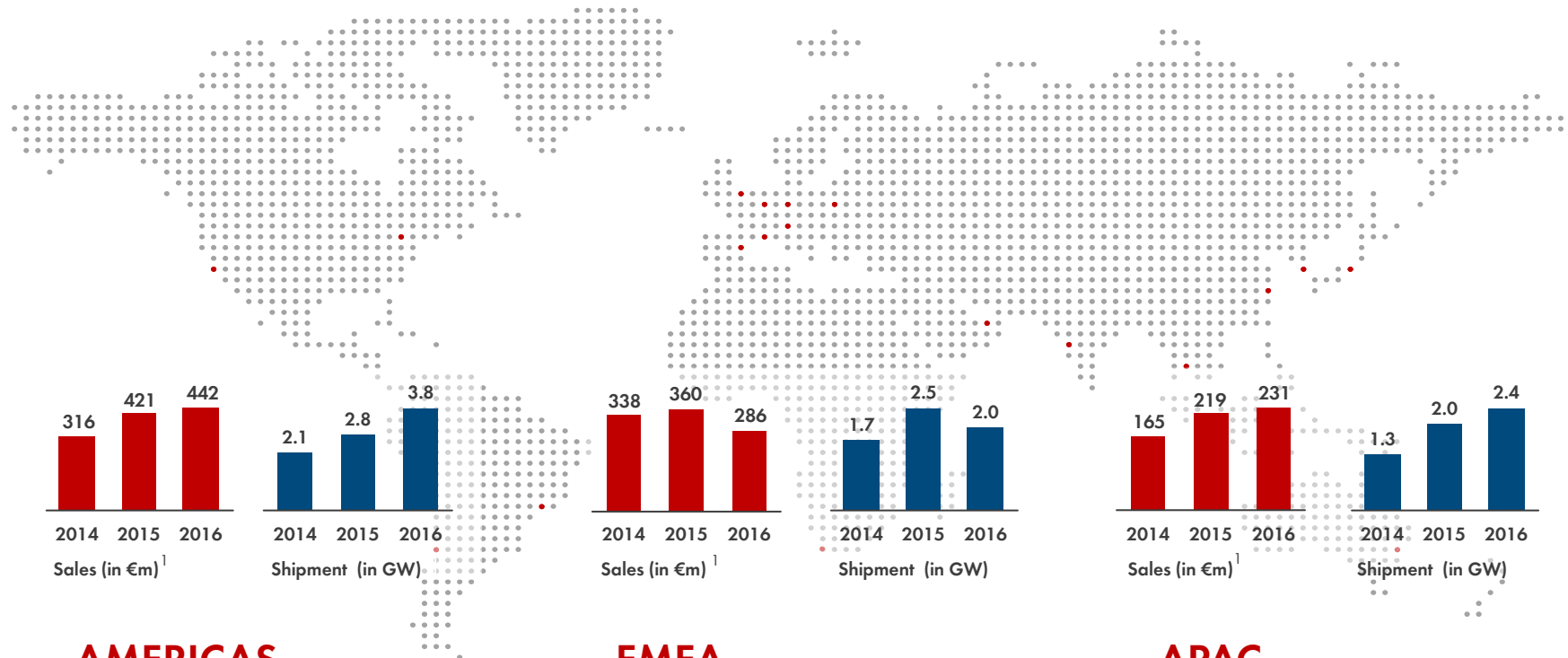
information and market research institutes; calculation based on PV inverter market w/o storage applications as of SMA market model Q1 2017

SMA HAS A STRONG GLOBAL PRESENCE TO  
ENSURE BEST CUSTOMER SERVICE

SMA IS AN ENGINE OF INNOVATION AND  
OFFERS A COMPLETE PORTFOLIO

SMA IS A TRUSTED BUSINESS PARTNER

# Global Presence: SMA has an Unmatched Global Infrastructure of PV Sales and Service Experts



## AMERICAS

39 GW Cum. Installed Base<sup>2</sup>  
 36 % SMA Cum. Market Share  
 150+ Sales & Service Experts

## EMEA

97 GW Cum. Installed Base<sup>2</sup>  
 34 % SMA Cum. Market Share  
 390+ Sales & Service Experts

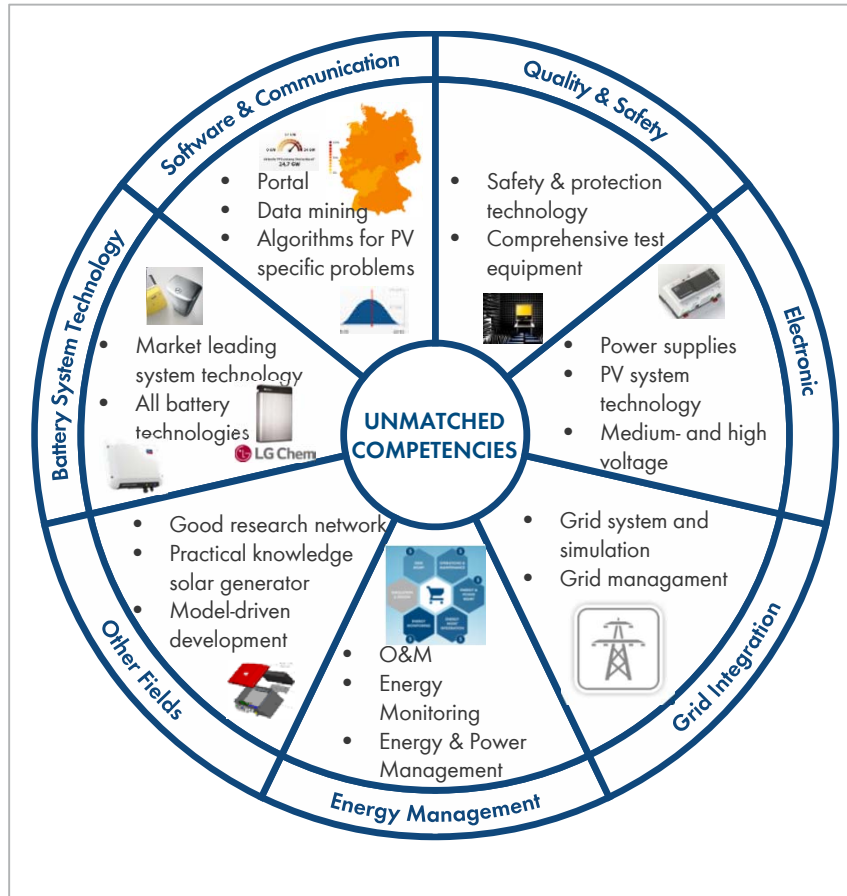
## APAC

141 GW Cum. Installed Base<sup>2</sup>  
 12 % SMA Cum. Market Share<sup>3</sup>  
 130+ Sales & Service Experts

> SMA will invest in its global sales infrastructure to gain market share.

1. w/o sales deductions (2014 incl. Railway: -14 m€; 2015: -18m€; 2016: c. -13m€)  
 2. Cumulated installed inverters in GWac by end of 2016  
 3. Share excl. China; incl. China 6%

# PV Know-how: SMA is an Engine of Innovation With Unmatched Competencies and Strong Alliance Partners



We have **380** employees in R&D in Germany, Thereof 90 in research and 290 in development. Furthermore **90** developers in China



Globally, SMA has been granted ca. **870** patents and utility models, c. **600** ongoing application procedures and > **800** trademarks



More than **20** strategic partnerships, e.g. with Danfoss, Siemens, Tigo Energy, leading car manufacturers

> The PV industry is very much driven by new technologies and business models.

# SMA Offers a Complete Portfolio for All PV-Applications and All Key Solar Regions



## RESIDENTIAL

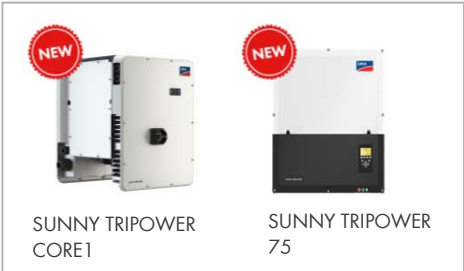


**Lower Costs & High Yield**  
Tigo Optimizers with selective deployment to reduce cost and secure high yields

**High Uptime**  
New service concept to secure high technical uptime  
New heat management to increase lifetime

**Energy management**  
Better monitoring with easy integration into Sunny Portal

## COMMERCIAL



**Best for Roof-top**  
Up to 60% faster installation;  
6 MPPTs to avoid MLPE<sup>1</sup>

**Future Proof**  
Core1 is ready for SMA's new commercial energy management and storage<sup>2</sup>

**Best for Ground Mounted**  
Higher power class (75 kW) for small utility plants;  
Best from both worlds (String/Central)

## UTILITY



**Turnkey Solution**  
Compact 12.2m (40-foot) shipping container (Inverter, Transformer, Switchgear)

**Cost-Effective**  
Reduced watt-specific price;  
Minimized transport and installation cost

**Versatile**  
Flexible design for all grid-voltages (1,500V / 1,000V)

> **SMA's product innovations will help to improve the gross margin in 2017 and beyond**

1. MLPE: Module Level Power Electronics  
2. Available in 2. HY 2017

# Storage will Become the Game Changer in the Solar Industry



## STORAGE

**SUNNY BOY STORAGE**  
 3.7/5.0/6.0

**SUNNY TRIPOWER STORAGE 60**

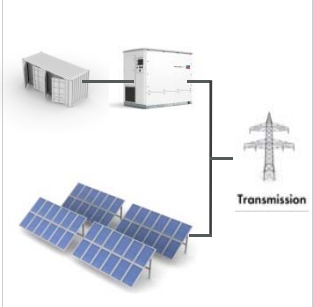
**SUNNY CENTRAL STORAGE**  
 2200/2500

- Any Battery Technology**
- Lead Acid,
  - Lithion,
  - Redox Flow
- Any Segments**
- Residential,
  - Commercial,
  - Utility
- Any Application**
- Grid Support
  - Integration
  - Industrial (behind-the-meter)

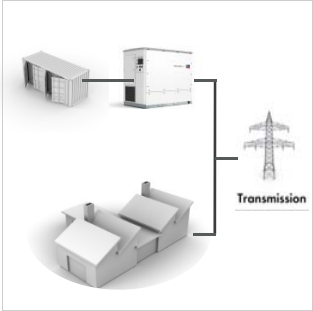
## APPLICATIONS



- 1. GRID SUPPORT**
- > Ancillary services
  - > Congestion relief (grid and generation capacity improvement)



- 2. INTEGRATION OF RENEWABLES**
- > Ancillary services
  - > PV ramp rate control
  - > Energy shifting



- 3. INDUSTRIAL BEHIND-THE-METER**
- > Peak load shaving
  - > Peak/Energy shifting
  - > Power Quality (reactive power supply, backup)

> **Competencies in grid integration and battery technologies will become success factors**

SMA GENERATED SALES OF €173M; IN LINE  
WITH Q1/17 GUIDANCE

EQUITY RATIO OF 50% AND NET CASH  
INCREASED TO MORE THAN €410M

BACKLOG OF €646M; POSITIVE BOOK-TO-BILL  
RATIO SINCE BEGINNING OF THE YEAR

FULL YEAR SALES & EARNINGS GUIDANCE  
CONFIRMED

# Over Years SMA Successfully Managed Rapidly Changing Market Conditions Whilst Protecting the Gross Margin



## Phase 1 – Feed-in Tariff

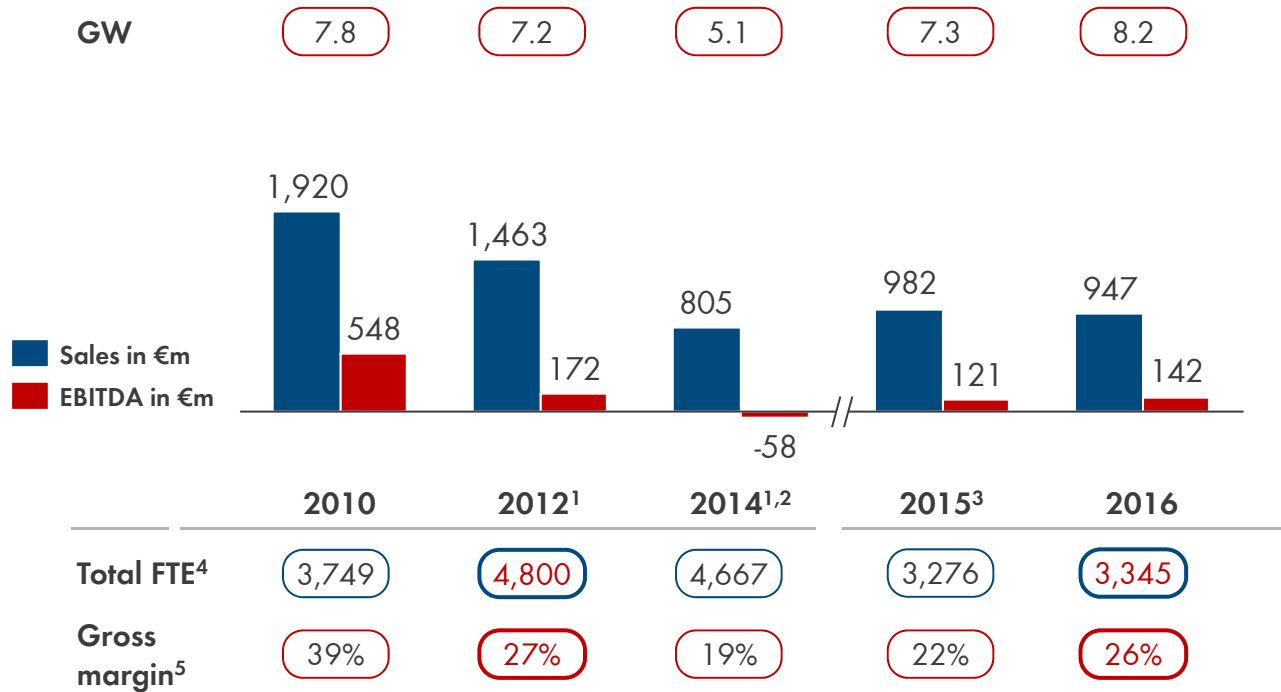
- High price pressure in all segments
- Shift from Europe to Asia and Americas
- Shift in PV application (Residential to Utility)

## Phase 2 – Change in Drivers

- Accelerated price pressure
- Stable regional mix/ product mix
- Introduction of storage

## Initiatives

- > Acquisition of Zeyersolar to improve sourcing and portfolio (2012)
- > Entered into O&M service business to generate stable cash-flows (2013)
- > Strategic alliance with Danfoss to improve competitiveness (eg. joint procurement; 2014)
- > Consolidated global infrastructure to improve break-even (2014/16)
- > Reduced headcount by 35% since 2012 to lower costs
- > 120 cost improved products since 2012 to protect gross margin



> SMA has a proven track record to cope with high price pressure and a rapidly changing market environment.

1. Including dtw (299 FTE as of December 31, 2012)

2. Including Zeyersolar (360 FTE as of December 31, 2014)

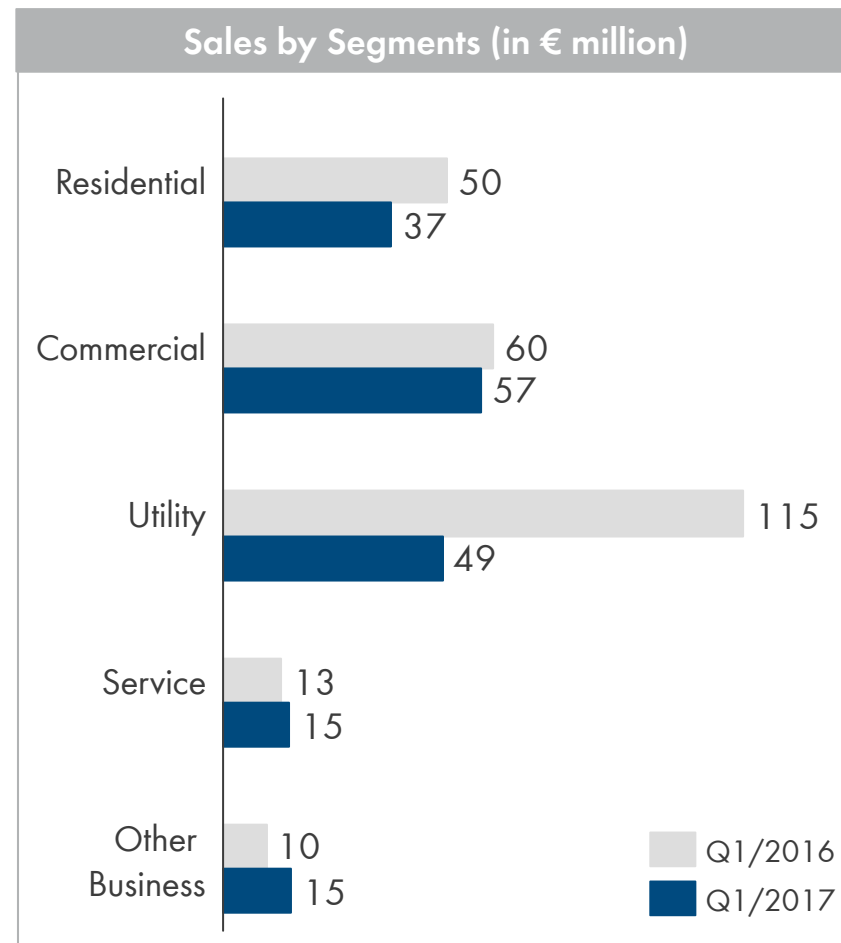
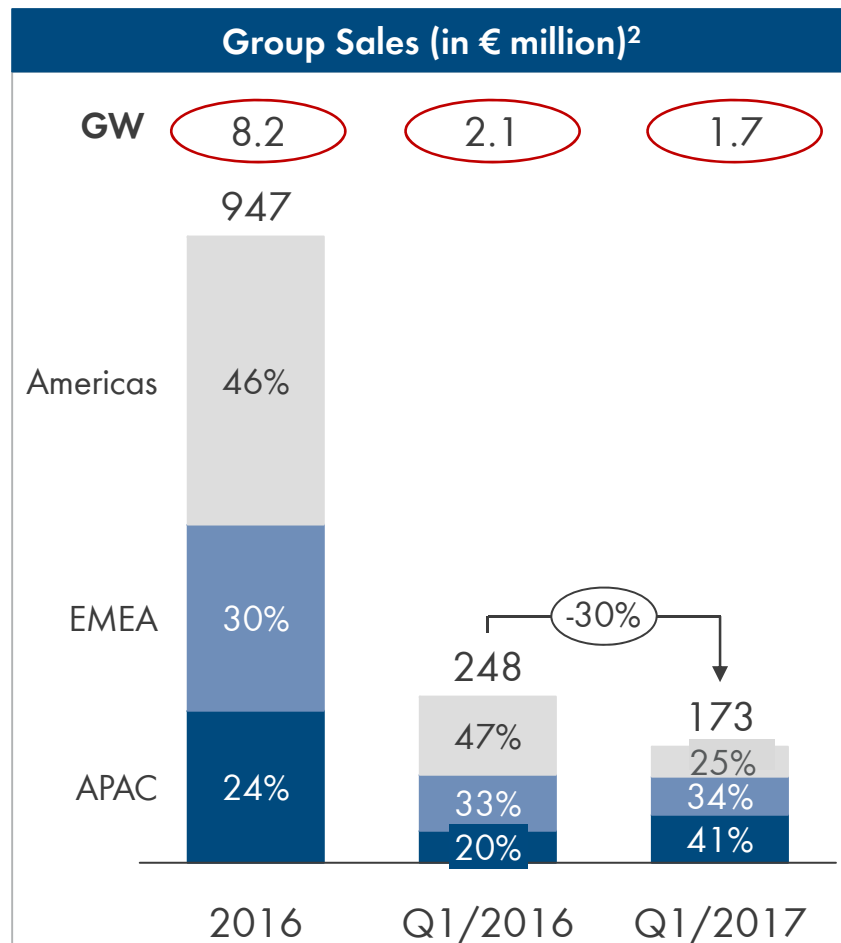
3. The figures for the previous year were adjusted retrospectively due to the sale of the Railway Technology business division.

4. As of December 31 (without temporary employees, trainees and interns)

5. Without one-off items



# APAC was a Growth Region<sup>1</sup> while Americas and EMEA Slowed Down Impacted by Bad Weather and Price Pressure

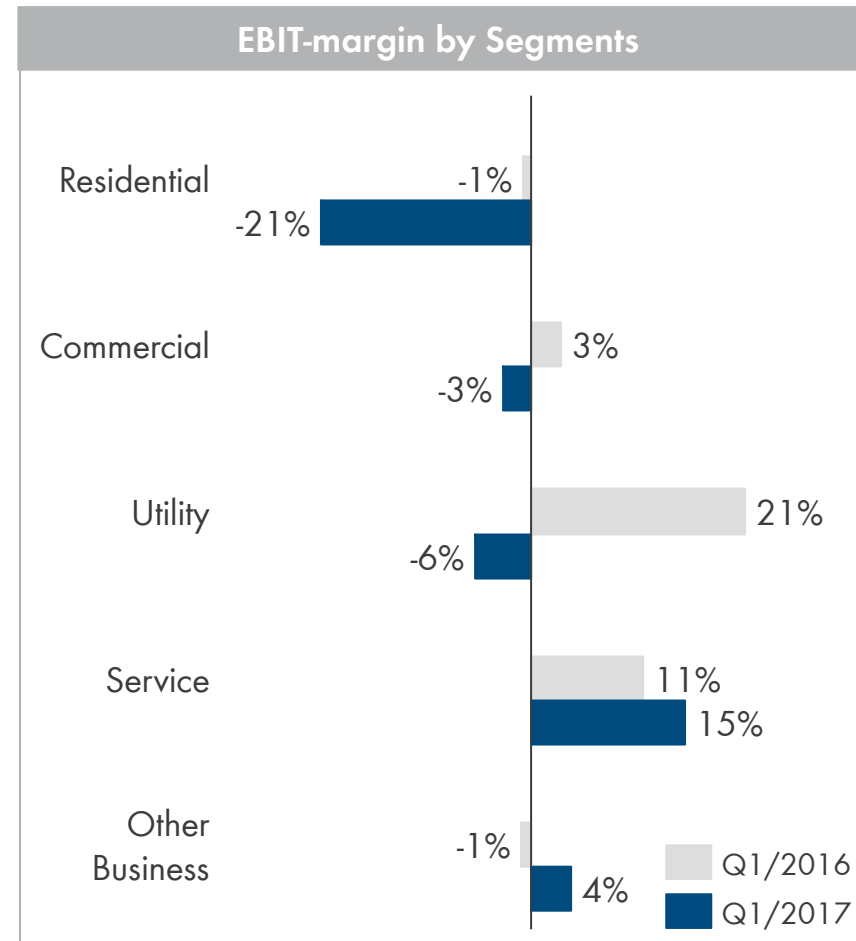
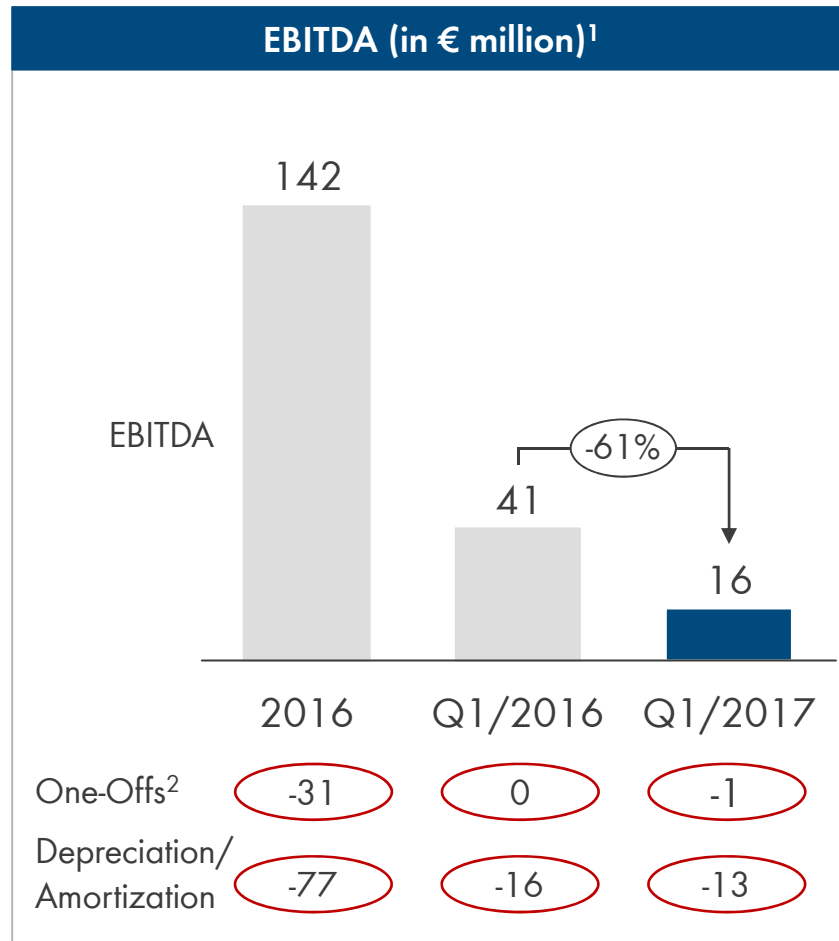


> Sales decline in all key segments (Utility -58% Y/Y; Residential -25% Y/Y; Commercial -6% Y/Y); Service and Other Business sales increased (+12% Y/Y; +60% Y/Y) .

1. Q1 2017: Sales in APAC+45% Y/Y

2. Unless otherwise stated

# EBITDA of €16m Includes the Book Gain from the Sale of the Railway Technology Business Division

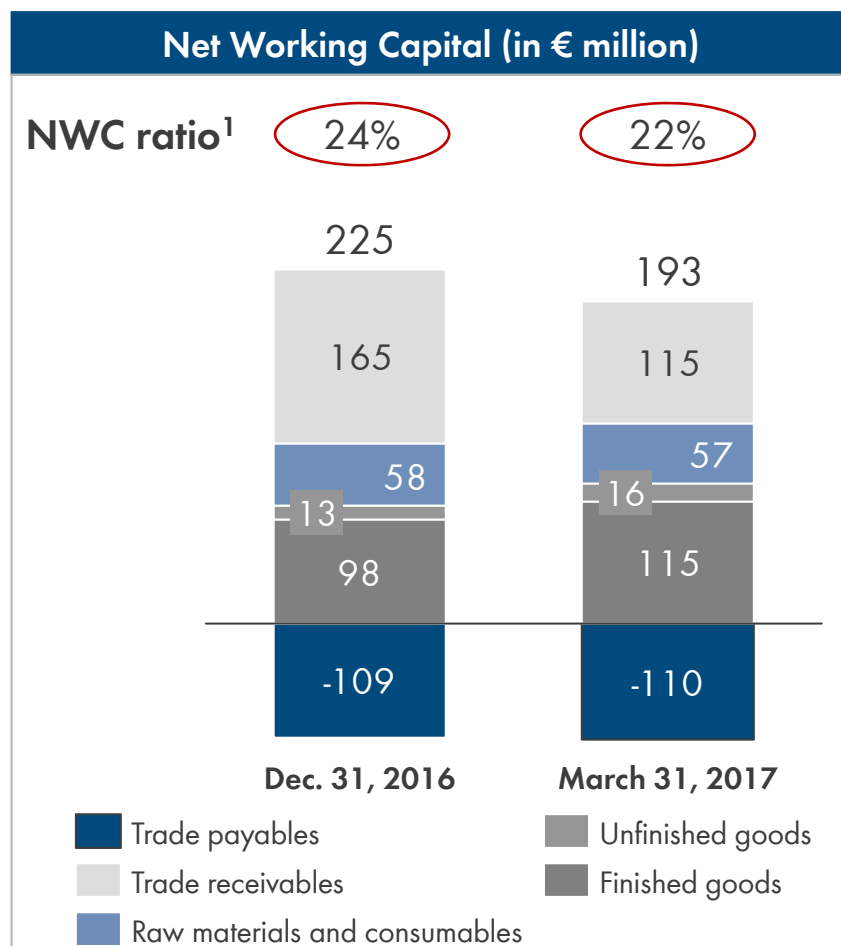


> **Weak sales had a negative impact on EBITDA, despite reduced fixed costs.**

1. Unless otherwise stated

2. Q1/2017 (w/o the book gain from the sale of the Railway Technology business division): Impairment on working capital (neg.); thereof in COGS (€-1m)

# With an Equity Ratio of 50% and Net Cash of More Than €410m SMA is Well Prepared for the Future



**Group Balance Sheet , reclassified (in € million)**

	2016/12/31	2017/03/31	Δ
Non-current assets	426	422	-1%
Working capital	334	303	-9%
Other assets	66	42	-36%
<b>Total cash</b>	<b>385</b>	<b>435</b>	<b>13%</b>
Shareholders' equity	585	595	2%
Provisions <sup>2</sup>	177	171	-3%
Trade payables	109	110	1%
Financial liabilities <sup>3</sup>	23	22	-4%
Other liabilities <sup>2</sup>	317	304	-11%
<b>Total</b>	<b>1,211</b>	<b>1,202</b>	<b>-1%</b>

> The net working capital ratio was at the lower end of the guidance range of 22% and 25% of sales.

1. NWC= inventory+trade receivables-trade payables (no advanced payments included); As of last twelve months sales

2. Not interest-bearing

3. Incl. not-interest-bearing derivatives: €13m (2016: €18m)

# SMA Generates a Positive Free Cash Flow Despite Drop in Demand

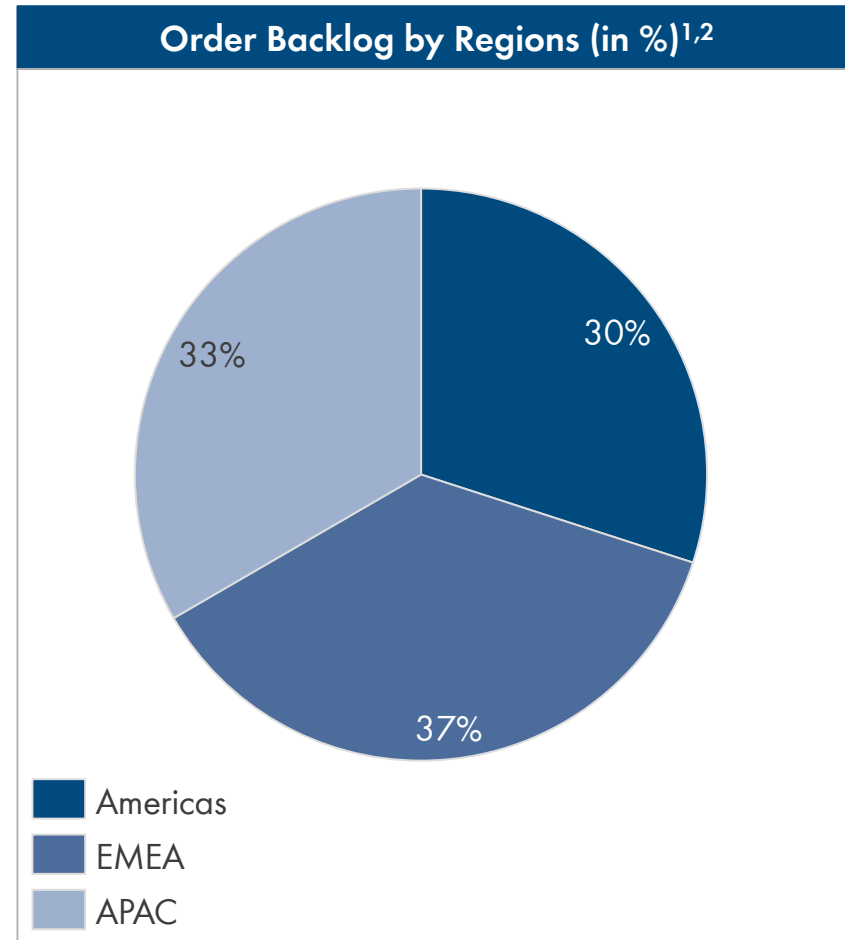
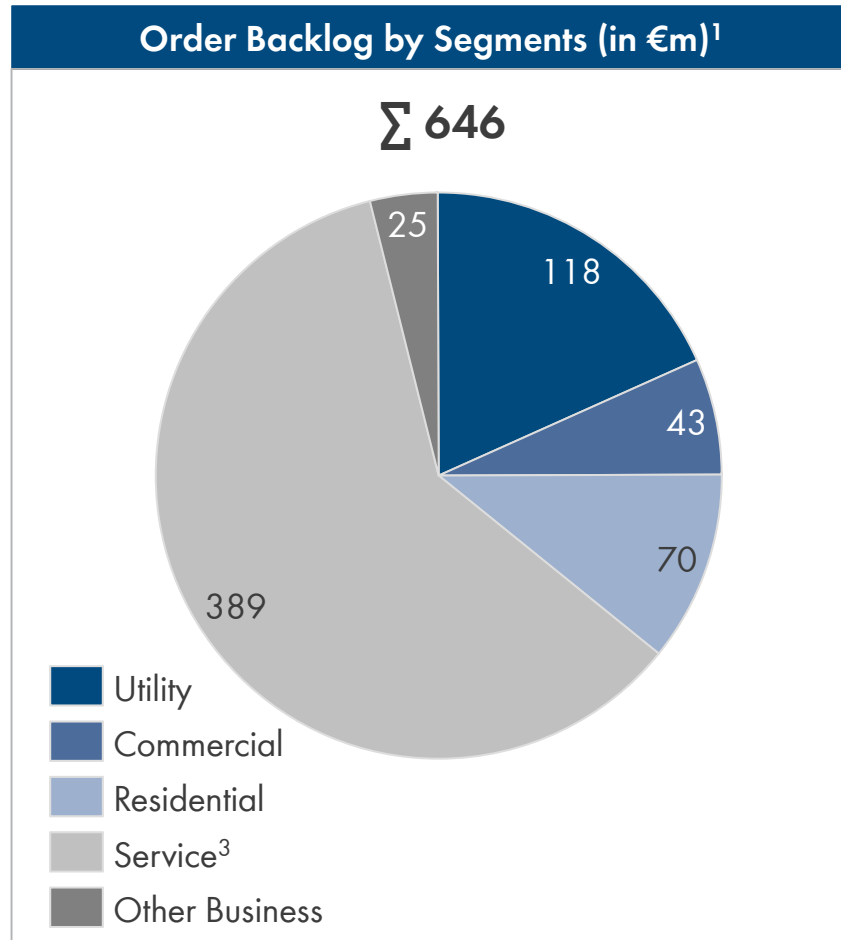


Cash Flow (in € million)		
	Q1/2016	Q1/2017
Net Income	19	6
Gross Cash Flow	38	11
Cash Flow from Operating Activities	56	42
Net Capex <sup>1</sup>	-7	-7
<b>Free Cash Flow (Adj.)</b>	<b>49</b>	<b>35</b>
Net Investments from Securities and Other Financial Assets	-19	-6
Cash inflow from divestments	0	17
Free Cash Flow (IFRS)	30	46

> **SMA's business is not capital intense; therefore, SMA offers an attractive cash flow profile.**

1. Thereof R&D capitalization Q1/2017: €4m (Q1/2016: €5m)

# SMA has a Strong Order Backlog; Order Backlog for Products Increased by 75% since the Beginning of the Year



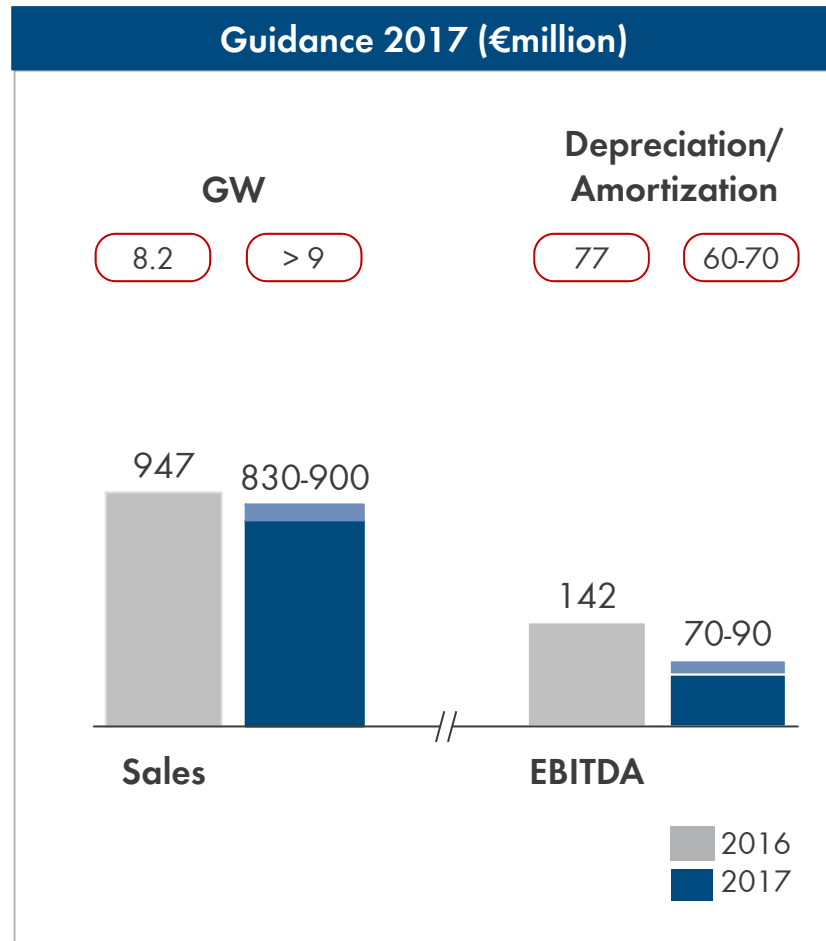
**> Strong book-to-bill ratio of 1.4 in Q1/2017 backs up Management’s expectation that H2/2017 will see higher sales volumes.**

1. As of April 30, 2017 / As of March 31, 2017: €626m, thereof €232m for products (€22m Other Business; €57m Residential; €41m Commercial; €112m Utility)

2. W/o Service

3. Order backlog in Service will be recognized over a period of 5 to 10 years

# Managing Board Confirms Guidance for 2017



- Comments on Guidance 2017**
- > SMA expects sales of €830m to €900m in fiscal year 2017.
  - > EBITDA is expected to reach €70m to €90m.
  - > Price pressure will remain high in all segments and regions.
  - > Net working capital ratio will be between 22% and 25% of sales.
  - > SMA plans to invest about € 50m.
  - > Divestment of SMA Railway Technology GmbH was completed in Q1.

> With cost-optimized products and the development of its solution business, SMA expects to increase profitability from 2018 onwards.

# Investment Highlights: Attractive Investment Opportunity



- ✓ Direct exposure to the global solar market
- ✓ SMA has been the #1 for solar inverters for more than 2 decades
- ✓ Proven technology and new solutions for the energy Internet
- ✓ Flexible business model and best-cost sourcing strategy
- ✓ Powerful sales and service infrastructure
- ✓ Bankable partner due to high equity ratio, net cash position and credit facility
- ✓ Stable shareholder structure with Danfoss as strategic anchor investor
- ✓ Experienced management team with proven track record



BACK UP



# Contacts and Financial Calendar



## Investor Relations Contact:

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Stephanie Peschinger	Investor Relations
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## Financial Calendar:

August 10, 2017	Publication of the Half-Yearly Financial Report: January to June 2017 Analyst Conference Call: 09:00am (CET)
September 21, 2017	Roadshow Edinburgh
September 22, 2017	Macquarie 10th Alternative Energy Conference, London

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