



SMA SOLAR TECHNOLOGY AG

11th Capital Markets Day

Presented by: Jürgen Reinert (CEO) and Ulrich Hadding (CFO)

January 25, 2019



Disclaimer



IMPORTANT LEGAL NOTICE

This presentation does not constitute or form part of, and should not be construed as, an offer or invitation to subscribe for, underwrite or otherwise acquire, any securities of SMA Solar Technology AG (the "Company") or any present or future subsidiary of the Company (together with the Company, the "SMA Group") nor should it or any part of it form the basis of, or be relied upon in connection with, any contract to purchase or subscribe for any securities in the Company or any member of the SMA Group or commitment whatsoever.

All information contained herein has been carefully prepared. Nevertheless, we do not guarantee its accuracy or completeness and nothing herein shall be construed to be a representation of such guarantee. The Company shall assume no liability for errors contained in this document, unless damages are caused intentionally or through gross negligence by the Company. Furthermore, the Company shall assume no liability for effects of activities that evolve from the basis of data and information provided by this presentation.

The information contained in this presentation is subject to amendment, revision and updating, which does not underlie any prior announcement by the Company. Certain statements contained in this presentation may be statements of future expectations and other forward-looking statements that are based on the management's current views and assumptions and involve known and unknown risks and uncertainties. Actual results, performance or events may differ materially from those in such statements as a result of, among others, factors, changing business or other market conditions and the prospects for growth anticipated by the management of the Company. These and other factors could adversely affect the outcome and financial effects of the plans and events described herein. The Company does not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. You should not place undue reliance on forward-looking statements which speak only as of the date of this presentation.

This presentation is for information purposes only and may not be further distributed or passed on to any party which is not the addressee of this presentation solely after prior consent of the Company. No part of this presentation must be copied, reproduced or cited by the addressees hereof other than for the purpose for which it has been provided to the addressee. The content of this presentation, meaning all texts, pictures and sounds, are protected by copyright. The contained information of the presentation is property of the Company.

This document is not an offer of securities for sale in the United States of America. Securities may not be offered or sold in the United States of America absent registration or an exemption from registration under the U.S. Securities Act of 1933 as amended.

11th Capital Markets Day Agenda



- 1

Review 2018
Ulrich Hadding (CFO)
- 2

Market & Competition
Jürgen Reinert (CEO)
- 3

Restructuring 2019
Jürgen Reinert (CEO) and Ulrich Hadding (CFO)
- 4

SMA's Global Presence
John Susa (EVP Global Sales & Service)
- 5

Technology & Portfolio
Jürgen Reinert (CEO)
- 6

Financials & Guidance
Ulrich Hadding (CFO)

1. Review 2018

Presented by Ulrich Hadding (CFO)

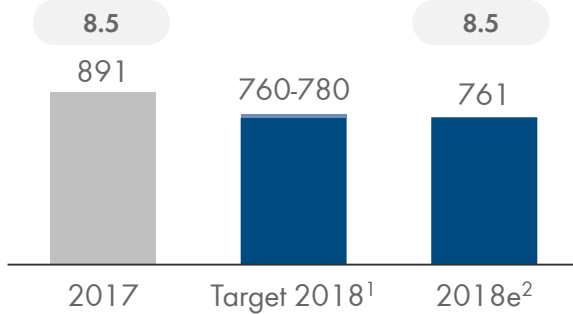


Review 2018: Sales and Earnings within Guidance; EBITDA Impacted by Net Extraordinary Effects of about €100 Million



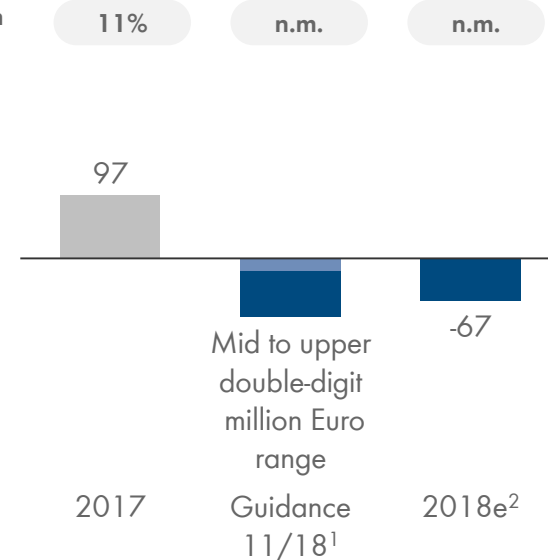
Sales (in € million)

GW



EBITDA (in € million)

Margin



In 2018, SMA Generated new Opportunities in a Challenging Market Environment



Challenges



Policy shake-up in China

impacted inverter prices
in H2/18



Component shortages

affected mainly the Commercial
segment in H1/2018



Limited battery availability

caused storage sales that
remained below expectations



Opportunities



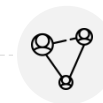
New strategic partnerships

with BYD and Audi generate
new opportunities in the storage
and new energy sector



Strong EMEA market

favors SMA as we hold the
#1 market position and have
a strong repowering business



Tap into digital business

with the IoT platform ennexOS and
the new subsidiary conevea, which
develops new energy services

2. Market & Competition

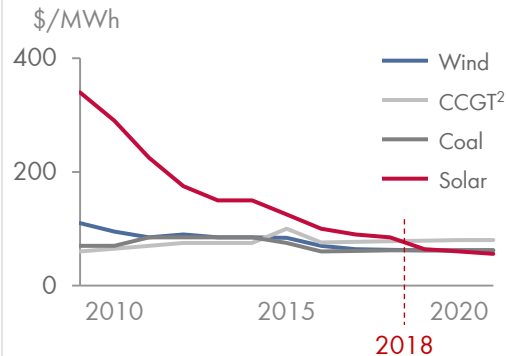
Presented by Jürgen Reinert (CEO)



The Solar Market is set to Disrupt the Energy Sector

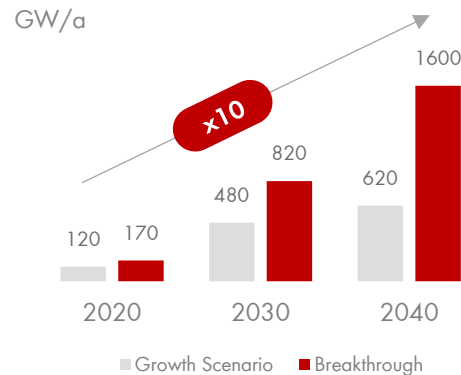


Global Energy Generation Cost¹



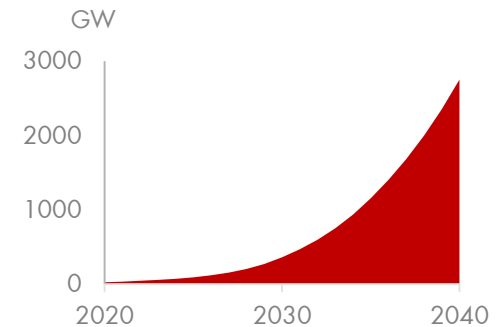
The sharp price decline for PV components results in competitiveness of PV with other energy sources. Beyond 2020, the price decline for solar p.a. is expected to slow down to single digit rates.

Annual PV Capacity Additions by Scenario³



Policies, sustainability concerns and strong growth in primary energy demand drive expansion of PV capacity.

Cumulative Global Storage Power⁴

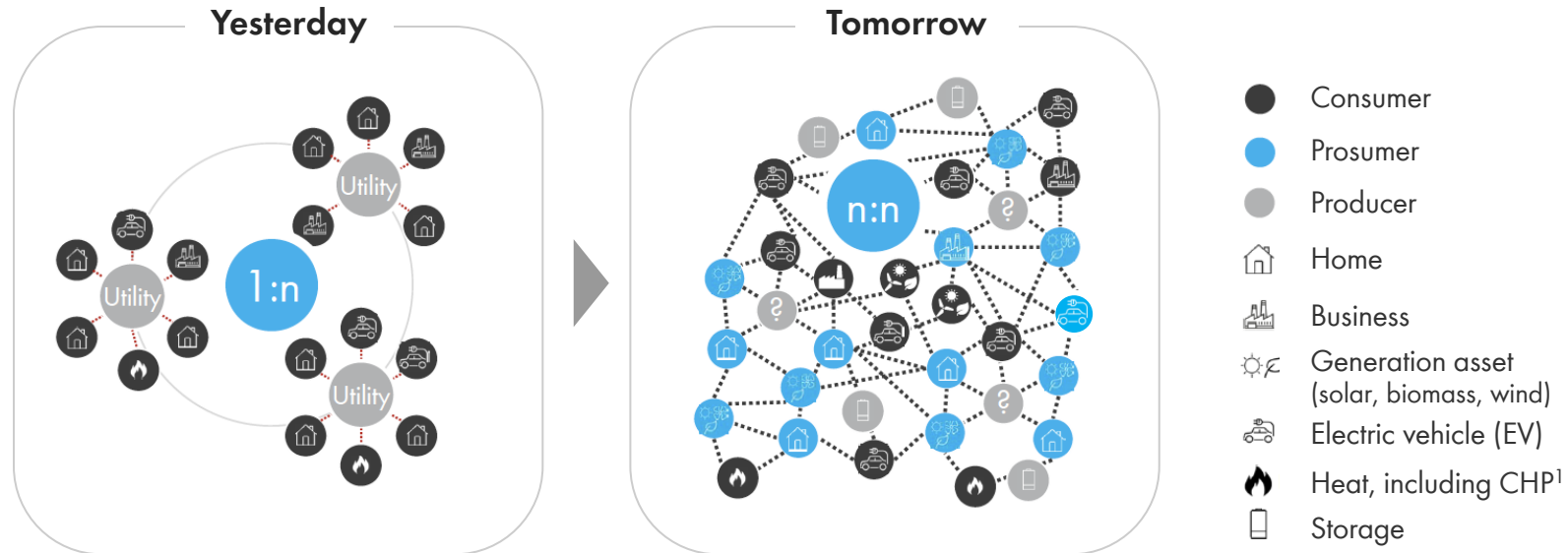


High share of renewables results in increased volatility and requires capacity balancing and optimization.

The New Energy World is Decentral



Digitalization is Key for Decentrally Controlled Grid



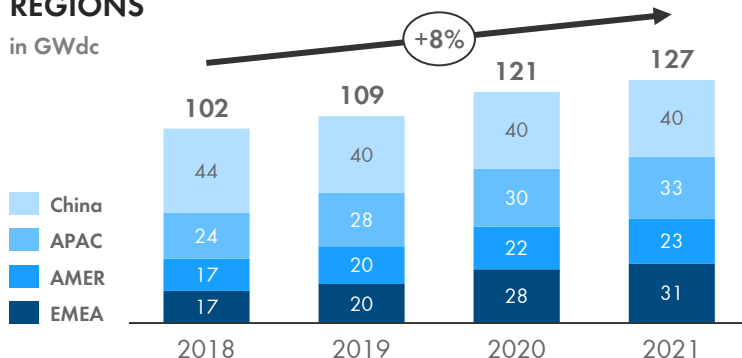
Global PV Installations Expected to Grow in all Regions, Except China



Core Business: PV Installations¹

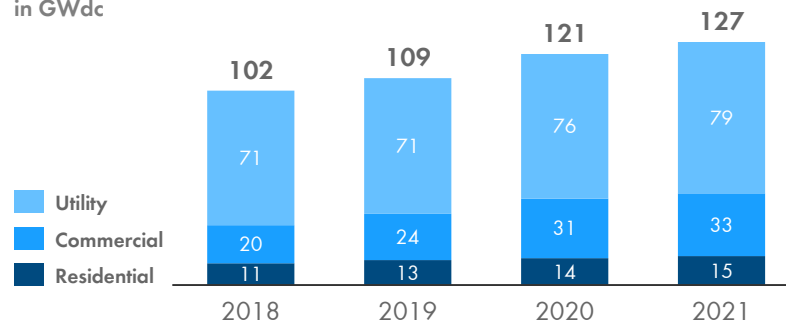
REGIONS

in GWdc



SEGMENTS

in GWdc



New installations

From 2018 on PV installations are expected to show a continuous average growth of 8% p.a.

EMEA

EMEA is most promising region with >20% annual growth. MEA² is expected to add huge potential from 2020.

China

Chinese installations decreased by 16% in 2018. 5-Year-Plan³ ends in 2020, forecast thereafter subject to uncertainty.

Utility

Utility remains largest segment. Most promising markets are USA, Australia, Japan. India and China are largest low-cost markets.

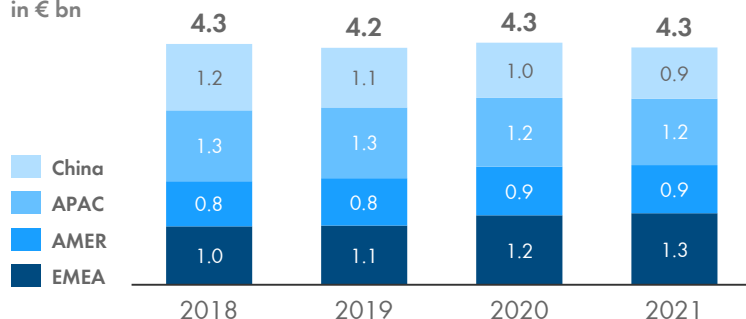
Price Pressure will Largely Erode Growth in PV Installations



PV Inverter Revenue¹

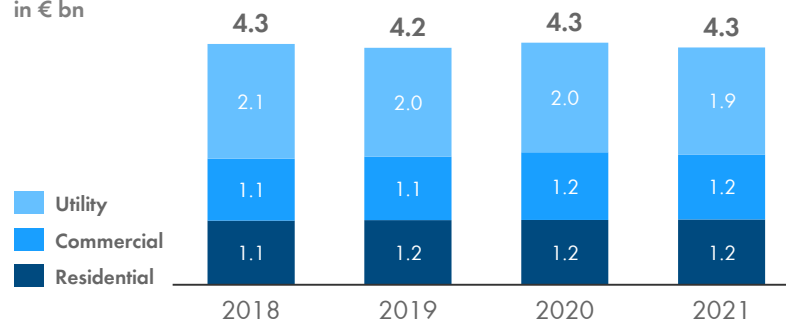
REGIONS

in € bn



SEGMENTS

in € bn



Revenue potential

After drop from 2017 to 2018 by ~10%, flat revenue expected until 2021. Price pressure will largely erode volume growth.

EMEA

Emerging PV markets in MEA² contribute strongly to growth in EMEA, which is expected to reach 7% p.a.

AMERICAS

Largest country in Americas region remains the USA. Latin America gains importance with revenue growth of 14% p.a.

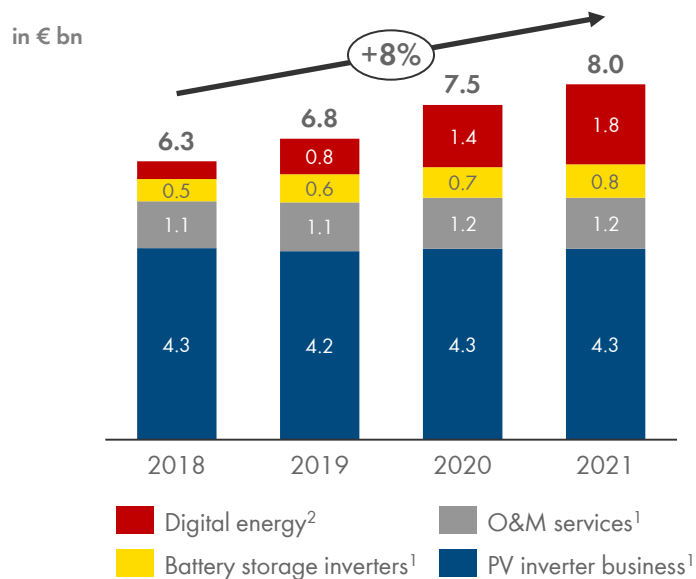
Segments

Revenue potential for each segment expected to remain rather stable, no significant shift among segments expected.

Storage and Digital Energy Solutions Drive Global Market Growth

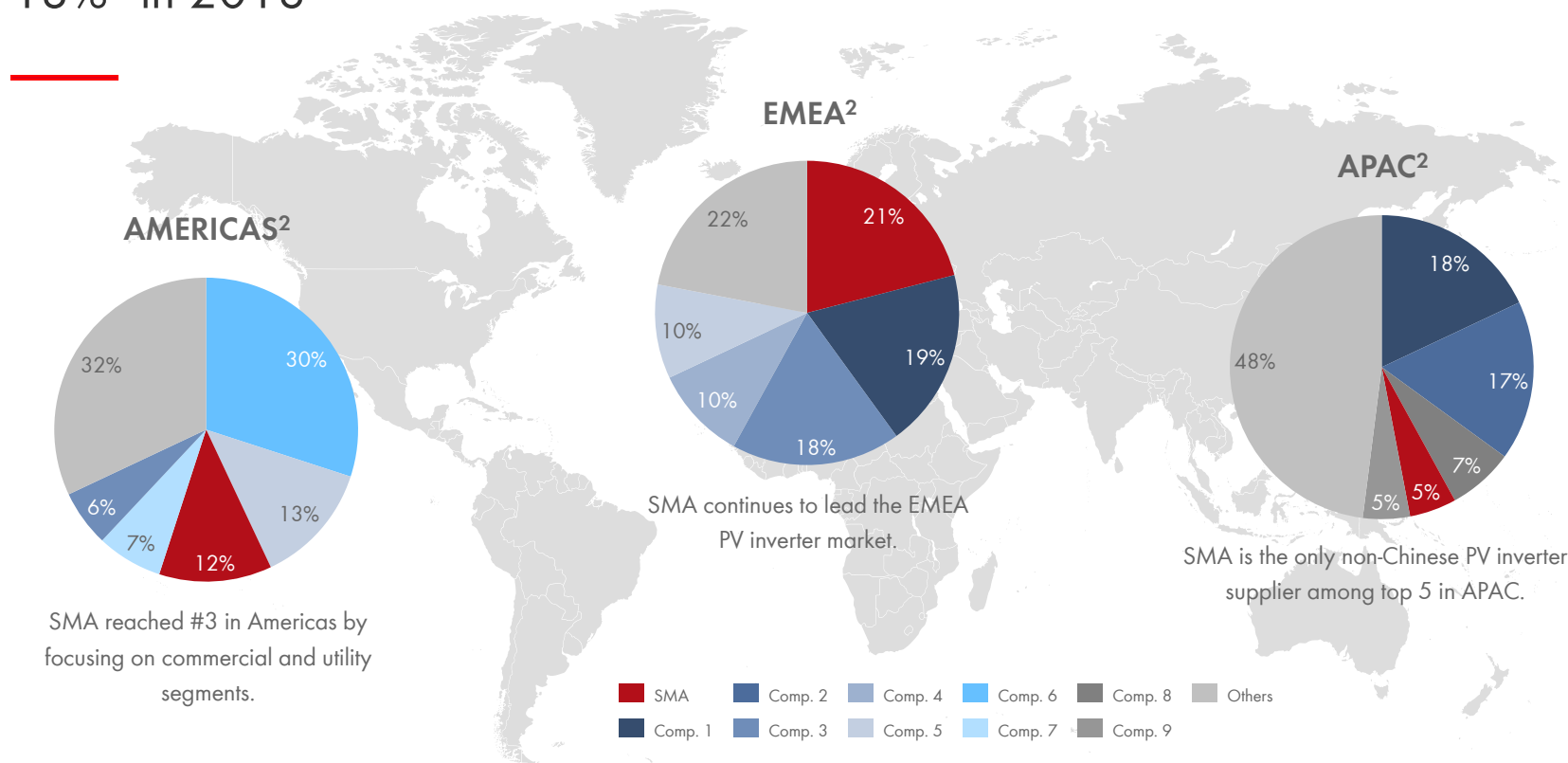


Global Market Outlook by Sector



- Power generation costs decrease, integrated energy and digitalization will lead to a higher share of renewable energy and its growth.
- The traditional PV inverter market revenue potential is expected to be stable. Digital solutions and battery storage are attractive additional value pools.
- PV inverters will serve as the backbone for smart grid solutions connecting the components and collecting data.
- Digital energy solutions gain importance for both homes and businesses, e.g. energy services for residential houses, food and non-food retail.
- O&M services remain important with continuously declining equipment prices and are key for sustainable PV investments. Service packages aim utility plants in particular and vary from full to partial.

SMA is a leading Player of PV Technology with a Market Share of 13%¹ in 2018





3. Restructuring 2019

Presented by Jürgen Reinert (CEO) and Ulrich Hadding (CFO)

With the 2019 Restructuring we Reduce our Costs by c. €40 m p.a. while Maintaining SMA's Ability to Seize Opportunities



The main Cost Reduction, the Majority of which will be Fully Effective in 2019, results from Closing SMA's Facilities in China



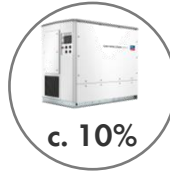
SMA will optimize the utilization of the CO₂-neutral production site in Germany and close its production, procurement and development facilities in China.

Kassel, GERMANY Production capacity of max. 15 GW

Large scale storage
and central inverter

String inverter

Direct Labor
Share



470

30-160

Permanent
Employees 2018

Min/Max. Temporary
Workers 2018

Zabierzów, POLAND

Production site for chokes and transformers



220

50-230

Permanent
Employees 2018

Min/Max. Temporary
Workers 2018

SMA can scale its operations 1:2 according to demand within one month and 1:7 within one year

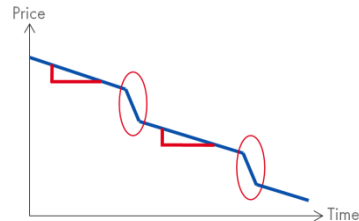
To Return to Profitability, we must Increase our Focus on Reducing Variable Costs and Push Sales Initiatives even Further



1

Variable Cost Reduction

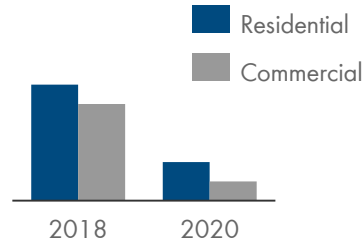
SMA will continuously reduce manufacturing costs for existing products and launch new products with significantly lower costs.



2

Platform Reduction

SMA will improve the time to market and decrease development adjustments.



3

Strategic Partnerships

SMA's strategic partnerships will help to increase the top line.



4

Ease of Doing Business

SMA's focus is to ease the job of the installer with partner programs and by offering system packages.



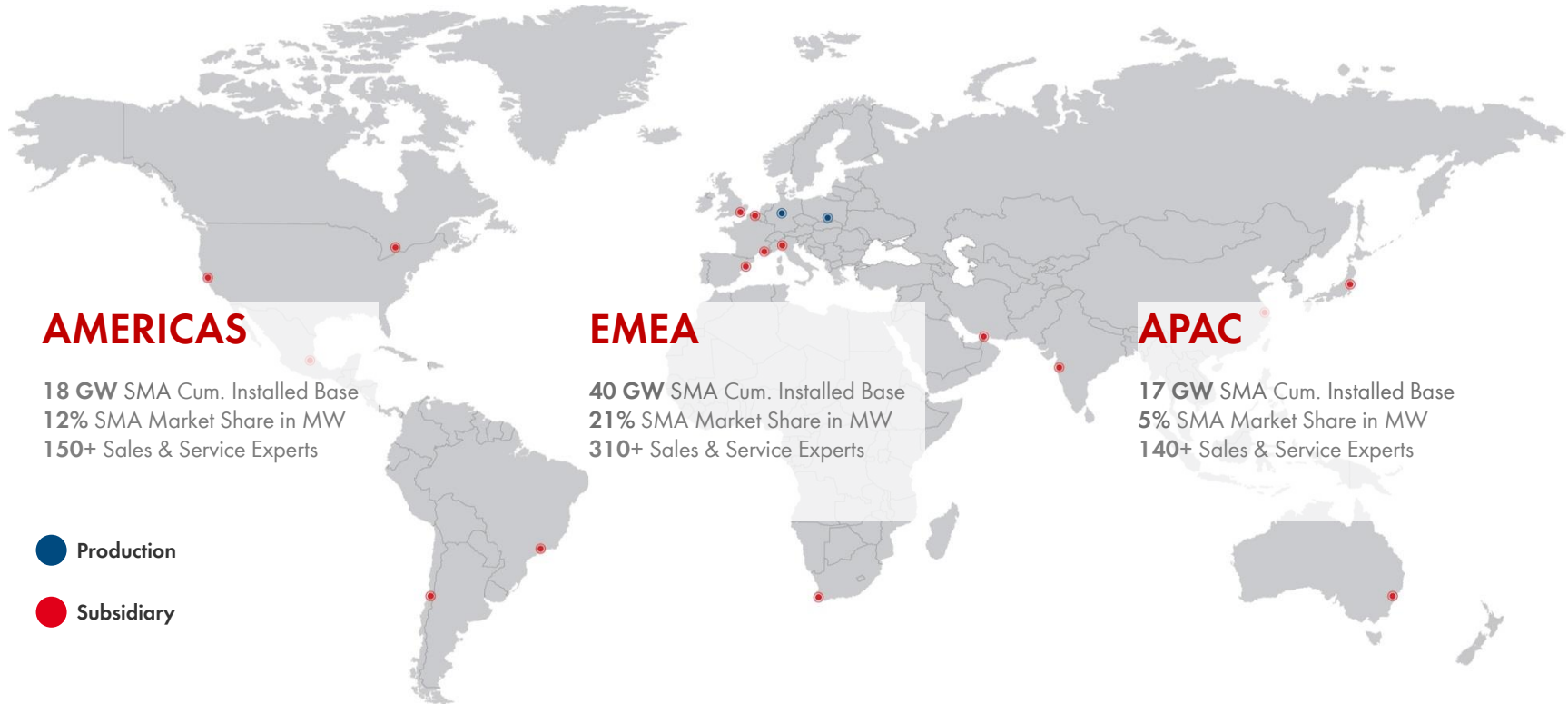
A photograph of two men wearing white hard hats and safety glasses, standing in a field of solar panels. The man on the left, wearing a red shirt, is pointing his right arm towards the solar panels in the distance. The man on the right, wearing a dark blue polo shirt, is looking in the same direction. The background shows rows of solar panels stretching across a field under a clear sky.

4. SMA's Global Presence

Presented by John Susa, EVP Global Sales



SMA has a Specialized Sales and Service Infrastructure



SMA is the Market Leader in EMEA



310+
Sales & Service FTE



21%
Market Share¹



8
Subsidiaries



0.7 GW
O&M under
Management

EMEA

Sales Initiatives 2018

- Certified Installer Program:
 - Germany Since 2014
 - Italy: Certified Installer Program Launch Q1/19
- Established dedicated Large Scale Storage and Service Repowering sales team to drive significant opportunities in these segments in Europe.
- More than 400 MW of inverter sales secured by European EPCs in Australia.



Highlights 2018

- Won 120 MW Utility project in Israel: One of the largest projects in the region in 2018.
- Cooperation with Audi – SMA is the interface between Audi E-Mobility and Home Energy Management.

The Strongest Markets of SMA in APAC are Australia, Japan, and South Korea



140+
Sales & Service FTE



5%
Market Share¹



4
Subsidiaries



0.2 GW
O&M under
Management

APAC

Sales Initiatives 2018

- Certified Installer Program:
 - Launched Q4/18 in Australia
- New battery partner - BYD Alliance, joint market approach in Australia.
- SMA established Sales Agents in Thailand and Korea to support growing customer demand in markets w/o subsidiary.
- Appointed Service partners in various locations in SEA and Korea.



Highlights 2018

- 112 MW Karadoc solar farm in South Australia
- In Australia, 1.8 GW Utility inverters commissioned in 2018
- Secured 400 MW of inverter sales in Vietnam

SMA Strives to Win Back Market Share in Americas



150+
Sales & Service FTE



12%
Market Share¹



5
Subsidiaries



2.4 GW
O&M under
Management

AMERICAS

Sales Initiatives 2018

- Certified Installer Program:
 - Launched Q4/18 in USA
- New Subsidiary in Mexico
- Dedicated Large Scale Storage and Service Repowering sales team to drive strong pipeline for 2019-2020
- BYD Alliance (Total Storage Solution Provider)



Highlights 2018

- Top 5 Utility Projects of more than 400 MW installed in 2017/18



5. Technology & Portfolio

Presented by Jürgen Reinert



SMA's R&D Excellence in Numbers



4,000
meter altitude

30
years
experience



Data from
> 1.5 m
inverters

> 5 m
inverters sold



500
engineers

75 GW
installed base

Strong Strategic Partnerships



Storage Systems



Energy & Grid Services



E-Mobility



SMA Smart Home



Module-Level Power Electronics



Standards



Strategic Collaborations



R&D Collaborations



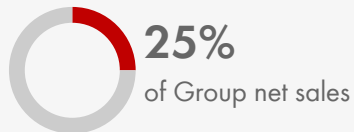
PV Diesel Hybrid-Systems



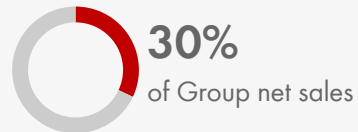
SMA has a Complete Portfolio to Serve all PV Segments



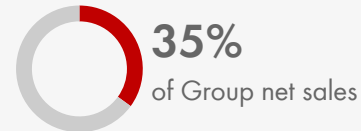
SMA RESIDENTIAL



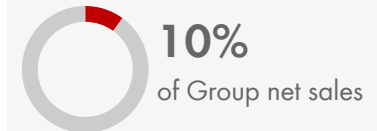
SMA COMMERCIAL



SMA UTILITY



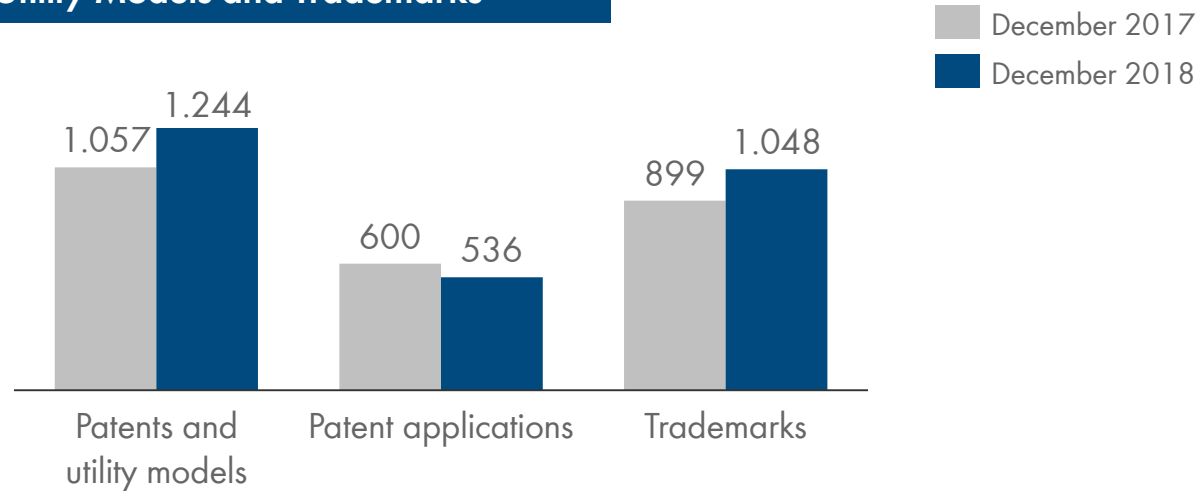
SMA STORAGE



SMA's Patents and Trademarks Protect our Broad Innovations Unmatched in the PV Industry



Patents, Utility Models and Trademarks

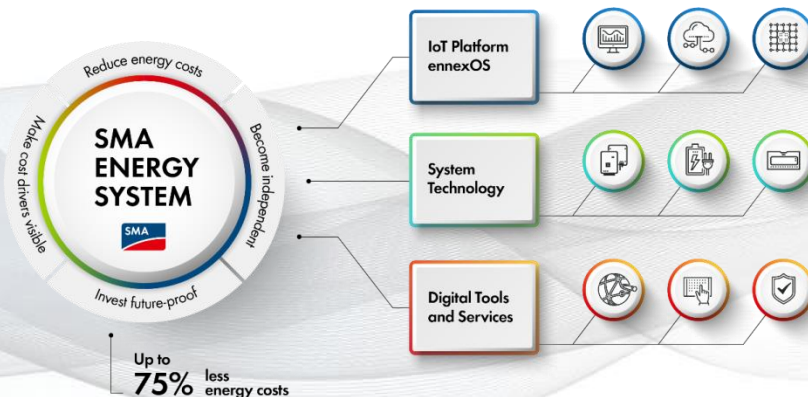


**License income 2018:
€1 million**

SMA can do more than Selling Components – We Possess the Necessary Prerequisites for Offering Future-Proof Systems



Be Part of the New Energy System. Decentralized. Digital. Connected.



Complete SMA PV & Storage Systems



SMA's System Offering for Residential and Commercial

HARDWARE – Intelligent PV and storage technology

Smart products such as intelligent inverters, powerful storage technologies and innovative data managers.

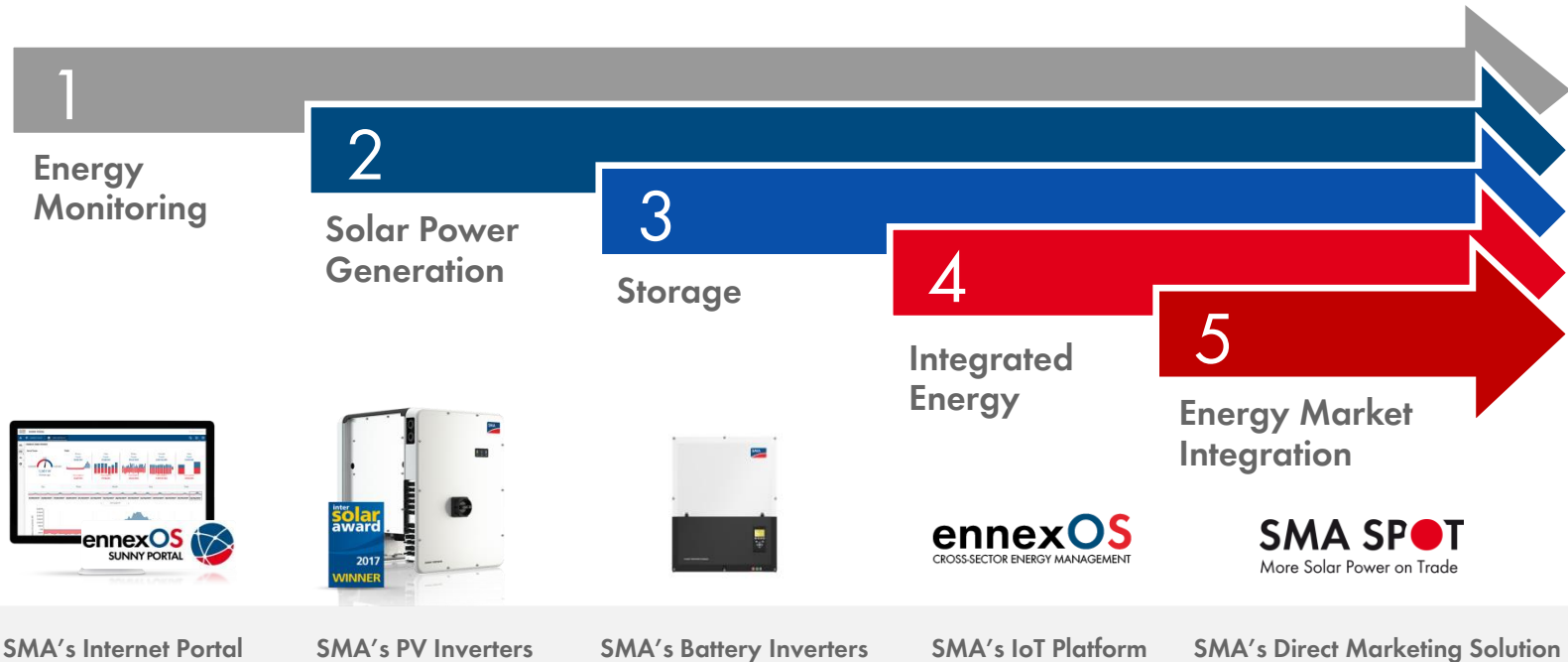
SOFTWARE – Energy management software

Cross-sectoral energy platform with applications and tools to manage and make energy consumption transparent.

SERVICES – (Digital) sales processes and services

Tailor-made sales processes along the customer journey to ensure ease of use and a maximum positive customer experience.

SMA 's Portfolio Covers Every Stage of Energy Integration



SMA Residential Solutions are Ready for the New Energy World



Solar Power Generation

Residential 1-phs and 3-phs inverters for PV plants from 1 kW to 12 kW.



Storage

Battery inverters for on-grid and off-grid solutions and batteries as part of system packages.



Intelligently Control Home Appliances

With SMA's IoT Energy Management platform ennexOS.



Heat and cool with Solar Power

& reduce costs with SMA's IoT Energy Management platform ennexOS.



Fill your E-vehicle with Solar Power

With SMA, the e-vehicle is preferably loaded with free green power coming from your own roof.

SMA Residential Offers Cost Improved Hardware and Additional Value for Customers



Latest Residential Inverters



Sunny Boy

- 3.0 – 6 kW
- (Q2/2019)



Sunny Tripower

- 8.0 – 10.0 kW
- (Q1/2019)



Sunny Boy Storage

- 3.7 – 6 kW
- (H2/2018)



Designed on one product platform: Cost reduction –20%

Software

- **Sunny Portal:** Comfortable PV system monitoring
- **SMA Repowering App:** Tool for a growing market
- **Sunny Design Pro:** Cross sector design, simulation & analysis
- **Installer App** (H1/2019)



Services



Smart Connected: Automatic replacement service for more convenience

Complete SMA PV & Storage Systems

SMA Energy System



- (Q1/2019)
- Power class: 5 kW
- Pilot market: Italy

SMA Commercial Solutions Save up to 75% Energy Costs



Energy Monitoring

SMA's IoT Energy Management platform ennexOS makes energy flows transparent.



Solar Power Generation

Commercial 3-phs inverters for PV plants from 10 kW to 1 MW.



Storage

Peak load shaving and increased self-consumption with battery inverters for on- and off-grid solutions.



Intelligent Control of Operational Appliances

with SMA's IoT Energy Management platform ennexOS.



Integration of E-vehicles

for new business models or the vehicle pool.



Energy Market Integration

All necessary interfaces for direct marketing.

SMA Commercial Offers PV & Storage Systems for Future-Proof PV Plants



Latest Commercial Inverters



New CORE1 release


- Power class: 62.5 kW
- Q4/2018
- First mover: NEC 2017 compliant
- Cost reduction: - 20%



Sunny Tripower Storage

- 60 kW
- (H2/2018)

Software

- **Sunny Portal:** Comfortable PV system monitoring
- **Sunny Design Pro:** Cross sector design, simulation & analysis
- **SMA Repowering App:** Tool for a growing market
- **Installer App** (H1/2019) 

Services



Smart Connected

SMA SPOT
More Solar Power on Trade

Complete SMA PV & Storage Systems

SMA Energy System



- (Q1/2019)
- Power class: 250 kW
- Pilot market: Germany

SMA Utility Simplifies Complexity With New Product Launches Throughout 2019



Latest Utility Inverters



Sunny Highpower PEAK3

- 150 kW , 1,500 V
- (Q1/2019)



Medium Voltage Power Station

- 4.6 MW
- (Q3/2019)



Sunny Central UP

- 4.6 MW
- (Q3/2019)

- Cost reduction of up to - 35%

Software & Competence



SMA Engineering Services



Response Time Guarantees

- Most up-to-date technology for 24/7 real time monitoring

Service



SMA Repowering

- Market Potential until 2020: >+40%



Availability Guarantees

- SMA Utility provides 99.9+% uptime



O&M Services

- #6 O&M provider
- >3GW O&M contract

SMA is the #1 Storage Inverter Manufacturer in a fast Growing Segment



SMA's Offering

Behind-the-Meter

Energy shifting

Peak shaving

ToU¹

Power Quality

Front-of-Meter

Micro Grid Management

On-Grid Storage for Grid Services

Renewable integration



SMA + BYD Battery Solution

- (Q1/2019)
- 5-60 kW
- Securing battery availability

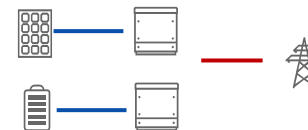


Sunny Central Storage UP

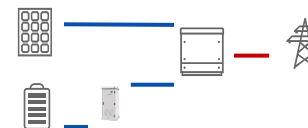
- (Q3/2019)
- 4.6 MW

Concepts of Battery Integration

AC-Coupling Battery Concept



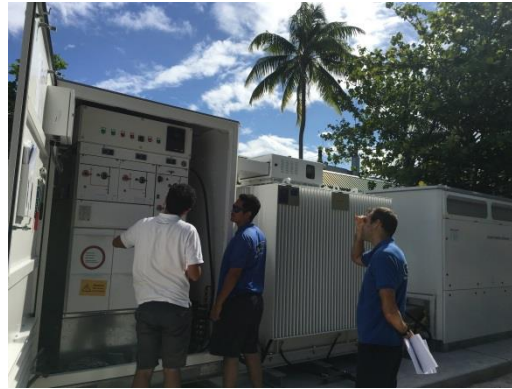
DC-Coupling Battery Concept



SMA DC/DC Converter

- (Q1/2019)

Business Case Large Scale PV BESS Off-Grid System: “The Brando”



Plant Information

- Location: French Polynesia
- Plant information:
 - 1.3 MWp PV Power
 - 2.6 MWh Storage capacity
 - 1.2 MVA Generator capacity

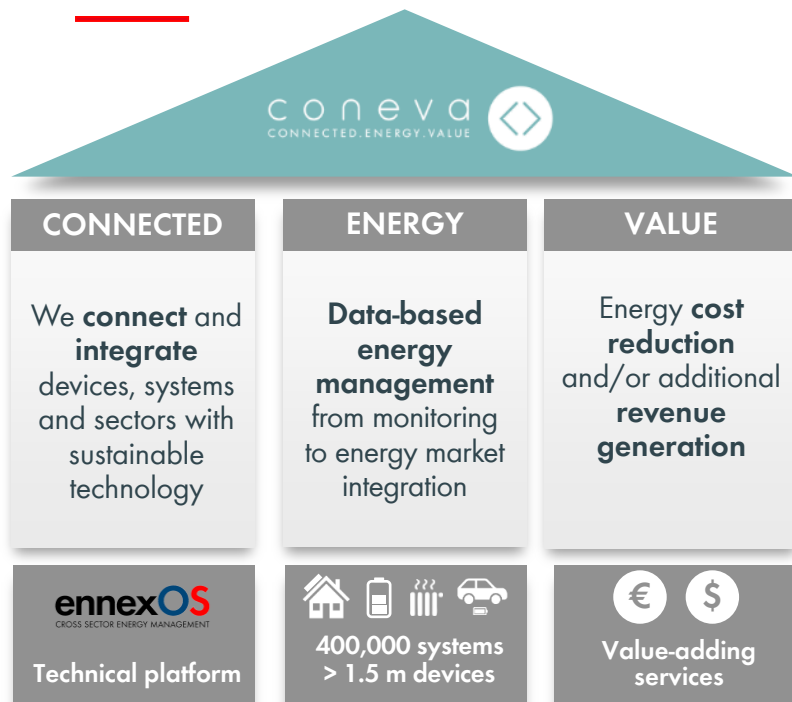
SMA Offering

- SMA System Technology¹
- Full system integration by SMA Sunbelt Energy²
- Containerized Li-Ion storage facility
- Long-term remote technical support

Customer Value

- Solar Energy ratio of 60%
- Integration of a complex grid infrastructure
- Blackstart function to build grid within seconds
- European grid quality
- Grid stability

In 2018, SMA Founded the new Subsidiary Coneva to Provide Energy-Related Services for Private and Commercial Customers



RESIDENTIAL / COMMERCIAL	Activities 2019
<p>Idea</p> <ul style="list-style-type: none"> • Provide energy services to households using municipalities as multipliers for white label energy services and to commercial chains focusing on cost savings and energy market integration <p>Achievements </p> <ul style="list-style-type: none"> • Won 7 German municipalities as pilots for various energy mgmt. topics and 2 supermarket chain stores for energy efficiency 	<p>Residential</p> <ul style="list-style-type: none"> • Energy communities • Smart storage, EV charging and Smart Meter integration • Launch “digital customer engagement” solution and broaden product portfolio towards grid operations <p>Commercial</p> <ul style="list-style-type: none"> • Smart Infrastructure • Energy market integration • Energy efficiency • Acquire additional supermarket customers and broaden product target groups

6. Financials & Guidance

Presented by Ulrich Hadding (CFO)



Sales 2018 Remained Below Expectations; EBITDA Impacted by Extraordinary Effects



Preliminary Key Financials (in €m)

	2017	2018e ¹	Change
Sales	891	761	-15%
Residential	233	182	-22%
Commercial	272	252	-7%
Utility	289	266	-8%
Storage	97	61	-37%
Digital Energy	./.	0	n.m.
EBITDA	97	-67	n.m.
EBIT	44	-150	n.m.
Net income	30	-174	n.m.
Net cash	450	306	-32%
NWC ratio (in %)²	19%	23%	
Gross margin	22%	10%	



Comments

- Sales 2018 below prior year in every segment due to very high price pressure, component shortages in H1/2018, project postponements and limited battery availability.
- EBITDA impacted by extraordinary effects of net €97m.
- In addition, 2018 EBIT is affected by the impairment of R&D intangible assets (- €30m) .
- Net income is impacted by Finance and tax result (- €26m; at-equity valuation of Tigo and write down of deferred tax assets).

SMA Reduces its Global Workforce by Around 425 FTE

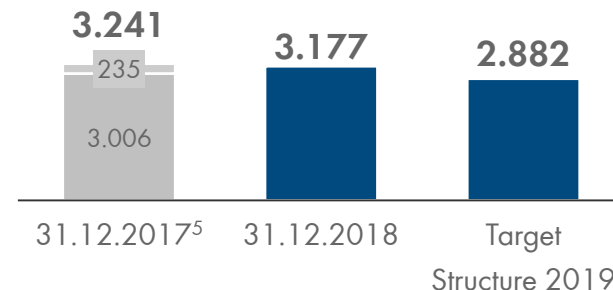


Preliminary Group Balance Sheet¹ (in €m)

	31.12.2017	31.12.2018e	Change
Non-current assets	358	283	-21%
Working capital	325	302	-7%
Other assets	63	82	31%
Total cash	470	324	-31%
Shareholder's equity	612	426	-30%
Provisions ²	156	155	-1%
Trade payables	130	111	-15%
Financial liabilities ³	20	18	-12%
Other liabilities ²	298	281	-6%
TOTAL	1,216	991	-19%



Global FTE⁴



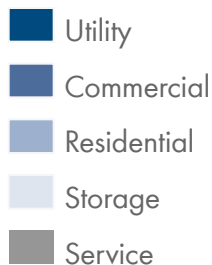
- Reduction of around 425 FTE, thereof c. 300 in China
- Part of FTE reduction already done in 12/2018
- In Q2/2019 the number of FTE will be reduced by about 350

Order Intake Started Recovering late in 2018



Order Backlog by Segment and Region (in € million)

Total order backlog: €578 m (Dec 31, 2018)

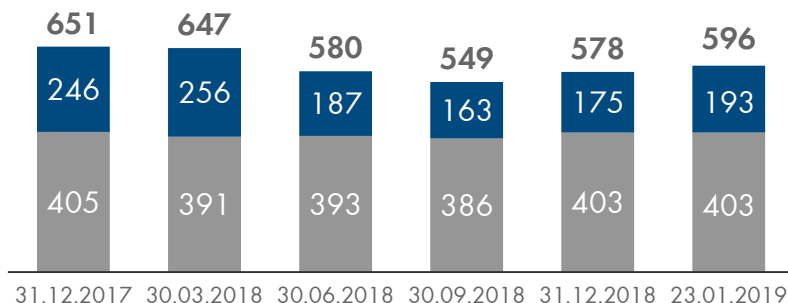


Product order backlog by regions (in %)



Order Backlog Development (in € million)

Products Service

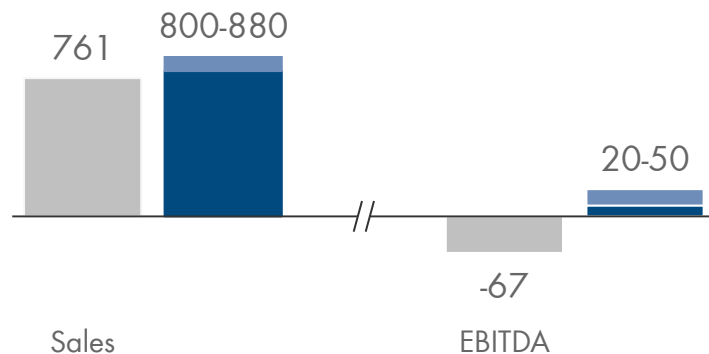


- Product order backlog increased by nearly 20% since 09/2018.
- Increase in 2019 order backlog for products across all segments, especially Commercial.
- EMEA markets remain most promising.
- 25% of guided sales figure 2019 is covered with product backlog.

For 2019 Management Expects Sales Growth



Guidance 2019 (in € million)



2019

Net Cash	> €300m
NWC-Ratio	19-24%
CapEx (incl. R&D) ²	c. €60m
Depreciation / Amortization	c. €50m



Management Comments

- SMA strives to increase market share, especially in the U.S.
- Management expects growth in all segments, especially in Utility and our storage business.
- In 2019, Energy Management and digital solution business will still have only limited sales contribution.
- Price pressure remains high in all segments.
- Most of the restructuring measures will be effective in 2019.

Back up



Managing Board and Shareholder Structure



Managing Board

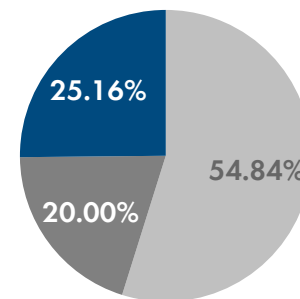


Juergen Reinert
CEO
born 1968
With SMA since 2011
Contract 2024



Ulrich Hadding
CFO
born 1968
With SMA since 2009
Contract 2019

Shareholder Structure¹



- SMA founders, their trusts and families
- Danfoss A/S
- Freefloat

- No pre-emption rights or other restrictions

Thank you



SMA Solar Technology AG

Sonnenallee 1
34266 Niestetal, Germany

Tel. +49 561 9522 0
Fax +49 561 9522 100

www.SMA.de
info@SMA.de