SMA SOLAR TECHNOLOGY AG
Analyst / Investor Presentation
Investment in Tigo Energy – SMA Makes Solar Modules Smart
Pierre-Pascal Urbon, CEO
April 8, 2016
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 information contained in this presentation is subject to amendment, revision and updating. 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. 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.

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.
**Rationale**

- The Module Level Power Electronics (MLPE) market is expected to grow by 10% p.a. until 2020 and had global sales of c. 700 mEUR in 2015\(^1\).
- The MLPE market segment is highly concentrated and technology is the main market entry barrier.
- The Tigo TS4 product is technological superior to existing solutions and thus gives SMA the opportunity to enter the market and to capitalize on its global sales infrastructure in 20 countries.
- SMA will make solar modules smart and establish foundation for data-based business models.

**Technology**

- The Tigo TS4 is a universal module box designed to facilitate any solar module technology.
- The base of the module box can selectively be equipped with unique cover options for different functions (e.g. Diode, Monitoring, Safety, Optimization, Longer String). This allows the customer to deploy only to their needs (pay what you need).
- The TS4 normally works in by-pass (only when needed) and is using fewer components as other available technologies. Therefore, the TS4 is expected to have a longer life-time.

**Deal**

- SMA subscribes a capital injection of 20 million USD to acquire 27% of Tigo Energy; Pierre-P. Urbon will have a seat on the Tigo board to represent SMA.
- SMA gets exclusive global distribution rights for the new Tigo product TS4\(^2\) for 30 months.
- SMA will cooperate with Tigo in various areas to further enhance the system solution offered.
- SMA keeps its full year guidance unchanged\(^3\). The transaction is expected to have a positive impact in the second half of 2016 already.

\(\textbf{For the first time SMA has access to the fast growing module power level electronics market worth more than 700 million EUR in 2015}\)

---

1. Including the inverter needed for operation with the DC-MLPE (optimizer)
2. The exclusivity is for the TS4-Retrofit units
3. Full year guidance: Sales 2016: 950 million EUR to 1,050 million EUR; EBIT 2016: 80 million EUR to 120 million EUR
MLPE technology is expected to grow faster than the string technology in the coming years

<table>
<thead>
<tr>
<th>Year</th>
<th>MLPE in GW</th>
<th>String in GW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>USA: 0.6 GW; RoW: 0.9 GW</td>
<td>USA: 14.0 GW; RoW: 14.6 GW</td>
</tr>
<tr>
<td>2015</td>
<td>USA: 0.8 GW; RoW: 1.6 GW</td>
<td>USA: 13.0 GW; RoW: 13.8 GW</td>
</tr>
<tr>
<td>2020</td>
<td>USA: 0.8 GW; RoW: 1.7 GW</td>
<td>USA: 20.1 GW; RoW: 22.0 GW</td>
</tr>
</tbody>
</table>

> Module Level Power Electronics (MLPE) technologies (Power Optimizer; Micro-Inverter) are nowadays highly accepted in the solar market. MLPE are mainly used in residential and commercial applications.

> SMA’s market model assumes the MLPE market to grow to 1.3 bn EUR until 2020 (+10% p.a. from 2015). In the same time the string inverter market will decline to 1.4 bn EUR (-4% p.a. from 2015).

> The MLPE market is concentrated. The main market entry barrier is the cost-effective technology. Mainly two specialized manufacturers with a limited regional presence serve the market so far.

> The technology in the solar industry becomes more diverse – For a sustainable success a full technology portfolio with MLPE-, string- and central inverter technology is paramount.

1. Based on SMA Market Model Q1 2016; includes Residential and Commercial sales for inverters and optimizers.
The transition towards a decentralized world shakes up the market – Access to data will become a success factor

Yesterday (before 2010)

0-15 % Distributed Generation

Today (2010-2020)

15-40 % Distributed Generation

Future (beyond 2020)

40-60 % Distributed Generation

Electrical developments will lead to convergence between power generation/thermal energy, generation/demand and generation/storage

> SMA invested in Tigo to make solar modules smart and to set the basis for data-based business models in an energy environment with a larger share of distributed generation.
The newly developed Tigo TS4 is as easy to install as a power plug or USB stick.

1. E.g. the Tigo TS4 does not possess a step-up converter. The step-up is in the inverter.
The Tigo TS4 is a technological superior solution to increase the energy harvest at the lowest costs and highest reliability.

- **DIODES (TS4-D)**: Cost-effective entry-level solution
- **MONITORING (TS4-M)**: Module level communication to make the most expensive component in a PV-system visible
- **SAFETY (TS4-S)**: Cost-competitive and easy to install module level disconnect to avoid safety hazards (incl. NEC2017)
- **OPTIMIZATION (TS4-O)**: Module level optimization to increase the energy harvest of partly shaded module strings
- **LONG STRING (TS4-L)**: System cost reduction by increasing the string size by up to 30%

> With the modular concept the system cost can be further reduced. Due to the system design, the energy harvest and system reliability is further increased.
Joint SMA and Tigo TS4 offering provides a range of attractive options. The selective deployment is a game changer.

The Tigo system works seamlessly together with the Sunny Boy and will ensure highest energy harvest and system reliability.

1. SMA will integrate the Tigo Cloud Connect into the SMA Sunny Boy inverter until the end of 2016 at the latest. This will improve the system cost and ease of installation further.