

Management Report 2018

Markets and customers

Photovoltaic (PV) installations had another substantial year in 2018, with newly installed PV capacity at private and commercial end users reaching about 104 GW compared to about 100 GW that was added in 2017. Total installed PV capacity worldwide therefore reached about 500 to 515 GW by the end of 2018. Although year-on-year growth in 2018 was flat due to the Chinese government's 531 announcement (see below), the long-term outlook for solar as a renewable source of energy remains intact with renowned and independent industry experts (such as SolarPower Europe) expecting end installed PV capacity to reach over 1,000 GW by the year 2022.

Chinese/USA politics impact investment behaviour of Meyer Burger's customers

For the PV manufacturing industry, 2018 turned out to be a challenging year. It started with the announcement by the US president in January 2018 that steep tariffs on imported solar panels would be introduced, followed by an intensifying trade dispute between the USA and China which over the course of the year had a negative effect on many companies and industries worldwide. On top of that, the Chinese government announced substantial subsidy cuts for the solar industry on 31 May 2018, which had taken the market and the industry by complete surprise. These facts combined have created a lot of uncertainties and led to a significant reluctance by Meyer Burger's PV customers regarding new investments in PV manufacturing equipment. The market started to show signs of recovery only at the end of the year.

Furthermore, after a very successful 2017 with strong order intake for Meyer Burger's PERC technologies, the Company has made the experience that Chinese customers seem to put additional emphasis on buying PV manufacturing equipment locally, if at all possible. Meyer Burger has a leading position regarding „Cost of Ownership“ and its products enable mass production as well as highest efficiency in solar cells and modules (see also section Innovation and technology). Despite this technological leadership position, the discussion on “CAPEX

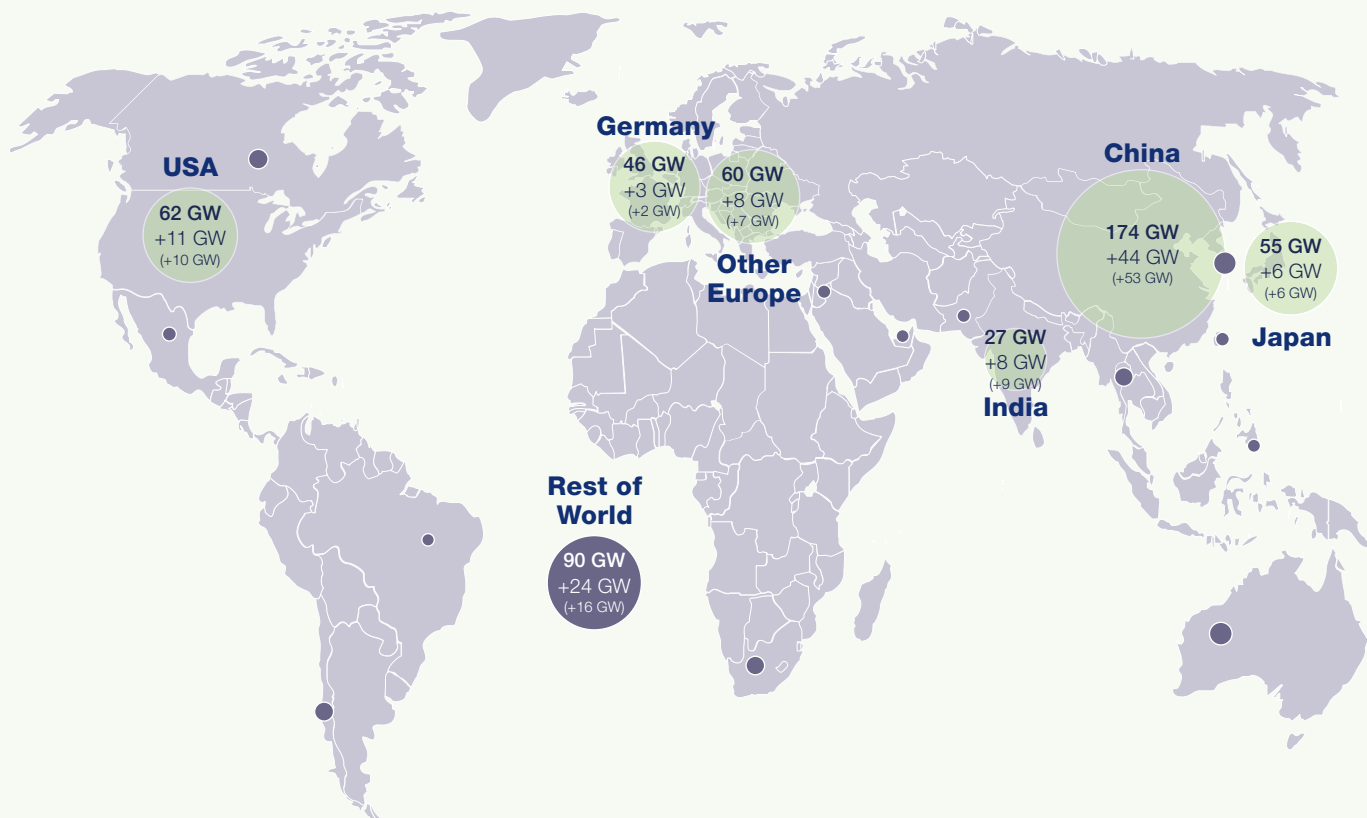
per GW” has intensified, putting pressure on selling prices for manufacturing equipment while at the same time higher throughput has to be guaranteed.

Transformation programme announced in October 2018

The reorganisation of the production site in Thun that was announced in November 2017 has largely been completed by the end of 2018. However, during the year it became more and more apparent that Meyer Burger needs to reposition its standard PV business solutions and move a significant part of the global sales and services functions for this business from Europe to Asia (mainly to China), in order to further increase customer proximity and to regain cost competitiveness. As a result, the company launched a transformation programme on 16 October 2018 which will be fully executed by 2020.

On 7 February 2019, the Company announced that it will divest its photovoltaic and specialised materials wafering equipment and service business to Precision Surfacing Solutions (PSS), a global supplier of equipment and services for surface enhancement technology. As part of the transaction, significant parts of Meyer Burger's production facilities in Thun as well as about 100 employees involved in the wafering technology portfolio in Thun and relevant service locations worldwide will also be transferred to PSS. The closing of the transaction is expected to be completed towards the end of Q1 2019. The agreed purchase price is CHF 50 million in cash, which represents approximately one times annual net sales of the wafering equipment business. The contract further includes an earn-out component based on certain revenue levels in 2019. PSS intends to use the know-how of Meyer Burger's local workforce and to continue product development as well as manufacturing activities in non-PV wafering applications in Thun, where it has entered into a long-term rental agreement with Meyer Burger. The Thun manufacturing location, which is owned by Meyer Burger, is now fully occupied and includes long-term leasing contracts with PSS and with 3S Solar Plus AG.

Globally installed PV capacity (end-market)



Note: Nominal GW as at year-end 2018
Delta reflects change in 2018 compared to previous year; numbers in brackets reflect change in 2017
Sources: SolarPower Europe, ASIACHEM, Meyer Burger estimates

Strategic focus on Heterojunction, SWCT™ and next generation cell/module technologies

Going forward, Meyer Burger will concentrate its strategic focus on the existing cell/module technologies business, especially its successful Heterojunction (HJT) and SmartWire Connection Technology (SWCT™), and on promising next generation cell/module technologies.

CHF 74 m order for HJT/SWCT™ equipment received in December 2018.

A major strategic contract signed for Heterojunction and SWCT™ technologies, in an amount of CHF 74 million was announced on 14 December 2018. The customer, REC Group, a leading solar company, ordered core equipment for a 600 MW Heterojunction/SWCT™ integrated production line. Initial delivery began at the end

of Q1 2019 and the start of the cell and module production at the customer's site is planned for the second half of 2019. The total manufacturing capacity is scheduled to be in full production by Q1 2020.

Management discussion and analysis of results

Incoming orders

Against the background of the political environment and the margin pressure seen for standard PV business solutions as described above, Meyer Burger achieved a total volume in new orders of CHF 326.8 million in fiscal year 2018, compared to a record level of CHF 560.7 million in 2017.

The total order backlog was CHF 240.5 million as at 31 December 2018 (31.12.2017: CHF 343.8 million). The book-to-bill ratio (incoming orders to net sales) was 0.80 (2017: 1.18). Book-to-bill ratio improved during the second half of 2018 to 1.08 compared to 0.59 in the first half of 2018.

Net sales

Net sales reached CHF 407.0 million (2017: CHF 473.3 million). Compared to the previous year, the divestment of the Solar Systems business to 3S Solar Plus AG in June 2018 had a negative effect of about CHF 10.2 million, compensated by positive currency effects (mainly EUR) of MCHF 15.2 million. On a comparable basis, the continuing business declined by CHF 71.3 million or 15% in 2018.

The sales breakdown in net sales changed as follows compared to the previous year: Asia remained by far the most important market with 71% of net sales (2017: 77%), Europe reflected 25% (2017: 19%), USA 3% (2017: 3%) and the rest of the world 0.3% (2017: 1%) of net sales 2018.

Operating income after costs of products and services

Operating income after costs of products and services reached CHF 200.8 million (2017: CHF 194.8 million), reflecting a margin of 49.3% (2017: 41.2%).

Operating expenses

Personnel expenses declined by CHF 9.8 million or 7% compared to the previous year and were CHF 125.9 million (2017: CHF 135.7 million), as Meyer Burger continued to flexibilise its organisation and to significantly reduce its fixed cost base.

Other operating expenses amounted to CHF 48.8 million, including one-time charges of CHF 4.3 million in conjunction with the divestment of the Solar Systems business activities (2017: CHF 46.7 million). Without this one-time charge, other operating expenses would also have declined by about 5%.

EBITDA

EBITDA reached CHF 26.1 million in fiscal year 2018 (2017: CHF 12.4 million), resulting in an EBITDA margin of 6.4% (2017: margin of 2.6%).

EBIT

Depreciation and amortisation came to a total of CHF 24.3 million (2017: CHF 31.7 million) and have declined in line with expectations. The division is as follows: CHF 10.7 million for scheduled depreciation of property, plant

and equipment, CHF 1.2 million for impairment of property, plant and equipment, and CHF 12.4 million for scheduled amortisation of intangible assets, which resulted mainly from the M&A activities in 2011 and previous years. The result at EBIT level amounted to CHF 1.8 million (2017: CHF –19.3 million).

Financial result

The financial result, net, was CHF –9.8 million (2017: CHF –10.3 million). Financial expenses in fiscal year 2018 include interest expenses for the convertible bond of CHF –2.0 million (2017: convertible bond and the meanwhile redeemed straight bond CHF –9.5 million). The valuation of intercompany loans to foreign subsidiaries led to financial loss from unrealised negative foreign currency translation effects of CHF –2.7 million (2017: CHF +5.7 million). In addition, there were other unrealised foreign currency translation effects of CHF –2.1 million (2017: CHF +1.0 million), interest expenses for mortgage loans and other interest expenses in a total amount of CHF –1.5 million (2017: CHF –1.7 million), other financial expenses of CHF –1.5 million (2017: CHF –6.4 million) and interest income of CHF +0.1 million (2017: CHF +0.6 million).

Extraordinary result

The extraordinary result amounted to CHF +0.7 million, mainly in conjunction with revaluations of inventory provisions connected to the closure of manufacturing activities in Thun (2017: CHF –48.8 million, mainly in conjunction with the divestment of DMT and related goodwill recycling as well as costs in relation to the reorganisation and discontinuation of manufacturing activities in Thun).

Taxes

Tax expenses were CHF 52.1 million (2017: tax expenses of CHF 0.9 million). The tax expenses in 2018 include value adjustments on deferred tax assets in a total amount of CHF 49.0 million. Tax expenses in 2018 related to current income taxes on profits for the period were CHF –4.4 million and deferred income taxes CHF +1.3 million.

Net result

Due to the highly negative impact of the adjustments on deferred tax assets (CHF 49.0 million), the net loss for fiscal year 2018 was only slightly reduced to CHF –59.4 million (2017: CHF –79.3 million). The net result per share was CHF –0.10 (2017: CHF –0.14).

Balance sheet as at 31 December 2018

The balance sheet total declined compared to the previous year, mainly because of lower customer prepayments due to the reduced order intake and the value adjustments on deferred tax assets. The balance sheet amounted in total to CHF 349.2 million as at 31 December 2018 (31.12.2017: CHF 470.0 million). Cash and cash equivalents were CHF 89.8 million, inventories CHF 78.6 million, property, plant and equipment CHF 82.3 million, intangible assets CHF 11.9 million and deferred tax assets CHF 27.7 million.

Total liabilities came to CHF 167.4 million, of which trade payables were CHF 17.3 million, customer prepayments CHF 34.4 million, provisions CHF 14.1 million and financial liabilities CHF 55.6 million. The financial liabilities include a loan secured by mortgage certificates in an amount of CHF 30.0 million (on building in Thun), a value of CHF 25.3 million for the remaining convertible bonds that have not been converted yet and CHF 0.3 million of other loans.

Equity ratio of 52.0% as at 31 December 2018.

Equity stood at CHF 181.7 million as at 31 December 2018 (31.12.2017: CHF 243.0 million). The equity ratio at year-end 2018 was 52.0% (31.12.2017: 51.7%).

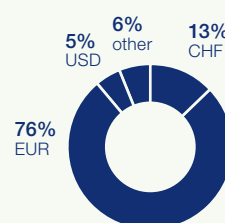
Cash flow

Cash flow from operating activities was CHF –23.4 million (2017: CHF +12.8 million). The change in the operating cash flow is mainly due to an increase in net working capital.

Cash flow from investing activities amounted to CHF –5.1 million (2017: CHF +2.5 million) and includes normal net investments into property, plant and equipment of CHF –5.0 million.

Cash flow from financing activities was CHF –5.1 million (2017: CHF –139.0 million), and includes the purchase of registered shares for the share participation plan in an amount of CHF 4.1 million.

Net sales by currencies in 2018



R&D investments

Meyer Burger invested a total of CHF 44.8 million or about 11% of net sales in R&D during 2018 (2017: CHF 43.4 million; about 9% of net sales). Research and development expenses are not capitalised in the balance sheet, but recognised as an expense in Meyer Burger's income statement.

With the repositioning of its standard PV business, the sale of the wafering business, the reinforced focus on cell/module technologies and a concentration of future R&D activities on most promising products (as part of the transformation programme announced in October 2018 and to be completed by 2020), Meyer Burger expects to keep its annual R&D expenses at a steady ratio of about 10% of its future net sales.

Currencies

In 2018, 13% of net sales were generated in Swiss Francs (2017: 19%), 76% in Euro (2017: 70%), 5% in US Dollars (2017: 5%), whereas other currencies reflected 6% (2017: 6%). Meyer Burger strives to have as great a share of sales as possible in the currencies in which subsidiaries provide their services. To hedge against residual currency risks, the company uses forward currency contracts where necessary. It does not hedge against foreign currency risks on the carrying amounts of foreign subsidiaries or on the conversion of the earnings of foreign companies, however.

Workforce

Employees (FTE)	2018 ¹	2017	2016 ²	2016	2015	2014
Total at year-end	1 191	1 276	1 435	1 505	1 525	1 752
Operations	481	587	605	643	613	661
Research, Development	281	232	297	307	338	395
Sales, Services	281	322	345	359	367	475
Finance, Administration	148	135	188	196	207	221

¹ Definitions of certain individual functions have been changed in accordance with new Company HR policies. As a result, transfers from Operations (formerly Production, Logistics) to Research/Development and Finance/Administration functions have occurred in 2018.

² Number of FTE as at 31 December 2016, adjusted by 70 people who had already left the company as at year-end 2016 in conjunction with the structural programme.

Risk management

Meyer Burger uses various risk management instruments to manage the strategic, financial and operational risks facing the Group. The Board of Directors has primary responsibility for evaluating strategic risks. Financial and operational risks are mainly assessed by the Executive Board of Meyer Burger Technology Ltd. The results are submitted to the Board of Directors at regular intervals and any necessary counter-measures determined. Risk management is integrated within the company's management processes and involves, in particular, Planning, Finance & Controlling, Internal Audit, Production & Logistics, Research & Development, Product Management, Sales, IT, Corporate Communications, Human Resources, and external Tax and Legal Consulting.

→ For information about financial risk management see Note 3 on page 97.

Occupational safety is also of importance to Meyer Burger. Risks are minimised and a high degree of process safety achieved through careful analysis of operating procedures and the provision of employee training.

→ For information about employees see the next section and the corresponding part of the Sustainability Report on page 13.

Employees

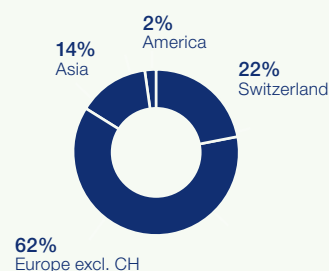
At the end of 2018, Meyer Burger employed about 1,250 people. The number of employees with permanent working contracts was 1,191 FTE at year-end 2018 (2017: 1,276 FTE). In addition, the Group employed 76 temporary full-time workers (2017: 175 temporary employees). The change in the number of employees during fiscal year 2018 is mainly due to the measures taken as part of the reorganisation in Thun (announced

November 2017) and the transformation programme (announced October 2018). Overall there will still be about 200 FTE affected by the sale of the wafering business to Precision Surfacing Solutions and by various measures initiated in the transformation programme.

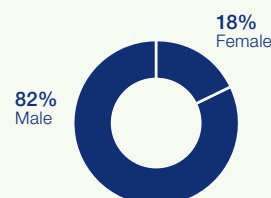
The average number of full-time employees in 2018 was 1,236 FTE (2017: 1,341 FTE).

→ For more information on Human Resources issues see page 13.

Employee structure by region in 2018 in %



Employee structure by gender in 2018 in %



Innovation and technology

Wafering

The main focus in the 2018 reporting period was on the product launch of the new DW291 PV diamond wire saw. The new saw uses wires with a standard diameter of 50 µm, which enables markedly higher cutting speeds of approx. 1 hour per 6" silicon crystal. The result significantly increased productivity of up to 50% for our customers. The DW291 saw was presented to the market and to customers at the SNEC, the largest photovoltaics industry trade fair in Shanghai in May 2018.

Further development of diamond wire slicing technologies for multi-crystalline silicon was discontinued in favor of process development for mono-crystalline silicon, which is increasingly dominating the market.

In the area of wire slicing technologies for applications in the semiconductor electronics and optical industries, a new model of the DW288 wire saw was developed which, with its significantly longer loading lengths and consequent higher productivity, has already succeeded in winning customers. Another development project for a diamond wire saw for the slicing of wafers from 12" silicon mono-crystals for the semiconductor industry was also completed as planned in 2018 with the launch scheduled for the following year.

In February 2019, Meyer Burger announced that it will sell its photovoltaic and specialised materials Wafering equipment and service business to Precision Surfacing Solutions (PSS), a global supplier of equipment and services for surface enhancement technology (see also second paragraph of section "Transformation programme" at the beginning of the Management Report).

In the field of wafer inspection systems, Meyer Burger was able to defend its high market share by successfully launching a new generation of inspection systems with a throughput of 8,000 wafers per hour.

Solar cells

For the 2018 reporting period, the R&D activities for production systems and technologies for the manufacture of solar cells can be separated into PERC, passivated back surface contacts and HJT, heterojunction technologies.

In 2018, Meyer Burger's successful PERC technology was facing increased competition from Asian equipment manufacturers, as the discussion on "CAPEX per GW" intensified, putting pressure on selling prices for manufacturing equipment while at the same time higher throughput has to be guaranteed. From a technology standpoint, Meyer Burger was able to respond by developing new products such as the MAiA[®] 6.1 production equipment with an increased productivity of 6,000 wafers/hour throughput and by launching the new FABiA[®] 4.1 coating platform. FABiA[®] 4.1 is the world's only deposition system that combines all necessary coating processes for the front and back surfaces of solar cells in a single unit, thereby enabling lower production costs in comparison with the competition.

PERC solar cell efficiencies were increased by manufacturers up to an average of 22%. However, further major increases in efficiency are not expected for PERC technology because of its limited electrical passivation effect. For this reason, a new technology trend in the direction of improved back surface passivation – so-called passivated contacts (also known by the name "TOPCon" and originally developed by the Fraunhofer Institute for Solar Energy Systems (ISE)) – is emerging in the solar industry. During the reporting period, Meyer Burger achieved remarkable results from this process development (23% solar cell efficiency, with an increase in the reporting period of 1.3% absolute) and was able to press ahead with the corresponding development of the CAiA[®] technology platform. These process developments were carried out together with the Solar Energy Research Institute of Singapore (SERIS) in a very collaborative partnership. The new process equipment enables customers to extend their existing production facilities in such a way as to overcome the limitations of PERC technology and to achieve higher solar cell (and thus also module) efficiencies. These TOPCon cells can also be processed further using Meyer Burger's SmartWire Connection Technology (SWCT[™]) (see Solar module section below).

Meyer Burger's leading solar cell technology is heterojunction technology; it already enables markedly higher efficiencies with comparable costs in mass production, something that the TOPCon solar cell technology is now aiming for. In addition to higher efficiencies and simplified production process, heterojunction has a clear time advantage when comparing technologies. In order to maintain or even extend this lead, further product improvements and cost reductions were successfully applied to the HELiA® product family (PECVD as well as PVD) in 2018. A strategically very important order for heterojunction technology was won with REC in December 2018 (see references to this order at the beginning of the Management Report). During the reporting period, heterojunction solar cell efficiencies were increased to a peak of 24.3% on industry-standard silicon wafers. Meyer Burger also achieved significant success in the development of so-called IBC-HJT solar cells (interdigitated back contact – heterojunction) in 2018, with a laboratory efficiency of 24.8%. An important factor for the successful development of heterojunction technology at Meyer Burger is the close and highly effective cooperation with the research institutes CEA INES (Chambéry, France) and CSEM (Neuchâtel, Switzerland).

In addition to improvements to existing products and related cost optimisations, Meyer Burger was able to move forward as planned in the development of new machine generations for the HELiA® product family that will enable further productivity gains and performance increases for our customers.

All product families within the solar cell area were also improved with regard to their Industry 4.0 capabilities and they are now standardly equipped with a status and diagnostic system – either stationary or cloud-based, according to customer preference – that has been developed in conjunction with Meyer Burger's subsidiary, AIS Automation GmbH in Dresden, Germany. Research on other projects focusing on methods of artificial intelligence and predictive maintenance continued in 2018 and the results are expected to find practical applications in future system generations.

During the reporting year, Meyer Burger further accelerated the optimisation and development of solar cell metrology. A measurement system for standard solar cells was customized for the Asian market, and the systems for heterojunction solar cells were further improved and cost-optimised.

Meyer Burger maintains long-term cooperation with world-leading solar research institutes including CEA INES (France), CSEM (Switzerland), Fraunhofer ISE (Germany), HZB (Germany), ISFH (Germany), SERIS (Singapore) and UNSW (Australia).

Solar module

The main development focus for solar module manufacturing technology in 2018 was on completing the new generation SmartWire Connection Technology (SWCT™). In May 2018, the CEA INES team, in collaboration with Meyer Burger, achieved a new heterojunction 72 cell module performance record at 410W. The record module integrates heterojunction cells manufactured on industrial 2,400 wph Meyer Burger cell manufacturing equipment on the CEA INES pilot line with an average HJT cell efficiency of 23.4%.

In addition to focusing on the application of SWCT™ technology for heterojunction solar cells, further application development for future TOPCon cell technology was also expedited in 2018. A module output of 322W was achieved, greatly exceeding the current industry level.

Specialised Technologies

Alongside the increased interest in Meyer Burger's wire slicing solutions for semiconductor and optical applications (see section Wafering), the ongoing development of plasma source applications enabled Meyer Burger's subsidiary, Muegge GmbH, to consolidate its market position through product improvements and new developments.

Projects in the field of hard coating of glass and plastics using the modular MAiA[®] product group resulted in a first order from a European customer.

The use of Meyer Burger's microwave technology in the area of pasteurisation and sterilisation of foodstuffs underwent further development and optimisation and was also translated into initial customer projects.

In the area of software products, Meyer Burger's subsidiary, AIS Automation GmbH, further developed its EquipmentCloud product group, which translated into initial customer projects. In the light of the positive feedback for this product, further technology developments were executed in close collaboration with customers in the Industry 4.0 sector. In 2018, more emphasis was placed on the closer integration of Meyer Burger's expertise in mechanical engineering with its Industry 4.0 and intelligent software systems in order to respond to industry trends and to drive forward product solutions in a manner befitting our market position.

Outlook

Meyer Burger expects 2019 to become a difficult year, due to political uncertainties, such as trade tariffs, energy policies and the announced subsidy cuts under "China 531" last year. The announced and planned divestment of the wafering business will, once the transaction is completed by the end of Q1 2019, lead to lower net sales for fiscal year 2019 (unit with annual sales of about CHF 60 million), but also to an expected one-off accounting profit from the sale of this business (estimated to be in an amount of about CHF 30 million).

Meyer Burger remains confident in relation to the development of the heterojunction and SmartWire Connection equipment business, which has been validated by the order from and joint roadmap development with REC Group. On the back of China's new energy policies and demand from outside China, management expects 2019 to be the inflection point for these new technologies with attractive gross margins starting to replace PERC. Meyer Burger as the leader in HJT and SmartWire Connection technologies is expected to be the main beneficiary of such advanced technology buys.

PERC, enabled by Meyer Burger, is meanwhile the new mainstream cell technology. However, increased Chinese competition resulted in decreasing market share and lower margins for Meyer Burger. The mainstream players in PV are trying to enhance PERC performance with Paco (Passivated Contacts; also known under TOPCon and monoPoly[®]). But this upgrade technology requires an industrialised production solution to become widely adopted in the PV industry. MB achieved a breakthrough end of 2018 with the CAiA[®] solution based on their well-known MAiA[®] platform and won a first pilot customer to speed up industrialisation beginning of 2019.