

# Technology under the surface

Being innovative is key to driving change and in the fast-paced world of solar, new technologies are fundamental to this. PES was keen to hear from Philipp Zahn and Marco Saladin, Managing Directors of M10 Solar, about the need for setting new benchmarks and how cutting edge technology can ensure maximum precision and efficiency.

**PES:** Welcome to PES Solar. I'm hoping this will be a good opportunity to learn more about M10 Solar and its offering for the sector. With this in mind, could you please fill us in on the company's background for any readers who may not know already?

**Philipp Zahn:** As a mechanical and plant engineering company, we have set ourselves the goal of accelerating the energy transition through harnessing new technologies. Solar modules with the highest yield per surface unit can be manufactured using the SURFACE cell interconnection machine.

**PES:** Founded in 2021, M10 Solar is a relative newcomer to solar, but it has rapidly achieved success, hasn't it?

**PZ:** M10 Solar Equipment GmbH is obviously newly established, but the two joint shareholder companies have long track





positioned ourselves in terms of technology and capacities with a view to serving the market effectively.

**Marco Saladin:** From a strategic standpoint, we founded M10SE to leverage the know-how of both partners, derive the benefits, and be ready and able to respond to this demand.

That's one side of the coin. The other side is our decision to secure our foothold in equipment, as well as in module technologies. Our shingle matrix technology enables us to generate power, efficiency and output from a module. At the same time, we have set about reducing the OPEX, which is the cause not only of major costs in production but also of the carbon footprint and the ROHS usage.

**PES: What is your approach to the market?**

**MS:** Shingle matrix technology enables SURFACE to be produced competitively for the first time, which means we have opted for a technology which will set new benchmarks, both now and in the future. And this is what we aim to build on.

We want to give module producers the possibility of not taking just one step forward but at least two!

**PES: You have recently changed the way you look at cell interconnection, haven't you? Can you tell us a bit more about that, the reasons and its advantages?**

**PZ:** Shingle matrix technology is geared to cell interconnection completely free of connecting wires and ribbons. The use of ECAs means that the sole interconnections are unleaded and also very cost effective.

**MS:** Along with an environmental and cost-related advantage, the modules are also particularly aesthetically pleasing. Modules can be manufactured in a wide range of different sizes, which also makes BIPV in particular much more attractive.

**PES: How can shingle mix technology benefit the solar industry? Is it all about energy efficiency?**

**PZ:** Along with flexibility in the size of modules, this also applies to cell sizes and types. PERC, TopCon, HJT are processable, and Perovskite in the future. The maximum use of the glass surface and reduced resistance within the cell, along with high shade resilience, gives us modules with the highest efficiency.

**PES: You recently also introduced the first unique ECA PVA cell connection machine for shingle, didn't you? What has the response been like?**

**MS:** SURFACE is the world's first machine that uses shingle matrix technology on an industrial scale and only ECA for interconnection. We believe the machine has already reached an advanced stage of

records and have known one another for quite some time. One of the companies is rooted in tradition and has more than 120 years of experience in automation for brush manufacturing, as well as in medical equipment automation and consumer goods production lines.

The other has direct experience from 25 years of operating in the solar industry and has expertise as a machine manufacturer for automated equipment designed to produce solar panels. These two parties have joined forces and are focusing on developing next-level technology in PV module manufacturing. Against this backdrop, we are well positioned to carry out projects in small right through to large

dimensions to our customers' full satisfaction.

Since the company's presentation and exhibiting at Intersolar 2022 in Munich, interest in our products has been running at a consistently high level. We have been delighted by the positive feedback from interested parties, which has naturally reaffirmed that we are on the right track!

**PES: As the pace of the industry is not slowing down, how have you positioned yourselves to be able to meet the demands and keep up with changing needs?**

**PZ:** Photovoltaics is a global success story and a key component in the energy transition. With this in mind, we have

industrial maturity, and the resulting modules, in combination with flexibility for the future, are the reason behind the sustained interest.

**PES: It has in fact won awards, hasn't it? Can you tell us a bit more about this innovation and the thinking behind it?**

**PZ:** The goal we set ourselves was to attract attention through applications for the awards when presenting the SURFACE machine. That we were able to win the Intersolar Award 2022, as well as the German Innovation Award 2022 took us by surprise to be honest, but we were absolutely delighted. Public acclaim was huge.

**PES: How easy is it to integrate SURFACE into an existing solar production line, and just how accommodating is it in terms of individual design requirements?**

**PZ:** Particularly from the standpoint of sustainability, we considered it very important to be able to upgrade existing production lines as well. Old stringers can therefore be replaced by SURFACE, and existing lines upgraded.

**MS:** Our main goal since the start of developing the technology and the equipment for it was to be ready to provide our portfolio with equipment for the shingle matrix, naturally for new production plants, but also for balancing the capacity of the equipment with the output of existing lines.

With this in mind, we developed and ensured that even existing module production lines can be adapted by integrating our SURFACE and SURF-X into the line. Old production lines can therefore produce their modules using this new technology with all its flexibility and benefits.



Marco Saladin



Philipp Zahn

**PES: Is this technology future proof, or do you think there are more innovations to come?**

**MS:** We know from the results achieved and tested by third parties that this technology is well proven, can perform, and can hold its own against standard products in the market. More than this: we as innovators do not stand still, innovation is in our DNA.

Maintaining the balance between industrialization and development is important. In this context, we consider ourselves well networked and connected both to the market and to the relevant departments for technologies.

**PES: When talking about the future, what do you think lies ahead for solar and how well equipped is M10 for what is to come?**

**PZ:** M10SE won the Intersolar AWARD 2022 that recognized our ability to move toward

industrializing next generation connection technology. In using SURFACE equipment, our customers are well set up for the future in terms of formats in sizes, but also in cell technology such as Heterojunction, TopCon and even Perovskite.

With this in mind, we cooperate closely with R&D institutes in transitioning technologies into the industry. BMWK's publicly funded SHIRKAN project (project number 03EE1026) is a prime example that a transfer such as this can be rapidly realized if all parties cooperate well.

**MS:** Module producers can achieve maximum USPs with this technology and can work on expanding these USPs in the future. To date, I have never met anyone in business who isn't keen.

[www.m10solar.com](http://www.m10solar.com)



SURFACE machine

