



Hevel

FabEagle®MES in solar cell production



Success Story

FabEagle®MES in solar cell production at the hevel group

During a phase of modernization, the Hevel Group converted its photovoltaic thin-film plant in Novocheboksarsk, Russia, to heterojunction technology (HJT). This increased the solar energy group's production capacity from 97.5 MW to 160 MW and then 260 MW.

The aim of the project was to create a solid foundation for detailed reporting. Installing FabEagle®MES in production at the modernized plant ensured greater traceability of the production process.

The project

- ▶ Converting a thin-film factory to HJT

Susietec products & platforms

- ▶ FabEagle®MES
- ▶ SECS/GEM PVO2 interfaces
- ▶ Proprietary interfaces (DB, XML-files)

The service

- ▶ Requirements analysis
- ▶ Integration consulting
- ▶ Integration
- ▶ Training
- ▶ Documentation
- ▶ Project management

The goals

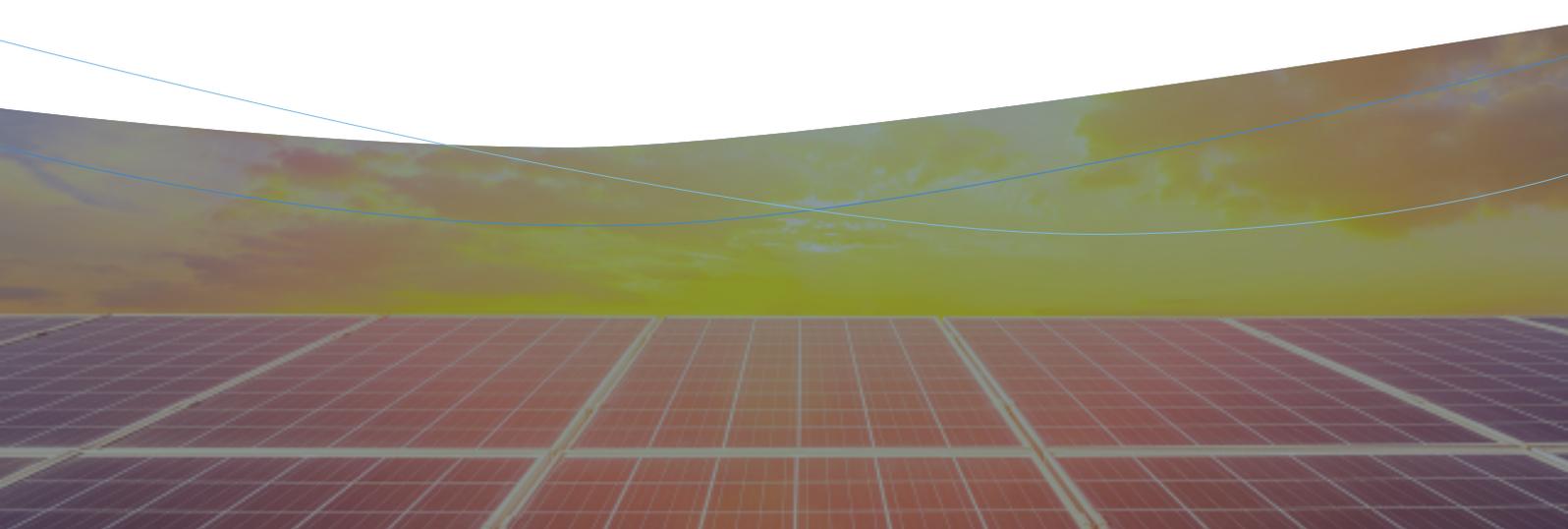
- ▶ Complete process and production visibility for the new HJT technology
- ▶ Fast start-up procedure to achieve efficiency goals
- ▶ Detailed reporting for production

The challenge

- ▶ Production machinery purchased without uniform interfaces
- ▶ Virtual single wafer tracking throughout the cell production process
- ▶ Adhering to a tight migration schedule
- ▶ Starting-up FabEagle®MES during ongoing production process

The solution

- ▶ Using FabEagle®MES photovoltaic cell standard function with little customization
- ▶ Developing individual interface drivers for each machine when needed
- ▶ Fast initial setup; adjustments can be made later without impacting production



” Virtual tracking of solar cells, product quality assurance and total control over production process.”

Vitaliy Litvinov, Head of the IS-Department
Hevel Group

Technical details of the project

In search of a reliable solution to monitor all material movements and processes in its photovoltaic production, the Hevel Group decided to install FabEagle®MES.

The biggest challenge of the project was to implement FabEagle®MES into the ongoing production process using existing tools. To ensure that relevant quality and process data is generated and the expected efficiency target is achieved, quick initial installation was carried out with the standard functions and with a focus on integrating the machines.

The customization of user interfaces and reports was postponed until a later phase of the project. This iterative approach not only allowed the schedule to be met, but also achieved stable data collection and virtual material tracking.

Customer benefits

The integration of FabEagle®MES enables the Hevel Group to continuously monitor its production machines and generate material-specific process data. In addition, a selection of manually collected data is entered and stored.

Tracking materials virtually through the production line guarantees data correlations across all process steps. Material losses and causes of errors are logged in detailed error reports. This allows typical defects to be detected and eliminated more quickly, which ensures a higher production output and regular process improvements. FabEagle®MES therefore not only increases process quality, but also overall product quality.

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Customer key figures

- ▶ Increased production capacity from 97.5 MW to 160 MW (and later 260 MW)
- ▶ Improved visibility and transparency of the production process
- ▶ Virtual single wafer tracking with a very high accuracy (> 99%)

About the Hevel Group

The Hevel Group is the largest solar energy group in Russia. The core activity of the company, which was founded in 2009, is the high-tech production of solar modules.

In addition, the Hevel Group specializes in the construction and operation of solar power plants as well as research in the field of solar energy.

For more information, please visit:
www.hevelsolar.de

About susietec

We see digital transformation as a holistic approach. With the susietec toolset, we support companies in recognizing the potential of IoT and digitalization: The combination of software, hardware and know-how enables functional and smart solutions for equipment suppliers, providers and manufacturers. That is how we succeed in implementing purpose-driven changes effectively – with the aim of driving forward digitalization in the long term.

susietec solutions can be used in an existing environment and also provide a basis for the new development of machines, components and production plants.

In the association of Kontron companies we help you take the decisive steps towards digital transformation using our experience from numerous digitalization projects.

For more information, please visit:
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