Success Story
Factory Automation

Kontron AIS GmbH

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The Power of IoT

FabEagle®MES for a 100 MW Heterojunction PV Production at EcoSolifer

"Using FabEagle®MES for high-volume PV manufacturing really makes the difference to accomplish ambitious goals in a competitive market."

Zoltán Ádám,
Project Leader, EcoSolifer AG

ecosolifer

FabEagle®MES

EcoSolifer AG
Csorna, Hungary

Platform:
FabEagle®MES, FabLink® for SECS/GEM and PV02 interfaces

Project:
Production control for HJT solar cell factory with single wafer tracking and equipment performance monitoring

Kontron AIS services:
Requirements engineering, consulting, customization, integration, training

Challenge

- Long running ramp-up phase of production
- Continuous on-site upgrades of the equipment for recent process improvements
- Consistent virtual single wafer tracking

Solution

- FabEagle®MES with dedicated functionalities for PV
- Long term support of the ramp-Up by an experienced project team
- Continuous project management

Result

- Full process control and production visibility
- Complete monitoring of equipment availability, throughput and quality data
- Build-in flexibility for future technology improvements

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EcoSolifer and Kontron AIS completed the installation of an MES (Manufacturing Execution System) for hetero-junction technology (HJT) solar cell production delivered for an established supplier of turn key PV factories. FabEagle®MES is used for this factory in Csorna, Hungary with a capacity of 100 MW. It is one of the first HJT production lines to go live within a short time period.

The application includes all functionalities of the standardized FabEagle®MES to provide transparency and control for the production process to secure quality, improve processes and save costs. Most of the relevant information are based on a 100 % integrated shopfloor transferring data on a single material basis.

Roll-out of FabEagle®MES and equipment integration

The FabEagle®MES with single wafer tracking capability is part of the turnkey factory delivered to EcoSolifer. The initial software installation was finished in record time while the integration of the factory equipment was progressing according to the agreed ramp-up schedule.

During the project some challenges were overcome for legacy equipment which needed an upgrade of the interface software to comply with current PV standards. Additionally, technological upgrades and software improvements were installed to adapt to the changes in the production process.

Kontron AIS engineers supported the process with equipment interface tests and provided valuable advice to the equipment vendors. The ongoing support by Kontron AIS combined with the established FabEagle®MES product and an efficient cooperation with EcoSolifer and the equipment vendors ensured the successful completion of the project.

Which functions have been delivered?

FabEagle®MES is controlling production and is collecting material and process related data from the production equipment automatically. A selection of manually acquired data is added to the system on a regular basis. All material is virtually tracked through the production line allowing for data correlations over several process steps and enabling the engineers to recognize process dependencies. Material loss and failure reasons are tracked with sophisticated error reports. Typical defects can be identified and eliminated much faster leading to increased production yield.

With all these features FabEagle®MES grants good process quality and as a result ensures a high product quality. It also supports the engineers in their efforts for further process improvements.

Ready for the future

The factory is already prepared to be extended for an annual capacity of 350 MW. In a first step, production is to be expanded to this capacity, and an expansion to 2 GW capacity is planned for the future.

To ensure on-going process stability and further process improvements FabEagle®MES will be a reliable data source providing valuable insights for equipment and process adjustments.

About EcoSolifer AG

EcoSolifer is a vertically integrated Swiss Company involved in PV power generation. The Corporation and its subsidiaries have the know-how and control the entire PV technology value chain with the ultimate goal of producing electricity via the lowest achievable cost structure.

For more information please visit: **www.ecosolifer.com**

About Kontron AIS GmbH

We set the benchmark in industrial software – for more than 30 years and with an experienced team of over 200 employees. Our proven software products and customized digitalization solutions enable machine and equipment builders as well as factory operators to break new ground in automation and secure long-term competitive advantages. Together with our customers we implement worldwide cross-industry, intelligent digitalization strategies and solutions for the smart manufacturing of tomorrow.

As a subsidiary of the Kontron AG, we offer integrated, end-to-end IoT concepts consisting of hardware and software as well as worldwide project management, service, and support thanks to a global network.

For more information please visit: **www.kontron-ais.com**