Success Story

Equipment Control and Integration

Kontron AIS GmbH

kontron
The Power of IoT

SECS/GEM Interface for Vacuum Soldering Furnaces with FabLink® API

„With FabLink®, we were able to quickly implement a SECS/GEM host interface for our machines and meet our customer's requirements as a result."

Marco Urban,
Head of control technology,
budatec GmbH

budatec®
Equipment for semiconductor and photovoltaic industries

FabLink®

budatec GmbH
Berlin

Project:
FabLink® API

Platform:
Implementation of an SECS/GEM interface

Kontron AIS services:
Provide SECS/GEM framework, Workshop on SEMI standards, Consulting

Challenge

- Implementing MES interface based on SECS/GEM
- Creating universal source code for various types of equipment
- Strict delivery time requirements

Solution

- Online SECS/GEM training and workshop
- Integration of the FabLink® API into own source code and build processes
- Using the template provided

Result

- Independent implementation of SECS/GEM with FabLink® API
- Quick know-how transfer, 80 hours of total effort for implementation, documentation and testing

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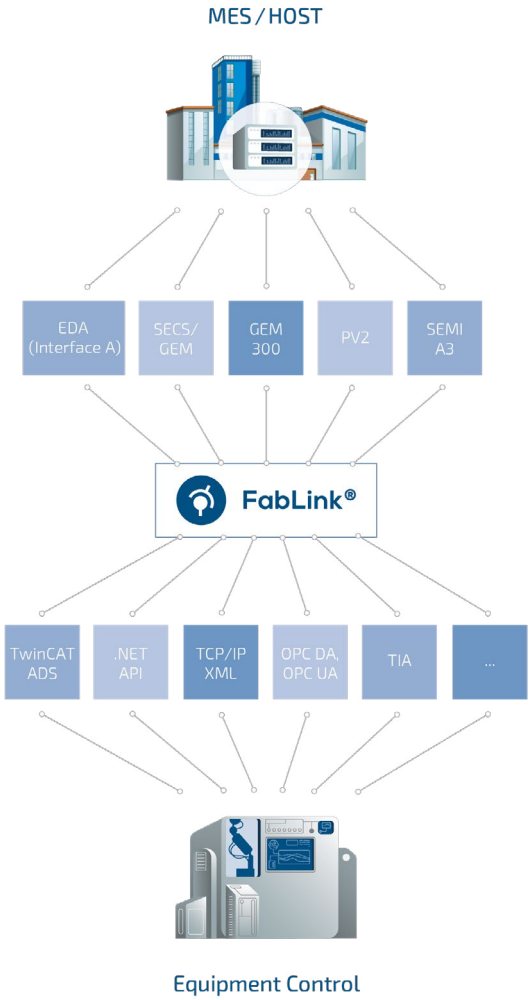
Due to a sharp increase in demand for standard interfaces for the semiconductor industry based on SECS/GEM, budatec launched a feasibility analysis for implementing the interface at their soldering furnaces. The decision was made to use FabLink® product from Kontron AIS, an established product with more than 10.000 references in 20 years. The FabLink® API for a .NET based control platform was a perfect technological fit for budatec's software architecture.

In addition to purely technical criteria, support from experienced experts was also a key criterion for deciding in favor of FabLink®. Support for evaluating extensive compliance documents provided by Kontron AIS and the expansion option to include an additional EDA SEMI compliant interface also provide security for the future.

Strong solution for new business areas

Following short but detailed training on the SEMI standards and their usage, as well as a workshop on software development using the FabLink® API, it was a quick path to the successful implementation of the SECS/GEM interface. Both the maturity level of the API and the automated creation of the necessary GEM manual supported by FabLink® help to keep development time and time-to-market very short. Add-ons to the machines can also be brought to market within a very short time.

The implementation of the SECS/GEM interface for the vacuum soldering furnaces offers budatec new opportunities in the fast-growing sectors of semiconductor, solar and electronics manufacturing.



Why SECS/GEM

SECS/GEM is a collection of communication standards specified by Semiconductor Equipment and Materials International (SEMI), an international organization, together with industry. SECS is an abbreviation for SEMI Equipment Communication Standard. GEM stands for Generic Equipment Model and refers to the E30 SEMI connectivity standard. The protocol family defines a generic model for communication and control of production equipment.

In the complex manufacturing process, many process steps are carried out that can only be optimally completed and checked with the support of IT systems. SECS/GEM based networks enable remote control of production equipment and automated operation with the support of MES. Structured data collection also offers the opportunity to further improve quality and availability.

In SECS/GEM, functional models represent the material flow from loading to processing specifications, execution and unloading. For this to be done in a structured way, communication and various settings must be configured first. As a result reports on events, alarms and process values are available.

SECS/GEM provides a uniform interface for communication between automated machines and the host. Standardizing the interface between production equipment and the factory's IT system offers many advantages both for equipment integration and for machine manufacturers. Equipment become comparable and integration costs are reduced.

Standardized host interfaces are a prerequisite for being able to deliver machines to a semiconductor factory. FabLink® solves this requirement in a way that is flexible and can be implemented quickly, and therefore provides an add-on to the machine manufacturer's portfolio.

About budatec GmbH

budatec GmbH is a machine manufacturer for the semiconductor and solar industry based in Berlin. Their main areas of business are thermal systems and products related to manufacturing electronics. The focus is on vacuum soldering systems, ranging from small batch systems to fully automated production systems. budatec has more than 20 years of experience in this area. The vacuum soldering systems are developed and manufactured in Berlin, and distributed worldwide. In this segment, budatec GmbH is one of the technological market leaders, particularly when it comes to the application of hydrogen and plasma gases.

The company was founded in 2009 and now employs a team of experienced engineers and software developers.

Customers include well-known technology companies, research and development departments of renowned institutes, as well as universities and universities of applied sciences.

For more information please visit: **www.budatec.de**

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**