

# DISCOVER A SOLUTION

Efortech Magazine - Industry 4.0



## Plug & Play

Plug and Play Technology  
with Faster and Easy  
Development



## Integrated

Support to Integrate with  
Existing Systems or  
Machines



## Easy Customization

Web-based Dashboard with  
Easy Customization  
Free Client

*Digital transformation may aid in the  
advancement of your manufacturing processes.*

**EFORTECH SOLUTIONS.COM**



# Efortech Provided Real-Time Monitoring and OEE Analysis to a Global Zipper Brand

Indonesian system integrator Efortech has provided an OEE solution to a global Japanese zipper brand, helping them capture real-time data and respond to machine errors faster in order to prevent damage that would otherwise result in production downtime.

The manufacturing sector is critical for Indonesia's economy. In 2018, Indonesia's Ministry of Industry launched the "Making Indonesia 4.0" initiative as an integrated roadmap to implement several strategies for the sector to transition to Industry 4.0. That year, a McKinsey survey showed that 90 percent of Indonesian business leaders felt that one of the main benefits of introducing smart manufacturing technologies would be improvements in performance, but only 13 percent of them reported their companies had begun their digital transformation.

CEO, Mr. Hanggar Cahya Kusuma pointed out that the main roadblocks to their customers' Industry 4.0 journey are a lack of IoT knowledge and talents, as well as insufficient IT integration and cybersecurity concerns. Most companies using programmable logic controllers (PLCs) in their workflow still collect production-related data manually, including information on equipment availability, production performance, and product quality. To help them start their digital transformation, Efortech provides the Advantech iFactory Smart Manufacturing Suite, which delivers a WISE-PaaS private server with various integrated applications including OEE and Factory Energy Management Solutions.

iFactory OEE Overall Equipment Effectiveness Management 5								
OEE Plant Overview								
Taipet Linkou Board SMT								
Machine Qty		Today online Machine Qty		Total Machine Failure Time		OEE		
19		19		00:52:29		41%		
Operation	Error	Idle	Stop	Availability	Performance	Quality		
12	0	7	0	85%	49%	100%		
Availability/Production Output/Quality Monitoring								
Group Name	Machine Name	Availability Rate(%)	Actual Output	Defect	Unfinished	Standard Output	Finish Rate(%)	Finish Status
SMT-L1	Machine1	91.5	284	0	1225	1509	18.8	Not Reached
SMT-L1	Machine2	91.4	284	0	1225	1509	18.8	Not Reached
SMT-L1	Machine3	90.4	284	0	1206	1490	19.1	Not Reached
SMT-L1	Machine4	84.5	284	0	1109	1393	20.4	Not Reached
SMT-L2	Machine1	87.6	459	3	987	1446	31.8	Not Reached
SMT-L2	Machine2	90.5	459	3	1034	1459	30.7	Not Reached
SMT-L2	Machine3	88.5	459	3	1002	1461	31.4	Not Reached

## Solving Production Efficiency and Real-time Monitoring Issues with an OEE Solution

Efortech, founded in 1994, is a Domain-Focused System Integrator (DFSI) with Advantech that specializes in applications for water management, transportation, energy, mining, and automated production. A large Japanese zipper manufacturer with many factories around the world tasked Efortech with implementing a new OEE solution in two of its Indonesian factories. The company had already implemented a system for analyzing production efficiency and equipment effectiveness, but it did not meet their performance expectations. They also wanted to be able to connect the OEE solution to five different types of PLCs as well as existing software solutions such as ERP, production management, and energy management. As a result, Efortech recommended Advantech's OEE solution, which includes features such as automatic data acquisition, real-time monitoring, and cross-system integration.

During the project's trial phase, 100 PLC units were connected to ESRP-SCA-UNO2484 Edge SRP/Visualizer, which has built-in WebAccess/SCADA for data collection. Most projects only necessitate one or two ESRP-SCA-UNO2484 units to connect to all machines, making it a very cost-effective solution. Furthermore, the robust WebAccess/SCADA system supports 200 drivers, 450 controllers, and various standard protocols, including Modbus, OPC UA, OPC DA,





Ethernet/IP, DNP3, SNMP, and BACnet, making data collection effortless. Data collected by ESRP-SCA-UNO2484 are passed to the IFS-EGM-M77 Solution Ready Platform (SRP), which was linked to the customer's existing software solutions. Also, the platform provides online visualized dashboards with an intuitive user interface, making data visualization easy to understand at a glance and enabling management to log into their dashboards from any browser-enabled device for remote monitoring of production lines.

### **Transforming from a Hardware Provider to a Total Solution Provider**

Management at the zipper factory was able to determine when, why, and how many times production lines halted after installing OEE solution. They were also able to increase visibility of day-to-day operations by monitoring their machines in real time. According to client feedback, the latter functionality was very important in this project since it allowed them to take fast action when a machine fault occurred. This reduced damage, which would have otherwise resulted in production downtime. Furthermore, the system automatically gathered all OEE-related data, eliminating human mistake and data omissions.

Despite some issues with the proof-of-concept design, they were overcome prior to project implementation, which means that the client will be able to install the same system in their second plant when the trial period in the first factory is done.

In order to promote total solutions, Efortech has been cooperating with local system integrators and holding seminars and workshops every year. Despite previous limitations in knowledge depth with regard to the latest Industry 4.0 technologies, such as AI and visual recognition, Efortech has now created a new team focusing entirely on the development and promotion of AI-based solutions, hoping to raise awareness on the latest trends in Indonesia and contribute to the "Making Indonesia 4.0" initiative.



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