Case Study

Automating Steam Turbine Operation

Industry
Building Automation
SCADA/HMI

Partners
Sivara Enterprises
Shree Renuka Sugars Ltd

Hardware
Shin Nippon Machinery
Power Generation Steam Turbines

Organization
Shree Renuka Sugars Limited is currently the 5th largest sugar producer in the world, leading manufacturer of sugar in India. It operates 7 sugar mills and 2 large port based sugar refineries.

SIVARA Automation and Controls Pvt Ltd is specialized in providing automation solutions for power generation industry (steam turbines, diesel generator sets, turbines, boilers), effluent treatment plants, sugar and distillation plants, cement plants, and water treatment facilities.

“We were impressed by AggreGate’s capabilities. We had to spend a lot of time to get used to the product, and your elaborate and well described documentation helped us a lot. Not to mention your timely response helped us to complete the job in time.”
Ravindra Puthuraya, Chairman & Director, Sivara

Challenges
The project’s goals were monitoring and complete control of a steam turbine operation, along with troubleshooting its trips via trends and alerts. It was necessary to provide a comprehensive HMI for monitoring process parameters and automating steam generator operation.

The main challenge was managing a vast amount of data (as many as 500 inputs, both digital and analog) visualized in various control panels and aggregating the data in one place.
Solution

PLCs with Modbus communication modules are used, along with three remote I/O modules and an energy meter. All Modbus equipment is connected to AggreGate server via TCP/IP network. Two HMI clients are simultaneously connected to the server to allow operators to control the turbine.

AggreGate features that were demanded in this project:

- Charts
- Expression language
- Events
- Widgets
- Scheduler
- Server/Client seamless integration
- User permissions
- Reports

Benefits

- Solid, integrated system
- Easy installation
- Nicely packed powerful Java application
About Tibbo

Located in Taipei, Taiwan, Tibbo Technology Inc. brings simplicity to the embedded world defined by enormous complexity of operating systems, programming languages, and design tools. Tibbo’s hardware, Tibbo-BASIC programming language with its Tibbo IDE software, and the AggreGate Platform offer a complete solution for delivering robust, distributed automation and monitoring systems.