

Success story

Industry: Energy

PLC + HMI ALL IN ONE™

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Communication-rich, all-one PLC links energy plants nation-wide

Summary:

Rene Tomingas FIE of Estonia is a provider of PLC and SCADA solutions; they required centralized control and a monitoring system for different plants across their country.

Unitronics' Vision1040 and Vision570 all-in-one PLC+HMIs were chosen for the task. These communication-rich PLCs were easily able to connect and transfer information between disparate systems.

Rene Tomingas FIE of Estonia has been bringing PLC & SCADA systems and engineering innovations to industries such as water treatment, energy and heating plants for over 20 years. They design powerful control and monitoring systems for a wide range of energy applications, often relying on Unitronics all-in-one PLCs for powerful, easy-to-use control.

For one application, Rene Tomingas needed to establish centralized control and a monitoring system for different plants across Estonia. A recently built 8MW thermal oil heating and 1MW ORC electrical power plant needed to be safely connected to an existing SCADA system and communicate data with the grid manager SCADA system. Additionally, the factory-built ORC system had a competitor's PLC installed, which couldn't be changed. All of these systems used different communication protocols, so the new PLC needed to be a communication rich system that could accommodate a range of protocols and ports.

Two Unitronics Vision1040 PLCs were chosen for the task. The first Vision1040 controlled the 8MW woodchip boiler. The second controlled the thermal oil systems, retrieve data from the competitor's PLC, share that data with their SpecView SCADA system, which in turn delivers that data via IEC104S protocol to the grid manager SCADA system. The existing plant operator control and SCADA system is done through the Modbus-TCP protocol and a pair of local and remote Vision570™ PLCs within the plant. This set up ensured that a single PLC could now connect different subsystems, and collect data from different sources communicating with different protocols. It could also share the collected data online with a central SCADA system using generic Modbus protocols.

Founder and President Rene Tomingas said "Since using Unitronics, we now have great connectivity using Modbus-RTU and TCP protocols. It is simple to configure different solutions, and saves us a lot of time and money; especially with their free programming software. A huge benefit is the integrated operator panel. There is no need to use separate hardware and software for the visualization purposes. We also received fast delivery, and were impressed with their stock."

Thanks to this plant, and the help of Unitronics, the city of Rakvere, Estonia will start to use more than 80 percent of their heat energy from renewable sources.

