



# zenon: valve actuator supervisor for Biffi Italy

The COPA-DATA software, zenon, was chosen by Biffi for supervision and control of their valve actuators. Since completion of this project, knowing where, when, who, and why no longer presents a problem.

” *Basically, we were looking for a supervision solution that could easily be adapted to the configuration of our DCM. zenon gave us this possibility.* “

**ING. CARLO DOGLIO,  
ELECTRONICS APPLICATION MANAGER, BIFFI ITALIA**

Biffi Italia S.r.l, a leading company in the manufacture of valve actuators, is part of the Flow Control division at TYCO INTERNATIONAL Ltd. Primarily dealing with flow control, it has been successful for over 50 years, mainly in the oil & gas and energy sectors. Refineries, gas pipelines, oil drilling platforms and extraction systems are the areas where their actuators are applied. Therefore, they possess a global distribution and installation network which spans from Europe to Japan, Africa, the Middle East, South America and Australia. Biffi's actuators have on board electronics, giving them the processing power to manage local control of machine and field bus communications.

A DCM Master Station was developed to act as a gateway for the field data, enabling it to be gathered and transmitted to the DCS control system by way of a classic MODBUS interface. The DCS, however, displays and manages only the process data; therefore all of the surplus information coming from the machine that is taken to the gateway is not utilized. The DCM has a very simple operator interface, which does not enable easy analysis of the data. Therefore, it became necessary to transfer this information from the actuator to a control system in order to display and manage this data more suitably.

#### **THE MAIN REQUIREMENTS HAD TO BE:**

- ▶ Schematic display of the plant equipment
- ▶ Data read and displayed from each single piece of equipment
- ▶ Inventory and logging of the events occurring in the field
- ▶ Logging of the alarms and the diagnostic notifications
- ▶ The possibility of remote control
- ▶ Commands sent to a single password protected device
- ▶ Processing of the saved data for the creation of statistical reports

#### **CONTROL THE ENTIRE PLANT FROM A SINGLE MAINTENANCE STATION**

The collaboration with COPA-DATA began as a result of a specific customer request to create a maintenance station from which their entire refinery tank farm could be controlled. Mr. Carlo Doglio, Electronics Application Manager for Biffi Italia S.r.l., describes his introduction to COPA-DATA: “We make the actuators; therefore we neither have the facilities nor the abilities to develop this type of approach. In the past, I had taken part in one of COPA-DATA's events, in which the features and functions of zenon were being explained. I immediately thought that it was just the software that we needed.”

The DCM is a machine that is capable of configuring itself based on the directives written in a simple ASCII file, which describes the system to be controlled. Based on this, the machine allocates the memory necessary for the field equipment images, associates the tag-name used by the user to the physical addressing and creates the correspondences among the MODBUS interface components with the statuses and the connected



Report on Operating Status



Overview Valve Actuators

field device commands. “We had thought about developing a supervision system based on the same principle. We supply the ASCII configuration files for the DCM, which needs to be done anyway, integrating the topology of the plant, the machine connection sequence, etc., at the same time. At this point, the file is already ready to be processed by zenon. The result? An application is generated nearly automatically,” says Doglio.

### INTELLIGENT WIZARDS FOR FAST DESIGN

zenon’s configurability and zenon’s development environment were fundamental features for the progress of this project. By way of zenon’s ‘Wizards’ (assistants in the zenon development environment), it is possible to perform repetitive tasks. The Wizards were designed using the VBA/.Net/C# scripting in zenon and enable users to create entire projects or parts of projects completely automatically.

“The advantage for us is the possibility of generating many applications without having to start over again and customize each single project. What makes zenon so good for us is that zenon is working with an ASCII file that we have to make in any case.

Having such flexible configurability makes the system applicable for any type of plant which uses our DCMs” continues Doglio.

“What’s more, obviously, all of those little conveniences that we didn’t have before have been added. For example, a customer calls us and tells us that a valve has malfunctioned. Before, we couldn’t tell precisely if this malfunction was caused by improper operation of the plant, by external factors or because the machine had been taken outside of its operational specifications. Now we know, and so does the customer.”

Thanks to zenon, extrapolation of all of the data necessary for the proper management and maintenance of the plant has become a simple and fast operation. Knowing where, when, who, and why no longer presents a problem.

“Development of an appropriate driver was an interesting and useful experience. We quickly achieved a product that works, thanks also to the collaboration of the EDKO Company with our system integrator.”

“In addition, the COPA-DATA technical service was there with us whilst creating this project - always providing valid solutions very quickly!” concludes Doglio.