



Customer Success Story

## ContourGlobal Maritsa East 3 Thermal Power Plant Stara Zagora, Bulgaria

CONTOURGLOBAL



EXBIT



Maritsa East 3 Thermal Power Plants  
Stara Zagora, Bulgaria



UNIT 20 – “First Out” Function Screen

### About ContourGlobal Maritsa East 3 Thermal Power Plant / EXBIT Ltd.

Since 2011 Maritsa East 3 Thermal Power Plant (TPP) has been owned by ContourGlobal. It is the third largest power plant in Bulgaria, generates 30 percent of the country's electricity and is one of four power plants that make up the Maritsa East Energy Complex. The lignite-fueled plant supplies electricity grids in both Turkey and Bulgaria. Built by Russia between 1978 and 1981, the plant connects to grids through substations across the region.

EXBIT Ltd. is ICONICS' system integrator partner with a focus on industrial automation engineering - research, design, scheduling and project commissioning of automation control systems, configuration and application programming of PLC and SCADA systems.

*“I am very pleased with our choice of a partner for the system integration project in the plant. Together with EXBIT we completed a very good and useful project. It fulfilled the demands of management and personnel with a complete solution that is very high quality.”*

**Kristiyan Dzhurbinev**

Manager of Control Systems Maintenance  
ContourGlobal Maritsa East 3

### ICONICS Software Deployed

Maritsa East 3 TPP selected ICONICS GENESIS32™ software. EXBIT implemented GraphWorX, TrendWorX, GenBroker™, DataWorX™, WebHMI™ for Web-based real-time automation, AlarmWorX™ Multimedia for real-time and SMS alarm notifications. ReportWorX™ is being used to generate reports. They also chose OPC standard servers. ScriptWorX™ is being used to realize more special functions of system monitoring.

### Project Summary

Since February 2009 the power plant completed a vast and complex project for rehabilitation and modernization, which turned the 30-year old facility into an environmental and safety leader and is the most reliable power producer in the country. The objectives for the Maritsa East 3 TPP project included large-scale modernization and upgrades, an increase in output and power capacity and meeting the European ecological requirements. The final part of the project was the integration of all

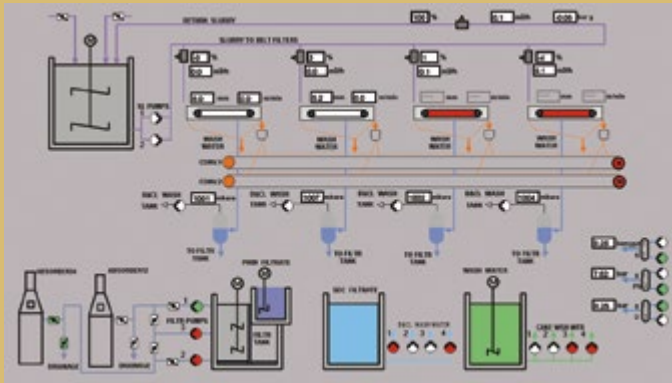
control systems on a single platform. EXBIT was chosen as the developer and system integrator for the Control and Monitoring Integration System. To meet their objectives, EXBIT created centralized data access from all of their OPC servers, with more than 8,000 tags, utilizing DataWorX32, an OPC data integration solution. This provided data tunneling, aggregation and redundancy, as well as the ability to access the data from all applications, including a PI historian system, for plant control.

For visualization EXBIT created graphical screens on which data is shown through dynamic GENESIS32 displays. These displays allow visualization of the main control system, Siemens DCS SPPA-T2000, and all of

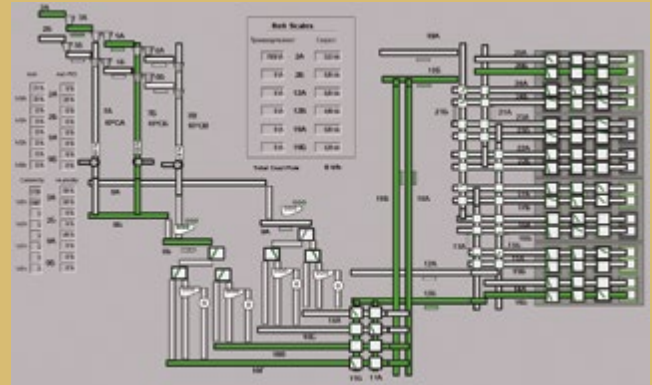
contractor of EXBIT. The DCS alarms are being managed with a “first out” function for analysis, including the relay protections in real-time with specialized scripts developed by EXBIT using ScriptWorX. Alarms are sorted by time stamp, even within milliseconds in the case of trip events. AlarmWorX Multimedia was specifically selected for its ability to send alarm status notifications to mobile devices.

### Benefits of the System

Thanks to the upgrade, the ContourGlobal Maritsa East 3 TPP is now an environmental leader in Bulgaria and is fully compliant with all of the European Environmental



*Gypsum Dewatering Screen*



*Coal Handling Screen*

the plant's sub-systems. Displays, alarms and trends are exhibited on wall-mounted displays in the control centers. Dedicated trend screens show the start profiles and the designation of different startup modes of the plant boilers. Plant management are able to access and manage all of the data through the office network or with VPN access.

A WebHMI server was implemented to allow for remote access, via the internet, on thin Web clients, which allows personnel to visualize processes without the installation of any other software. Alarms from generator relay protection logic are being integrated and diagnosed using gateway controllers developed by LOGISOFT - a sub-

standards, including certification under ISO 14001:2004 and OHSAS 18001:2007. Additionally, the plant's output has increased significantly from 840 MW to 908 MW. Plant project objectives were all reached after the complete implementation of ICONICS software. The management and operating staff now have visibility and full access to data and alerts in real time.

### Conclusion

With the implementation of ICONICS software, the Plant reached their goal of becoming more energy efficient. With real time monitoring and alerting, the plant continues to increase production and productivity.