

CASE STUDY



Together to make our industry, a source of proud
معاً من أجل صناعة مصرية ، تكون مصدر فخر لنا جميعاً



The Council of OBOUR City, Located in the East Cairo, invited Tender offers for the building of a Modern monitoring and control system for the area's water treatment, supply, and distribution. Organizations bidding on the offer faced several complicating factors while developing a solution. OBOUR's water is distributed to homes and businesses across a relatively large 350-square kilometer area. In addition, the system employs a large number of pumping stations. IMPACT won the contract and has successfully implemented a first -stage, whose main components are the PC-based a supervisory control system and data acquisition to the Boosting station



The Challenge

Operations at Water Treatment Plant have always required monitor and control the booster station pumps and its distributed Remote terminal units in order to make day-to-day decisions on how to most efficiently run the plant. The old system was difficult to work with and expensive to maintain. *Our goals was to find a solution which can scaled to fit in any size of water treatment facilities, while it centralizes management and ensures round-the-clock reliability and regulatory compliance. And has the proven ability to operate over large networks with different types of communications, including auto dialers, wireless networking.*



The means to control this resource, and also meets several other objectives stated in the original tender offer. For example, the safety has to be improved through central monitoring of the water supply, plus reaction time to disturbances and accidents has to be shortened, minimizing the consequences. Finally, the WTP needs to realize a reduction in operating expenses and energy costs through optimal operation of water treating, pump stations, and pipelines.

The Solution

IMPACT installed a SCADA system based on INDUSOFT Supervisory Control and Data Acquisition using OPC servers to communicate with Allen Bradley SLC500s.

INDUSOFT provides safe, cost-effective, and reliable control over plant processes., a INDUSOFT solution ensures continuous monitoring and control of plant operations such as:; water distribution systems; pump stations, RTUs

To begin, IMPACT worked with the Support team to devise an overall efficiency and effectiveness plan and Master Plan for SCADA implementation that included a unique solution involving distributed control architecture for the subsystems .





Benefits of implementing INDUSOFT

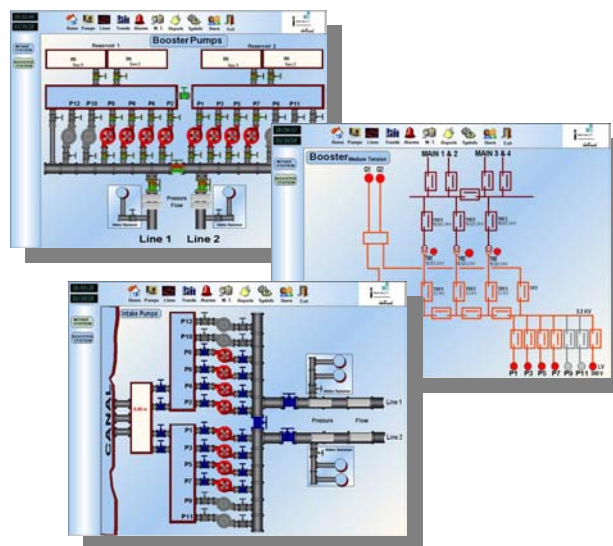
Since implementation, the water Plant has been gainfully using INDUSOFT and realizing a number of benefits, including:

The operators at boosting station are able to monitor all the plants pumps including the pipes and their RTUs, the engineers at the Water Treatment Plant are able to monitor the water levels and pressures in the pipes through their web browser. They open their web browser and navigate to SCADA Screens . A log-in screen, which requires a user ID and a password, will then greet them. The users' privileges and functional capabilities on the SCADA system are determined by the permissions assigned to them by their administrator. A typical operator is allowed to view screens and view alarms, the Engineers have the ability to full control.

The Benefits Are Many...

- **Centralize Water Boosting station monitoring and Control:** INDUSOFT permits monitoring and control of all activities of the water boosting station from a single location. Immediate detection of problems through diagnostic displays enables quick intervention for fast resolution.
- **Increase Reliability & Improve Treatment Processes Automation:** Effectively managing boosting and distribution activities is vital to efficient Water Treatment Plant. The INDUSOFT solution provides continuous 24/7 monitoring of remote systems to identify overflow situations or possible water leakage through pipes. it utilizes the power of INDUSOFT Development environment which enables quick and easy configuration and maintenance of SCADA information; high-resolution windows displays to view control graphics, diagnostics, trends, alarms, and status displays, access to dynamic system points, historical data, and event logging.
- **Reduce Costs:** The INDUSOFT solution can significantly reduce operating and maintenance costs. A centralized SCADA system minimizes resource and maintenance expenditures by requiring fewer personnel to monitor the field and reducing daily maintenance trips. When multiple pieces of monitoring and control equipment are replaced with a single system, parts expenses are reduced by requiring only a single set of spares. When multiple control systems are replaced with a single one, training costs decrease.

- **Preserve Capital Investments:** When a water authority spends money to improve plant operations, they need to ensure prolonged use. Windows-based INDUSOFT has the flexibility to operate with standard, open protocols supported by multiple hardware and software vendors. It incorporates the migration paths to improved technology/better performance without the costs of a total system replacement, and the INDUSOFT system can be easily scaled to meet growing demands on our water treatment process.



Pumps at Boosting Station, A simple way of Monitoring



Company Background

IMPACT Automation was incorporated in 1999 with a focus on the need for a quality supplier of industrial automation products and services. Since its inception the company has entered into partnership agreements with a wide range of international suppliers. This has enabled access to some of the world leaders in industrial automation. Starting with an initial workforce of three, the company now employs over 20 full-time members of staff. A world-class engineering firm IMPACT Automation operates in the following areas of business:

Industrial automation/systems integration
Control Systems/Control Panel Manufacture
Contract Maintenance/Commissioning Services
Training Programs

"IMPACT's level of technical expertise and customer focus has been used on a varied scale from small on site projects and large scale area improvements. All have been delivered to time, scope and budget. A rare accolade in today's market place."

Mohsen Hamdy
Technical Manager
Cairo-Egypt