

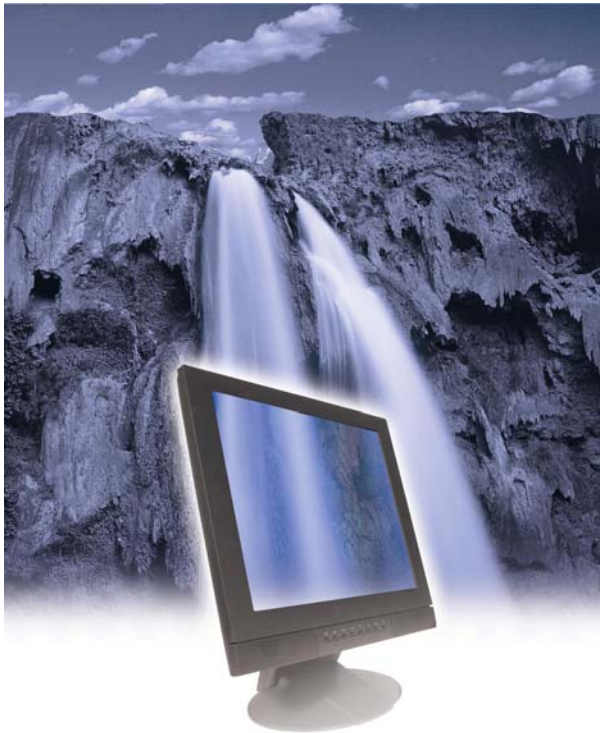


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H₂O UNDER CONTROL

**CONTROL AND SUPERVISION
SYSTEMS**

FOR

**WATER PURIFICATION AND
CONDITIONING PLANTS**

**WASTEWATER TREATMENT
PLANTS**

AQUEDUCTS

SPECIAL PLANTS





WATER PURIFICATION AND CONDITIONING

Water conditioning plants for towns, districts and public utility companies.

Fast realizes control and supervision systems for all water treatment phases, from the water drawing from the source to the purified water distribution to water systems.

Some applications:

USER	SITE	SUPPLY
GMRA	LYBIA Lybian aqueduct	Great Man Made River Project – water purification and conditioning plant for Tazerbo-Benghasi aqueduct
ACOSEA	Ferrara ITALY municipal water system	Water conditioning plant with carbon filters for Ferrara town
ENÌA	Canossa ITALY municipal water system	Water conditioning plant for municipal water system
GRUPPO THUGA	Pieve di Coriano ITALY municipal water system	Water conditioning plant for municipal water system

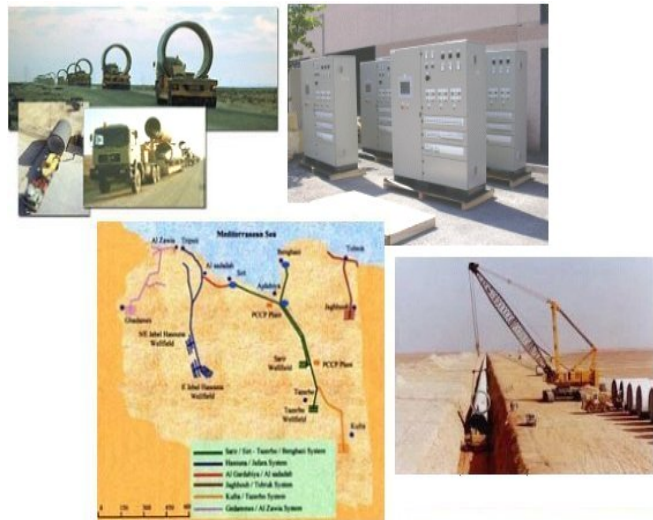
The Great Man Made River: the world eighth wonder

The Great Man Made River is the bigger project for water transport ever started in the world.

It deals with Lybian aqueduct that can transport more than 5.000.000 m³ of water every day from from the underground desert sources to the cities of Tripoli, Benghazi and other settlements of the Lybian coastal belt. where the water beds are becoming salted.

The project includes 4000 kms of huge pipelines in the desert, buried underground to eliminate evaporation.

The water, coming from 54 acquifers 270 meters deep, is pumped in a reservoir that feeds the entire network.



Fast cooperated to the project realizing 54 control systems, including hardware and software, to manage the water extraction from the acquifers and the purification phase.

The whole supervision system is based on Fast Plant View HMI–SCADA, whose human machine interface has been appreciated by the technician and operators. Once again the power of Client/Server architecture based on OPC technology has been the right choice that made the difference on the quality of the technical realization.

Each control system has been tested in the special climatic chamber, specially built for this purpose in Fast's labs to simulate the extreme climatic conditions of the Lybian desert.



WASTE WATER TREATMENT

Water treatment of source and waste water, for domestic and industrial use

- Industrial waste water treatments

Fast realizes supervision and control systems for all treatment phases.

As an example, the different phases of the water treatment in a polymer production plant are listed.

Water collection: waters coming from different plant's areas are collected and pumped to subsequent treatments areas.

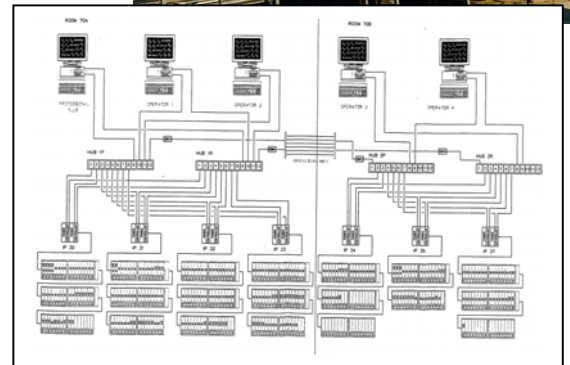
Oxidation: In this phase the missing oxygen is reintegrated through insufflating pumps controlled by specific control loops.

Filtering: next process is water filtration across different filtering media.

Chemical treatment: here the PH is correct , if required, using chemicals additives.

Dehydration: in this last phase the residual muds coming from previous phases are dehydrated.

Each phase is controlled by our PLC-BASED systems.



USER	SITE	SUPPLY
SYNDIAL (ex Enichem)	Porto Marghera (VE) ITALY	Wastewater treatment plant for a polymers production plant
GEO GREEN	San Giorgio di Nogaro (UD) ITALY	Wastewater treatment plant for a techno-polymers production plant
NESTLÈ	Bergamo Italy	Wastewater treatment plant for a water bottling plant
WORLDBEST CHANGZHOU	CHINA	Wastewater treatment plant for a polyester production plant
STPC	IRAN	Wastewater treatment plant for a polyester production plant

- Domestic wastewater treatment

The grey domestic wastewaters can not be released to the environment since they contains various waste matters that must be removed, at least partially.

The purpose of water purification is to give back to the natural cycle a water whose quality is in agreement with environment safety requirements (and in particular, with water resources requirements) taking into account that the environment itself has its own tools to end the purification process thanks to bacteria and other microorganisms. A purifying plant use in "industrial" way the power of these microorganisms action .

Some applications:

USER	SITE	SUPPLY
ASM BRESCIA	Verziano (BS) ITALY	Wastewater treatment plant
SEA	Viareggio (LU) ITALY	Wastewater treatment plant
GENOVA ACQUE	Genova Quinto ITALY	Wastewater treatment plant
ENEA	Rocca imperiale (CS) ITALY	Wastewater treatment plant
AQUEDOTTO PUGLIESE	Meledugno (LE) ITALY	Wastewater treatment plant

FAST and ASM BRESCIA: Verziano wastewater plant

As effluent discharge requirements for the European Union became more stringent, ASM Brescia was forced to re-evaluate their three-line wastewater treatment plant, originally constructed in 1980.

By upgrading only one of the existing systems, the combined effluent from the entire plant is now able to meet and exceed the quality requested by European Union regulations.

FAST has participated to upgrading of Wastewater Treatment Plant realizing the supervision and control system of the different process phases.





AQUEDUCTS

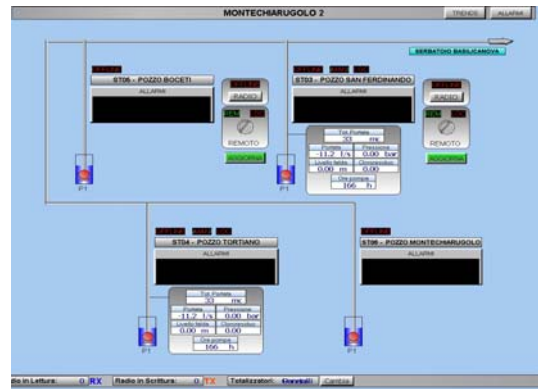
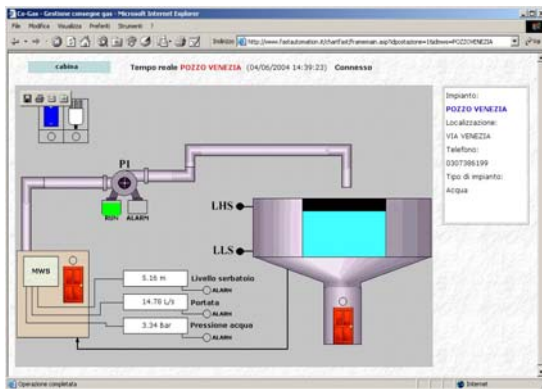


Fast realizes **supervision and control systems** for aqueducts and water systems.

Usually an aqueduct includes:

- **Aquifers**, getting water from the underground to the surface;
- **Water conditioning plants**, if required;
- **Reservoirs**, that guarantee the right pressure and a water reserve when required
- **Water distribution system**, to make the water reach the final users.

FAST realizes the supervision and control systems of the different process phases with an elevated level of automation, minimizing human intervention.



Some applications

USER	SITE	SUPPLY
AIMAG	Carpi (MO) Mirandola (MO) ITALY	Aqueduct control and supervision system
ENÌA	Parma ITALY	Remote control system for aquifers and reservoirs monitoring
ENÌA	Reggio Emilia ITALY	Water leakage software for aqueduct
SOGEIM	Palazzolo sull'Oglio (BS) ITALY	ASP system for aqueduct remote control