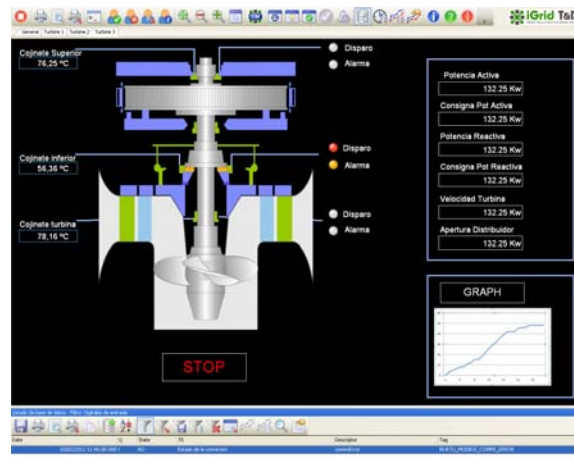


# Hydropower Generation Control

## Hydroelectric Power Stations Control

Hydroelectric power station control system designed by **iGrid T&D** allows integrating all existing field elements in a power station. This system stores and process received information and executes decisions based on preset automatism. Received information is sent to all existing control centers, both local and remote, via the available communication systems. This system is complemented by remote monitoring tools that allow supervising existing information in the power station at all times.



The telecontrol of hydroelectric power stations can be complemented by the **iControl** SCADA system (**iControl** Substation Editon) which allows monitoring and controlling power stations remotely, facilitating the operation and making your business's day-to-day easier.

## PRODUCT HIGHLIGHTS

- Automation algorithms:
  - Level controller
  - Active power regulator
  - Reactive power regulator
  - Sluice gate controller
  - Turbine controller
- Distributed architecture
- Integration of main protocols: IEC60870-5-101/102/104, DLMS, Modbus (other protocols under request)
- Support for any physical media: RS-232/422/485, GSM/GPRS, PSTN, Ethernet
- Simple, easy and intuitive graphical user interface
- SMS alarms
- Local and remote monitoring

# System Architecture

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**iGrid T&D** offers an open and scalable architecture of easy deployment and expansion. Each turbine is controlled by an **IRTU** which communicates with all related control, protection and measurement devices. At the same time, the **IRTU** can capture analog and digital signals from field devices.

For each of the existing turbines **iGrid** proposes the same architecture as well as for the data collection in dams, sluices gates, waterways, reservoirs and other existing elements in the power station.

**IRTU** units form a local network: they send data to and receive information from an **IRTU** that brings together all the information of the power station. This **IRTU** is responsible for communicating with remote control centers.

Furthermore, each **IRTU** sends their information to and can receive commands from one or more local SCADAs, This type of architecture enables maintenance in each of the power station elements without affecting the whole power station control system.

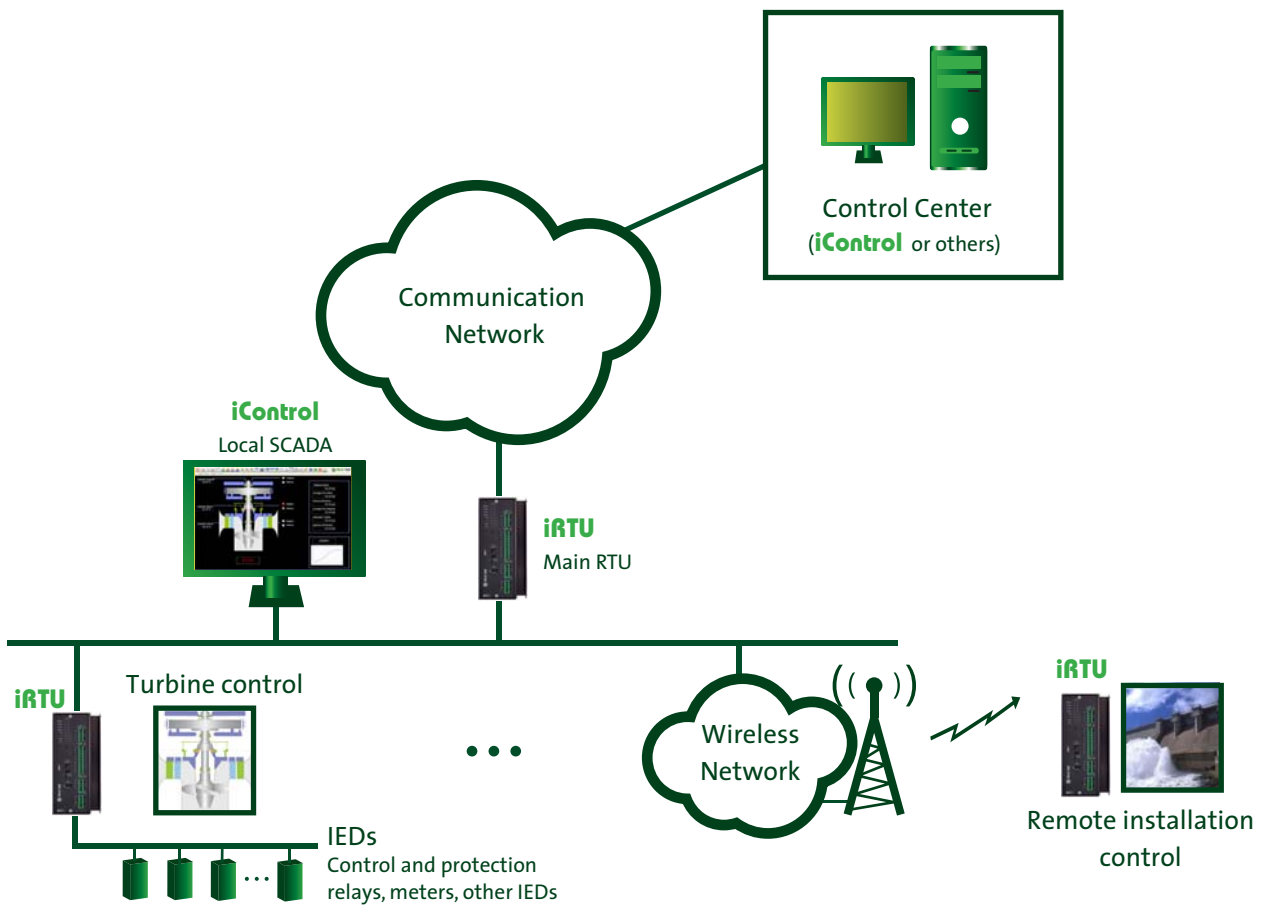


## Features

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Main features of this telecontrol system are:

- Open architecture which allows integration of a wide variety of devices and third party systems. Control, measurement and protection systems from different vendors can quickly and easily be integrated.
- Scalable architecture suitable both for small and large power stations with several different turbines and different remote acquisition locations such as dams, reservoirs, waterways and sluices gates. This type of architecture makes easier future expansions of the system.
- Automation. This system includes automatism which can quickly and easily be configured. It is not necessary for the user to program anything at all; it is only needed to parameterize the existing automatism. These automatism can control starting and stopping of the turbines, regulate active and reactive power, and the reservoirs level.



- Includes a PLC module that allows users to create their own control logic.
- The designed system can communicate simultaneously with multiple control centers, both local and remote. It can also send alarms via SMS.
- Easy maintenance.

# SMART SOLUTIONS FOR SMART GRIDS



## iRTU

Substation Automation

Telecontrol of Medium Voltage Transformation Centers

Generation power station control

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