

APPLICATIONS AND ADVANTAGES OF AUTOMATION SYSTEMS

An automation system is designed particularly to gain significant positive effects on the cost, safety, accuracy, production rate, and quality of different processes. This is an integrated process involving mechanical, electrical, and electronic engineering. It has three basic components: sensors, controls, and actuators to perform a certain function.



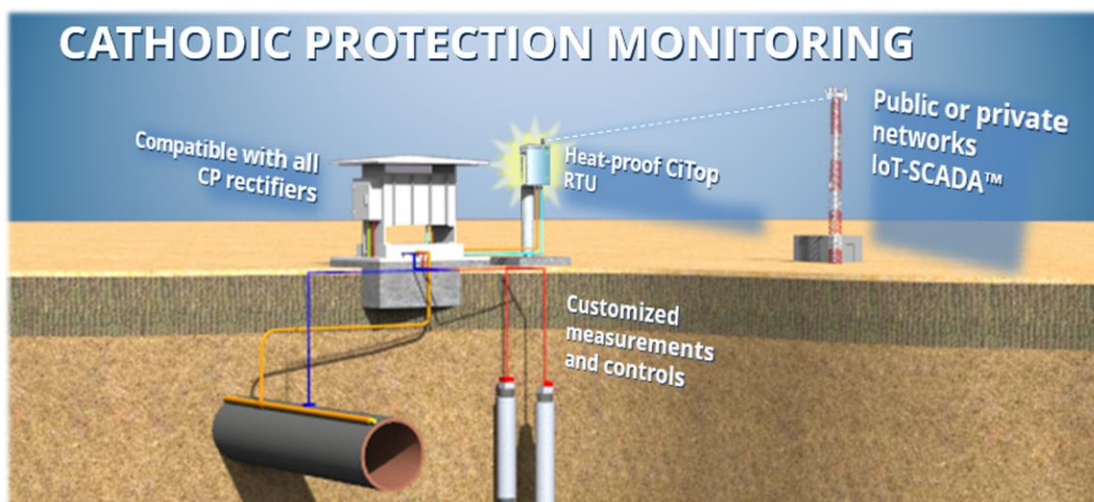
Citop-IoT's IoT-SCADA

CITOP-IOT is one of the leading manufactures and suppliers of easy-to-set-up products and solutions for remote monitoring and controlling applications. We offer the CiTop-IoT product family which includes GSM- and other Remote Terminal Units (RTUs), wireless sensors, and Cloud SCADA supervision solutions. For remote terminal units, we have Citop-IoT GSM-RTUs , CiTop-IoT RTUs , and CiTop-IoT OEM Automation Solutions. We also offer CiTop-IoT's IoT-SCADA for GSM-RTUs. CiTop-IoT Wireless I/O & -Sensor Network (868 MHz) has been widely used for taking measurements of remote industrial sites and objects. With 40 years of background in automation systems and 20,000+ RTU controllers and solutions, we can provide reliable options. Our engineers and system integrators can make turnkey solutions for a wide variety of remote monitoring and controlling applications. We can also provide specialized automation solutions for OEM customers

Applications of Automation Systems

Automation systems have been widely used in different industrial operations and some of their applications are listed below:

Cathodic Protection Monitoring Systems have been used as a total solution for remote monitoring (and controlling when desired) different kinds of immersed current cathodic protection applications to protect underground pipelines. These underground pipelines are used in oil and gas distribution systems. These systems can also be used to monitor other immersed current cathodic protection applications such as tank farms, oil platforms, etc. This type of system has been used by the world's largest oil producer, Saudi Aramco, in its nationwide cathodic protection system.



CiTop-IoT Cathodic Protection Monitoring System

Streetlight Management and Energy Systems are management systems used for streetlights; they result in up to 35% energy savings through optimization of burning times and dimming at off-peak traffic hours. Lights can easily be controlled through the control system. The system also detects burned lamps.



Streetlight Management System

Pump Station Management System is used for remote monitoring and controlling different kinds of water applications such as water pumps, water flow meter stations, water wells, water pressure stations, water towers, etc. The same system can be used for remote monitoring of water treatment and purification plants.

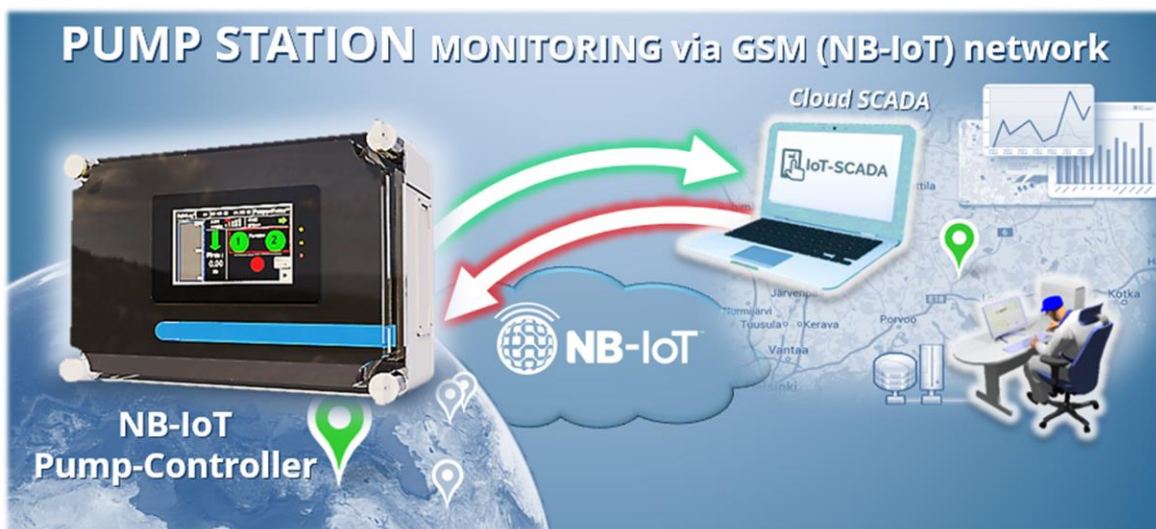
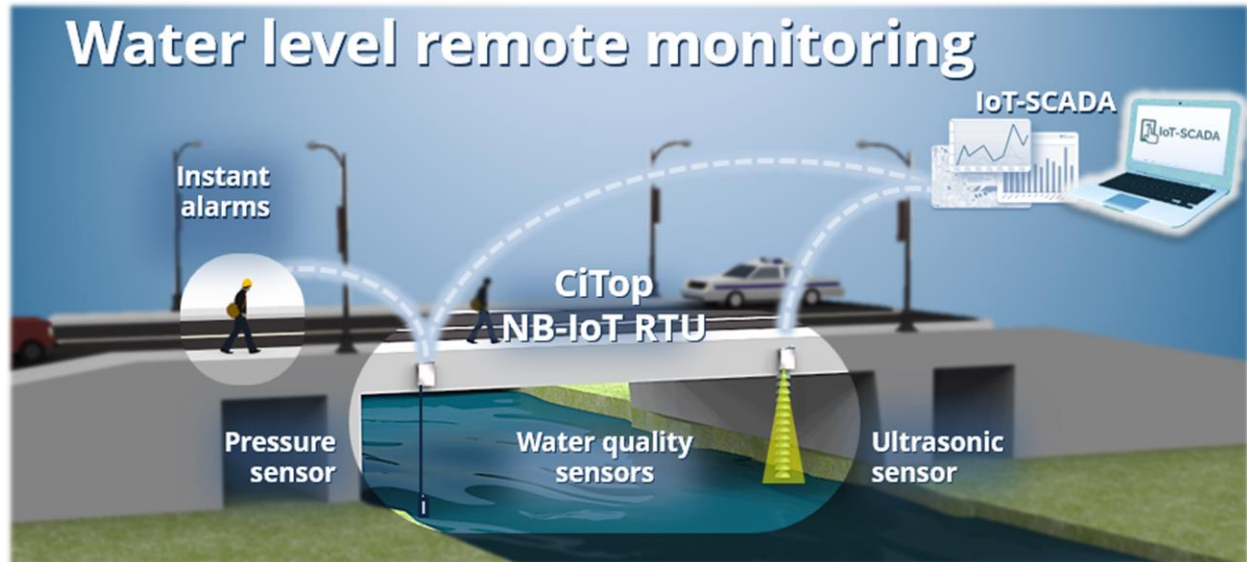


Figure 4. Pump Station Monitoring System

[Ground and Surface Water Monitoring System](#) is primarily used for remote monitoring and controlling different kinds of ground and surface water applications. For example, these systems can be used in a refuse dump and other environmentally critical areas. Similar structures can be used to collect level readings or other data from tank farms.



Water Level Monitoring System

Advantages of Using an Automation System

- Minimize Capital and Operating Costs

Some manufacturers, such as Cloud Scada, no longer require a new server, workstations, software installations, or other licenses to use an automation system. With the use of existing PC workstations and mobile phones with web browsers, the system can easily be operated.

In terms of operating cost, the annual service fee of the automation system includes service availability, maintenance, and updates of both related hardware and software. Maintenance of the system is usually performed by the end user's IT team, but this may vary as it can also be included in the agreement with the provider company.

- Lower-Hassle Maintenance

Users should not worry about the training for maintenance as the system provider is the one responsible for the server and other maintenance tasks. Additionally, the health of the system can be checked on a daily basis.

- Scalability

An advantage of using an automation system is that it can easily be expanded since the system uses multiple servers. The customer can start by using a few monitored stations and can expand whenever needed. There is no need to have your own server.

- Availability

The application used in the system can be accessed through any PC or mobile, thus, information is easily shared for system optimization, heightened quality, new business innovations, smarter maintenance and resource planning, and increased system coherency.

- Longer Lifespan

Long maintenance plans to keep the system up-to-date and functioning well are available. An automation system can offer many benefits as it is cost-effective, low-maintenance, accessible, and has a longer lifespan.

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