



Remote Management Systems

Professional remote assistance system

The ANIE, the association which includes the electric engineering and electronics companies, defines the remote monitoring and control system as

“an automation solution which carries out control powers through softwares and allows the data collection through instruments and system networks which may also be allocated on a more complex system.”

Therefore, the **remote management systems** provide assistance through **remote data monitoring** and **system condition control**.

How are remote management systems arranged?

Let's get started with the analysis of the three elements included in computer control systems, in order to answer this question:

- **Peripheral device:** remote station, which has been installed nearby the system that must be monitored and controlled, and has the task of collecting data for its operation;
- **Control centre:** thanks to one or more operators, this station controls the data received by the peripheral devices and performs repairs in case of failures or system disruption;
- **Data transmission network:** it enables the peripheral device and the control centre to exchange information. Transmission modes vary according to the system's type, technical and geographical conditions.



Remote monitoring process may be applied to different plant fields (for example, remote heating system, road conditions, etc.). In this article we will talk about the **remote monitoring system of them industrial plants for air pollutants treatment**.

Remote Monitoring System's objectives and benefits

In the plant field, paying specific attention to the air pollutants extraction and filtration plants, the remote management systems are important partners, whose use allows the services to be monitored and plants "health condition" to be protected.

As a matter of fact, besides providing in real time the data about technological systems operation, they register and file the values making an historical database available. This one allows us to get an overview on the plant operation (remote site monitoring) and to carry out even detailed analysis, aimed at the proactive management of the maintenance service and the predictive identification of damages.

Professional assistance

Thanks to the remote monitoring service, the customers can benefit from a **machine monitoring service carried out by experts** in the field. As a matter of fact, our specialists can control the data remotely and respond in order to solve possible malfunctions. This system allows us to identify even a possible **wear of the elements** included in our filters (as, for example, filtering elements): in this case, our maintenance technicians would contact the customer, in order to arrange a maintenance work on site.

Reduction of energy wastes - plant's maintenance management

Experts assistance allows us to better run the plants, providing the best production efficiency, thus reducing the wastes. **Our technicians detect and analyse the real service of the plants and provide them a suitable maintenance**. In order to reduce the energy consumption, even some instruments are recommended, such as the inverter, which is an electronic device that modifies the frequency of the electric engine, adjusting its speed to the real needs of the device to which it is connected.

Overall overview of the plant's condition



In addition to providing professional assistance, the remote management system allows the plant's managers to have the data on air pollutants treatment systems installed in their production sites always at their disposal. As a matter of fact, the technology which collects the data can be easily connected to the customer's devices (telephone, laptop, tablet...), in order to provide them an overall overview any time.

Besides, the remote monitoring system allows the end user and the installer company to receive **notices** in case of system malfunctions: in real time, it sends them emails about the plant's condition, improving a prompt action in order to solve the problem.

Plants remote management system

All the technological systems we have created can be managed remotely, ensuring several benefits:

- **Bag filters / Cartridges filters** = the failure of the filter elements cleaning system or their damage may cause the emission of treated pollutants in the atmosphere and an outrageous consumption of compressed air and a power consumption increase. The remote monitoring systems allow us to identify these possible problems and promptly respond in order to solve them;
- **Activated carbon filters** = the remote assistance system allows us to display the gradual saturation of activated carbons, in order to report their replacement's needs before they run out of their adsorption behaviour;
- **Vertical wet scrubbers** = in the scrubbers the remote management system allows us to control the system condition, paying specific attention to the reagents detectors (any failure may cause energy wastefulness and greater consumptions of reagents);
- **Regenerative Thermal Oxidisers (RTO)** = in order to reduce the VOCs, in this technology it is essential to keep a steady temperature of 750-800°C. In order to monitor this important aspect, the remote management system underlines the temperature of entrance, exit and the RTO single rooms and improves a prompt action in case of malfunctions. Therefore, the remote assistance system detects any possible damage which can be connected to fans or

other elements making up the plant.

In this article we have explored the considerable benefits led by the **remote management system**. However, in conclusion, it is useful to specify that every plant is independent and operates regardless of the remote assistance system.