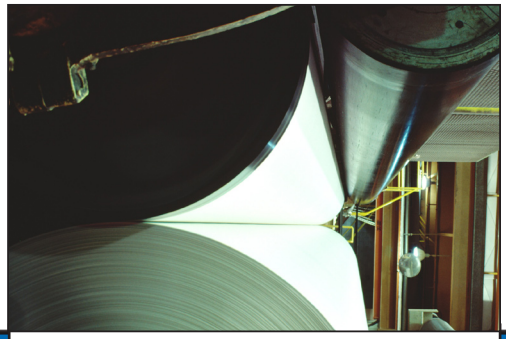
# ENVIRONMENTAL CONDITION MONITORING (ECM™) SYSTEM

## PULP & PAPER

## PROJECT RESULTS

- **Dramatic reduction in replacement air filter costs**
- **On-line monitoring of multiple parameters in real time**
- **Seamless integration of data into Plant Information System**
- **Rapid detection of deterioration of the environment**




## APPLICATION

On-line Environmental Corrosion Monitoring System for a large scale paper plant

## CUSTOMER

Leading producer of paper products in the United States

## CHALLENGE

A large scale paper plant required a more integrated approach to measuring atmospheric corrosion, with parameters of corrosion rate, humidity, temperature, pressure, and room differential pressure. Pulp and Paper plants rely heavily on their air filtration systems to keep under control the many corrosive effects of chemicals and processes used in the paper making process. The plant was looking for an economical and easy way to monitor corrosive elements to assure the effectiveness of their air filtration system and reduce the significant cost of replacement air filters. Formerly these process parameters were measured manually by plant personnel at periodic intervals from multiple instruments for transfer into their Plant Information System for analysis. This was an in-effective way of collecting data, costing the plant valuable man hours and the added cost of instrumentation and data analysis. Unexpected process upsets could not be detected before damage occurred to sensitive equipment in control rooms, electrical centers, and other highly sensitive equipment in the plant.

## SOLUTION

Rohrback Cosasco Systems ECM answers the need for an integrated on-line system approach. It is a multi-parameter environmental corrosion monitor that provides continual surveillance of the surrounding atmosphere. With one copper and one silver sensor it detects the severity of atmospheric corrosion while simultaneously monitoring relative humidity, temperature, and room differential pressure.

The complete ECM system offered a strategic and cost effective solution that could be easily integrated with the paper company's Plant Information System. Over forty ECMs were placed in critical locations such as control rooms, DCS rack rooms, drive rooms, and electrical centers and were connected to the existing LAN network through TCP/IP converters (see diagram on back). The ECM units were remotely configured and monitored using RCS's ECM Software. The resultant data was then fed into the Plant Information system for immediate analysis. On-line access to this information now allows the operators to mitigate the causes of atmospheric corrosion before deterioration of process equipment can occur.

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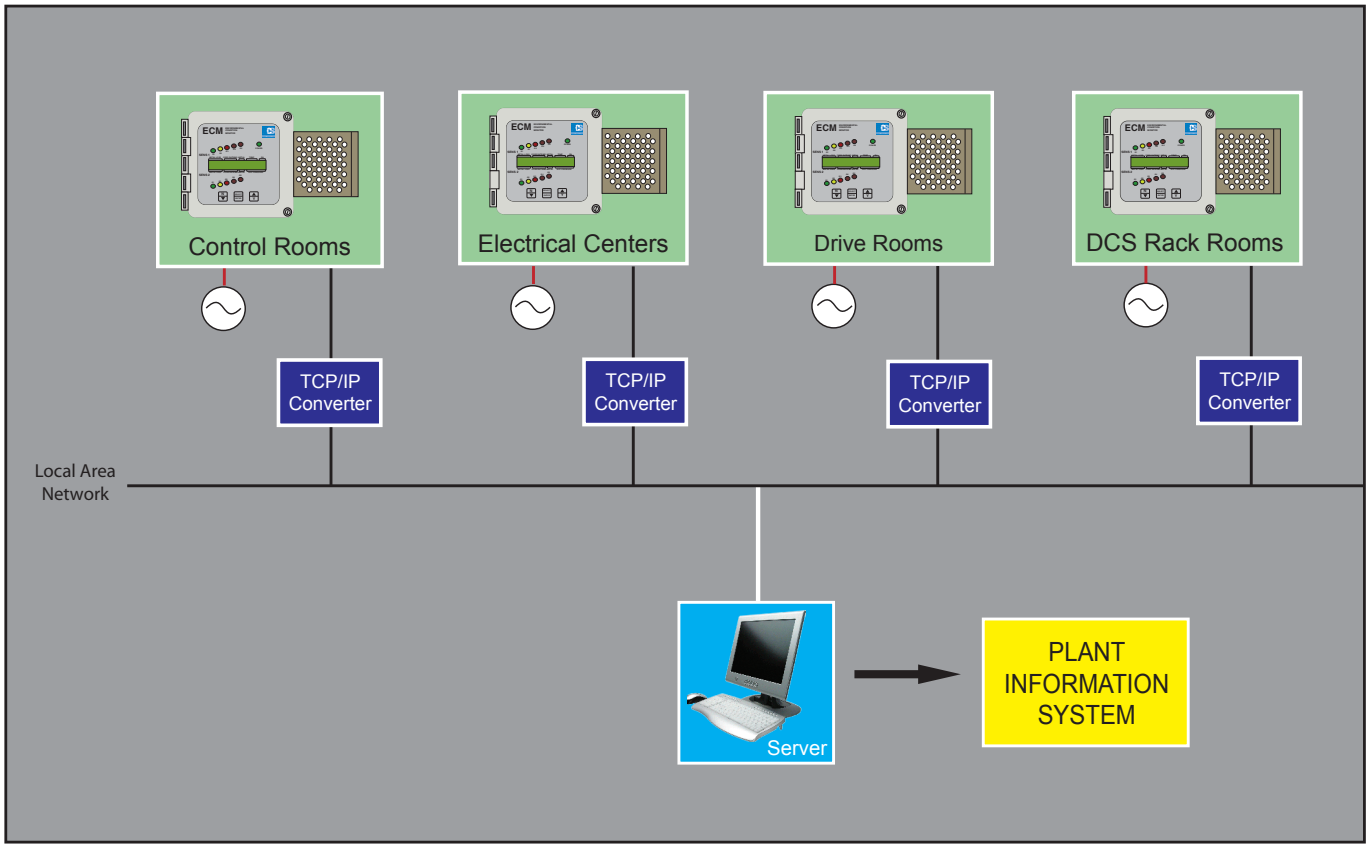


Critical plant locations are continuously monitored alerting the operator of any immediate changes in the environment.

## BENEFITS

- Reduces replacement air filter costs dramatically
- Enables immediate corrective response to environmental upsets
- Allows seamless integration into DCS or Plant Information System
- Provides nine different parameters in one instrument including, corrosion rate, metal loss, relative humidity, temperature, and differential pressure
- High sensitivity corrosion rate measurement provides immediate response to deterioration of the environment
- Corresponds to ISA classification of environments

## OTHER APPLICATIONS

While the ECM On-line System is particularly useful in the aggressive environments of Pulp & Paper Plants, it has application in many industries including museums, refineries, chemical plants, control rooms, or any application that requires a multi-parameter environmental monitoring system. Contact RCS for more details.

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