

# Cement Industry Solution

Pyroprocessing or Drying Application

Realize faster time-to-value benefits, lower life-cycle costs and a higher lifetime return on investment

## Benefits:

- Increase throughput up to 6%
- Decrease product variability up to 40%
- Reduce energy costs
- Improve product grade
- Reduce emissions
- Improve environmental compliance

## Process Solutions

Our solutions leverage 100+ years of Rockwell Automation innovation, experience and global support. Industry best practices are incorporated into every application, which is built upon a composite application framework that leverages a Service Oriented Architecture (SOA). This scalable solution, when combined with library-based content, offers personalization options that promote faster user adoption and time-to-value.



## The Challenges

Companies face increasingly competitive demands for quality products, while reducing input costs and reconciling operational demands with environmental impact and sustainability objectives. The need for increased flexibility to market demands introduces even greater levels of operational complexity.

From an economic perspective, pyroprocessing or drying to correct product specification at the lowest cost is required for competitive production. Since feed streams and processes are inherently variable in nature, a robust solution that deals with these disturbances effectively is necessary.

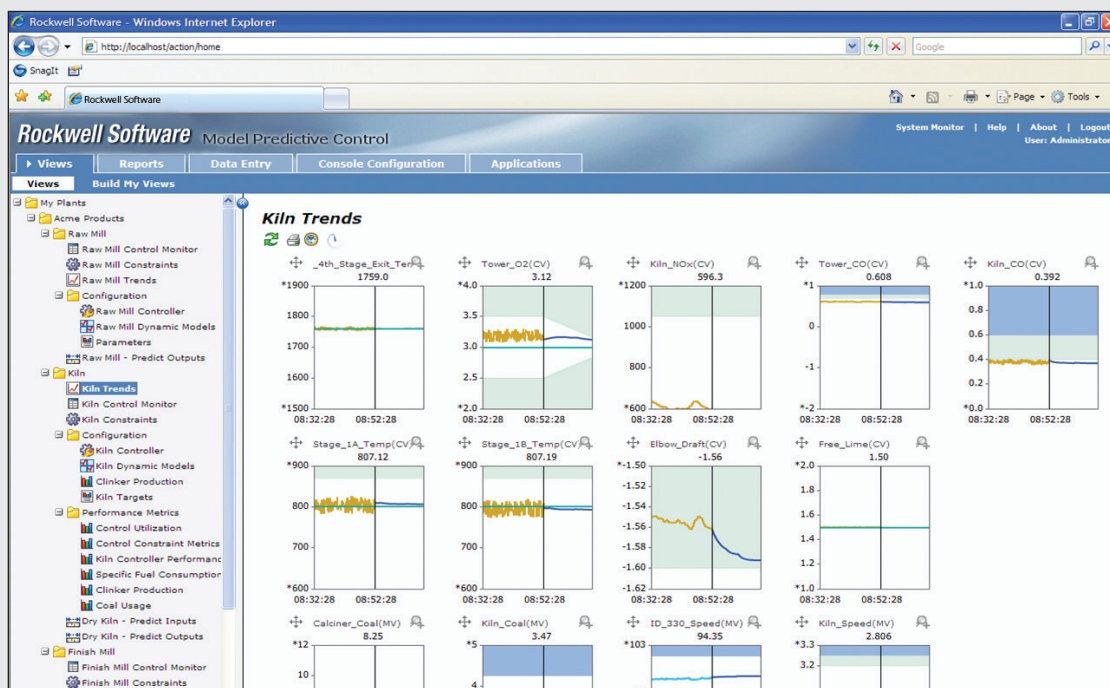
Rockwell Automation recognizes these challenges and offers an application focused on delivering valuable pyroprocessing or drying information to help companies improve market competitiveness and sustainability practices.



LISTEN.  
THINK.  
SOLVE.

**PlantPAx**  
Process Automation System

**Rockwell**  
**Automation**



Provides real-time control and optimization of the process to improve efficiencies and reduce costs

## Pyroprocessing or Drying Application

This Rockwell Automation Model Predictive Control (MPC) Application provides control and optimization of the pyroprocessing or drying processes through patented, industry-leading technology.

### Monitor and Control

Monitoring and controlling production can significantly reduce process variability, increase overall production rate, and reduce material losses as well as energy costs per ton of final product. Furthermore, real-time visibility of production and energy metrics compared to a baseline promotes a performance-driven culture.

Using library-based content, this application can be easily configured to meet individual and specific operational objectives. This application predicts and controls multiple process parameters in real-time. It acts at a very high frequency for efficient and accurate calculation of controller setpoints and predicts internal process and quality parameters. Control actions are continually updated based on actual process values, while plant constraints are taken into account to meet throughput and energy objectives.

Additionally, incoming feed rate is increased and energy usage is reduced. Product quality and consistency is controlled, taking throughput and process condition into account. Process stability is achieved through constraint variables to prevent overloading. Product quality prediction is used to improve feedback to the control application and boost overall production performance.

### Energy Usage

Real-time performance management is part of this solution. It promotes consistent process evaluation and predictive decision support, reducing the time to corrective and predictive actions. Reducing energy usage lowers direct energy cost components and greenhouse gas emissions.

### Optimization

The Pyroprocessing or Drying Application provides improved control performance by minimizing disturbance effects from process variations and assists in achieving real-time optimization.

[www.rockwellautomation.com](http://www.rockwellautomation.com)

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