Optimize^{IT} Expert Optimizer
Highest Performance Levels in Lime Kiln Optimization
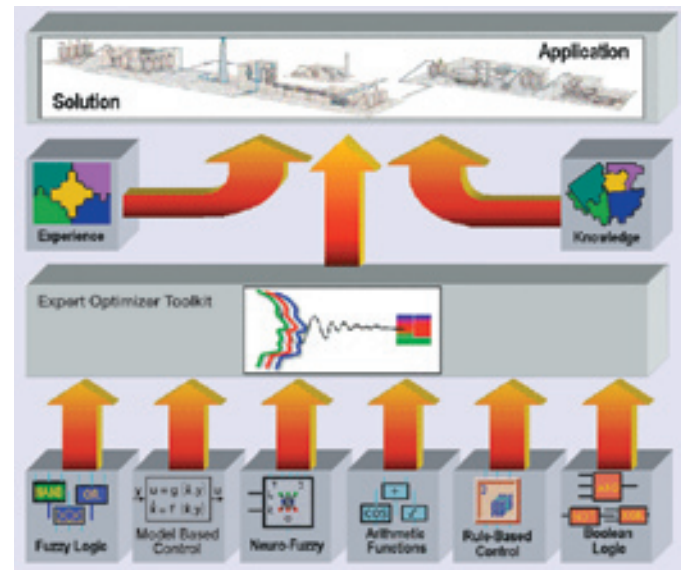
What is Optimize^{IT} Expert Optimizer?

Optimize^{IT} Expert Optimizer is a thin client-based graphical engineering and programming environment, which is used to control and optimize the lime production process via an optimal combination of proven advanced control techniques and extensive process knowledge. Optimize^{IT} Expert Optimizer substantially increases the operational performance by reducing the fuel consumption, producing softer burned lime and enabling more stable reactivity and stable residual CO_2 (LOI).

Tangible benefits
- Increased production (3%–5%)
- Energy savings (3%–5%)
- Lower product quality variability (reduced to 0.5%)
- Reduced refractory consumption (10%–20%)
- Lower emission levels (3%–5%)

Qualitative benefits
- Operational discipline
- Environmental compliance

How do we do it?
Optimize^{IT} Expert Optimizer does frequent but small adjustments as opposed to large and infrequent ones. It seeks continuous process optimization, reducing variance and improving overall plant performance.

Control strategy summary
- Process targets: Burning zone temperature, Residual CO_2 (LOI), Back end temperature, Calciner exit O2, Cooler Level and Temperature
- Control variables: Feed, Fuel, Fan, Speed Cooler feeders

Controlling more than 260 processes worldwide, Expert Optimizer systems save our customers more than $100 million/per year

What can you expect from Optimize^{IT} Expert Optimizer?

Economic gain

Optimize^{IT} Expert Optimizer leverages the economic performance of process: you can expect production increases, lower energy consumption and reduced refractory costs. By serving as a process knowledge reservoir, Expert Optimizer ensures that the plant operating procedures become traceable and endurable.

Compliance

Optimize^{IT} Expert Optimizer helps enterprises reach environmental, production and quality goals by defining, enforcing and storing the operating procedures defined by management, and by enforcing the profitability, technological and environmental goals. Substantially lower COx, SOx, NOx and dust emissions will be the result of allowing Expert Optimizer control over your lime plant.

Top quality at peak rates

Optimize^{IT} Expert Optimizer applies the best possible control strategy at all times, consistently delivering quality targets at the maximum production rate. You can expect consistent levels of reactivity and LOI with standard deviations of less that 0.5%.
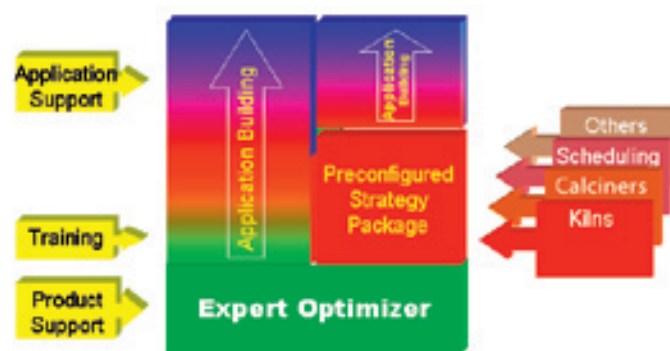
Higher employee productivity

Optimize^{IT} Expert Optimizer removes and avoids tedious but necessary activities for operators and production managers. It gives them back the time for other important tasks like maintenance or quality assessments.

Gear-up with experience and advanced process control

Optimize^{IT} Expert Optimizer mixes advanced process control techniques with extensive process know-how and experience. As you read this material Expert Optimizer is controlling more than 260 processes worldwide. Our lime production strategies ensure that worldwide proven best practices are applied to your kiln and calciners.

Expert Optimizer Application Structure

How does Optimize^{IT} Expert Optimizer work?

The Toolkit provides a comprehensive variety of advanced control techniques for appropriate strategy development. Importantly, the control strategy is structured into stabilization, optimization and interrupt actions. The graphical engineering environment allows for fast strategy development and low implementation and maintenance costs.
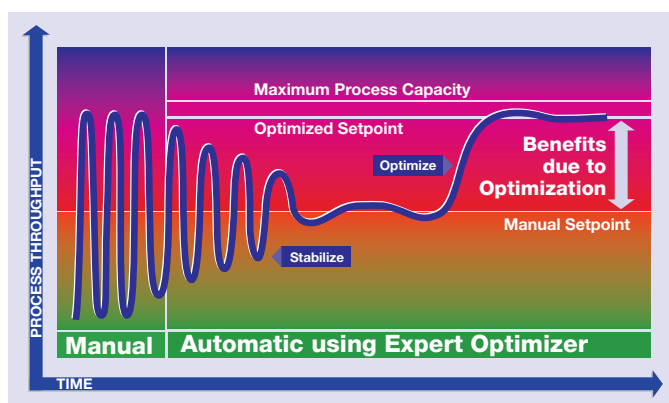
Stabilize then Optimize

Basic idea
- First, stabilize the process
- Then, optimize
- Now, supervise
- Repeat

Optimize^{IT} Expert Optimizer Toolkit

Expert Optimizer introduces a new era in systems for the optimization of process industries operations. Rather than "just" optimizing the process, Optimize^{IT} Expert Optimizer delivers a big picture view by providing complete thin client-based monitoring, diagnostics and guidance, and empowering not only operators, but also process engineers and plant managers to reach new performance levels.

In order to reach these goals Optimize^{IT} Expert Optimizer includes:

- Thin client technology
- Fuzzy and Boolean logic
- Neural networks
- Model based control
- Pre-configured control strategies
- Real-time explanations and displays
- Messaging software
- Graphical programming interface
- Drag and drop configuration