

OPTIMAX[®]

Improving operational and environmental performance

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The primary key to energy efficient operation of a process lies in the reduction of the cost of fuel and consumables. Industrial plants are huge energy consumers, and therefore small percentage savings can have a significant impact on their bottom line. The answer lies in the use of powerful diagnostic and optimization tools.

The tool kit developed by ABB includes such features as monitoring and predicting plant performance, issuing early warnings for equipment diagnosis, sensor validation and preventive maintenance.

Maximize operational performance

ABB's OPTIMAX[®] operations solutions are designed to serve utilities with complex generation portfolios that are seeking to minimize energy generation costs, be it electrical or a combination of electrical and other forms of energy. In addition, questions as to whether or not it makes sense to buy or sell power or fuel, start or stop a unit, save life-time, or postpone a preventive maintenance outage can be easily answered.

Minimize maintenance costs

In terms of variable costs, maintenance expenses are second only to fuel costs. The key to optimizing assets is often having information that is accurate, timely and actionable. The ability to act on reliable information is as essential as having access to the information in the first place. Decisions and actions taken have direct impact on operating performance, security of supply, equipment life time, power quality, and health and safety.

Work preparation and planned condition-based maintenance are increasingly important for reduction of downtime. The benefit of OPTIMAX[®] Computerized Maintenance Management Systems (CMMS) is to achieve and maintain a high level of availability, quality and safety of the plant. This applies to current plant operation but is particularly valid for inspection, overhaul and service activities. For industrial users this leads to a higher Return On Asset (ROA) which is a key driver of shareholder value.

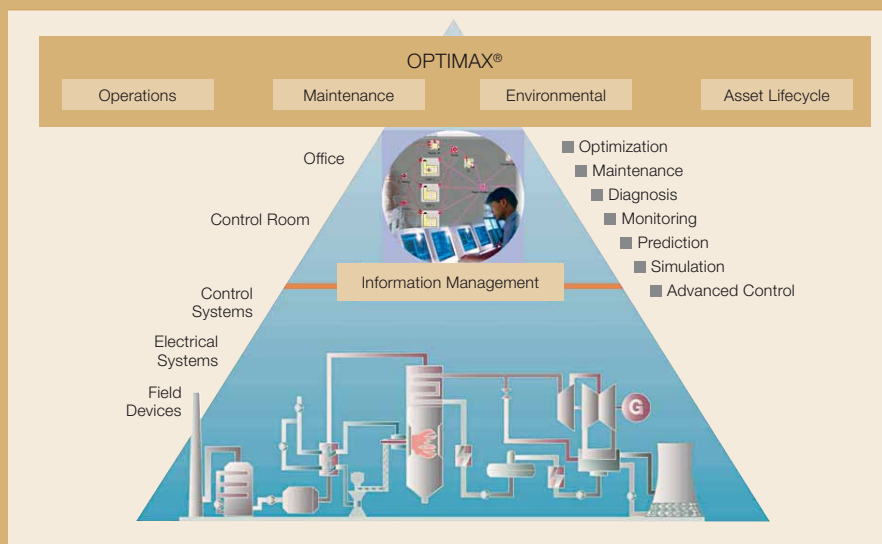
Reduce emissions and waste

The measurement and reduction of hazardous emissions is increasing in

importance and regulatory standards are getting stricter every day. Emission of greenhouse gases now has measurable economic value and operators have a real incentive to lower these emissions. The OPTIMAX[®] environmental solutions reduce emissions by monitoring flame quality, measuring coal flow and carbon in ash content, and providing Advanced Process Control (APC), which optimizes combustion, shortens boiler startup times and improves efficiency.

Extend the asset life cycle

From an economic perspective, plant managers seek to balance their investment in new assets against performance, risk and downtime. OPTIMAX[®] solutions for lifecycle optimization of assets are able to schedule the most economical operation of different generating units and trade-off income from sales against lifecycle costs. In addition, this approach is also capable of taking emission costs into account, ie more stringent CO₂ requirements may make plants that are still mechanically functional uneconomic to run. The advantage of these decision support tools is the ability to include plant ageing models to find the optimal operational strategy between maintenance outages, especially when operating under environmental constraints.



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