# STEAG Energy Services

Energy Management Systems and Operation Management Systems

The System Technologies division of STEAG Energy Services develops and supplies intelligent system technology for use at STEAG power plants and at external customers' sites.

The practical application of the systems supports the plant operator in the operation & maintenance management to decrease the operating costs and thus to enhance the customers' profitability.

STEAG Energy Services India
A-29, Sector 16
Noida 201 301, India
Phone   +91 120 4625-000
Fax   +91 120 4625-100
E-Mail   r.mishra@steag.in
            d.patra@steag.in

www.steag.in

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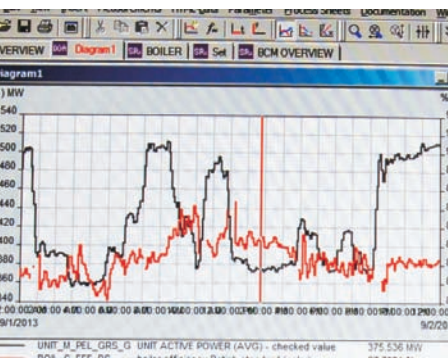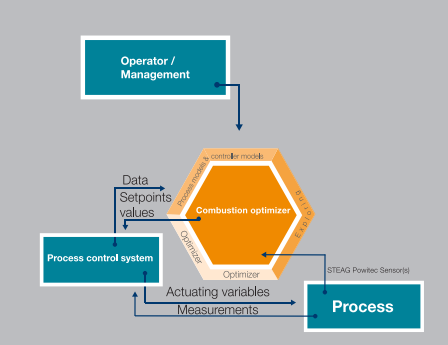
Energy Management with PADO Tools

Performance Analysis, Diagnostics and Optimization (PADO) is an online decision support system comprising of a set of software modules that continuously collect and validate live data from the plant process to monitor performance, detect and diagnose faults and optimize heat rate leading to improved efficiency and better availability. Modules include:

- Data Management with SR::x
- Data Validation with SR::v
- Soot Blowing Optimization with SR::BCM
- Lifetime Monitoring with SR1
- Fault Prediction with SR::SPC
- Fault Diagnosis with SR::FT
- Set Point Optimization with SR::SPO
- Process Quality Monitoring with SR::EPOS

Over 80 PADO systems have been ordered in India alone.

EBSILON®*Professional* – the planning tool for power plant process

EBSILON®*Professional* is a simulation system for thermo-dynamic cycle processes that is used for plant design and optimization. Some benefits:

- Intuitive Handling
- Open software architecture
- High computing speed
- Convergence reliability
- Individual support by our team of experts.

50+ EBSILON®*Professional* licences are in use in India.

Operation Management with SI®/PAM

SI®/PAM is a computerized maintenance management system for power plants and similar utilities.

- The benefits of SI®/PAM:
- Adjusts to customer requirements in a highly flexible way
- Can be applied in many industries
- Easy implementation
- Efficient and comfortable user guidance
- Fast and efficient data evaluation

Power Plant Simulators

At STEAG, High Fidelity simulators are developed using TRAX International LLC's ProTRAX Toolkit – a platform that has been used for 150+ Simulators worldwide. These Simulators provide real-world experience during normal operation as well as invaluable "what if" experience in abnormal situations.

STEAG's experience in India spans multiple plant sizes & technologies and a variety of DCS environments:
- 250 MW Hydro Power (TG-BHEL, DCS-ABB)
- 210 MW Coal fired (BTG-BHEL, DCS-ABB, Metso)
- 250 MW Coal fired (BTG-BHEL, DCS-ABB, Metso)
- 600 MW Coal fired (Boiler-Harbin, Turbine-Dong Fang, DCS-Invensys)
- 430 MW MW Combined Cycle (GT-Siemens, ST/HRSG-BHEL, DCS-Siemens)
- 500 MW Generic Coal fired
- 50 MW Generic Solar Thermal

STEAG Powitec – Experts in Combustion Optimization

STEAG Powitec's expertise covers Advanced Process Control solutions for fully automatic and self-learning, flexible and continuous process optimization in closed control loop configuration for power plants, waste incineration plants, cement & lime plants.

Intelligent data processing and field sensors have been developed by STEAG Powitec and are used for optimizing the combustion process.

The benefits of Combustion Optimization
- Increase in efficiency
- Decreases operating cost
- Decreases emissions
- Higher temperature homogeneity in the furnace
- Higher availability and service life of the plants
- Higher profitability of power plants
- Efficient and comfortable and user guidance
- Fast and efficient data evaluation