In a world where the focus on efficient and safe operation is stronger than ever, a well-designed and well-functioning alarm system is vital. The alarm system must draw the operator's attention to the most important points. This means, it should only trigger an alarm when conditions in the system require operator intervention. ABB as your alarm management partner can support you with a wide range of products and services that accompany your alarm system from the cradle to the grave and throughout the alarm management lifecycle. Safety and profitability are the cornerstones of sustainable management. It is important that the alarm management lifecycle has a clear alarm philosophy and identifies ways to reduce alarms.

**Alarm philosophy**
Due to server incidents attributed to flooding of alarms, “the EEMUA 191”, a quasi-standard was designed, and this developed later into an alarm management standard, the IEC62682, based on the ISA 18.2-2015 with the aim of implementing an alarm philosophy and decreasing the numbers of alarms to a necessary minimum.

**In compliance with industry standards and good practice we**
- improve safety and environmental performance
- enable more flexible and efficient plant operation
- increase production and equipment availability
- enable smoother start-up and shutdown
- improve operational human factors / reduce operator stress

**Risk of increased, non-important alarm volume**
In case of huge number of alarms, the alarms are acknowledged “blindly”, alarm screens largely ignored and alarm horns overruled

- Important information such as warnings, alarms and malfunctions are unnoticed and/or lost
- Overburdening of plant personnel
- Plant safety decreases
- Reduction in the quantity and quality of production
- Danger to humans, machines and environment decreases efficiency of production
The new ABB Ability™ Alarm Management improvement solution is based on audit trails aimed at understanding the current situation. The validation of online and offline alarms is to recognize the potential reductions using the latest possibilities for analysis.

**Aim of the improvement program:**

Reduction of the number of alarms to max. 1 alarm in 10 minutes per operator

Reduced stress on plant personnel

Faster reaction and error prevention through procedural instructions and personnel alerting

Increased system safety on the system e.g. through shorter information paths and filtered information

Recognition of faulty control allows the optimization of production processes

Maintenance of clarity in fault situations

Acceleration of analysis in case of unclear plant conditions

**Our improvement solution is based on the following features based on EEMUA 191**

Featuring integrated alarm analysis tools:

- Instantaneous reports
- Alarm / Event frequency
- Alarms over time
- Priority distribution
- Alarm duration
- Time to acknowledge
- Alarm performance
- Loops in manual operation actions
- Exceeding threshold
- Standing alarms

Interface providing all relevant data in a single view and management of change capabilities

Database to ensure secure handling of large datasets

Audit trail and undo functionality

Reporting and Import/Export
**ABB Ability™ Collaborative Operations Center**
Within the new ABB Collaborative Operations Center experts work together to analyze alarm data report possible changes and provide alarm reduction for our customers.

In addition to the analyzing tools based on EEMUA 191, the system specialist uses sophisticated system-independent, offline analyzing tools with the most up-to-date possibilities to detect potentially unnecessary alarms for further discussions with customers to in order to implement an optimized alarm solution, based on:
Customer specific improvement offers for tailor-made solutions:
Within the new ABB Collaborative Operations Center, experts worldwide work together to analyze alarm data, report possible changes and provide alarm reduction for our customers.

Customer specific plant assessments with operator and maintenance staff Q&A sessions

Implementation of online analyzing tools based on S+ Historian

System independent Collaborative Operations Center analyzing support with customer specific reports

Workshops for improvements (consulting)