BASF Reliability Center

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Segment Structure of BASF

**Chemicals**
- Petrochemicals
- Monomers
- Intermediates

**Performance Products**
- Dispersions & Pigments
- Care Chemicals
- Nutrition & Health
- Performance Chemicals

**Functional Materials & Solutions**
- Catalysts
- Construction Chemicals
- Coatings
- Performance Materials

**Agricultural Solutions**
- Crop Protection

**Oil & Gas**
- Oil & Gas
Objectives & Mission of the BASF Reliability Center

- Early recognition & prediction of failures
- Reduction of unplanned shutdowns & minimization of time to repair
- Recognition of bad operating conditions & assistance for improvement
- Optimization of equipment lifetime & maintenance strategy
- Improved detection quality compared to classical vibration analysis
- Expert availability, knowledge transfer and conservation
Services

- Consultancy and Scope finding
- Implementation
- Monitoring and Support
Monitoring Scope of BASF’s Reliability Center

- Combined cycle plant machinery
  - Gas turbines
  - Steam turbines
- Large scale compressors for a variety of gases
  - Steam and motor driven multi-stage turbo compressors
  - Piston compressors (different gases in same compressor)
- Pumps for a variety of fluids, pressure levels and volume flows
- Blowers
- Refrigeration units
- Other rotating equipment such as centrifuges, stirrers, etc.
Facts and Figures

2 Monitoring Centers

5 Different Condition Monitoring Systems

>10 Different types of equipments

17 Plants connected

65% Process Machinery

>10^4 Data sets
Architecture

Production

Process data

Machine data

PI System

Data Archive

Asset Framework

Asset Analytics

Event Frames

Notifications

PI Vision
Templates accelerate
Asset Framework

50,000 Analysis

10^4 Datapoints per second

AF

12,000 Elements
400 Templates

1,000 Events per week

11
Custom Symbols and Toolpane
Findings

- Early detection of bearing damages at pumps and compressors
- Imbalances due to incorrect alignment of pumps and motors
- Sensor degradation and sensor failures
- Bad operation modes of rotating equipment
- Early recognition of fouling and deposits
- Seal system failures
- Sticking valves
Speaker

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Questions?

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