



Presentation



Schedule



Workflows



Events



Alarms



Reports



Lab samples



Reference materials



Logout



ANALYSIS INFORMATION MODULE

AIM



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WHAT IS AIM?

- **AIM is a predictive maintenance tool to assist operators and reliability engineers to get insight into their measurement equipment.**
- **Centralizes information to reduce interfaces**
- **Centralizes logic to validate analytical equipment regardless of make and model.**
- **Provides dashboards and reports for KPIs**



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COMPONENTS

Ship 03 - Unit 01 - Analyzer shelter 01 | 02-Jul-2018 16:09

X1100 - ASaP - LNG Sampler Sampling Batch 78.3 % PT Sample 1.8 bara	X1101 - ASaP - LNG Phazer 1.1 LNG Temp -162.0 °C NG Temp 40.5 °C NG Pres 3.8 bara Duty Cycle 19.8 %	X1102 - ASaP - LNG Phazer 1.1 LNG Temp -162.1 °C NG Temp 40.4 °C NG Pres 3.8 bara Duty Cycle 19.9 %
30AT6230 - ABB - PGC5000 H ₂ S: 5 ppm Schedule: 16-Aug-2018 Calibration	30AT6240 - Ametek - 888NSL H ₂ S: 8 ppm Schedule: 27-Oct-2018 Calibration	30AT6250 - Emerson - 370XA H ₂ S: 36 ppm Schedule: 19-Sep-2018 Maintenance
He: 40 bar 580 psi - 2-Aug-2018 Refill N ₂ : 35 bar 507 psi - 1-Sep-2018 Refill	ASaP Service Tel: +31 (0)20 492 47 48 Fax: +31 (0)20 337 27 98 service@asap.nl	

Ship 03 - Unit 01 - Analyzer shelter 01 - Phazer 01 - X1101 | 07-Aug-2018 16:09

Tag no: X1101 Model no: ASaP Phazer 1.1 Serial no: P00094.10000461 Date in use: 03-Jul-2015	Chart
Events & alarms Common alarm 12:00 07-Aug-2018 Common alarm 11:56 02-Aug-2017 Common alarm 12:00 03-Jul-2016	Values LNG Temperature -162.0 °C NG Temperature 40.5 °C NG Pressure 3.8 bara Duty Cycle 19.8 %
Manuals ASaP Phazer 1.1 User manual.pdf ASaP Phazer 1.1 Installation manual.pdf	





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PREDICTIVE MAINTENANCE

■ Control Charts to acceptable reference values:

- Traceable standards
- Laboratory values
- Reference Measurements

■ Control Chart functions:

- Monitor accuracy and repeatability
- Monitor drift and offsets
- Prevent possible problems or unscheduled downtime
- Compare equipment for best practices





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PREDICTIVE MAINTENANCE (2)

Monitor variables to:

- **Monitor pressure of gas cylinders**
 - Calculate Consumption
 - Detect leaks or blockages
 - Predict depletion to schedule replacements
- **Monitor photometer (light) sources**
 - Predict replacement time based on reduction of intensity
- **Monitor differential pressures**
 - Filter contamination to predict when filter needs to be cleaned / replaced
- **Count**
 - Valve Switches to predict when replacement is due



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ARCHITECTURE

MAINTENANCE SHOP



OPERATOR DEVICE



CENTRAL REPORTING



KPI REPORTING

ANALYZER HOUSE



MODBUS TCP/IP

OPERATOR DEVICE



ANALOG/
DISCRETE



MODBUS
RTU

Considerations

- AIM Device located in central location on high-availability hardware
- Reduces cost per analyzer house but requires modern infrastructure
- Is non-critical in analyzer-DCS communication
- Uses Modbus TCP/IP with OTS (Off-the-Shelf) hardware to reach different protocols
- User interface through HTML5 (will also support Android, iOS etc...)
- Configuration over Ethernet



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REPORTING

- **Alarm Report**
- **State Machine Report**
- **I-Chart / QAL3 Report**



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OTHER FUNCTIONALITY

- **Scheduler**
 - Schedule tasks (such as validations) from a single platform
- **Document Store**
 - Documents (drawings, manuals, certificates etc.) can be stored for each device, have everything at hand from a single location!
- **Cylinder Management (Reference Materials)**
 - Management of certificates, composition, expiry dates for all validation materials.
- **User Management**
- **Time Synchronization**
- **Discovery of AIM Devices / Services**



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QUESTIONS?

