

# </SNAPSHOT>

# Base v1.6 (included with all Pillars)

Matrix Box Connection & Setup, Web Dashboards, Biannual Asset Review, and SISO Expert Support.

#### PILLAR I Performance v1.6

#### **Recent Performance**

- Overall performance of all units
- All units overlayed for quick comparison
- Past month data shown
- Slice data to focus on specific areas

## Monthly Unit Performance

- 3 month data shown for one unit
- Identify unit specific issues

## **Component Performance**

- Each major engine component is
   analyzed
- All units displayed together
- Flexible 6 month historical data\*

## **Performance Comparison**

- Data Comparison available for
- Engine Performance issues
- Run-to-Run changes
- Find problematic components
- Organize by engine condition/operating point

## **Performance Support**

- Investigate performance issues
- Troubleshooting and Recommendation
- Performance trends & reviews

# Recent Alarms

- Web dashboard with diagnostics
- Alarms sorted, counted, & filteredSISO Experts provide Alarm Action
- Plan

## Alarm Historian

- One stop for all units alarms
- Multiple filters can be applied
  Patterns identified using daily alarm data
- Unique vs Recurring Alarms

## Alarm Support

- Alarm investigation
- Troubleshooting and Recommendation
- Actionable solutions

## Unit Counter

- Used to monitor various
- components (pumps, fans, etc.)Ensures run time is balanced
- Identifies irregularities
- Produced vs Consumed

## **Regulator Monitor**

- Tracks operating condition of each unit /Fuel regulator control
- SISO Experts alerted and will assess if action is required by site personnel in real time

# PILLAR III Compliance v1.6

#### Component Partial & Full Cycle Monitoring

- SISO-developed system that calculates and monitors the Parts Cycle for LMS100 PA and LM6000 Engines
- Designed for reporting

## Cycle Monitoring

- Partial Cycles 10%, 50%, 75% load changes
- Full Cycles
- Trip Cycles
- Cycle Counters for individual components
- Hot/Warm/Cold Start counters

# Web Based Report

- Dashboard display of each
   asset's cycle counters
- Dashboard display of individual component cycles
- Historical data maintained\*

## Live Trending

- Offers remote visibility into KPIs
- Real-Time data stream to Matrix Box is ~5 sec.

#### Live Alarms

- Active alarms displayed on realtime online dashboards
- Units can be monitored as they run so action can be taken ASAP
- Alarm History for 30 days

## Trip & Call-Out Alerts

- Alerts sent via Text / Email when trips or alarms are triggered
   Available for up to 19 years
- Available for up to 10 users

## Trip Logs Auto-Pull

 Matrix pulls Trip Logs from control system equipment and stores in the Cloud

#### SUPPORTED SYSTEMS

- Mark VIe DDRs and Trip Logs
- Multilin 660\*
- Beckwith 3524A\*
- Woodward Micronet, Flex500

## **Custom Alerts**

- Alerts can be placed on any
   Analog or Boolean Variable
- Customer configuration

#### **Remote Access**

 A cyber-secure firewalled connection allows remote, realtime support

## pillar iv **Real-Time**

PILLAR II **R.A.M**.