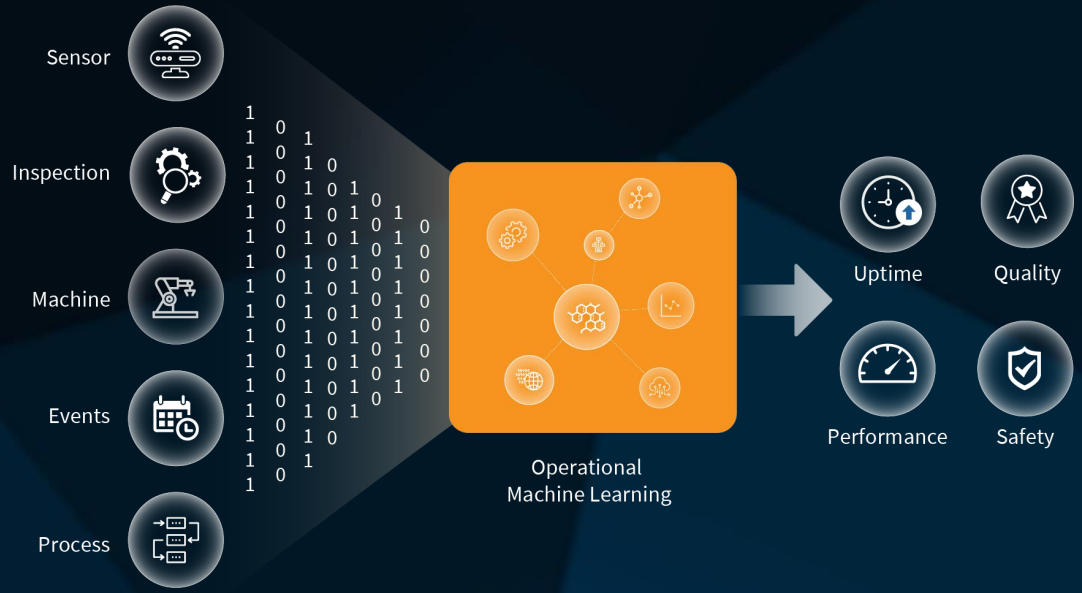
falkonry

Predictive Operations Use Cases

Benefit of Predictive Operations

Falkonry LRS enables operations teams to leverage underutilized operations data, and provide insights that significantly improve uptime, quality, performance, or safety.



20-50% reduction in maintenance planning time

15-25% increase in equipment uptime availability

10-15% improvement in product quality

Use Cases Across Industries

Oil & Gas Operations

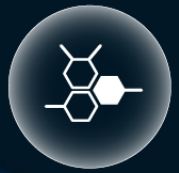
- Detect pre-shutdown patterns
- Early warning for off spec product

Mining & Metals Production

- Discover equipment downtime patterns
- Real-time production throughput adjustment

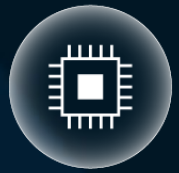
Power & Energy Operations

- Fault classification of power electronics
- Distributed asset monitoring



Chemical Manufacturing

- Real-time batch quality prediction
- Monitor equipment health



Semiconductor Manufacturing

- Predictive maintenance of equipment
- Optimize machine utilization

Automotive Manufacturing

- Detect deviations in discrete manufacturing
- Real-time quality estimation of welding

Downtime Reduction

Mining Operations

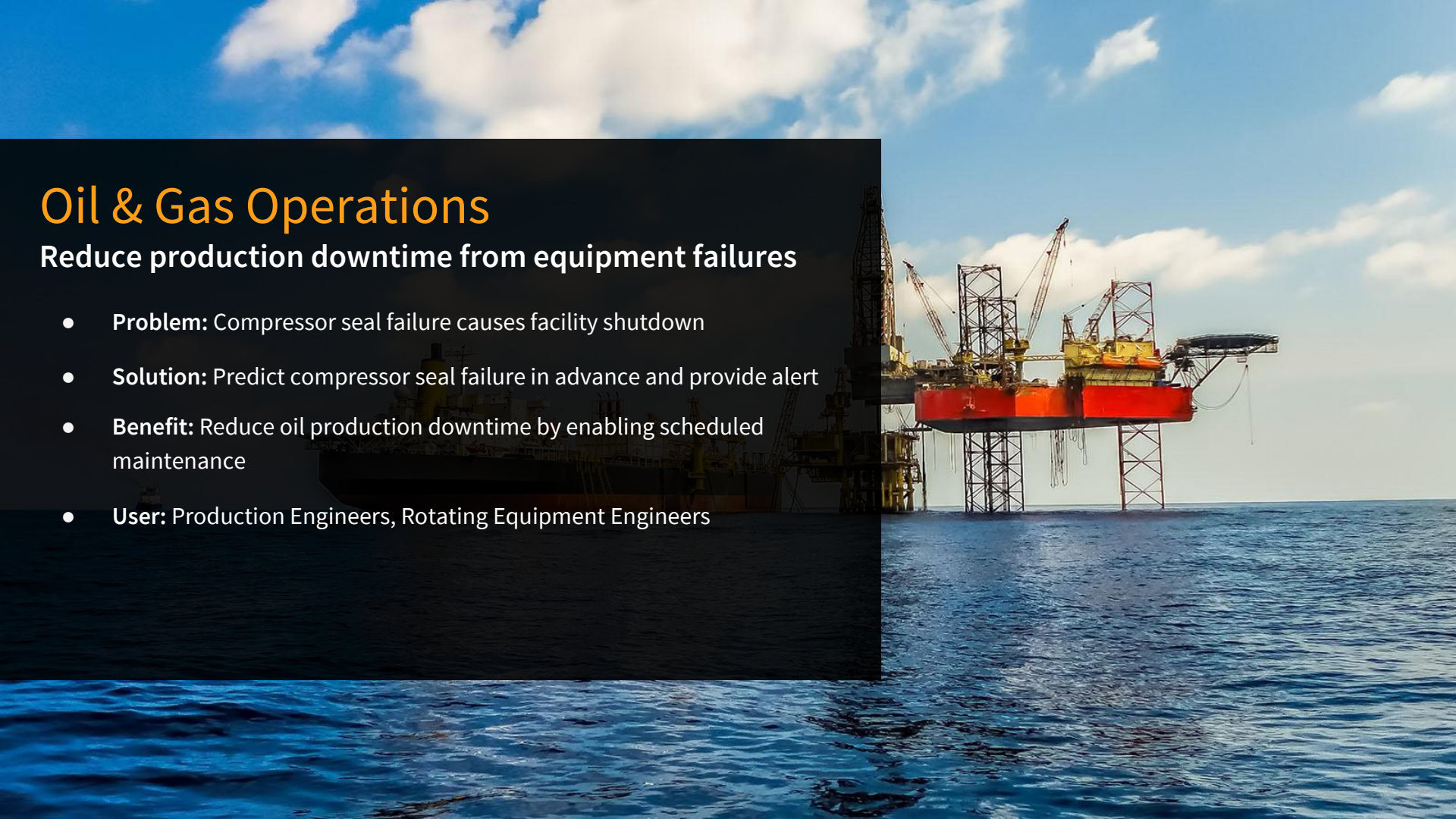
Prevent downtime by adjusting real-time production

- **Problem:** Raw material variations cause blockage in mill and work stoppage
- **Cost:** Up to $30,000 per hour of downtime
- **Solution:** Discover patterns in operational data associated with material variations and provide alert
- **Benefit:** Early warning allows suspect material to be removed to avoid downtime
- **User:** Plant Operations Engineers

Oil & Gas Refining

Reduce refining process shutdowns

- **Problem:** Weekly unplanned Crude unit shutdown occuring in refinery
- **Cost:** Over $750,000 in lost production and repairs per incident
- **Solution:** Detect pre-shutdown patterns in advance and provide early warning
- **Benefit:** Reduce refinery process shutdowns by enabling plant to take corrective action
- **User:** Refinery Process Engineers, Shift Supervisors



Oil & Gas Operations

Reduce production downtime from equipment failures

- **Problem:** Compressor seal failure causes facility shutdown
- **Solution:** Predict compressor seal failure in advance and provide alert
- **Benefit:** Reduce oil production downtime by enabling scheduled maintenance
- **User:** Production Engineers, Rotating Equipment Engineers

Quality Improvement

Automotive Manufacturing

Assess welding operation quality in real time

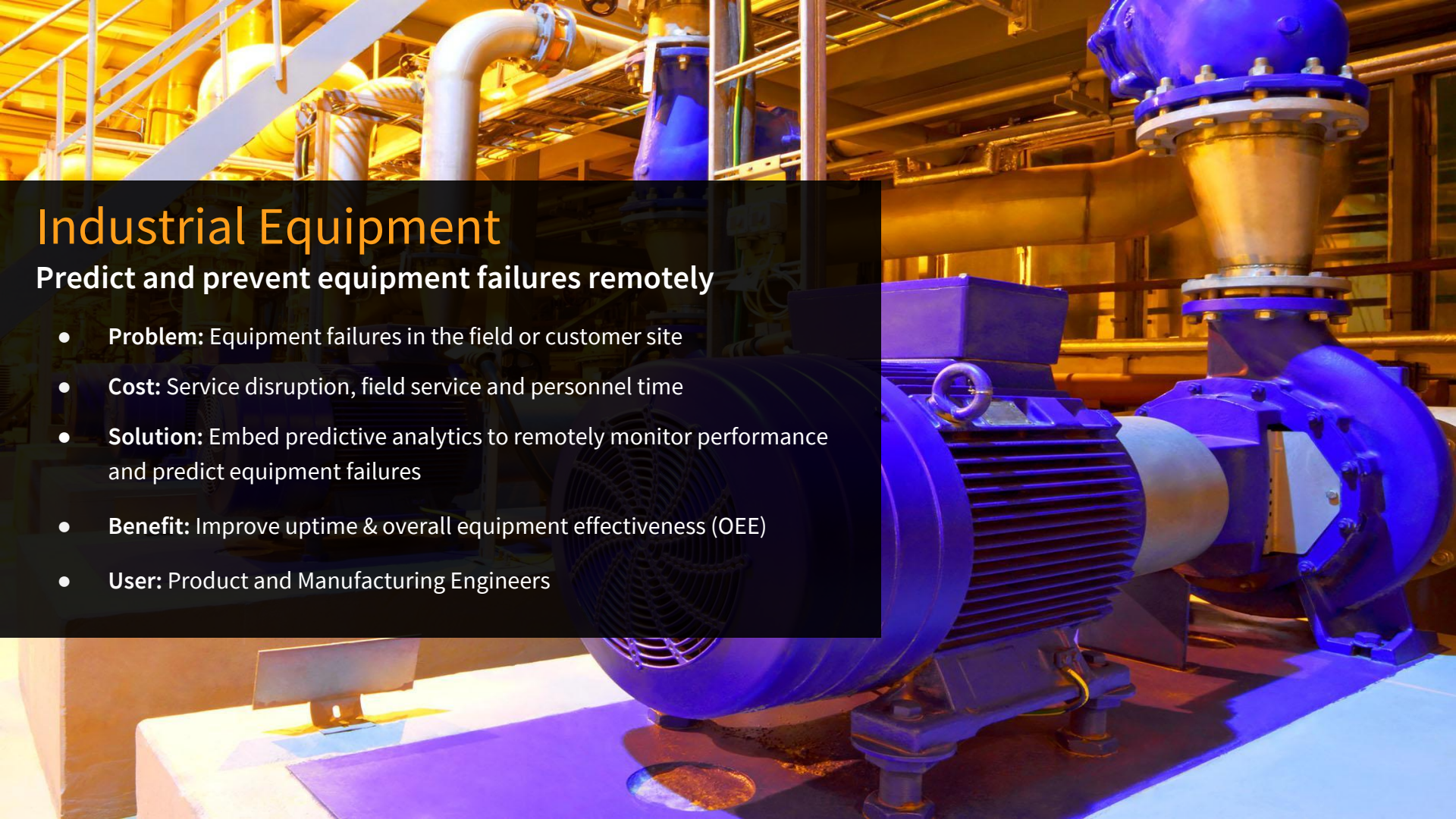
- **Problem:** Quality of machine welds varies over time resulting in expensive manual rework
- **Cost:** Over $14,000 per machine per day
- **Solution:** Discover patterns that precede quality variation in robotic welds and provide advanced alert
- **Benefit:** Reduce downstream rework and material losses
- **User:** Manufacturing Engineers

Chemical Manufacturing

Predict batch quality before final production

- **Problem:** Variability in quality and yield of batch production
- **Cost:** Material loss, production and disposal cost of low quality batches
- **Solution:** Discover patterns that predict final batch quality early in the manufacturing process
- **Benefit:** Avoid mixing low quality batches or scrap them early in the process
- **User:** Process Engineers, Process Control Engineers

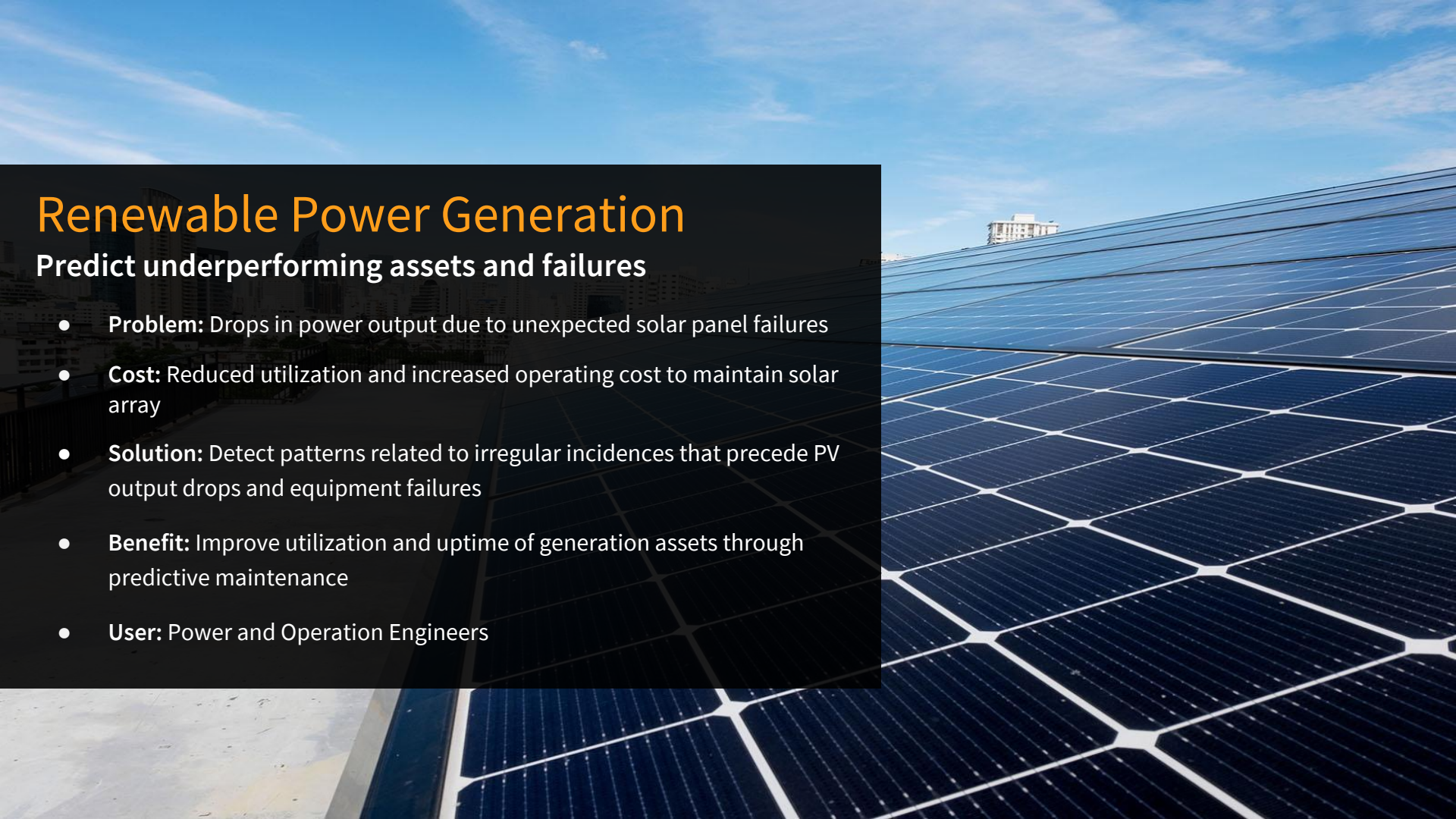
Predictive Maintenance



Industrial Equipment

Predict and prevent equipment failures remotely

- **Problem:** Equipment failures in the field or customer site
- **Cost:** Service disruption, field service and personnel time
- **Solution:** Embed predictive analytics to remotely monitor performance and predict equipment failures
- **Benefit:** Improve uptime & overall equipment effectiveness (OEE)
- **User:** Product and Manufacturing Engineers



Renewable Power Generation

Predict underperforming assets and failures

- **Problem:** Drops in power output due to unexpected solar panel failures
- **Cost:** Reduced utilization and increased operating cost to maintain solar array
- **Solution:** Detect patterns related to irregular incidences that precede PV output drops and equipment failures
- **Benefit:** Improve utilization and uptime of generation assets through predictive maintenance
- **User:** Power and Operation Engineers

Throughput Improvement

Metal Manufacturing

Improve production uptime and throughput

- **Problem:** Issues in continuous vertical casting process which affect throughput
- **Cost:** Over $90,000 per hour
- **Solution:** Discover patterns that predict issues at various points in process and provide advanced alert
- **Benefit:** Improved metal production throughput and uptime
- **User:** Manufacturing and Process Engineers

Semiconductor Manufacturing

Improve overall equipment effectiveness & utilization

- **Problem:** Utilization and yield from etching and deposition equipment was not optimized
- **Cost:** Over $90,000 per hour
- **Solution:** Discover patterns that predict issues at various points in process and provide advanced alert
- **Benefit:** Measurable improvements in production throughput & scrap reduction
- **User:** Process Engineers

Safety Improvement

Oil & Gas Production

Detect and prevent dangerous emissions during drilling operations

- **Problem:** Volatile organic compounds (VOC) and Carbon Dioxide released during oil & gas extraction
- **Cost:** Loss of production and regulatory fines per incident, in addition to potential reservoir damage
- **Solution:** Detect patterns that precede potential emissions and provide an advance alert
- **Benefit:** Identify and prevent operating conditions leading to increased emissions
- **User:** Production Engineers, Facilities Engineers

Process Operations

Detect and prevent dangerous pressure conditions

- **Problem:** Dangerous pressure conditions arise resulting in leakage or process shutdown
- **Cost:** Loss of production, expensive repair and process disruption
- **Solution:** Detect patterns that precede build up of pressure conditions and provide an advance alert
- **Benefit:** Early warning for worker safety and prevent unsafe operating conditions
- **User:** Plant Operation and Process Engineers

About Falkonry

Falkonry is the leading provider of predictive operations for companies who are looking to achieve significant improvements in uptime, quality, performance and safety.

Falkonry's ready-to-use machine learning system, Falkonry LRS, enables operations teams to discover, predict and explain operational behaviors in real time , without requiring data scientists.

Falkonry LRS is used in many industries and can be deployed both on-premises or in the cloud.

Visit Falkonry.com to learn more and request a demo.