



REDRAVEN™



Predict.
Act.
Protect.

REDRAVEN IoT SOLUTIONS

Commercial Playbook

[Get started](#)





REDRAVEN™

Predict. Act. Protect.

Why RedRaven?

In mythology, the raven represents prophecy and insight, a messenger collecting and bringing wisdom, knowledge and clarity — equipped with knowledge to guard and protect — and the power to see beyond. With plumage of Flowserve's trademark color, RedRaven is the symbol of Flowserve's suite of industrial Internet of Things (IoT) products, software and services.

Deriving its power from Flowserve's engineering expertise in fluid motion and control, its advances in analytics, diagnostic and predictive capabilities, and the limitless connections and speed of the IoT, RedRaven is a transformative technology. With RedRaven, you'll have clear insights to improve your plant's efficiency, productivity and reliability.

[WATCH INTRODUCTION VIDEO](#)

[CONTINUE](#)



REDRAVEN IoT SOLUTIONS COMMERCIAL PLAYBOOK

**Everything RedRaven,
all in one place**

The RedRaven Commercial Playbook summarizes all Flowserve collateral related to RedRaven. It is designed to provide easy access to all collateral that have been developed as part of the RedRaven launch.

REDRAVEN COLLATERAL MENU



REDRAVEN COLLATERAL MENU

Brochures, white papers, and other materials that explain RedRaven products and services



VIDEOS

SUCCESS STORIES

DATA SHEETS

INDUSTRY INSIGHTS

BROCHURES

EDITORIAL COVERAGE

FLYERS

CUSTOMER PRESENTATIONS

WHITE PAPERS

INFOGRAPHICS



VIDEOS

Visual representation of RedRaven solutions

Access links

[LORA TECHNOLOGY ANIMATION](#)

[REDRAVEN TEASER VIDEO](#)

[REDRAVEN OVERVIEW VIDEO](#)

[REDRAVEN VALVE SOLUTIONS VIDEO](#)

[REDRAVEN SEAL SOLUTIONS VIDEO](#)

[REDRAVEN INSIGHT PORTAL DEMO VIDEO](#)





DATA SHEETS

Technical specifications sheets, each containing a detailed technical description of RedRaven components

Access links

Condition Monitoring

[NODE ER LoRaWAN WIRELESS SENSOR](#)

Predictive Analytics

[DETECT SENSOR](#)

[DATA TRANSFER BOX](#)





BROCHURES

Show a high-level overview for individual solutions or an entire portfolio of monitoring solutions

Access links

RedRaven IoT Overview

[English](#)[French](#)[German](#)[Italian](#)[Japanese](#)[Korean](#)[Spanish](#)[Thai](#)

RedRaven Valve Brochure

[English](#)[French](#)[German](#)[Italian](#)[Spanish](#)[Thai](#)

RedRaven Seal Brochure

[English](#)

RedRaven Data Security and Privacy

[English](#)

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FLYERS

Show a high-level overview for individual solutions or an entire portfolio of monitoring solutions

Access links

LoRaWAN Monitoring System

[English](#)[French](#)[German](#)[Italian](#)[Spanish](#)[Thai](#)

Predictive Analytics

[English](#)[French](#)[German](#)[Italian](#)[Japanese](#)[Korean](#)[Spanish](#)[Thai](#)

Flowserve Monitoring Center

[English](#)[French](#)[German](#)[Italian](#)[Japanese](#)[Korean](#)[Portuguese](#)[Spanish](#)[Thai](#)

Cloud Power

[English](#)

WHITE PAPERS

Thought leadership, technical write-ups on IoT solutions and related topics; useful in understanding IoT-related applications, solving problems, or making decisions

Access links

[THREE STEPS TO UNLOCKING THE BENEFITS OF MONITORING ROTATING EQUIPMENT](#)

[EVOLVING INSTRUMENTATION AND MONITORING MAKE IIoT MORE VIABLE](#)

[GAINING VISIBILITY INTO ASSET PERFORMANCE](#)

[WHAT IIoT AND PREDICTIVE ANALYTICS MEAN FOR THE FLUID MOTION INDUSTRY](#)



SUCCESS STORIES

Case studies showing how Flowserve solved a critical customer challenge using RedRaven technology and services

Access links

REDRAVEN RESOLVES MISSION-CRITICAL WATER SUPPLY CHALLENGES

REDRAVEN DIAGNOSTICS ENABLE STREAMLINED POWER SUPPLY IN THE UK

REDRAVEN CONDITION MONITORING SOLUTION SAVES REFINERY FROM \$40 MILLION PRODUCTION LOSS

REDRAVEN PREDICTIVE MAINTENANCE SAVES UK UTILITY PROVIDER TIME AND MONEY



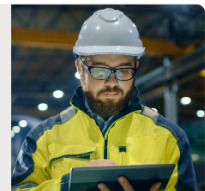
SUCCESS STORY



RedRaven Resolves Mission-critical Water Supply Challenges

Challenge
A municipal water supplier was facing substantial revenue loss and expensive daily failure to supply fines, as outages resulted in regional potable water shortages.

Solution
Mazur Electromechanical Co. (MEMCO), an engineering consulting company, recommended Flowserve's RedRaven predictive analytics. This solution resulted in reduced costs, streamlined maintenance protocols, and increased operational resilience for the water supplier.



The importance of data security
Before agreeing to kick off a pilot program the water pipeline cited data security as a key concern. It could not risk compromising access to its data or mission-critical operations. RedRaven sends pump data on a parallel path from local pump station IT systems to the secure cloud. This means the data is independent, does not interface or connect to the water utility's local IT systems. As they understood the system did not introduce new IT security risks, the water operator decided to move forward with the pilot program.

The consultant developed a pilot plan with Flowserve to install RedRaven sensors on 17 pumps. In addition to pump vibration, RedRaven would also monitor water temperature, pressure, and flow. Flowserve technical specialists explained that monitoring the fuller set of data would yield more accurate insights.



RedRaven Streamlin

Challenge
To maintain high sta supply of power an looking for a way to processes and lev analytics capabili

Solution
SSE explored clou options with predic performance and t wirelessly monitors time upst conditio predicts when putn with RedRaven.

Empowering i prevent unne
The Utilities business i energy to local indust manufacturing plants; supply, and any dissp loss and expensive fi protocols include cost levels. Too often, such condition and perform that SSE consider Red platform, enabling the motor equipment are RedRaven's wireless i capabilities," said Guy Instrumentation Engineer for SSE. "After they explained how the system securely transmits performance data and the various service levels with experienced technical data tend reviews, we decided to deploy a trial demo kit."

Un sustainably high costs of doing business
A public water provider in the Middle East was relying on conventional site-based monitoring with vibration alarms from predetermined trip values. Without any root cause analysis or indicators, maintenance teams had to respond to alarms by visiting stations, often dismantling pumps for manual diagnosis. This was excessively time consuming and costly, because these locations were too spread out across the region; furthermore, it increased risk of pump outages. The pipeline was faced with substantial revenue loss and expensive daily failure to supply fines, as outages resulted in possible water shortages to the region.

At this point MEMCO recommended the operator implement a pilot program with Flowserve's predictive analytics Internet of Things (IoT) solution, RedRaven. "As a commissioning company, we understand industrial IoT very well," said Adrian Nabulis, Managing Partner at MEMCO. "RedRaven is the best solution, as it confirms and helps improve pump stability, from construction through commissioning. During operation, RedRaven helps our customers streamline pump maintenance protocols and avoid unexpected shutdowns."



RedRaven Refiner

Challenge
A petroleum refin region was expi outdated conditi potential product they needed a la moment its large a problem.

Solution
To date, RedRave serious failures i tens of millions i solutions, backe and predictive a

Timely alert
A petroleum refine Asia installed a lag hydrocracking unit had some major di aggregated data it downloaded the di process measuring receive timely alert experience a probit would be at risk of production losses i Though RedRaven to help the refinery versions of the sun uses today, including:

- Equipment based monitoring sensors
- Intelligent pumping algorithms that predict equipment performance
- Customized online portal for fast and easy access to performance data

Some years later, the refinery upgraded to Flowserve's newly launched RedRaven IoT platform, and the system detected a temperature spike that reached above 100°C (212°F) in the same pump. The system alerted both the refinery and



INDUSTRY INSIGHTS

RedRaven, in the context of industries and specific applications

Access links

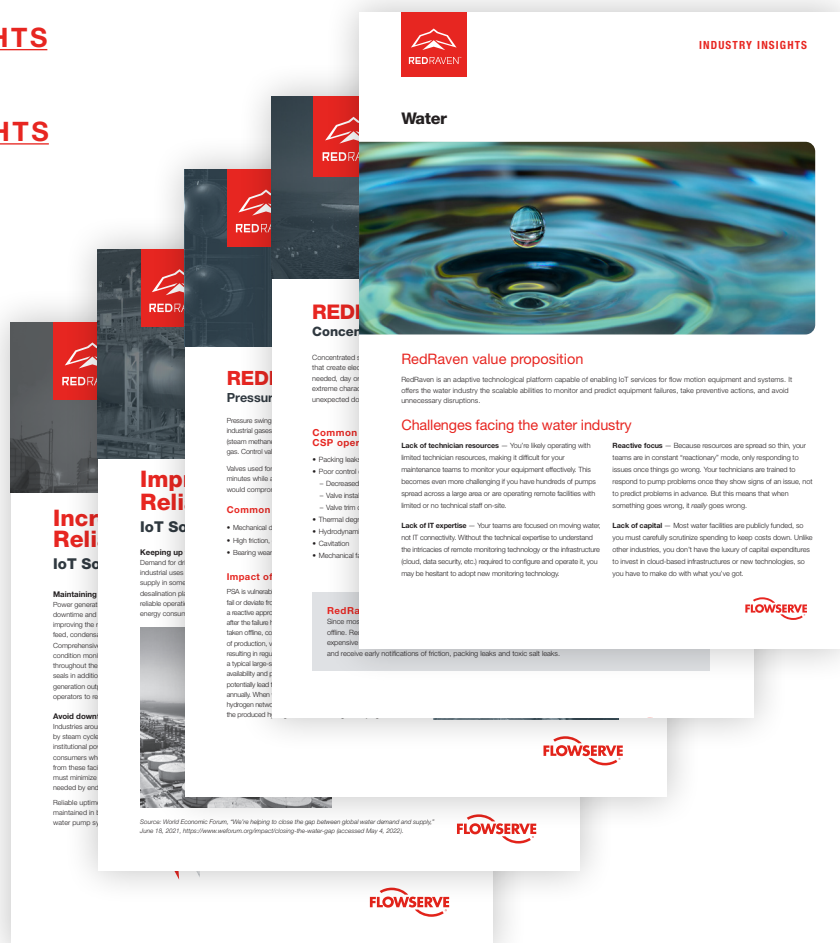
[PSA VALVES APPLICATION INSIGHTS](#)

[CSP VALVES APPLICATION INSIGHTS](#)

[WATER INDUSTRY INSIGHTS](#)

[DESALINATION SEALS
INDUSTRY INSIGHTS](#)

[POWER STEAM CYCLE SEALS
INDUSTRY INSIGHTS](#)





EDITORIAL COVERAGE

Thought leadership IoT articles published in editorials and publications

Access links

[FIT WIRELESS TECH TO YOUR NEEDS](#)

[AS THE OIL AND GAS INDUSTRY STRENGTHENS, NEW CHALLENGES EMERGE](#)

[3 STEPS TO BUILDING A COMPLETE ANALYTICS SOLUTION](#)

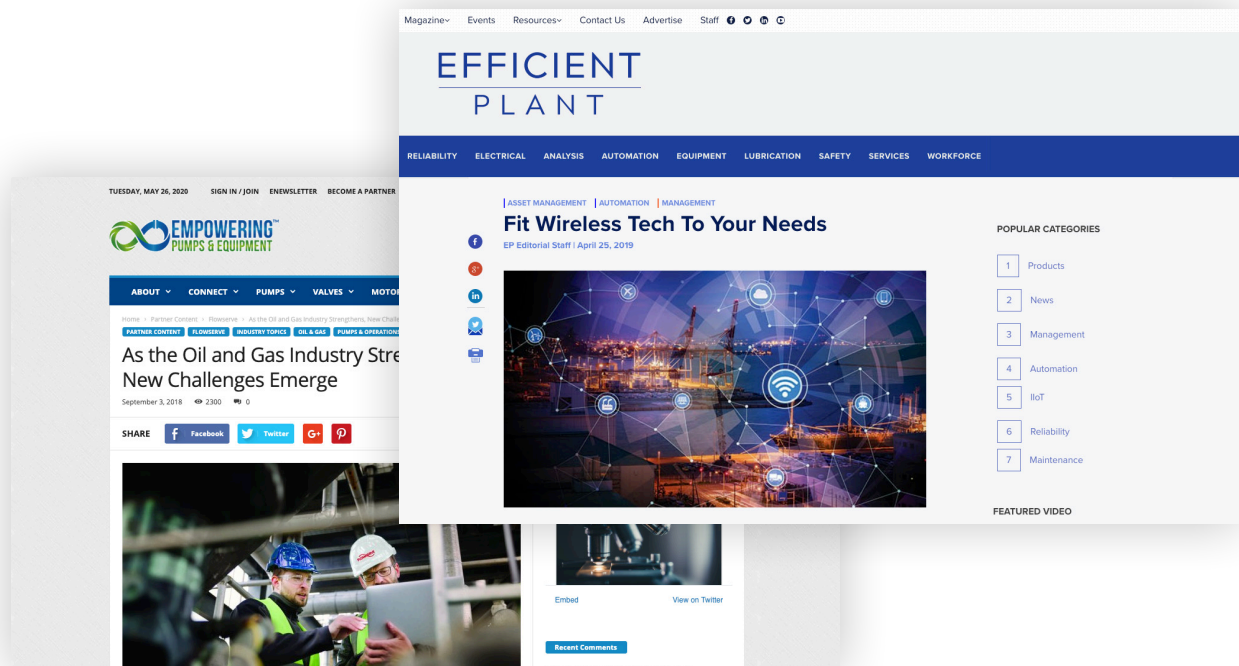
[LONG RANGE NETWORKS CAN ENHANCE REMOTE MONITORING
OF FLUID CONTROL EQUIPMENT](#)

[UNLOCKING THE FULL BENEFITS OF IOT TECHNOLOGY](#)

[REDRAVEN COLLECTS WISDOM, KNOWLEDGE & CLARITY](#)

[OPERATING WITH DIGITAL PREDICTIVE TECHNOLOGY TO](#)

[ADVANCE THE WATER INDUSTRY](#)



CUSTOMER PRESENTATIONS

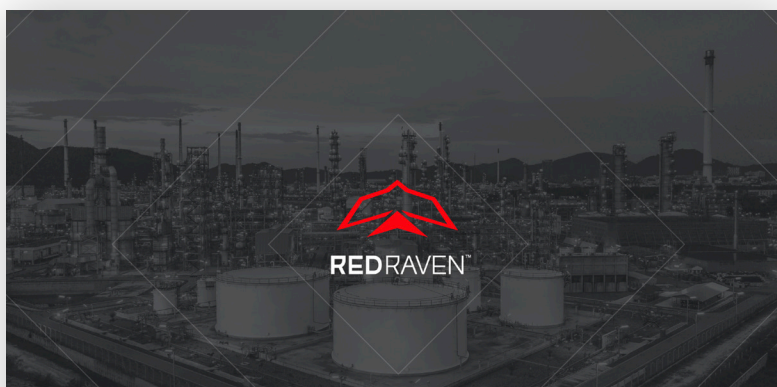
Detailed information on product offerings,
value propositions and key insights

Access link

[REDRAVEN PUMPS SOLUTIONS CUSTOMER PRESENTATION](#)

[REDRAVEN VALVES SOLUTIONS CUSTOMER PRESENTATION](#)

[REDRAVEN SEALS SOLUTIONS CUSTOMER PRESENTATION](#)



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INFOGRAPHICS

Key insights on individual solutions; these provide an overview of each monitoring solution

Access links

[THE TWO SIDES OF PREDICTIVE ANALYTICS](#)

[EQUIPMENT HEALTH INSIGHT](#)

