

# CORROSION MANAGEMENT SERVICES AND SOLUTIONS

MOVE BEYOND DAMAGE RESOLUTION  
TO DIGITALLY-ENABLED PROACTIVE  
INSPECTIONS AND PREDICTIVE  
CORROSION MANAGEMENT



# OVERVIEW

Costly inspection management programs have long been an unavoidable necessity for companies in asset-intensive industries. They rely on highly-skilled, technical personnel to physically inspect pipe and machinery for signs of wear and tear using invasive and potentially dangerous techniques that themselves could damage essential infrastructure. The need for inspection under insulation, scaffolding and use of radiation raises the health and safety risk and increases cost – and could still miss early signs of corrosion.

## CHALLENGES

Asset intensive companies face many challenges when it comes to achieving comprehensive, effective and efficient corrosion management programs. Even the most advanced and non-invasive inspection techniques can be challenging and costly, leading to safety risk, infrastructure damage and unplanned downtime.

### CHALLENGES INCLUDE:

- **Time consuming and costly inspection techniques:**  
Removing insulation and taking assets offline is time consuming and costly, requiring significant downtime and/or equipment isolation. Additionally, cutting plugs (a common method of inspection under insulation) introduces potential moisture penetration and can cause further corrosion.
- **Uncertainty of zones at risk:**  
Most inspection management programs are based on a priority list of perceived risks based on known design parameters and observable equipment conditions, resulting in sites being over inspected and signs of corrosion being missed elsewhere.
- **Unnecessarily large scope and frequency of inspection:**  
Large areas of insulation may be removed and vessels taken offline unnecessarily, simply because supporting data is unavailable.
- **Safety hazards:**  
To perform inspections, workers need to work in hazardous areas and often from heights using scaffolding, increasing the risk for safety incidents. Other types of inspections require the use of radiation, an additional risk.

## POTENTIAL CONSEQUENCES

From oil and gas refineries to chemical plants to water and wastewater networks, ineffective corrosion and asset integrity management can have major consequences on core operations, including:

- Leaks, equipment failures and unplanned downtime
- Corrosion at unexpected locations
- Poor asset integrity performance
- Environmental, health and safety (EH&S) incidents
- Increased inspection costs
- Reputational risk

# IMAGINE THAT YOU CAN IDENTIFY AND CORRECT CORROSION BEFORE IT BECOMES A PROBLEM – WHILE DECREASING THE COST OF INSPECTIONS.

Accenture's digitally-enabled corrosion management services and solutions allow companies to do just that – achieve a radical step-change in the operations and maintenance of their production assets. Using the latest digital technologies such as connected devices, smart sensors, advanced data analytics and data visualization tools, Accenture is helping companies create superior risk-based inspection programs and inhibitor strategies that take the guess work out of corrosion management.

## KEY BENEFITS

Accenture's digitally-enabled corrosion management services and solutions help companies transform their operations, moving beyond siloed maintenance and inspection activities to achieve optimum asset value through: increased certainty of zones/lines at risk; reduced scope and frequency of inspections; reduced cost and asset downtime due to inspections; increased asset life; and improved worker safety. Ultimately, these improvements results in:

- **10 to 20 percent reductions** in inspection costs
- **More than 10 percent increase** in uptime and productivity
- Improved asset integrity, increasing asset life by **more than 20 percent**

## OUR SOLUTION

Accenture's digitally-enabled corrosion management services and solutions helps chemical, oil and gas, mining, metals and utilities companies harvest data in revolutionary ways that enable actionable insights. Our services and solutions cover the entire inspection lifecycle, including:

### Enhanced visibility and system integration:

- Risk-based inspection methodology
- Pipeline integrity management systems (PIMS)
- Asset Integrity Division Readiness
- System and Data Integration, enabled by Accenture's Data Analysis and Processing Tool (ADAPT)

### Advanced analytics:

- Image and Video Analytics to detect surface defects and signs of corrosion

- Advanced analytics and deep learning using maintenance, design, operations, environmental and historical data

### Intelligent automation:

- Real-time, interactive equipment monitoring by combining 3D modelling with Accenture's Active Network Model for Corrosion Management
- Pipeline Inspection using robotic crawlers and drones
- Digital inspection technologies, including nanotechnology, ultrasound, laser spectrometry and optical non-destructive testing



## Maintenance, Reliability and Integrity

Video, 3d modelling and advanced data analytics combined with Accenture's proprietary corrosion management tools help companies transform their core operations.

# READY TO TRANSFORM YOUR OPERATIONS?

Learn more at  
[www.accenture.com/corrosionmanagement](http://www.accenture.com/corrosionmanagement).

## MEET THE TEAM

### **Audrey Bergeron**

Corrosion Management Lead APAC  
(Asia-Pacific)  
[audrey.bergeron@accenture.com](mailto:audrey.bergeron@accenture.com)

### **Elena Mariotti**

Corrosion Management Lead EALA  
(Europe, MiddleEast, Africa, Latin America)  
[elena.mariotti@accenture.com](mailto:elena.mariotti@accenture.com)

### **Michael Poland**

Asset Performance Management Lead NA  
(North America)  
[michael.e.poland@accenture.com](mailto:michael.e.poland@accenture.com)

## ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions – underpinned by the world's largest delivery network – Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With more than 401,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at [www.accenture.com](http://www.accenture.com).