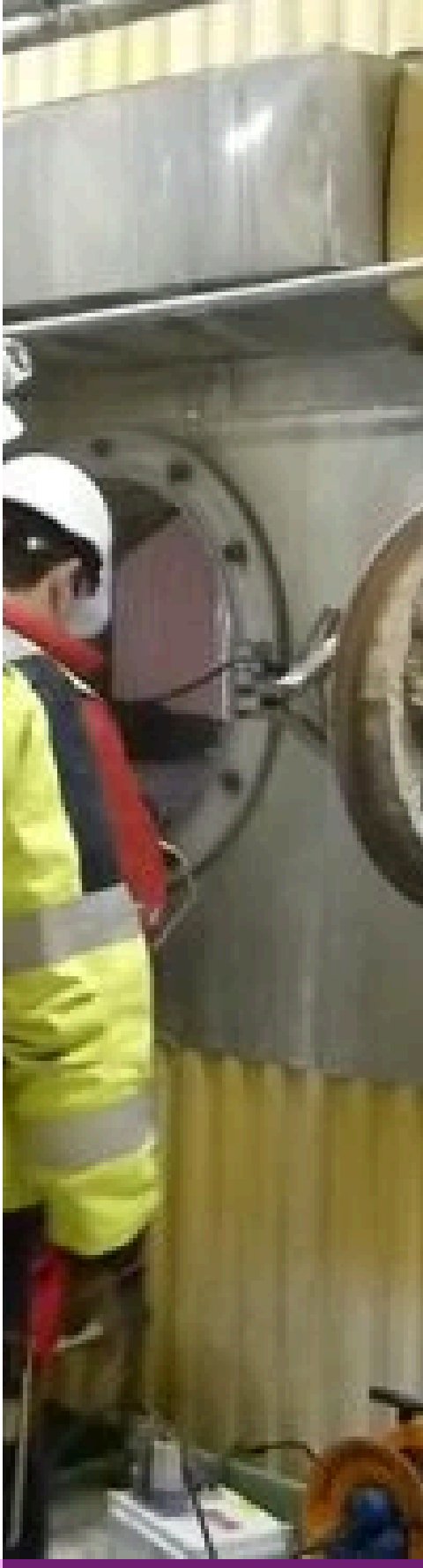
June 2024

REMOTE EXTERNAL CORROSION MONITORING(RECM)



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Remote External Corrosion Monitoring(RECM)

Intelligent - Secure - Scalable.

- RECM utilizes IoT, AI, and ML for real-time data analysis, enhancing CP system reliability by replacing manual monitoring with automated, alert-driven responses.
- RECM's proactive maintenance and anomaly detection enhance asset integrity, minimizing downtime and operational risks in the oil and gas industry.
- Compact enough to integrate with your existing cathodic protection (CP) systems effortlessly.
- Smart enough to securely provide unparalleled access and control over your most remote assets.
- Modular and scalable; the RECM system evolves with your needs without rendering current equipment obsolete.
- Key features include real-time potential monitoring, corrosion assessment, comprehensive data management, and automated alerting and reporting.
- Secure data transmission and storage with robust encryption and access control measures.

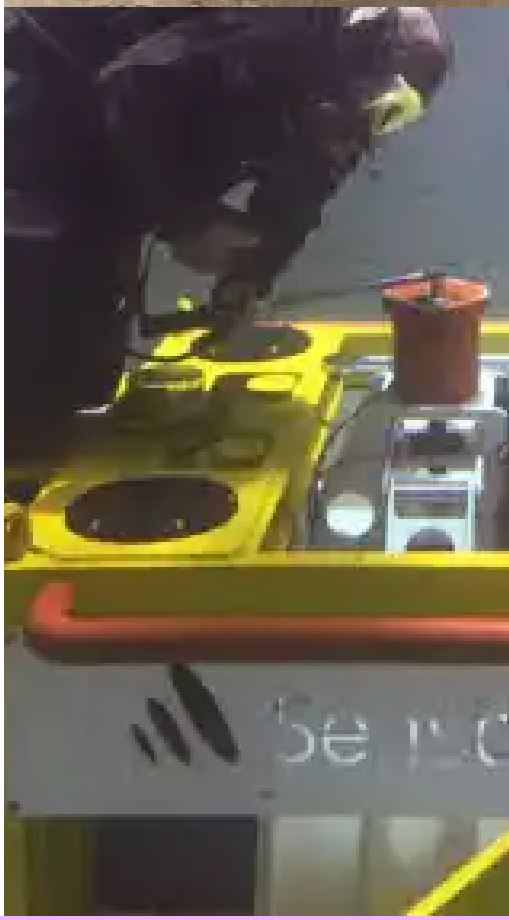
RECM
REMOTE EXTERNAL CORROSION MANAGER

Future-proof Predictive Maintenance.

- The RECM system is meticulously designed to ensure seamless and comprehensive integration, offering future-proof capabilities for your CP infrastructure.
- Its adjustable and upgradable configuration eliminates concerns about system obsolescence.
- Securely monitor and control your CP system from any internet-enabled device, such as smartphones, tablets, and desktop computers.
- Optimize workforce efforts and streamline spending on proactive, preventative measures, avoiding costly and hazardous reactive maintenance events.
- Achieve comprehensive CP system management with a complete overview of your infrastructure.
- Enhance monitoring functionalities with real-time potential monitoring, anode health alerts, and predictive maintenance capabilities.

Actionable Data at Your Fingertips.

- The RECM system ensures continuous and accurate data readings, surpassing the sporadic nature of manual inspections.
- Gain access to capabilities that allow for remote oversight and tracking of your entire system of reference electrodes and monitoring units.
- Eliminate safety and security exposure associated with manual monitoring.
- Reduce expensive and time-consuming in-person monitoring efforts.
- The RECM system offers the fastest path to compliance.
- Centralize data acquisition from various sensors with real-time monitoring displayed on interactive dashboards.



- Comprehensive analysis of historical data for long-term performance insights and immediate alerts for critical excursions.
- Secure cloud integration with seamless integration to cloud platforms for centralized data management and remote access.

RECM Application Specifications

Size

- Fits seamlessly within existing cathodic protection (CP) systems, including compact deployment in remote locations.

Material

- Constructed with industrial-grade, weather-resistant materials to protect the robust electronics within the protective casing.

Communication Options

Multiple options for seamless data transmission:

- **GSM**: Communication with multiple carriers for wide coverage.
- **Satellite**: Reliable communication in remote areas beyond GSM reach.
- Additional communication methods available:
  - Radio
  - SCADA

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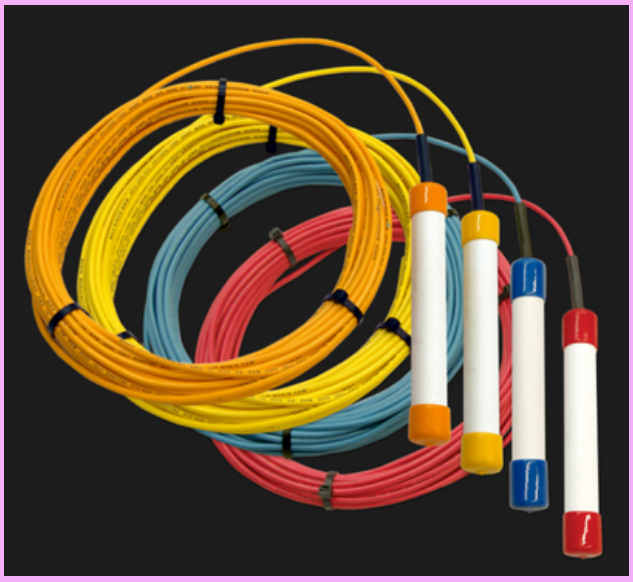


- MODBUS
- Microwave
- Hard wired

RECM System: Improved Efficiency and Performance

- **Remote Management**: Access and manage your entire CP system from anywhere with a web browser.
- **Real-time Insights**: Gain real-time insights into your system's health through interactive dashboards.
- **Predictive Maintenance**: Leverage machine learning for preventative maintenance and system optimization.
- **Advanced Analytics**: Analyse trends and identify root causes for improved performance.

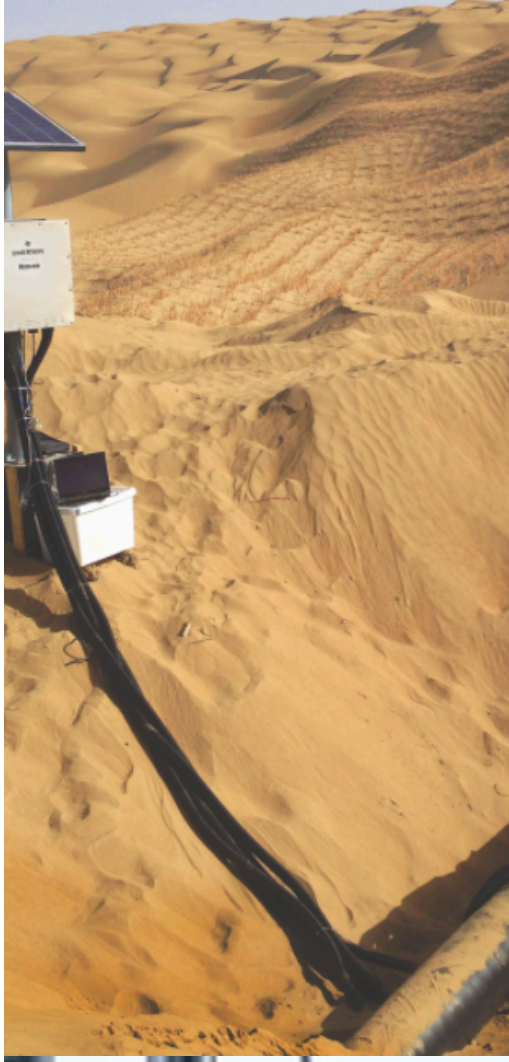
Hardware Architecture: Designed for Efficiency

- **Sensors**: High-accuracy sensors and wireless communication nodes for remote deployments.
- **Data Acquisition**: Intelligent data loggers for precise measurements.
- **Power**: Sustainable operation with integrated solar panels and long-life batteries.
- **Communication**: Reliable wired or wireless options for data transfer.

Uses

Enhance any CP system with remote monitoring and control capabilities:

- **Surge-protected analog inputs**: Ensure data integrity.
- **Expandable architecture**: Supports multiple sensors and additional rectifiers.
- **Digital inputs and outputs**: Facilitate comprehensive system integration.

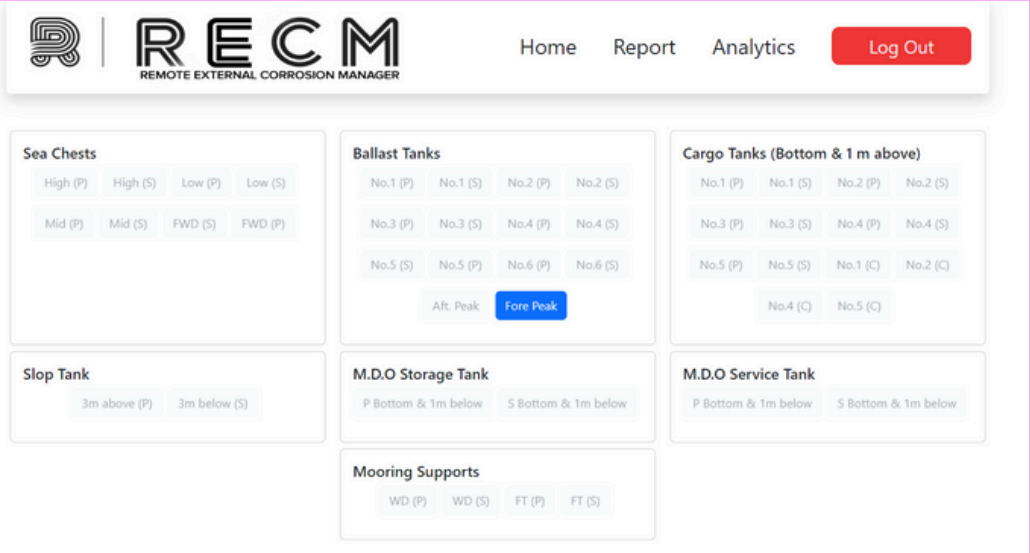


RECM
REMOTE EXTERNAL CORROSION MANAGER

- Remote monitoring capabilities include:
  - Amperage (current)
  - Voltage
  - Temperature
  - 100mV Shift
  - ON & OFF potentials

Capacity

- **Data Logging:**
  - Each RECM unit includes a robust data logger capable of one month of data storage.
  - Unlimited storage capacity upon secure transmission to the cloud-based system.
- **Benefits**
  - **Real-time Corrosion Monitoring**: Continuous and dynamic adjustment of CP systems based on real-time data to prevent corrosion.
  - **Comprehensive Data Analytics**: Machine learning algorithms for predictive maintenance and optimization of CP performance.
  - **Enhanced Safety and Cost Efficiency**: Reduced need for manual inspections and increased operational safety through real-time alerts and continuous monitoring.



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