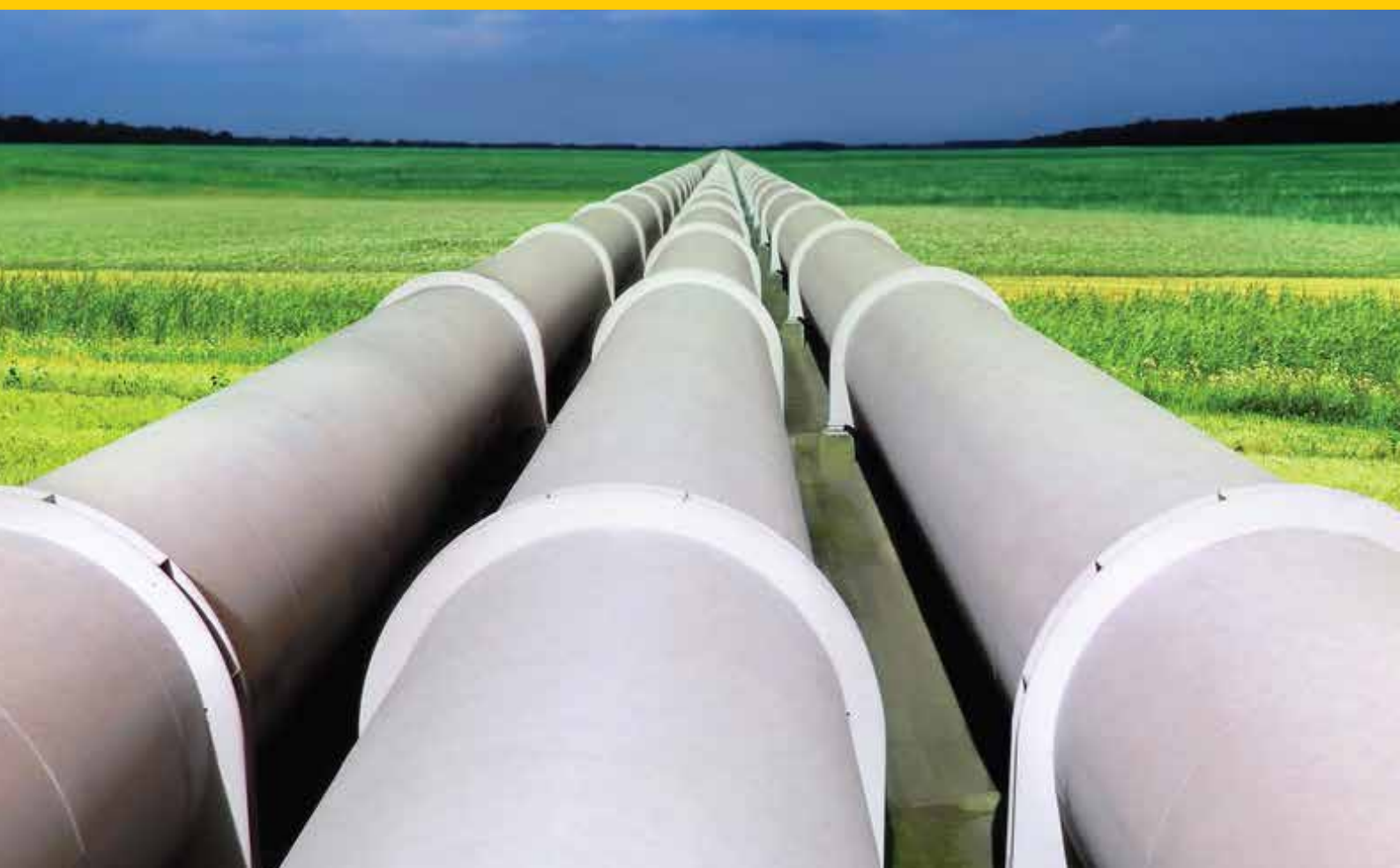


Internal Corrosion Monitoring System



Internal Corrosion Monitoring System

In the oil and gas industry, corrosion protection is one of the most important pipeline construction factors for cost-effective business and environmental protection. Pipelines pass through different types of land where soil moisture levels vary. The overall cost of corrosion in the world was estimated at 2.5 trillion US dollars in 2016, or roughly 3.2 % of the world gross domestic product.

The SKID unit for continuous online measurement of corrosion was developed as a result of the collaboration between the Croatian company Eccos and the U.S. company EnhanceCo. Eccos and EnhanceCo provide custom monitoring systems, pipelines, refineries and petrochemical operations. Our system is designed as though we would install and maintain it ourselves, so safety and convenience are of utmost importance.

The SKID unit is used for continuous monitoring of liquids and gases in pipelines under real operating conditions, without interfering with the filling, flow or operation of the pipeline.

This system is used for:

- Identifying corrosive conditions as they occur
- Assessing corrosion and bacteriological control procedures
- Sample collecting without generating hazardous waste
- Optimization of corrosion control including the need for pigging, adjustments to the chemical program, etc.
- Data collection for regulatory requirements, and assessing pipeline risk and integrity

The system can be installed on new or existing onshore or offshore pipelines. We offer permanent and portable systems, including skid and trailer mounted options.

The system applies the following monitoring techniques:

- Weight (Mass) Loss Coupons
- Electrical Resistance
- Linear Polarization Resistance
- Coupled Multiple Array Sensor
- Sessile Bacteria Monitoring
- pH
- Hydrogen Evolution
- Galvanic
- Gas and Liquids sampling systems
- Local or remote data collection systems using the SCADA application



Design specifications

The SKID unit is designed in accordance with the Pressure Equipment Directive (Directive 2014/58/EU) and the ATEX Directive (Directive 2014/34/EU). It is also designed in accordance with the EU CE Marking Directives and is marked with the CE2464 identification mark, thus meeting the basic requirements for unit placement on the European Union market.

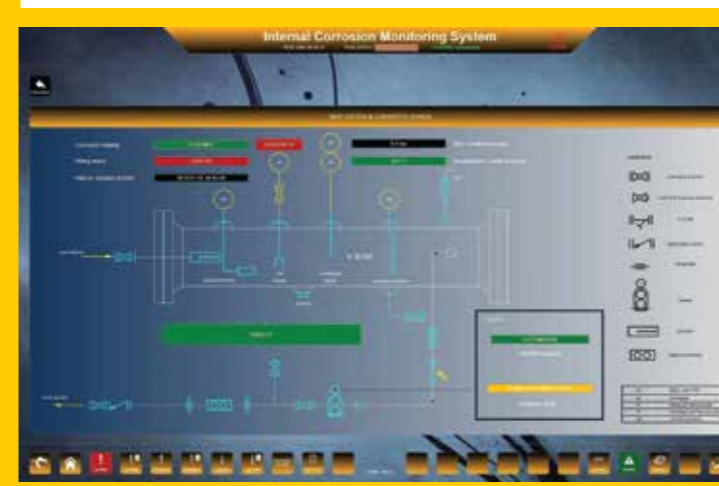
The EU CE Marking Directives are:

- Machinery Directive – 2006/42/EC
- Low Voltage Directive – 2014/35/EU
- EMC Directive – 2014/30/EU
- Personal Protective Equipment Directive – 89/686/EEC [as of 21 April 2018 replaced by the Personal Protective Equipment Regulation (Regulation (EU) 2016/425)]
- Measuring Instruments Directive – 2004/22/EC
- Noise Emission in the Environment Directive – 2000/14/EC
- REACH-Regulation EC No. 1907/2006

Remote monitoring SCADA system

The remote monitoring SCADA system is based on ICONICS Genesis64 HMI/SCADA software suite. GENESIS64 is designed to take advantage of OPC and OPC-UA, PLC, BACnet, .NET managed code, cross-platform HTML5 and SharePoint® technology.

The SCADA system is accessible via web browser which provides an interface to graphics, trending and alarming. ICONICS WebHMI delivers all necessary components from a centralized web server for automatic installation to any web browser. The complete remote monitoring SCADA system is custom tailored from the ground up to meet specific customer needs.



The Internal Corrosion Monitoring System is effective, scalable and repeatable. Eccos and EnhanceCo collaborate to offer multiple methods of internal corrosion monitoring with both commercially available and custom-crafted equipment.

Our job is to protect your interests.

With knowledge, experience and manufacturing expertise, Eccos and EnhanceCo provide cost-effective and timely solutions to oil and gas production and pipeline problems associated with corrosion and asset management.



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