

At the annual Clean Gulf Conference (Florida), the most relevant event in this field

INDRA AND REPSOL SHOW THE INTERNATIONAL COMMUNITY AN AUTOMATED SYSTEM FOR EARLY DETECTION OF HYDROCARBON LEAKS

- **HEADS (Hydrocarbon Early Automatic Detection System), a joint development of both companies, is capable of detecting in a matter of minutes and without human intervention, small volumes of hydrocarbons on the ocean surface**
- **This cutting-edge technology ensures the utmost safety in energy industry operations at sea, and is already in operation at several installations**

Tampa (Florida), October 31, 2016.- Indra and Repsol will showcase between November 1-3 at the Clean Gulf Conference (Tampa, Florida), the advances of HEADS, its automated system for early detection of hydrocarbon leaks on the ocean surface. This technology, unique worldwide, allows for shortening response times during the initial stage of an incident, therefore increasing the operational safety of the energy industry at sea.

The Clean Gulf Conference is considered the most relevant annual event held in the USA, bringing together the entire international community for responding unto spills, including state and federal regulators, for the purpose of creating and consolidating the relations and protocols required before an incident occurs, whether at sea or on land.

HEADS (Hydrocarbon Early Automatic Detection System) combines different sensors (infrared camera and radar), assisted by other meteorological sensors and controlled by smart algorithms that enable it to launch early alarms without requiring human intervention.

This completely automates system, operational 24/7, works even under adverse weather conditions and is configurable to the geometry of each site. In just a few minutes, it can detect small volumes of hydrocarbons, positioning it as a prevention system ahead of the response phase in the event of an emergency. This is especially important given that the consequences of leaks depend on the volume of the spill that, in turn, depends on the length of time during which the hydrocarbon has been spilling. Therefore, the decrease of the reaction time contributed by HEADS, compared with other technologies in the market, is key for minimizing the resulting impacts.

Furthermore, the system is capable of recording images for reconstructing the incident in detail, thereby promoting transparency and facilitating the conflict resolution process with third parties.

Another major advantage is the rationalization of costs. Early detection and automated detection allow for reducing, to a minimum, the costs entailed by response and control, and for avoiding future operating costs. Finally, HEADS also guarantees compliance with standards and regulations and is compatible with environmental quality certifications.

This state-of-the-art technology is operational at several installations, including refineries, ports and offshore platforms, where HEADS maximizes operational safety.

About Repsol

Repsol is an integrated global energy company engaged in activities in over 40 countries, and employing 27,000 people. Its presence englobes all phases of the business chain, including exploration, production, refining, transport, chemicals, gas stations and new types of energy. The company has achieved some of the largest discoveries of hydrocarbons in the world in recent years, and operates in the most demanding regions entailing the most technological requirements of the planet, many of which have been inaccessible for the industry until just a few years ago.

About Indra

Indra is one of the leading global consulting and technology companies and is a technological partner to its clients in key business operations around the world. It offers a comprehensive range of proprietary solutions and cutting-edge services with optimal technological capabilities, supported by a corporate culture of reliability, flexibility and adapting to client requirements. Indra is a world leader in the development of comprehensive technological solutions in fields such as Defense & Security, Transport & Traffic, Energy & Industry, Telecommunications & Media, Financial Services and Public Administrations & Healthcare. Through its Minsait unit it addresses the challenges posed by digital transformation. In 2015 it posted revenues of 2.85 billion euros and had 37,000 employees, a local presence in 46 countries and projects in more than 140 countries.