



Safe at Sea

Vaisala weather systems ensure safe helicopter travel to offshore oil rigs at the Caspian Sea.

Safety, security, efficiency. These are the top requirements in any maritime operation, both onshore and at the sea. As weather conditions have a very concrete impact on ships, ports, offshore platforms and other maritime operations, accurate and reliable environmental measurements and monitoring play a vital role in ensuring the safety of everyone onboard and the efficiency of operations at hand.

Helicopter traffic to offshore operations is especially vulnerable to weather due to high winds and poor visibility conditions that frequently

occur at the sea. Real-time meteorological data keeps traffic on the route, and ensures safe take-offs and landings. Weather information also helps avoid delays, which becomes critical when rescue flights are needed.

To ensure safe travel to and from its oil rigs, the State Oil Company of Azerbaijan Republic (SOCAR) chose to install Vaisala's maritime weather stations at several of its offshore oil platforms at the Caspian Sea.

Origins of Oil Industry

Covering more than 143,000 square miles, the Caspian Sea is the largest enclosed body of water on Earth. Bordered by Azerbaijan, Russia, Kazakhstan, Turkmenistan, and Iran, it is located in between the eastern edges of Europe and Asia.

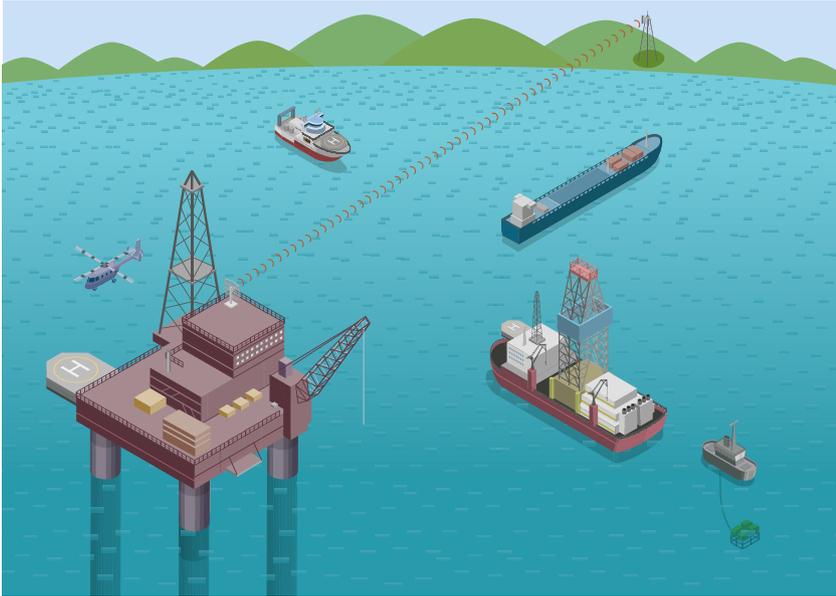
Rich in oil and gas reserves, the Caspian Sea has a long history in hydrocarbon production. In fact, Azerbaijan is one of the birthplaces

of modern oil industry; in the turn of the 20th century, the country's capital Baku was already an international oil center. Today SOCAR is one of the world's leading companies in the hydrocarbon industry; Azerbaijan produced 46 million tons of crude oil and 16.5 billion cubic meters of natural gas last year.

Safe, Regular and Efficient

Looking to modernize their meteorological service for safer, regular and more efficient helicopter traffic to and from its offshore platforms at the Caspian Sea, SOCAR decided to install new weather stations on several of its oil rigs.

Thanks to the reliability, sustained accuracy and durability of Vaisala's equipment in long-term use and in harsh marine environments, Vaisala was chosen to deliver the new stations. The entire SOCAR platform network at the Caspian Sea now



Weather information supports decision-making in managing safe and efficient operations on offshore platforms.

has access to accurate and reliable weather data at all times. In addition, the new weather stations were connected to an existing hydromet network, which is owned and operated by the country's hydrological services.

Vaisala's partner in the project was the Hydrometeorological and Climatic Change Consulting Center of Azerbaijan, who was the integrator in SOCAR's modernization effort. The Hydrometeorological and Climatic Change Consulting Center provides a broad scope of services for the implementation of hydrometeorological systems, including the installation of meteorological systems at airports and marine environments, the installation of roadside weather sensors, civil works for the installation of weather radars as well as different related maintenance services.

Full Awareness of Surrounding Environment

Vaisala offers the offshore oil and gas industry specialized meteorological, hydrological and oceanographic monitoring systems, instruments and engineering services, complemented with forecasting and decision

support applications. Designed to allow the customer to concentrate on their main operations, the systems continuously monitor both weather and sea state to provide full awareness of the surrounding environment.

Thanks to the largely modular and upgradeable nature of Vaisala's equipment, the systems can be expanded and enhanced as needed. Instruments can be included or excluded based on platform or vessel types or specific application requirements. Moreover, one system can be used for several simultaneous applications, such as helideck and environmental monitoring, which helps to optimize cost efficiency.

Vaisala's instruments and systems comply with international aviation and maritime standards, and fulfill all relevant ICAO requirements and WMO recommendations. The equipment is field-proven and low maintenance, and support is provided throughout the system's life-cycle. For example, Vaisala can perform and keep track of regular preventive maintenance, supply spare parts, and take care of software upgrades – priority care is given to decrease the need for unforeseen repairs and to ensure that the highest quality data is always available.

Automatic Weather Station for Critical Maritime Applications

The Vaisala AWS430 Automatic Weather Station is a specially designed weather station for maritime environments. The basic configuration measures wind speed and direction, atmospheric pressure, air temperature, and humidity, but additional sensors can be installed for a host of other parameters from water temperature and the amount of precipitation to cloud height, visibility and ship motion.

All the materials of the Vaisala AWS430 have been selected for their ability to withstand the harsh and corrosive maritime environments. Outdoor enclosure is designed to withstand the salty and wet conditions that prevail aboard ships and platforms as well as the freeze/thaw conditions experienced in extreme-weather environments. It also endures vibration and shock well.

The Vaisala AWS430 has successfully passed a variety of environmental, electrical, vibration and shock tests. All test specifications comply with both the Lloyd's Register approval system and the IEC 60945 international maritime standard.

Further information:
www.vaisala.com/maritime