

Healthy Workplaces Good Practice Awards 2023–2025

CASE STUDY



Mobile and web application for compliance verification of safety and health requirements in the oil and gas industry



ORGANISATION/COMPANY

Eni Cyprus Ltd

COUNTRY

Cyprus

SECTOR

Extraction of crude petroleum and natural gas

TASKS

Onshore and/or offshore: bunkering operations, chemical handling, entering confined spaces, lifting and hoisting operations, manual handling, rotating and moving machines, working at heights, waste management

Introduction to the case study

Offshore oil and gas exploration operations involve considerable safety and health risks for workers. To prevent accidents and environmental risks, workers must comply with legislation and procedures, while management must ensure workers are familiar with and adhere to protocols. Accordingly, Eni Cyprus has adopted an easy-to-use mobile and web application that includes a verification checklist for each specific work task and identifies weak signals of potential risks. This allows for a proactive approach to improve occupational safety and health (OSH), coupled with targeted health and safety campaigns and training for relevant workers.

Background

Eni Cyprus is involved in the exploration and production of natural oil and gas, with significant discoveries of fields off the Cyprus coast. The company has 36 workers and works with contractors under their supervision. Its workplaces include offices, onshore equipment storage areas (lifting operations, ship loading-unloading), offshore drilling rigs in marine waters, supply vessels and a helicopter station.

Offshore oil and gas exploration operations involve several safety and health risks for workers, such as those related to the work environment, facility conditions and equipment usage. To manage and mitigate risks, the company and its contractors assigned with the execution of the operations have to rigidly adhere to safety and health legislation, protocols and safe systems of work for the protection of human health and the environment.

The company's health and safety management system consists of 40 procedures and 8 operating instructions,

as well as a number of safety and health measures that must be implemented during work execution. At the same time, workers in some of these workplaces are not permanent, nor familiar with Cypriot legislation and the company's safety and health practices. These factors make the work of technical staff and safety and health supervisors particularly demanding in terms of complying with the safety and health system and measures at the company's workplaces.

Aims

The aim is to benefit from digital technologies by introducing a mobile phone and web application that will facilitate compliance with the requirements of the Health, Safety and Environmental Integrated Management System (HSE IMS) during operations. The application will make it easier to familiarise workers efficiently with necessary procedures during the execution of tasks, while providing early detection of weak areas and weak signals to prevent accidents.



© Eni Cyprus Ltd

What was done and how?

In 2019, Eni Cyprus developed a digital tool to facilitate reference to the requirements and provisions of the HSE IMS. A popular spreadsheet software was set up to cover each type of work task and checklists per HSE topic. The purpose was to be able to verify the implementation of the HSE IMS provisions during the planning and execution of each work assignment. The file also included links to the HSE IMS documents (procedures and forms) for easy access.

By the end of 2022, the idea evolved and was transferred to an application for mobile devices and computers. The application is a user-friendly tool that concisely presents the main points of verification for the HSE IMS by any site supervisor, even in environments without internet access and regardless of the duration of employment with the company.

What was achieved?

The application was initially used during the company's offshore drilling operations in 2023 and 2024. The effective results allowed the office-based HSE team to focus on specific areas of OSH improvement by implementing more targeted health and safety campaigns, training, talks and awareness-raising initiatives aimed at the relevant personnel. These additional measures could be taken after analysing information and indices taken from employees using the application, by observing HSE conditions during

their daily visits to the sites and by filling in the questionnaires and checklists for the specific work tasks (e.g. lifting operations, working at heights, working in confined spaces, housekeeping). As a result, the company's HSE performance has improved, and accident prevention was achieved with positive results for human health and the environment.

Success factors

The use of the mobile HSE application on site has contributed to the timely identification of weak signals and helped the teams respond proactively to prevent incidents. This also saves time from incident investigations and time loss due to accidents. Another advantage is that it directly introduces provisions to workers who are newly assigned to the work project, saving time during their familiarisation with the HSE IMS. The automatic digital data analysis of the input submitted through the checklists immediately highlights weak areas in an effective way. In addition, the tool's simple interface has facilitated the use of the application by all workers in a short time.

Transferability

The HSE application could easily be transferred to companies of all sizes in the oil and gas sector. It would also be of benefit to other sectors, such as those related to energy, construction and mining, where it is necessary to manage workplace risks, environmental risks and worker safety, health and wellbeing.

Costs and benefits

The costs include the purchase of ATEX devices (i.e. devices for uses in explosive atmospheres) and the development and installation of the HSE application in mobile phones, ATEX devices and computers, plus fees to maintain the application.

Through the exact verification of safety, health and environment requirements in all workplaces, the company has seen improvements in accident prevention, as well as in the level of compliance and awareness-raising over HSE matters.

Key features of good practice example

- The HSE application facilitates the early detection of weak signals.
- The application enables the statistical analysis of weak signals, which can lead to targeted and informative training of the personnel involved in the relevant work assignments, as well as the adoption of corrective and preventive actions.
- Overall, the HSE application enhances accident prevention and could evolve into a tool aimed at the partial prediction of accidents.

Further information

Further information can be found at:

<https://www.eni.com/en-IT/actions/global-activities/cyprus.html>



© Eni Cyprus Ltd

The use of the mobile health, safety and environment application on site has contributed to the timely identification of weak signals and helped the teams respond proactively to prevent incidents.