

5. || AP MOLLER MAERSK - APMT Vessel Inspection App

the challenge

In a container terminal, stevedoring activity is considered one of the riskiest operations. Stevedores are constantly exposed to unsafe working conditions on the vessels during lashing and unlash operation. The unsafe working condition on the vessels have led to several fatalities and life altering injuries, involving stevedores and other terminal operation personnel. The manner in which terminals carried out inspections on the vessels were inconsistent and mostly ineffective.

Every terminal had different ways of approaching vessel inspection; as there was no standardized vessel inspection program to identify non conformities and escalate critical defects / risks in their temporary work place (vessel). The vessels/ shipping lines were also impacted, as the quality of inspections reports were not up to par and left them with additional work in finding or understanding the issues, locations of nonconformity, etc. leading them to be less responsive to escalations from terminals.

the innovation

A mobile app called “APMT Vessel Inspection” was developed in-house to provide a standardised digital platform for our terminals to carry out vessel inspection based on a standard set of questions highlighting the critical risk areas of work on a vessel. This app is a user friendly tool, which has set of questionnaire covering different sections of the vessel where stevedores or terminal staff could be working. The inspection is carried out by a trained personnel before starting operation. To ensure quality of reporting and to support the inspectors to identify and correctly evaluate the risk, we introduced a rating/ scoring system according to level of criticality. In addition to support this rating system further, there is also a visual guide in the app linked to each question displaying the distinct levels of ratings.

Once the inspection is submitted through the app, a standardised report is generated with necessary information highlighting all issues on the vessel, location of issue, criticality, photographs, etc. This can be directly shared with the vessel master/ chief officer. This inspection report also gets deposited into a repository where all our terminals can access submitted reports and obtain visibility of the vessels that will be calling at their terminal, enabling them to plan their operations taking into consideration the condition of the vessel. The data also gets fed into a dashboard that visualizes the trends of identified risks enabling terminals to build engagement and collaboration with shipping lines to address safety issues effectively.

how it was implemented

A working group was formed with participation from Terminals, Shipping Line and other subject matter experts to carry out a global Kaizen activity on the challenge. The outcome of the kaizen was to; (1) Develop an app for the vessel inspection program (2) Training materials/ guides for the terminal operation team on vessel inspection and how to use the app (3) Engagement criteria between vessels and terminals (4) Escalation process for critical issues.

Along with the development of the app, we created a training program to support the use of the 'APMT Vessel Inspection' app globally. As this app is based on a scoring system to report the different severity and frequency of occurrence of critical defects, the vessel inspectors undergo training to be familiarized with the app, the scoring system, visual guide and the escalation process should there be critical risks that are identified and impacts the flow of operations. There was a global roll out of the Vessel Inspection program along with the supporting materials like training materials, welcome guide for the vessel, visual guides on how to carry out an inspections and engagement criteria between vessel/ terminals, etc. After the global roll out, we held multiple sessions with the regional/ terminal teams to ensure effective implementations.



Photo (2) Kaizen exercise



Photo (3) Kaizen summary

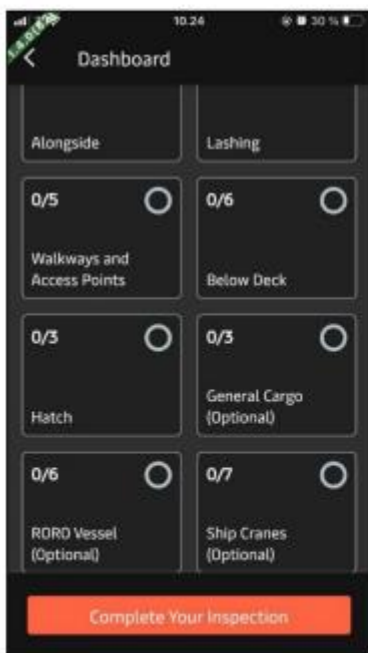


Photo (4) App: Dashboard

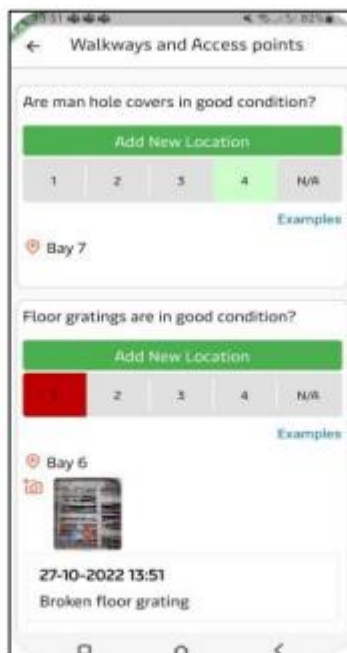


Photo (5) App: Questions



Photo (6) App: Visual guide

result

We are building on our safety culture by empowering our frontline by giving the right tools, training and engagement to make decisions when it comes to safety at workplace. The frontline has an avenue to raise safety concerns in a systematic and formalized manner through the use of technology. Now we also have a digital repository of standardized reports

adopted by APM terminals globally that has increased transparency and information sharing within the organization. This has increased the visibility of safety conditions of vessels prior to receiving them in our terminals and operations can be planned and adapted accordingly in a proactive manner. This also helped us engage and collaborate better with shipping lines to address safety issues identified on vessels and finding solutions together to rectify such issues with the aim of providing a safer work environment to our frontline workers, with minimal impact to operations and thus increasing operational efficiency at the same time.

conclusion

We have improved the effectiveness and quality of vessel inspections in our terminals using the APMT Vessel Inspection app. Using the right technology to aid safety inspections has helped us empower our frontline in making qualitative and efficient assessments of their working conditions, thereby reducing work related incidents causing harm to them. This drove the adoption of APMT Vessel Inspection app across our terminal portfolio. With value added through improvements and positive results achieved, this tool has become an integral part of the vessel operational process and not just a tick box exercise.

This mobile application/ tool has also helped the inspection process to go paperless, thereby contributing positively to the environment. The positive results we are seeing from adoption of the tool by APM Terminals globally and the improved engagement and collaboration with the shipping lines, outlines the achievement this digital tool has attained in driving a safer working culture integrated into our organizations' ways of working. Beyond an organizational standpoint, there is exciting potential to be shared with the rest of the industry if the same can be applied across all terminals globally, and not limited to APM Terminals.