



Case Study

Scaling Digital Horizons- Enhancing Material handling equipment's (MHE) Utilization

A summary

In accordance with LTHE Business Strategy and Mission Statement of "Execution Par Excellence" and with a vision to reach out to digital horizons, we have adopted an IT enabled system to minimize cost leakages and track resources in an efficient manner. By enhancing MHE's

Utilization through digital ventures, we strive to enrich data handling and management processes. The automated data derived from this venture assists in taking data driven decisions, thus reducing cost leakages.

The Challenge

Initially, multiple MHE's at MFF Hazira (about 60-70 per year including trailers, trucks and hydra) were being mobilized on rental basis, depending on the project requirement. In order to calculate the utilization of the MHE, a manual log was maintained by the driver, which was certified by the L&T supervisors is in charge of the MHE. In order to trace the physical location of the MHE being utilized, the only

option was to directly coordinate with the driver, forming one of the biggest challenges, given the 500,000 square meter facility area. Problems included lack of utilization data, safety violation data and data on type of MHE's required. Decision making was based on past experiences and project cycle time priorities.

The Solution

Various options were analysed to address the challenge- options were strategized for various domains. Depending on the feasibility of the solutions and organizational requirements, appropriate solutions were finalized based on a robust IT enabled MHE Tracking System. To better trace material handling/site equipment in real time, customizations were made onto the GPS Tracking application to enable entry of project name, contractor name, type of vehicle, L&T supervisor and driver's name and mobile number. The MHE tracking system permits automatic generation of reports and triggering of automatic alerts in case of any deviation.



In short, the digitalization application assisted MHE implementation through the following five phases

- Phase 1- Identification of MHE's to be controlled- Over 150 MHE's required monitoring
- Phase 2- Identification of other parameters to be controlled- Tracking location of site equipment, location and stoppages, speed, hours used per day, routes taken etc.
- Phase 3-Formulation of Globally implementable solutions –This is carried out through IOT, Digital Ventures and Geo-Fencing.
- Phase 4- Identification of Solution Providers- Identifying cost based solutions and IOT providers. Installing identified IOT options on MHE's.
- Phase 5- Implementation of solution- Utilization and acquisition of required data and MIS through mobile app and customized reports, leading to more informed decision making, thus arresting non-value adding cost leakages. MHE decisions are made based on recorded data.

The Benefits

- Cost Benefits- Reduction in MHE costs by 20% on a yearly basis.
- Safety Benefits- Improved safety through continual monitoring of MHE speed within the yard, alerting officials in case of increase in speed limit.
- Traceability Benefits- Improved traceability of MHE's (cargo or housekeeping vehicles) within the yard in an easy manner. The application enables the continual tracking of movement of vehicles from MFF-West to MFF-East through the "Geo-Fencing" feature, alerting the Security Department in case the vehicle crosses the logical boundary.
- Repeatability Benefits- Digitized MHE solution is generic that is customized based on project requirements.
- Reliability Benefits- Improved selection processes and utilization processes for hired MHE, demobilization of equipment that does not meet the standards.