Samsung Augmented Reality Management System


Abstract

Objectives/Scope: S-ARMS (Samsung Augmented Reality Management System) is a site management tool using AR Technology. It makes visualization of the internal ERP System over the 3D Model and matches it to actual site material.

Construction/Quality Personnel will bring the tablet on which S-ARMS application is installed and manage the site progress, such as Spool Fabrication Status, Field Welding Status, RT Status, etc.

Methods, Procedures, Process: Samsung Engineering has developed an Augmented Reality Solution which is subjected to be applied on any EPC industries as well as plant operating environments.

As name of the system suggests, Samsung Augmented Reality Management System (S-ARMS), is a projected 3D Model that is traced on top of ongoing construction site, enabling people to instinctively tell the difference between Actual Site Condition and Engineering Data in this case, 3D Model.

In addition to instinct comparison between above mentioned two data, construction and quality related ERP/legacy data are interfaced to each augmented object enabling the monitoring and controlling of ongoing construction/quality activities.

Results, Observations, Conclusions: There are four key features on S-ARMS.
First, **Progress monitoring Module** Construction Progress can be monitored through S-ARMS by interfacing construction progress ERP/Legacy data which enables construction supervisors to review and monitor exact status on construction work at a glance.

Second, **Navigation Module** With locational data that can be obtain on augmented 3D Model, S-ARMS lets users to find object including, but not limited to, spool, joint, equipment, punch, instrument, and etc.

Third, Punch Module All the punch works are now digitalized and implemented within S-ARMS. With locational data of each punches that are being issued by either CONTRACTOR or CLIENT can easily be found with exact status of punch. This module significantly reduces time required for punch work and effectively manage punch on Site.

Lastly, **Remote Inspection Function** Remote Inspection functionality of S-ARMS provides real-time information on onsite execution status, making it possible to inspect sites remotely.

It is very certain that S-ARMS can improve project efficiency and client satisfaction and will be widely adopted throughout Samsung Engineering’s EPC Project.

**Novel/Additive Information**: S-ARMS can make easy and prevent the time loss of the travel of the site to site office. And capture material will be automatically saved in the server so it also help to personnel to record site condition easily and to communicate with other personnel.