Digital Periodic Structural Inspection (PSI) for Higher Efficiency

Overview

- Periodic Structural Inspection is a requirement in Singapore, but traditional processes for doing this inspection are laborious.
- The intelligent inspection software, INSPECT, was used to digitalize and optimize the workflow.
- Productivity increased by 30-40% and the manpower deployed onsite was reduced by 50%.

Demaco Consultants are a professional engineering consultancy in Singapore. They offer a range of services in the civil and structural industry, including inspection services. They have been active for over 30 years and have inspected an impressive 100,000 m^2 of building facades and 200,000 m^2 of floor area.

Challenge

Buildings require regular maintenance to continue to remain structurally safe for the intended users and occupants. Structural inspections are required to ensure that buildings are properly maintained, continue to be safe for their intended use and occupation, and do not pose a safety risk to the occupants and members of the public. In Singapore, this is referred to as 'Periodic Structural Inspection' and is governed by the Building & Construction Authority (BCA) [Ref 1]. Structural inspection involves the inspection itself, plus the reporting.

For the inspection, the structural engineer who is appointed by the building owner is therefore expected to carry out a comprehensive visual inspection that relies largely on his/her professional engineering assessment, judgement and advice. He/She shall exercise reasonable diligence and take active and personal interest in the planning and carrying out of the inspection of the building.

The report should therefore reflect the fact that the structural engineer had carried out the inspection in a professional manner with reasonable diligence expected of him/her as a professional engineer. A well-prepared and professional report is demonstrated by the engineering views, assessment, judgement, conclusion and follow-up recommendations put forth based on the observations. Such a report is also useful for the owner as a maintenance record for any follow-up.

Based on research by Proceq with representative inspectors and asset owners, it is understood that up to 65% of time on an inspection job is spent writing the inspection report.

Solution

Screening Eagle Technologies' INSPECT platform offers several advantages for Periodic Structural Inspection. All data is captured digitally using the iPad. This includes photographs, 3D scans, sketches and notes. All data is captured together with its true position in 3D so that reporting is greatly simplified and any further investigations or repair work are easy to plan.

A report is generated automatically with a few clicks, according to the customer's required template. This saves a huge amount of time and the report (together with all the inspection data) is securely backed up on the cloud, so reports are not lost over time.

Results

Demaco Consultants achieve reliable and highly efficient Periodic Structural Inspections with huge time savings.

Mr Cyrex Chin, Professional Engineer from Demaco, said that INSPECT has benefited the company by providing "a more organised workflow and time-saving in generating reports".

INSPECT saves the company time in organising the data and generating reports; overall INSPECT "has saved us 30-40% of time per project". Mr Cyrex Chin shared a message for other stakeholders in the structural inspection industry "INSPECT software is a powerful tool that helps not only the engineers, but also the asset owner and maintenance team in improving defect-recording, tracking and maintenance efficiency".

Contact us for a free consultation and demonstration today.