Case Study:

Streamlining Progress Tracking and Communication with Cupix

Introduction

KTC Group is one of Singapore's most robust civil engineering & infrastructure companies. The name KTC is now synonymous with reliability and top quality services in the areas of Civil and Infrastructure Works and Earthworks. While earthwork services remain as their mainstay in Singapore, their teams have construction proven capabilities having been involved in and contributed to the successful completion of some major and iconic projects such as Marina Bay Sands and Resorts World at Sentosa Integrated Resort.

Tracking Construction Progress Challenges

Before implementing Cupix, KTC Group relied on still images and videos stored on their local servers to track construction progress. This method posed several issues:

- **Managing Communication**
  There were significant challenges in efficiently tracking construction progress, between on-site teams and off-site stakeholders.

- **Time-Consuming and Inefficient**
  Manually sifting through hundreds of past images to obtain a comprehensive view of the construction progress was labour-intensive and time-consuming.

- **Disputes and Delays**
  Disputes sometimes arose weeks or months after the works were completed, further complicating the process of verifying progress and resolving issues.

- **Remote Monitoring**
  Monitoring project progress remotely was challenging, limiting the ability of the management team to effectively oversee multiple projects simultaneously.

Implementation of Cupix

KTC Group did experiment with similar reality capture software platforms, prior to implementing Cupix, for one of their infrastructure projects and found the process valuable. However some tools did not provide the expected accuracy and lacked the detail of up to date visual representations of project sites, making it difficult to monitor conditions and identify issues early. The KTC Group team decided to implement Cupix to address these challenges and improve their overall project management efficiency. In addition Cupix was found to be more suited to their needs due to additional tools such as measurement capabilities, point clouds and greater customisation.

Impact of Cupix on KTC Group's Operations

Cupix has significantly impacted KTC Group's operations with several tangible benefits:

- **Comprehensive View**
  There were significant challenges in efficiently tracking construction progress, between on-site teams and off-site stakeholders.

- **Remote Accessibility**
  The platform allows for remote monitoring, enabling the management team to oversee multiple projects simultaneously from any location.

- **Efficient Dispute Resolution**
  With easy access to detailed records of the construction progress, disputes are resolved more efficiently, reducing delays and improving project timelines.

- **Better Collaboration**
  Cupix facilitates better coordination among team members, subcontractors, and stakeholders by providing a centralised platform for communication and information sharing.

- **Reduced Manual Effort**
  The automated features of Cupix reduce KTC Groups need for manual sifting through multiple photos, videos or CCTV's, saving time and labour costs.

- **Accurate Progress Tracking**
  Accurate and up-to-date progress tracking helps in better planning and resource allocation, leading to overall cost savings.

- **Internal Reporting**
  For project progress meetings every month and comparing the actual and the planned designs to enable our Managing Director to review at anytime.

"Our site teams are using Cupix for progress reporting and verifying the accuracy of as-built construction against the BIM model with ease. Additionally, we leverage Cupix for collaborative discussions by virtually visiting points of interest."

Winnie Leong
BIM Modeller, KTC Group

Results and Future Plans

The implementation process was smooth, largely due to the openness of the team to adopt new software. KTC Group conducted a single training session on-site, led by Sellwyn from Cupix, focusing on capturing and uploading procedures for engineers and safety supervisors and a few online Zoom sessions, focusing on the administrative side.

The KTC Group is planning to integrate Cupix with Autodesk Construction Cloud and similar platforms. This integration will allow them to use 360 images as references for any POIs, RFIs, or issues raised. There is considerable interest internally from other departments, in leveraging Cupix alongside site inspections, using the Form tool, plus other applications are being explored further for future projects. KTC Group is also testing CupixWorks, from Cupix, for an upcoming MRT project.
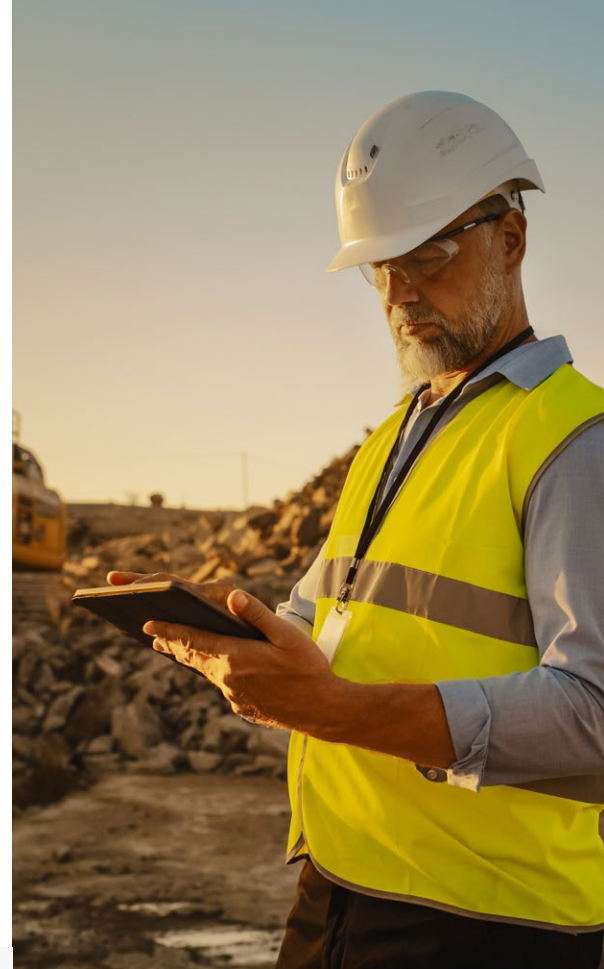
Conclusion

The implementation of Cupix at KTC Group has proven to be a valuable investment. The platform has enhanced project monitoring, improved project management efficiency, enhanced visualisation and documentation plus produced cost savings. KTC Group's experience highlights the importance of embracing new technologies to overcome traditional manual challenges in the construction industry and achieve operational excellence through innovative construction technologies.

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