The Hong Kong Institute of Building Information Modelling
BIM Automation Arena
華山論BIM

Quantitative and Qualitative KPIs Form

Revision 0

Please complete all the data fields in the Response column. **** Please delete the inappropriate items.***

Item No.	Questions	Responses
	Category of the Applicant:	**~~Individual / Group /~~ Corporate ***
	Category of the Submission:	**~~Visual Programming / API or Plugin /~~ Software Application ***
	Individual Name/ Group Name/ Corporate Name:	**Advanced Construction Information Development Limited**
	Title of the Submission:	**IM-CDE : Cloud, Mobile and Metaverse**
1	What is the time save of the automation could be achieved when it is compared to the conventional method?	
1.1	Number of man-day:	Various in projects -- 30+ days in an one-year project
1.2	Time save in percentage:	30%
2	What is the reduction in manpower that the automation could be achieved when it is compared to the conventional method?	
2.1	Number of staff:	At least 2 in a 10 person project
2.3	Reduction in manpower in percentage:	20%
3	How the automation could enhance the quality of the output?	- Sushi concept and contribution facilitate responsibility tracking and efficiency display. -Information centralization and connections facilitate cohesiveness and consistency of Information - Automates BIM Model Auditing improves models quality - BCF communication facilitates Model commenting among various platforms, improve collaboration quality - Mobile platforms faciliate remote collaboration on site, improves efficiency. - Metaverse environment facilities multiple location live environment collaboration enhance better understanding and quality - ISO and CIC compliance faciliate the standardization of I formation - CDE covers Planning, Design, Construction and Operation phases facilitate consistent flow of Information across full life cycle of a project
4	How the automation could enhance the user's experience?	- Layering of BIM contribution by using Sushi View contribution system - Document Management Systenm connects to BIM models creates direct Information connectivity experience through the Information Container - Web page, Mobile and Metaverse share common integral Information accessibility experience - Model Audit - compliance experience relief of major security or integral information. - BIM/ GIS Integration takes beyond one project but smart city level collaboration
5	How many manpower has been deployed for the automation development?	
5.1	Number of man-month:	264
6	What is the time to complete user acceptance test for the automation development?	
6.1	Number of month:	36
7	What is the extent of system integration that the automation development has been achieved?	
7.1	Number of software:	10
7.2	List of software:	- Revit - Navisworks - Cloud Platform - GIS - Cesium - BIMcollabo - BCF Manager - MetaCDE - Unreal Engine - Android Mobile App - IOS Mobile App - IoT Database - IFC format
7.3	Number of programming language:	7
7.4	List of programming language:	[Preparation of "Sushi View" in Revit] - Dynamo [C-DRIVE in Revit and Navisworks] - Dynamo [IM-CDE: Interface, Model Navigation, Information Connection, IM, AM, FM, Model Comparison, BCF] - Java - JavaScript [MetaCDE] - C++ - C# - JSON [Mobile App] -React Native
8	What is the number of domain knowledge that the automation has to take care?	
8.1	Number of domain knowledge:	15
8.2	List of domain knowledge:	- ISO 19650 - CDE workflow - Segregation of Project BIM models - C-DRIVE (Clash Management): Visualisation of Priorized of Clash - BIM Audit Report Comparison - IM: Relationship between Model, Spatial Location, Issue Management and Supporting Documents - IM BCF Workflow - AM: Relationship between Model, Sptial Location and Asset informaiton - AM: Maintenance Schedule - FM: Relationship between Model and FM Fault Report - GIS - Block Chain (Joint Research with HKUST) - BMS - IoT - Sustainability - PNAP 151, 152
9	Is there any work-around method to achieve the initial planned objectives in designing the automation process?	
9.1	Number of work-around methods:	-
9.2	Brief descriptions of the work-around methods:	-We achieve most, in not all, the initial planned objectives.
10	What are the newly invented components for the automation process?	
10.1	Number of newly invented components:	7
10.2	Brief descriptions of the newly invented components:	- IM: BCF Workflow - AM: Relationship between Model, Sptial Location and Asset informaiton, Maintenance Schedule - FM: Relationship between Model and FM Fault Report - BMS - IoT - Extension of Mobile Version for IM-CDE Mobile - Extension to Unreal Engine and Cesium ion for MetaCDE

- End of the KPIs Form -