

BEAM Society Limited

1st Stakeholder Engagement Workshop of the Assessment Automation System

10th June 2020

Rundown of the Workshop

- 1. An introduction of the BSL's future Assessment Automation System
- 2. A high-level development storyboard presentation
- 3. A demonstration on top of a similar existing e-submission platform
- 4. Q&A



Introduction of the BSL's future Assessment Automation System



Background

Some criticism from the industry regarding current BEAM Plus Project Submission

Long assessment period

Primitive submission process

Occasionally inconsistent ruling

Unpredictable assessment results

Lack of dialogue between concerned parties

BE@M Our Solution – Assessment Automation System

BSL has procured an Assessment Automation System at **>HKD 20M** in March 2020.

Objectives to automate the business workflow							
Drive efficiency	Reduce human dependence	Enhance consistency	Mitigate risks of bribery and other irregular practices				

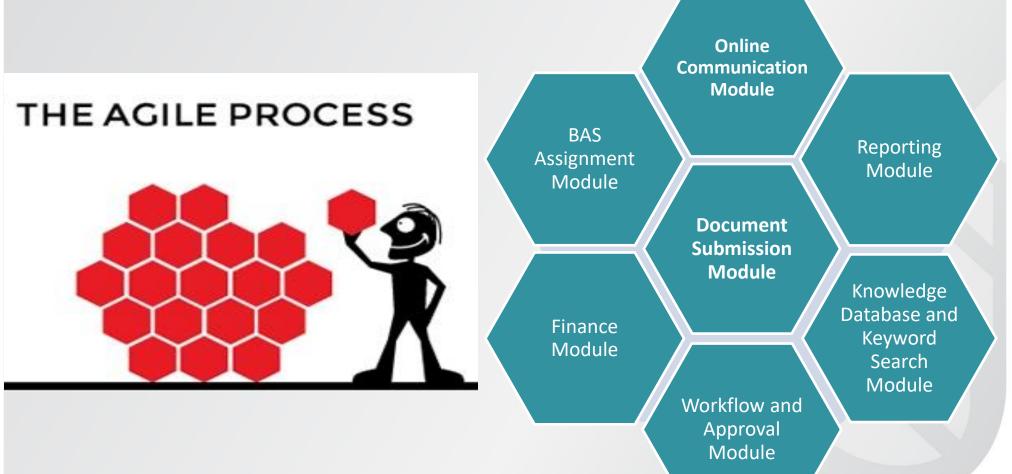
Cloud-based platform

Hosted at Microsoft Azure

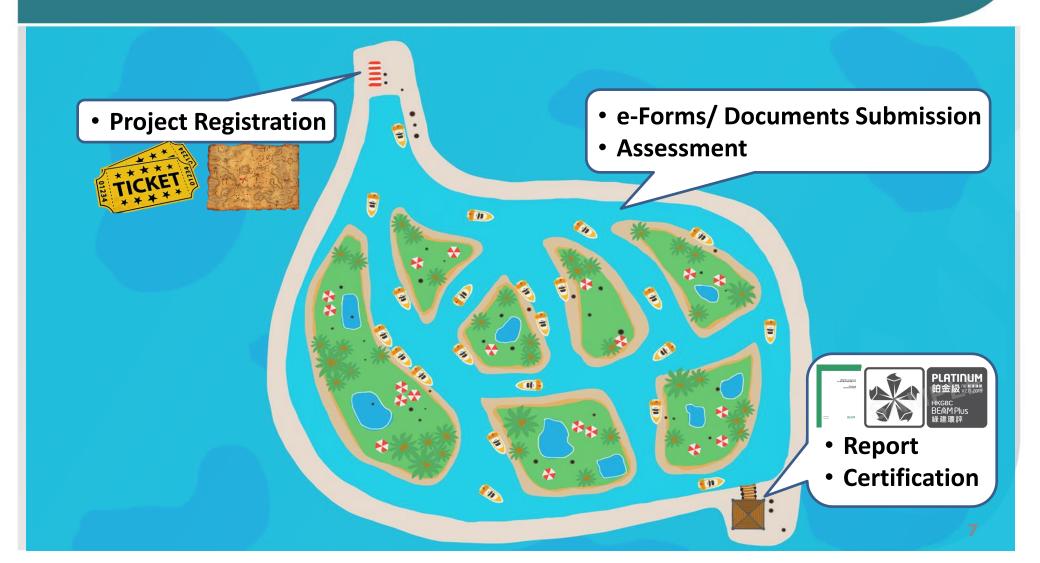
Anticipated to launch in April 2021

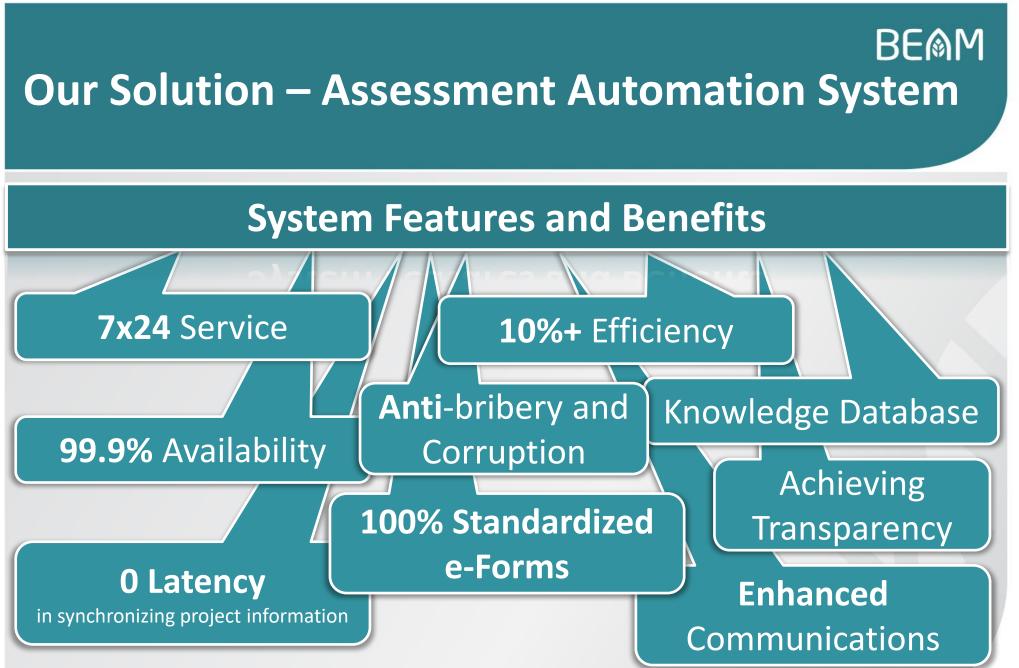
Microsoft Azure

BE@M Our Solution – Assessment Automation System



BE@M Our Solution – Assessment Automation System

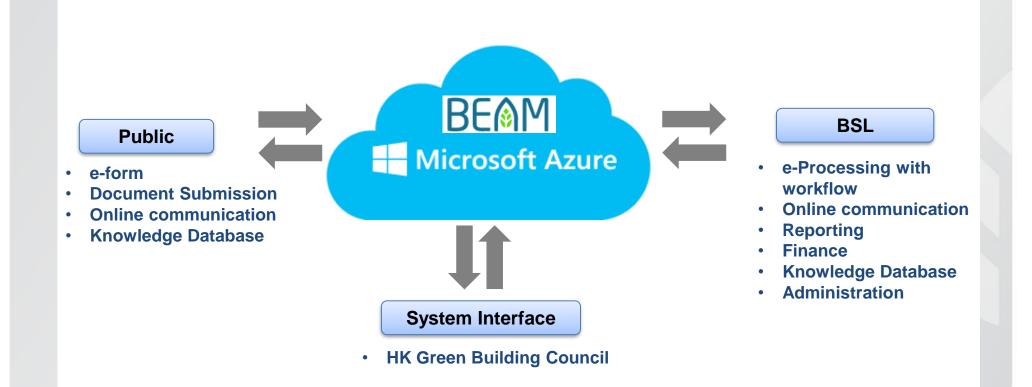






High-level Development Storyboard Presentation

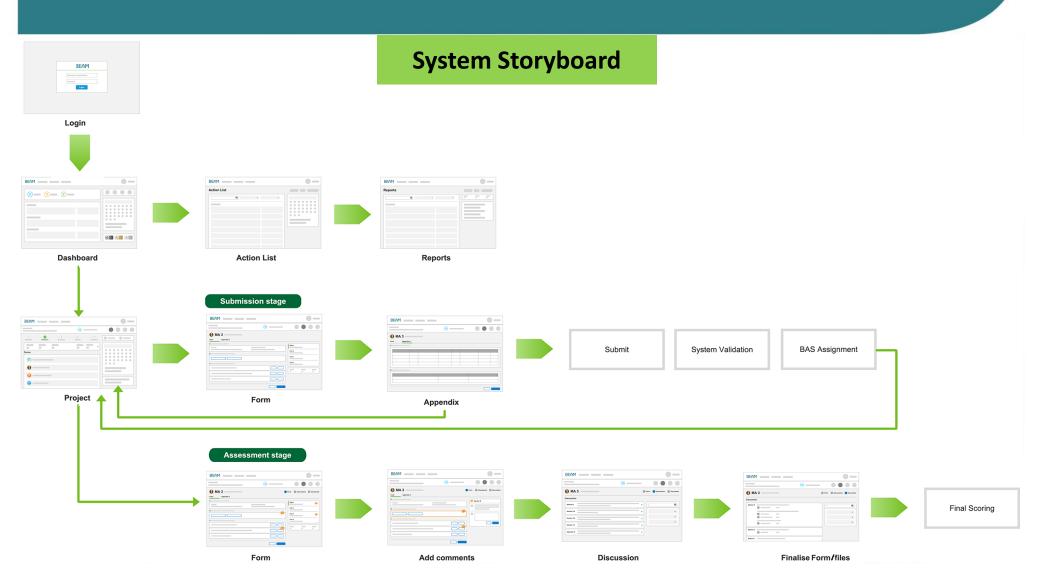














Stage 1: Project Registration

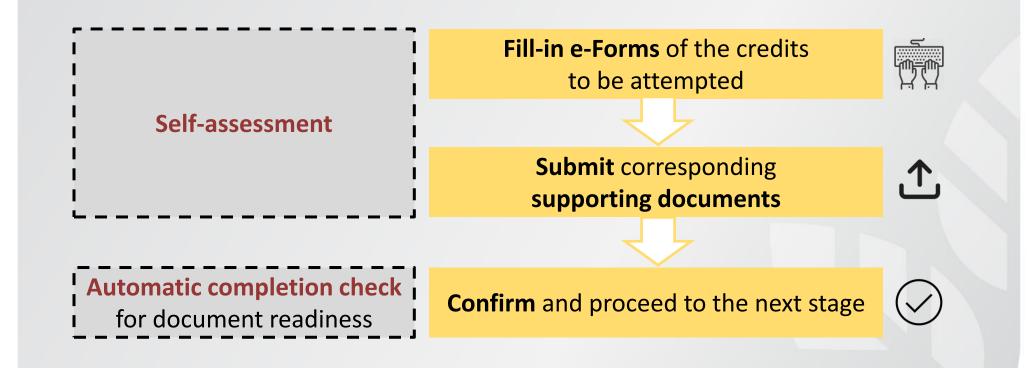


Go to the HKGBC website and register for a BEAM Plus Project https://beamplus.secure.force.com/

Settle BEAM Plus Assessment fee with BSL Obtain a Main User Account You may create max. 8 subuser accounts



Stage 2: e-Forms/ Documents Submission



Stage 2: e-Forms/ Documents Submission

Example

3E	M Projects Inbox 🛛 Ask BEAM				Sear	ch	۹ (B David Lee
020-643NI Residentia	B(R) al Development at T.P.T.L. 223, Tsuen Wan, New Territories			New Building V Provisional Ass		Overview	Forms Docum	
orms	3							
	Site Aspects	Forms 15	Outstanding 2	Weighted score 12.2	~	Submit by	2	9 Jun 2020
	Material Aspects	Forms 10	Outstanding 6	Weighted score 1.3	^	Total forms 92	Outstanding	Completed 41.3%
MA P1	Timber Used for Temporary Works		PR credit	100% completed	•			
MA P2	Use of Non-CFC Based Refrigerants		PR credit	100% completed	•	Target score 68.5		veighted score 2.1
MA P3	Construction and Demolition Waste Management Plan		PR credit	35% completed	•			
MA P4	Waste Recycling Facilities		PR credit	42% completed	•			
MA 1	Building Reuse		NA credit	📀 100% completed	•			
MA 2	Modular and Standardised Design		1 credit	0% completed	•			
VA 3	Prefabrication		2 credits	0% completed	•			
MA 6	Sustainable Forest Products		1 credit	12% completed	•			
MA 8a	Ozone Depleting Substances - Refrigerants		1 credit	📀 100% completed	•			
MA 8b	Ozone Depleting Substances - Ozone Depleting Materials		1 credit	0% completed	•			
	Energy Use	Forms 29	Outstanding	Weighted score 22.0	~			
Ö	Water Use	Forms 5	Outstanding O	Weighted score 3.0	~			
	Indoor Environmental Quality	Forms 31	Outstanding	Weighted score 10.6	~			
(¢)	Innovations and Additions	Forms 2	Outstanding	Weighted score 3.0	~			

Stage 2: e-Forms/ Documents Submission

Example	BEMM	Step 1: Select the	
	News BEAM Assessmen	t Tool BEAM Practitioners Mer Jership At aspect to be attempted	
	Site Aspects (SA) Materials	Aspects (MA) Energy Use Water Use Indoor Environmental Quality (IEQ) Additions (IA)	
	Wu P1 Water Quality Survey	Form WU 1-S: Submission Template	
	Wu P2 Minimum Water Saving Performance	Credit Requirements: 1 credit for demonstrating that the use of water efficient devices leads to an estimated aggregate annual saving of 20%. 2 credits for demonstrating an estimated annual saving of 25%.	
	Wu 1 Annual Water Use	3 credits for demonstrating an estimated annual saving of 30%.	
	Wu 2 Monitoring and Control	Project Name: (Retrieved from General Form) Step 3:	
Step 2:	Wu 3 Water Efficient Irrigation	Credit Attainable: 3 Credit Attempted: (To be filled in by Applicant) 3 Fill-in the required	
credit to be	Wu 4 Water Recycling	information	
attempted	Wu 5 Water Efficient Appliances	Some of the data will be	
	Wu 6 Effluent Discharge to Foul Sewers	retrieved automatically from other forms	
		Step 4: Upload supporting document	
		Please provide r declaration letter signed by the project owner to confirm that the project has compiled to the requirements specified in Technical Circular Letter No. 2016.130, in particular the compliance with governing utility requirements including but not limited to the Waterworks Ordinance, Plumbing Regulations, Water Services	
	*Sample screen only	Application Procedures and Circular Letter. "Note: The declaration letter being uploaded below will be linked to Form WU P1 (Water Quality Survey). The Designation: (WU_P1_C01) File Designation: (WU_P1_C01)	5

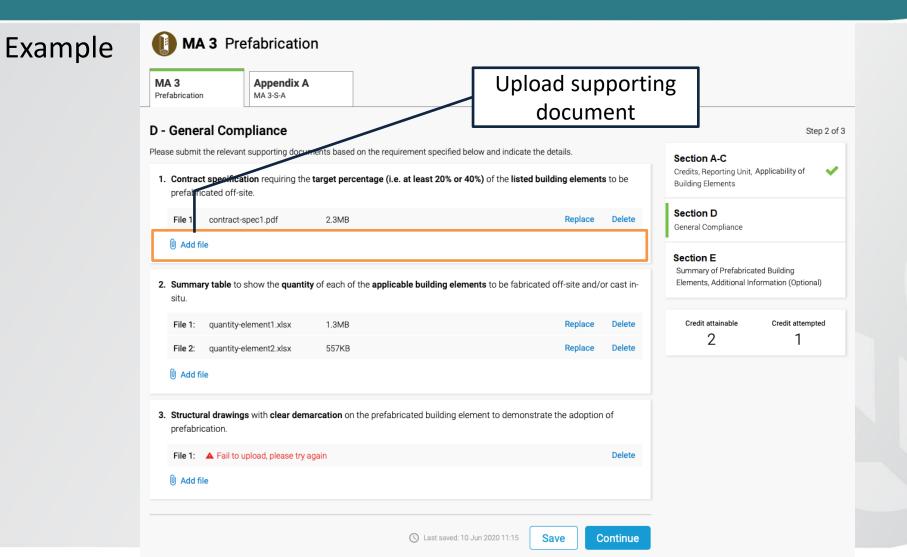
Stage 2: e-Forms/ Documents Submission

Example

				ew Forms	Documents
efabrication					
Appendix A MA 3-S-A					
ssessment					
ing Provisional Assessment.					it, Applicability
nit			Sec	tion D	
veight) Cubic meters (by	rolume)		Sec	tion E	ated Building
	3				-
lents		Yes No		redit attainable 2	Credit at
anation why the building is no	applicable for the project. (les	ss than 200 words)			
	MA 3-S-A ssessment ing Provisional Assessment. nit weight) Cubic meters (by v of Building Elements nents	Appendix A MA 3-S-A ssessment ing Provisional Assessment. nit weight) Cubic meters (by volume) of Building Elements nents	Appendix A MA 3-S-A ssesssment sing Provisional Assessment. nit weight) Cubic meters (by volume) of Building Elements nents	Appendix A MA 3-S-A sseessment ing Provisional Assessment. nit weight) Cubic meters (by volume) v of Building Elements tents	Appendix A MA 3-S-A sseessment ing Provisional Assessment. nit weight) Cubic meters (by volume) v of Building Elements nents Yes No Credit attainable 2



Stage 2: e-Forms/ Documents Submission



Stage 2: e-Forms/ Documents Submission

BE

		1.1					Home	Contact Us Site	Map RSS Login Area	a
	Site Aspec	ts (SA)	Materials /	Aspects (MA)	Energy Use (EU)	Water Use (WU)		vironmental ty (IEQ)	Innovation and Additions (IA)	
Λ	/u P1 Wate	r Quality	y Survey	Form WU 1	-S: Submission 1	Template				
	/u P2 Minir aving Perfo		iter	Credit Require	ements: 1 credit fo estimated	or demonstrating ti l aggregate annual			evices leads to an	
	aving reno	manee			2 credits	for demonstrating a	an estimated a	annual saving of	25%.	

BIM capability will be incorporated in next phase of System development.

- Tentatively to **develop in around mid-2021**.
- Targeting at >70% of existing e-Form data can be retrieved from the BIM model.

MALE DALER DESIGN	Section A. Data from Form WU P2 (Minimum Water Saving Performance)				
Wu 5 Water Efficient Appliances	(1) <u>Overall Water Consumption Calculation</u> : The following data are extracted from Form WU P2 (Minimum Water Saving Performance).				
	*Note: <u>ALL</u> data will be automatically updated based on the input in Form WU P2 (Performance).	Minimum Water Saving			
Wu 6 Effluent Discharge to Foul Sewers	1 Estimated Total Annual Water Consumption (litres) - Baseline Case	(Retrieved from WU P2)			
	2 Estimated Total Annual Water Consumption (litres) - Design Case	(Retrieved from WU P2)			
	3 Estimated Annual Saving in Water Consumption	(Retrieved from WU P2)			
	4 No. of Credits Anticipated for WU 1	(Retrieved from WU P2)			
	(2) <u>Compliance of Documents under Form WU P2</u> : *Note: The submission template for this credit will be deemed <u>INVALID</u> if 'N' is ind ensure that all data and supporting documents have been input into Form WU P2 (Performance).				
	Section B. Compliance with Waterwork Regulation (Final Assessment ONLY) Please provide a declaration letter signed by the project owner to confirm that the project has complied to the requirements specified in Technical Circular Letter No. 2016.130, in particular the compliance with governing utility requirements including but not limited to the Waterworks Ordinance, Plumbing Regulations, Water Services Application Procedures and Circular Letter. <i>*Note: The declaration letter being uploaded below will be linked to Form WU P1 (Water Quality Survey)</i> .				
	File Designation: (WU_P1_C01)				

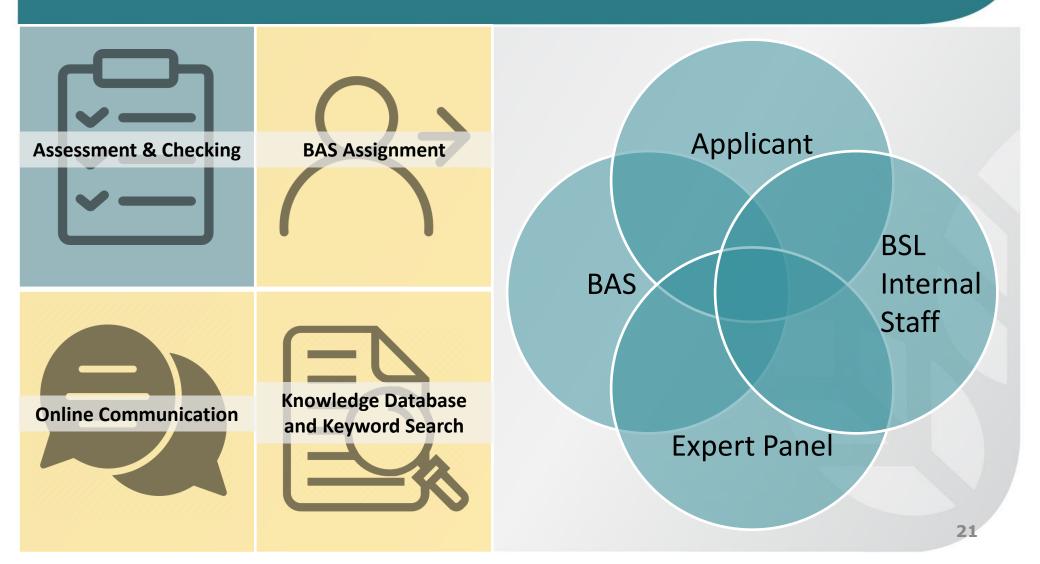


Stage 2: e-Forms/ Documents Submission

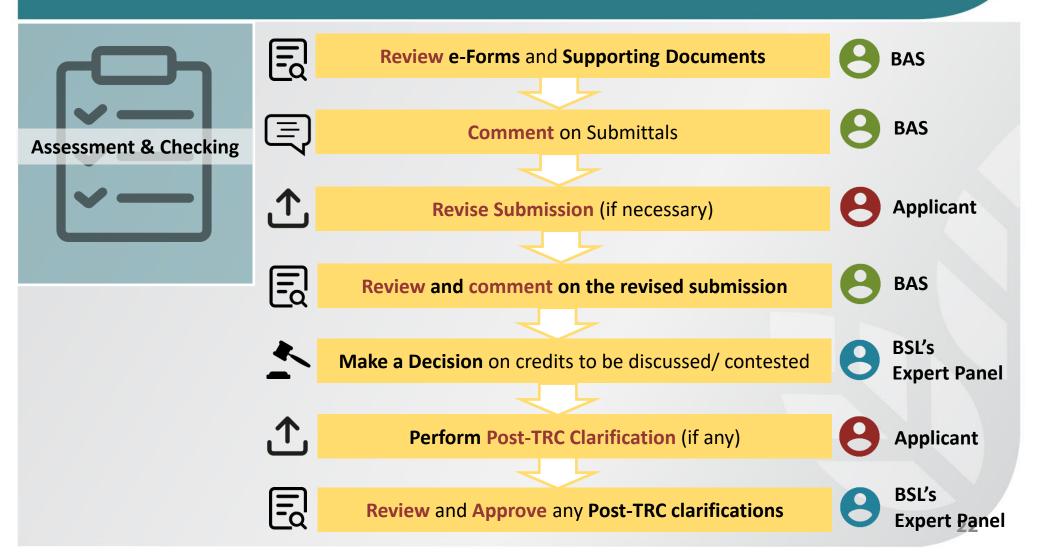
Example – Credit Summary for PA (NB v2.0)

Site Aspects	Credits Attainable	Site Audit Required	Credits Attempted (self assessment)	Credit Submitted	Approved Result
<u>SA P1</u>	PR	×	PR	PR	
SA 1 Bonus	BONUS	×	1B	1B	
<u>SA 2a</u>	2	~	2	2	
<u>SA 2b</u>	1	✓	1	1	
Rating			Platinum (<mark>target</mark>)	Platinum (<mark>target</mark>)	

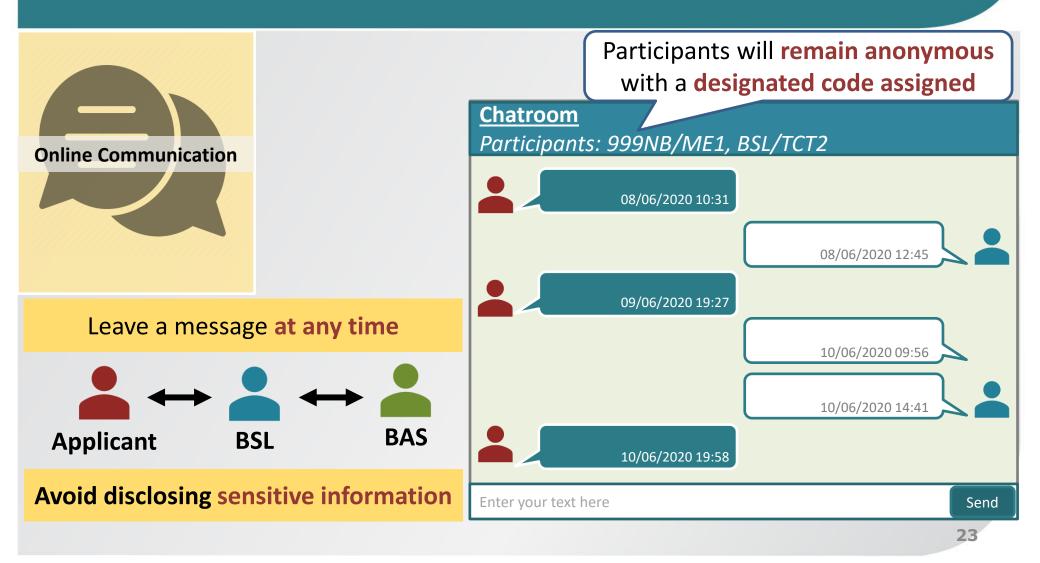
















Knowledge Database and Keyword Search



Rulings from previous ASC meetings, FAQs, and Technical Circulars, etc. will be available

A "pop-up" data dictionary available

Section A. Programme

Please specify the date for EACH of the milestones indicated

- a. Start Date of Foundation Works (dd-mmm-yyyy):
- Date in Which The Embodied Energy Analysis for Fournation Compositents is Conducted (dd-

b. mmm-yyyy):

- c. Start Date of Superstructure Works (dd-mmm-yyyy):
- _ Date in Which The Embodied Energy Analysis for Supersti
- d. (dd-mmm-yyyy):

The date of **L**C shall be should be carried out before the commencement of foundation work.



Example – Credit Summary for PA (NB v2.0)

Site Aspects	Credits Attainable	Site Audit Required	Credits Attempted (self assessment)	Credit Submitted	Approved Result
<u>SA P1</u>	PR	×	PR	PR	PR
SA 1 Bonus	BONUS	×	1B	1B	1B
<u>SA 2a</u>	2	~	2	2	1
<u>SA 2b</u>	1	~	1	1	1
		•••		•••	
Rating			Platinum (target)	Platinum (target)	Platinum (Actual)

Contested Scoring evaluation



Example – Credit Summary for Site Audit

Site Aspects	Credits Attainable	PA Result	Site Audit Required	Site Audit Attempted	Site Audit Result
<u>SA P1</u>	PR	PR	N/A	N/A	N/A
SA 1 Bonus	BONUS	1B	N/A	N/A	N/A
<u>SA 2a</u>	2	2	~	~	×
<u>SA 2b</u>	1	1	~	~	~
Rating		Platinum (Actual)		Platinum (Target)	Gold (Actual)



Example – Credit Summary for FA (NB v2.0)

Site Aspects	Credits Attainable	PA Result	Site Audit Result	Credit Submitted	Approved Result
<u>SA P1</u>	PR	PR	N/A	PR	PR
SA 1 Bonus	BONUS	1B	N/A	1B	1B
<u>SA 2a</u>	2	2	×	2	1
<u>SA 2b</u>	1	1	~	1	1
Rating		Platinum (Actual)	Gold (Actual)	Platinum (Target)	Gold (Actual)

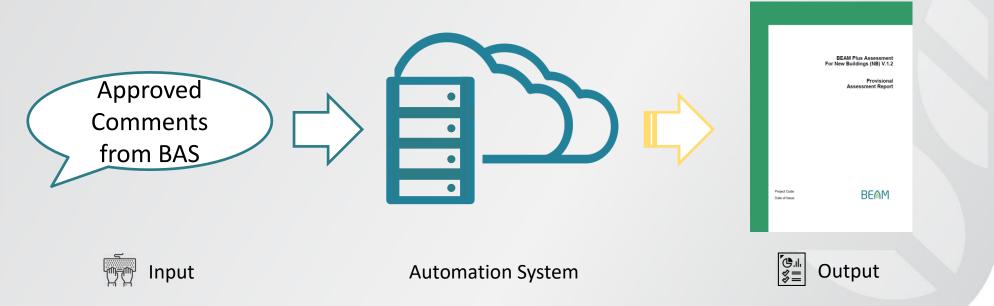


Stage 4: Reporting

Reports will be **generated automatically** by retrieving comments raised during assessment stage.

The related documents will include:

- 1. BAS Comment
- 2. BAS Report
- 3. Post-TRC Clarification (Optional)





Stage 5: Certification

Obtain a BEAM Plus Certification from HKGBC

Assessment results will be synchronized with HKGBC's Customer Relationship Management (CRM) System automatically



















 e-Submission by filling in e-Form on web (including both NB v1.2 and NB v2.0 e-forms)
 Upload files
 Submit





- 1. e-minutes circulation
- 2. Communicate with applicant
- 3. Knowledge Database



 Revise submission
 Upload updated file
 Keep every changes with version and timestamp



- 1. Check revised submission / clarification
- 2. Generate assessment report from system
- 3. Reply to applicant via system

User management

- Notification of tasks
- Reminder
- Calendar
- User registration
- User account management
- e-leave management
- Notice board

Supporting functions

- HKGBC interface
- Search
- Online Dictionary
- Reports
- Discussion Forum

Administration functions

- e-form maintenance
- BAS Module
- Finance Module
- Pre-define workflow
- System settings



Expected Benefits using the System

Expected Benefits using the System



Drive 10%+ Efficiency

• Compared with the current assessment process.



99.9% System Availability

Hosted at Microsoft Azure.



Convenient and **Advanced Submission Process**

• 7x24 Online Service.



O Latency in Synchronizing Data between BSL and HKGBC

• Project information only need to be updated once on either platform.

Expected Benefits using the System



- Ensure Certainty and Good Submission Quality
- 100% Standardized e-Forms.



Consistent Ruling

• Knowledge Database.



Enhanced Communication among Involved Parties

• Anonymous and an online communication.



Anti-bribery and Corruption

• A more transparent communication and BAS assignment process.



Demonstration on top of a Similar Existing e-Submission Platform



Our Project Experience



- Digital signing with Timestamping

- Electronic Drawing Comparison

Handles development of Housing development

in Hong Kong for projects kicked off after Mar 2016.



Used by 2000+ building consultants

- Currently 2000+ active users since production launch in 2016

- potential 10,000+ users

Essential platform for Building Information Model (BIM) submissions

Cornerstone to transform to Smart City – according to 2017 Policy Address, 2018-19 Budget & Smart City Blueprint

E-SUBMISSION - APPLICANT INPUT

BEMM



Fill in basic submission information	Submission Status DRAFT Action Status: CP O Submission Status DRAFT Action Status: CP O Project Title 12503 - BEAM Domo Project: - PHCP No. A Phase 1 PSP(AP / RSE / RSE / RSE / Contractor Plase select: - Submission Nature Building Submission - Recipient Information - - Rc Optional Add Remarks McC Optional Add Remarks Submission Types for this application. - PRecedent Submission Types for this application. -	Tipe Terrore or tablacd more the submission. History 11/11/2019 34:44 ■	Ceb form for input Image: State of the state
Attachment (Forms, files)	BEAM Form No. S129642 TestFormo Works Type Builing with Commercial facilities : Description demo Applicant File file_reference_ASD Reference Add Mandatory Document Type: ASSOCIATED FILE Document Type Date Modified Number of Files Plans for Approval 11/11/2019 14:42:25 2 Tastad Stoket File From Local Drive Select File From Dryds		1 1 1 1 1 1 Credt Anticipated: Summary of Compliance Compliance of Documents: Declaration Declaration Thereby declare to BEAM Society Limited that the information submitted is true and comply with requirements of BEAM Plus for NB Endorsement: Initial of the BEAM Piro Responsible For The Submission of This Credit
Preview, save draft.	Project Team Hember () Last Update: 11/11/2019 14:43:56 Proview all form(s) Download Al Submission Plans Download Al Finalized Forms Back Sive Draft		37



Tips Submission Information Submission Status DRAFT Action Status: CP O Action User List remove or upload new version of Associated Files of Project Title 12603 - BEAM Demo Project the submission. PHCP No. Phase 1 . PSP(AP / RSF / @ Submission History Please select RGE) / Contractor 11/11/2019 14:44 ssion Nature Building Submission File uploader, can upload by batch Recipient Information Fill in basic submission-To information File List сс Add Remark Optional Block Name Required to be Signed by Paper Size No. of Pages Sorting Select File CP/CSE/CGE/CCE File Name Status Version Type Drawing Number Rev. Drawing/ Calculation Document Title BCC Optional Add Remark 1000 Plans for Approval A1 0 drawing1 411 Δ1 A0_PSP.pdf 1000 Plans for Approval A Select to add more types to this submission: Browse... Please select Submission Type for this application * Only A0, A1, A2, A3 and A4 size files can be digitally signed "When the status is 'Not recognized' or 'File type is invalid', please upload again. Add files Start upload Works Type Building with Commercial facilities Description demo Drop file(s) here Applicant File file reference ASD Attachment (Forms, files)-Reference Associated N/A Add Submission Enable scanning references Mandatory Document Type: ASSOCIATED FILE Document Type Date Modified Number of Files Plans for Approval 11/11/2019 14:42:25 2 Project Team Member 0 Submit or forward to another Last Update: 11/11/2019 14:43:56 Notification Mail to Receiver 2 user for editing Back Save Draft



E-PROCESSING PLATFORM -HOME

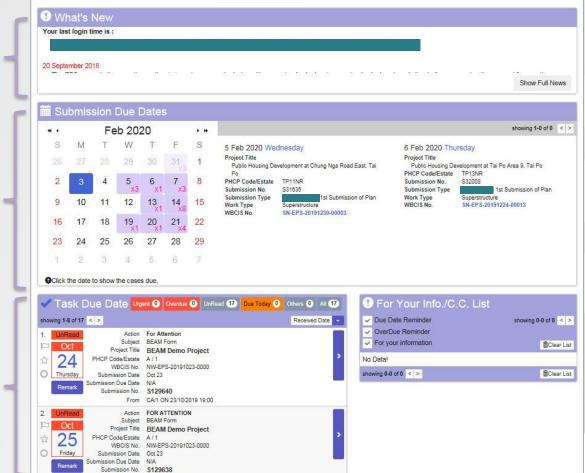


Home page of Vetting team

Notice board

Calendar to show the number of submission is due

Tasks to do and messages for information. Click to open corresponding eminutes for action.

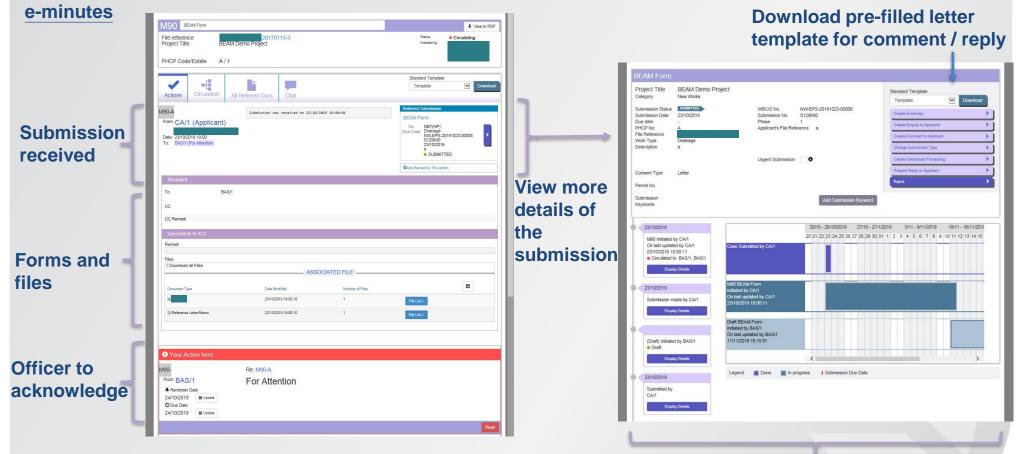


From BAS/4 ON 23/10/2019 17:19



E-PROCESSING PLATFORM - SUBMISSION IS RECEIVED





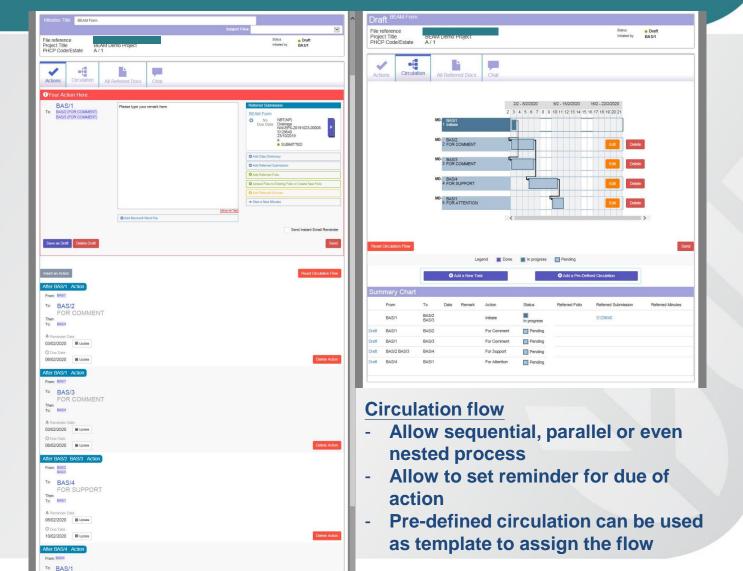
History of all processes on the submission



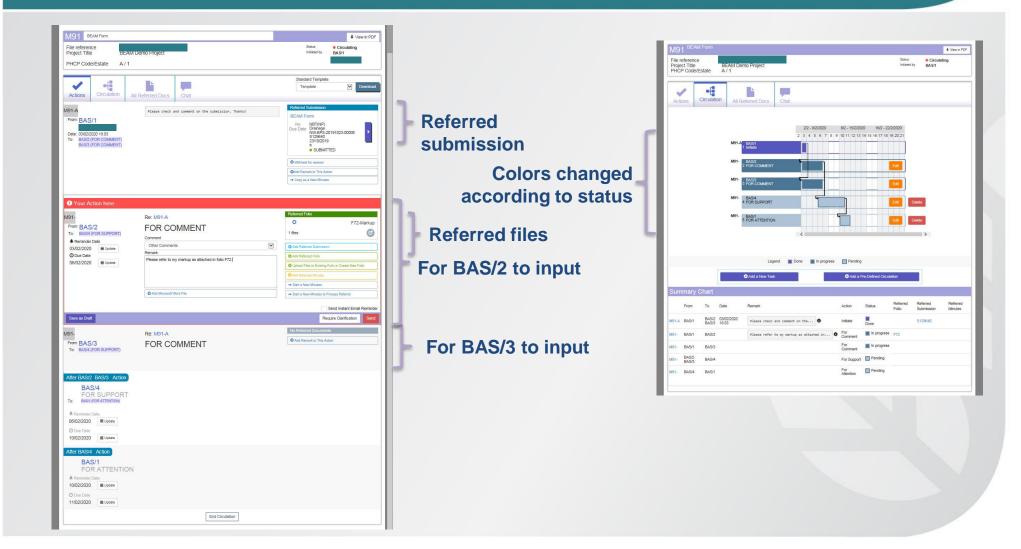
E-PROCESSING PLATFORM - ASSIGN VETTING TEAM MEMBER TO PROCESS THE SUBMISSION



- State minutes note and assign circulation flow to process the submission
- Individual note on the e-minutes will be frozen as read-only after sending out to others
- Allow to attach referred files, minutes or submissions







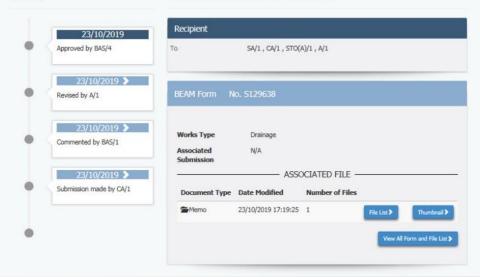


Applicant can view vetting team's reply in read only mode

Submission No.	\$129638	Action Status:	CP O	
Submission No.	5129038	ACTION Status:	00	
Submission Status	Approved	Reply Date	23/10/2019	
PHCP No.	A	Phase	1	
Project Title	BEAM Demo Project			
Description	test			
Applicant File Reference	test			

Timeline

Submission Detail Approved by BAS/4 on 23/10/2019

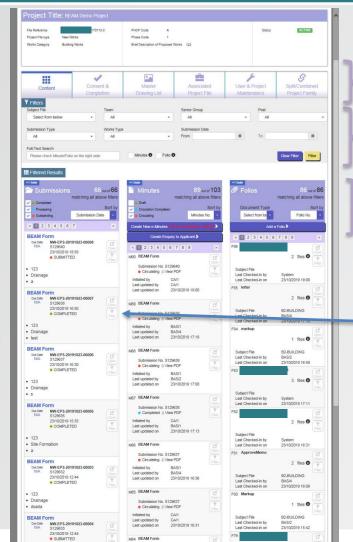




E-PROCESSING PLATFORM - ELECTRONIC PROJECT FOLDER



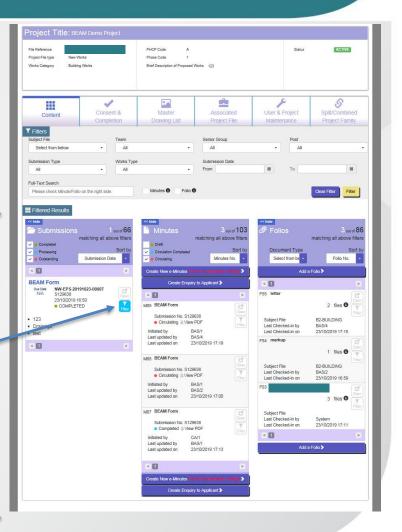
Sample screen - Electronic Project Folder



Tabs for Project summary

Filter for different types of submissions A comprehensive view of all submissions, minutes and folio of the project

> Submission, minutes and folio are shortlisted according to select submission



BEMM

Sample screen - Project summary of individual officer

Below are	the projects that yo	ou or your team is participating.			Lot No. All	EPF Type AI
1	File Ref Title	EPS-KS01CC02-01 Dev. at Kwai Shing	EPF Type New Works Works Category Building Works	Status Acrive File Open Date 2015-08-06 17:39		View e-Project Files >
2	File Ref Title	EPS-YL20TT-01 Yuen Long	EPF Type New Works Works Category Building Works and Street Works	Status Active File Open Date 2015-08-03 14:23		View e-Project Files >
3	File Ref Title	EPS-CC-2015-00004 A & A Project Site E	EPF Type A&A Works Works Category Building Works	Status Active File Open Date 2015-07-17 17:29		View e-Project Files >
•	File Ref Title	EPS-HE110-11 New Project Phase 1	EPF Type New Works Works Category Building Works	Status Active File Open Date 2015-07-17 17:29		View e-Project Files >
5	File Ref Title	EPS-CHH-2015-00008 Kwai Shing A&A Project	EPF Type A&A Works Works Category Building Works	Status Aonve File Open Date 2015-07-14 10:34		View e-Project Files >
5	File Ref Title	EPS-NW111-01 Yuen Long Project	EPF Type New Works Works Category Building Works	Status Active File Open Date 2015-07-13 18:06		View e-Project Files >
	File Ref Title	EPS-KT08NR-01 Kwai Shing Site E Phase 1	EPF Type New Works Works Category Building Works	Status A01740 File Open Date 2015-07-03 10:37		View e-Project Files >
3	File Ref	CHH-2015-00005	EPF Type A&A Works	Status Active		View e-Project Files



We need your help

BEMM

We need your help

7 focus-groups will be established to gather more industry participation

e-Forms	Standardised forms to allow consistent submission.	
Document Submission Module	• A portal with functions to process and archive information in e-Forms submitted by the Applicants.	
Workflow & Approval Module	• A centralized project management module that would define, execute and automate the processes.	
Online Communication Module	• A communication platform for all concerned parties.	
Reporting Module	• A flexible and fully customizable report generator that obtains real- time results on information stored within the System.	
Knowledge Database & Keyword Search Module	 A centralized digital database of all information pertaining to BEAM Plus assessment and its related services. 	
Finance Module	• Financial reports generator, billing and invoicing system.	



We need your help

Privilege entitled as a focus-group member:

Direct solicitation of advice **amid System development period**

Priority in joining protocol/ System demonstration

By completing the Questionnaire, you can:

- Provide feedbacks to the workshop/ System
- Join specific focus-group(s)

0.5 CPD hours will be rewarded to all BEAM Practitioners





Q&A

- Please type in your questions, if any, in the chatbox.
- We will try to answer accordingly.



Thank you