

Organisers



Housing Bureau

The Government of the Hong Kong Special Administrative Region
of the People's Republic of China



香港房屋委員會
Hong Kong Housing Authority



THE UNIVERSITY OF HONG KONG 香港大學

faculty of architecture 建築學院

Department of Real Estate and Construction

房地產及建築系

SMART QS HACKATHON 2026

Application Deadline:
14 August 2026 (Fri)

APPLY NOW



Why You Should Join?

- 1 Upskill with Premium AI Workshops
- 2 Get FREE Computing Resources
- 3 Receive 1:1 Industry Mentorship



Total Cash Prize up to
\$148,000

Further develop and implement the proposed solution with the Organisers.



Hackathon Overview

Assigned Challenges

01

Contract Advisory

02

Payment Valuation

Open Challenge

Open to Proposals: AI solutions that address key QS pain points

03

Professional Stream

04

Student Stream

Requirement of Participating Team: Accept **individual** participant or a group of **5 members as maximum**

Scope of Assigned Challenges

01

Contract Advisory

- Tender Document Drafting
- Vetting of Tender Content
- Provision of Contractual Advice

02

Payment Valuation

- Site Scanning and Reality Capture
- Work Item Recognition
- BQ Matching and Valuation

Eligibility

	Assigned Challenges		Open Challenges	
Streams	Contract Advisory	Payment Valuation	Professional	Student
Team Requirements	- Applicants may participate as an individual or as a team. Each team may comprise up to 5 members. - Team application can be submitted under a Hong Kong-registered company.		Applicants may participate as an individual or as a team. Each team may comprise up to 5 members.	
Eligibility	- Applicant / all team members must be aged 18 years old or above at the time of enrolment. - The individual applicant or at least 1 team member must be a Hong Kong identity Card holder and have a valid Hong Kong bank account. - If applying under a company entity, the company must have a valid Hong Kong bank account.		Applicant must be: Full-time student studying at Hong Kong local institutions, including both undergraduate and postgraduate students. - The individual applicant or at least 1 team member must be a Hong Kong identity Card holder and have a valid Hong Kong bank account.	

Competition Flow



Initial Proposal



Hackathon



Final Presentation

Assigned Challenges

Submit Initial Proposal

- Problem Context
- Solution & Design
- Data, Inputs & Assumptions
- Technical approach, architecture & AI/Analytics Method
- Training & Development Plan
- Team Structure



(5 teams shortlisted per each stream)

48-hour Hackathon

- Complete the challenge and submit the result
- Submit the prototype



(3 teams shortlisted per each stream)

Live Presentation + Demo

Open Challenge

Submit Initial Proposal

- Problem Context
- Solution & Design
- Data, Inputs & Assumptions
- Technical approach, architecture & AI/Analytics Method
- Training & Development Plan
- Team Structure

Submit Final Proposal

- Pitching Deck
- Prototype + Demo Video

Live Presentation + Demo

Workshop and Mentorship

Mentorship

Assigned Challenges (10 teams): mentors from HA

Open Challenge (10 teams): 10 mentors from Industry

Technical Upskilling

Introduction of access to Cyberport GPU Platform

Technical advisory to individual team

Industry Sharing

Learning Hub: From Concepts to Professional Application

AI Workshop: Next-Gen QS Digital Toolkit

**Sharing topic subject to change.*

Award Arrangement

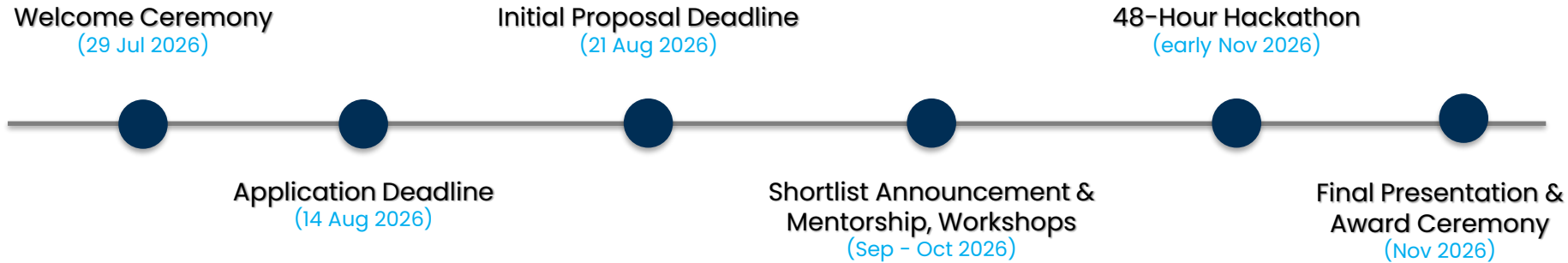
Total Cash Prize up to: **\$148,000**

Stream		Prizes
Assigned Challenge	Contract Advisory System	Champion: HK\$20,000 1st Runner-up: HK\$12,000 2nd Runner-up: HK\$5,000
Assigned Challenge	Payment Valuation Platform	Champion: HK\$20,000 1st Runner-up: HK\$12,000 2nd Runner-up: HK\$5,000
Open Challenge	Professional Stream	Champion: HK\$20,000 1st Runner-up: HK\$12,000 2nd Runner-up: HK\$5,000
Open Challenge	Student Stream	Champion: HK\$20,000 1st Runner-up: HK\$12,000 2nd Runner-up: HK\$5,000

All award winners may get the opportunities to:

- further develop and implement the proposed solution with the Organisers.

Programme Timeline



Application Submission

APPLY NOW



1 Applicants shall submit their applications with documents listed below by email to **smartqs@cyberport.hk** on or before **14 August 2026**.

- A completed Application Form
- A signed Non-Disclosure Agreement (“NDA”)
- A copy of Certificate of Incorporation and Business Registration, or equivalent document (if applicable)
- A copy of student card issued by the Hong Kong local institution, or equivalent document of each team member (if applicable)

➤ Application and Reference Materials

Application Form

[Download >](#)

Guide and Notes for Applicants

[Download >](#)

Non-Disclosure Agreement

[Download >](#)

Proposal Template & Writing Guide

[Download >](#)

2 Applicants must submit the **Initial Proposal** by email to **smartqs@cyberport.hk** on or before **21 August 2026**.

Screening Criteria for Initial Proposal



Initial Proposal



Hackathon



Final Presentation

Assigned Challenges

Problem understanding & scope alignment **30%**

Technical Feasibility **30%**

Innovation & Creativity **25%**

Team Structure & Capability **15%**

Open Challenges

Relevance & Impact **30%**

Innovation & Creativity **30%**

Technical Feasibility **25%**

Team Structure & Capability **15%**

Online Q&A Session

Online Q&A Session

Date: 31 July 2026 (Fri)
Time: 10:30am - 11:30am



Questions? Please submit to



Or email to
smartqs@cyberport.hk

Thank you

The Hong Kong Institute of Surveyors - Quantity Surveying Division



工料測量專業：築夢未來的合約和成本專家

Quantity Surveying Profession: Contract and Cost Experts Building the Future



THE HONG KONG INSTITUTE OF
SURVEYORS

香港測量師學會

工料測量組 Quantity Surveying Division

The Hidden Professionals of the City

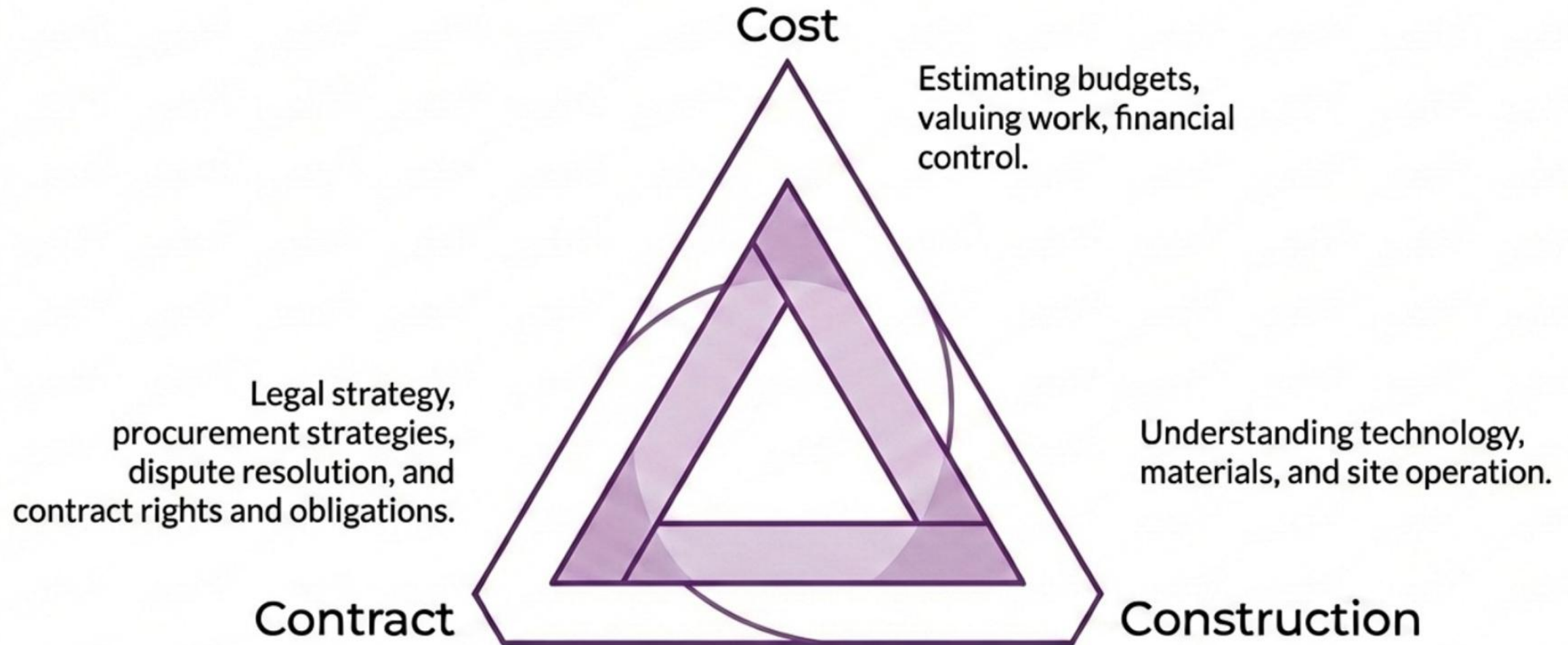
Bridging Engineering, Design, Finance, and Law



Every iconic skyline needs a visionary to ensure the dream doesn't run out of money. **The Quantity Surveyor (QS)** is the secret weapon of the construction industry.

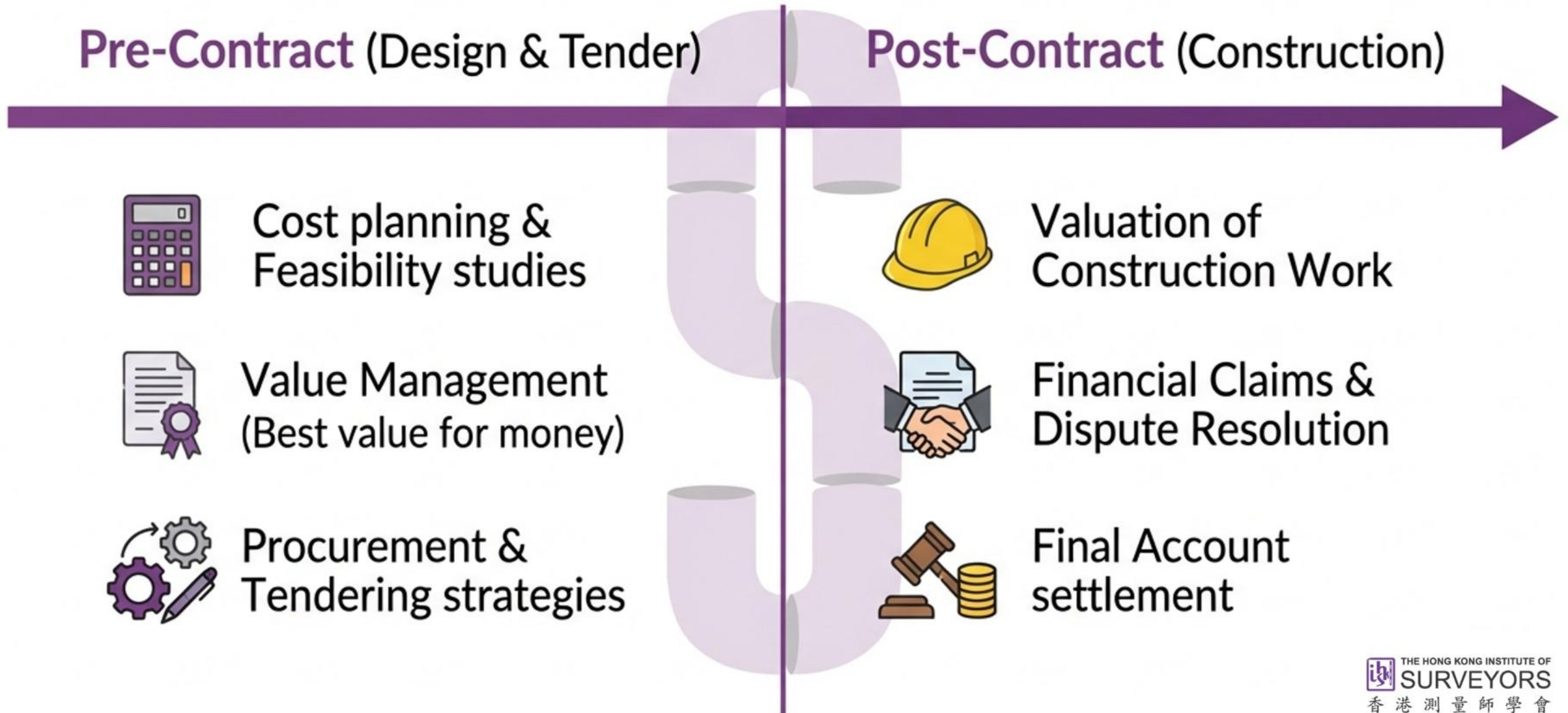


The "3 Cs" of Quantity Surveying



More than just math—it is the intersection of money, law, and engineering.

The Project Contract and Finance Manager



Cost Planning & Feasibility Studies

Project Financial Viable



Preliminary Budgets, Cost Estimates, Cost Plan

Identify the project scope, quality, standard, construction methods, procurement strategies and setup the budget



Cost Risks

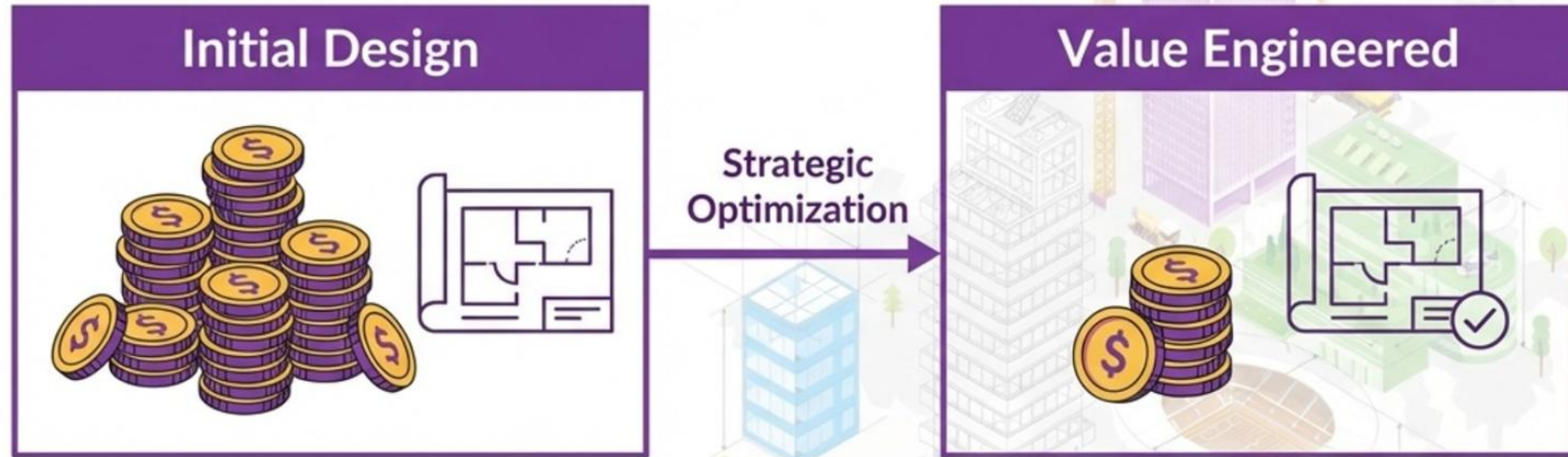
Price fluctuation, labour cost increase, supply chain disruption, unforeseen site conditions, design deficiencies, compliance changes etc.



Contingencies, Preliminaries, Allowance

Financial buffer to protect the budget from overruns and allow sums for known items that are expected but not yet fully defined

Value Engineering: Doing More with Less



Strategic Shopping:

Optimizing material choices on a massive scale.

Life Cycle Costing:

Analyzing the cost to build AND the cost to maintain over 50 years.

Sustainability:

Assessing Embodied Carbon for a greener future.

Procurement & Tender Strategies

Driving value through Procurement Strategy and Tender Control



**Procurement
Approach and
Tendering Packages**

**Bids Analysis for
value, risk and
compliance**



**Tender and Pricing
Documents**

**Tender Evaluation,
Assessment Criteria
and Tender Award**



Valuation of Construction Works

Safeguard Fairness and Commercial Certainty



Work Done

Assess and evaluate the value of work executed

Variations

Measure and value any changes to design, quality, or quantity of the works



Interim Payment



Cashflow Projection



Financial Report



Budget and Cost Control

Contractual Claims & Dispute Resolution

Commercial and Dispute Resolution Facilitator



Contract Entitlement Review

Contract interpretation regarding delay, disruption, prolongation, loss and expense, and other claims



Claim Submissions or Evaluation

Demonstrating or evaluating the entitlement, cause, effect, and other details of the claims



Quantum Assessment

Advise the quantum of the claims in formal dispute resolution proceedings where required



Dispute Resolution

As a consultant or independent third party in the dispute resolution

Final Account Settlement

Effective Project Financial Closeout



Transformative QS Landscape

- Collaborative Contracting
- New Engineering Contract (NEC)
- Contractual BIM
- Security of Payment
- Adjudication
- Standard Form of Building Contract 2025 Edition
- Expanded Role of QS
- Sustainability
- Digitalisation
- AI-Driven Initiatives
- Automation
- ESG
- Data Literacy



“Beyond the Calculator: Tech & Innovation”



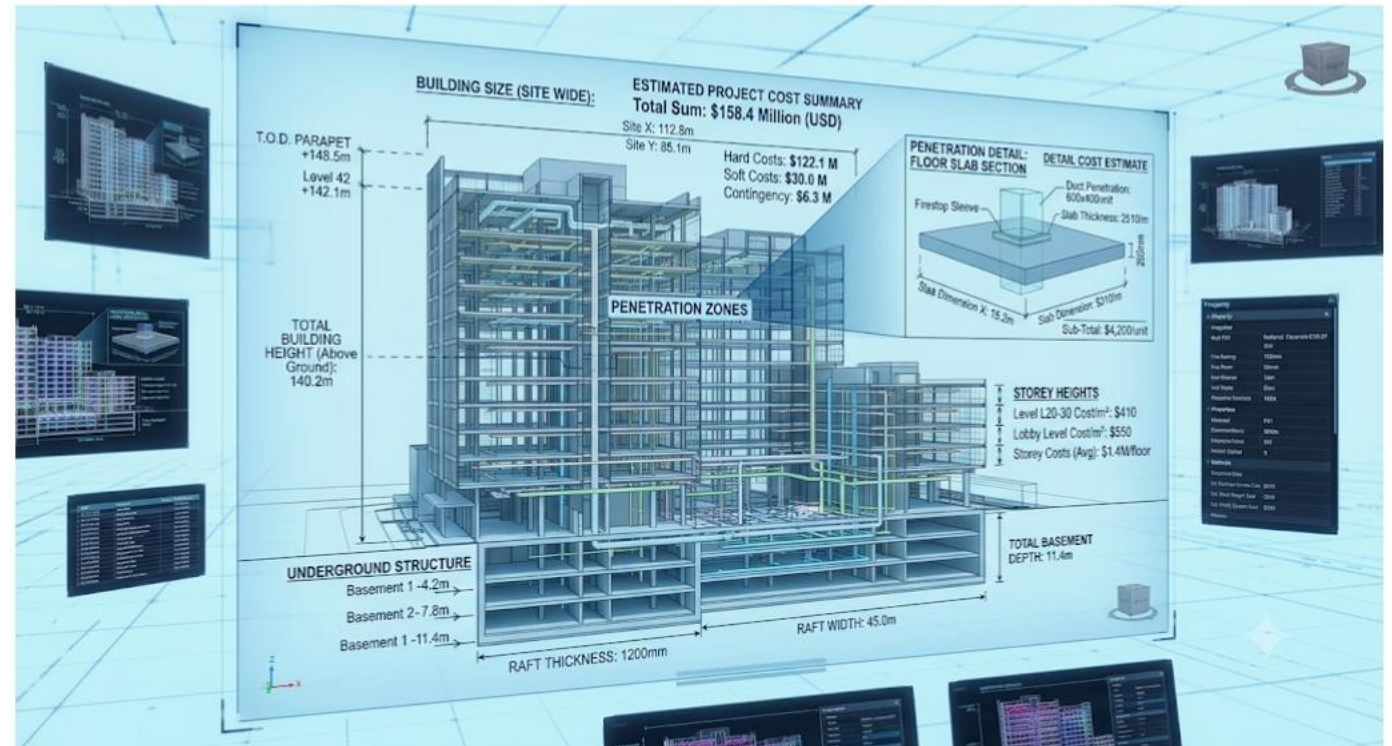
- **BIM (Building Information Modelling) 5D BIM** for automated financial cost extraction



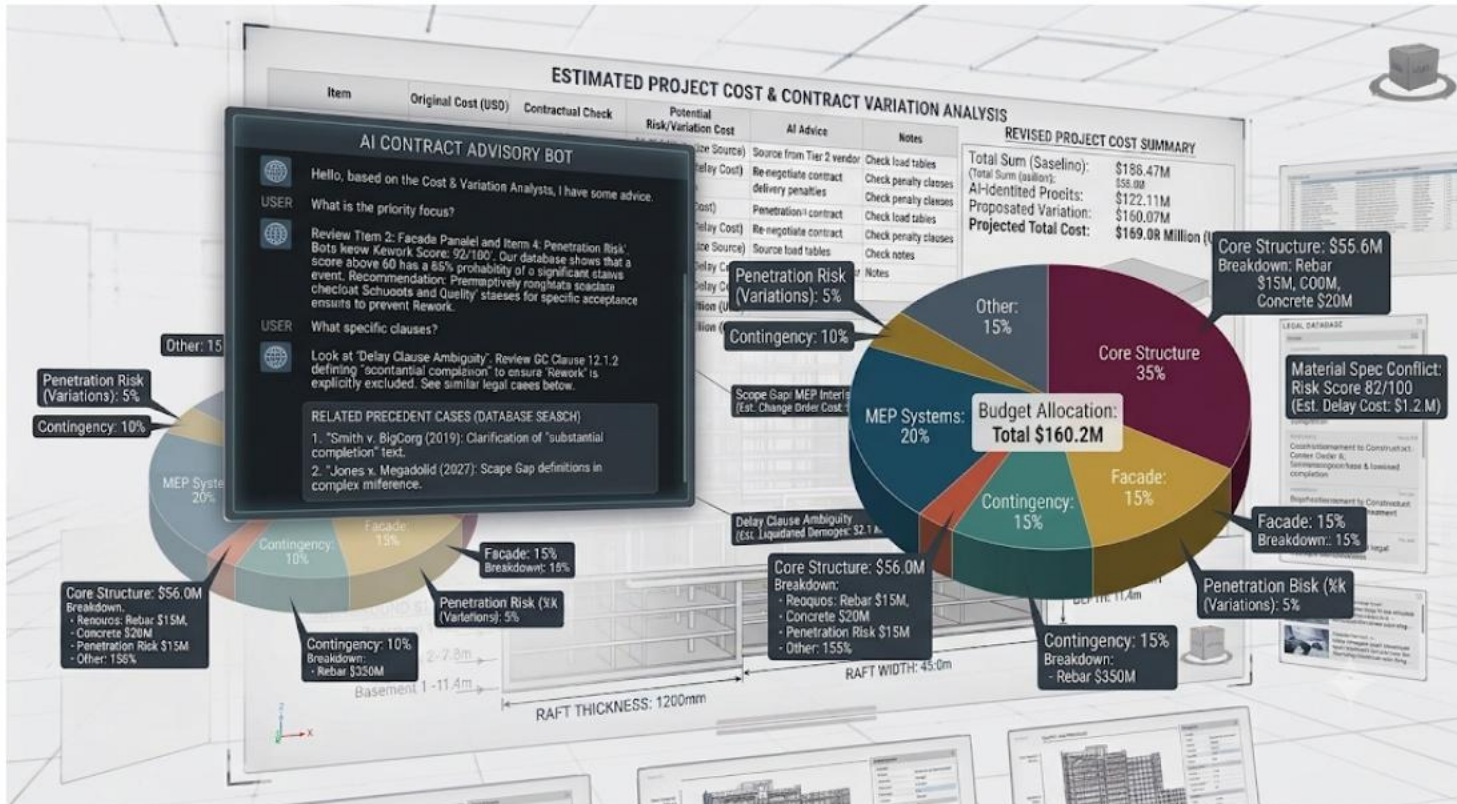
- **AI-Driven HKSM5 QTO (Quantity Take-off)**
Intelligent Coding system enabled automated QTO



- **Digital twins technology advancement**



“Beyond the Calculator: Tech & Innovation”



- **AI Contract Advisory**
Speed up agreements review, risk clauses identification



- **AI-driven Cost Estimate**
Predictive analytics with historical project cost data and live inputs

“Beyond the Calculator: Tech & Innovation”



- **e-Payment Platform / System** Optimise payment submission, review & approval workflow



- **Digital Contract Management Platform /** Streamline the key contract management process



- **Project Information Management System**
Integrates cost, time, scope, risk and document-related information to facilitate decision-making



SMART QS HACKATHON 2026

- Explore innovative AI applications for the QS profession
- The HKIS fully supported
 - Pre - Qualification Structured Learning
 - 50 complimentary seats per session



**Industry Sharing and Pre - Qualification
Structured Learning Enrollment**
11 Aug 2026 , 10 Sept 2026 , 9 Oct 2026



QSD Practice Notes



THANK YOU

Hong Kong Office

Rm 3006, 30/F,
World Trade Centre
280 Gloucester Road,
Causeway Bay, Hong Kong

Tel: (852) 2526 3679
Fax: (852) 2868 4612
Email: info@hkis.org.hk

Beijing Office

Room B10, 8/F.,
North Tower, CP Centre
CBD Core Area Z14,
Guanghua Road,
Chaoyang District,
Beijing, China
(Postal Code: 100026)
Tel: 86(10) 8219 1069



 THE HONG KONG INSTITUTE OF
SURVEYORS
香港測量師學會
工料測量組 Quantity Surveying Division



Challenge Brief

Contract Advisory

Role of QS in Construction Contracts



Draft contracts to clearly define scope, allocate risk fairly and avoid future disputes

Administer post-contract operations to ensure compliance with contracts and smooth running of projects



Ultimate benefit: Projects are completed on time, within budget and with ensured quality

Tendering Process

Phase 1: Invitation

Employer issues **Tender Documents** inviting tenderers to bid.

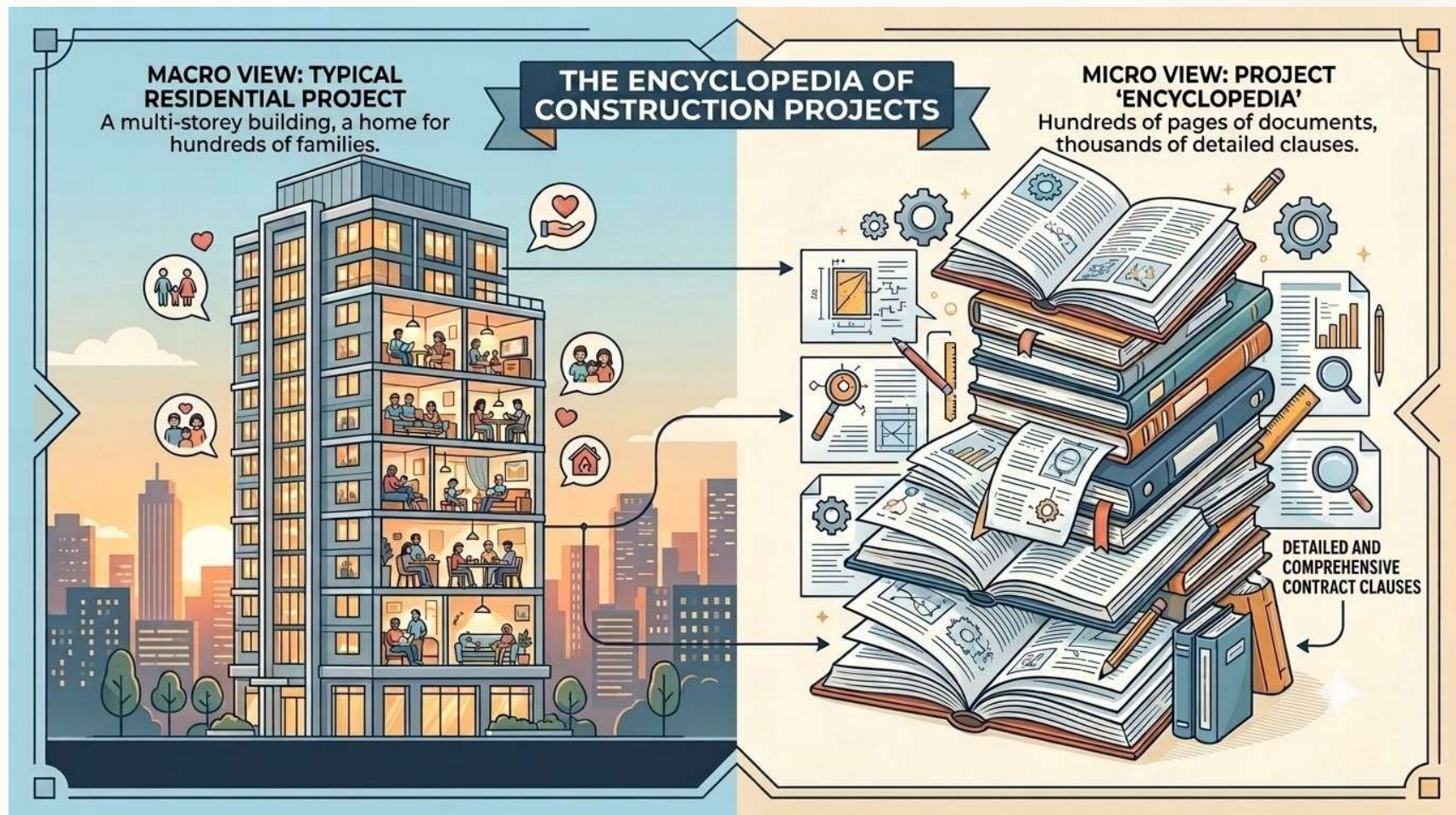
Phase 2: Submission

Tenderers analyse requirements and formally **submit Tenders**.

Phase 3: Formation

A **Contract** is formed upon acceptance of tender.

Tender Documents



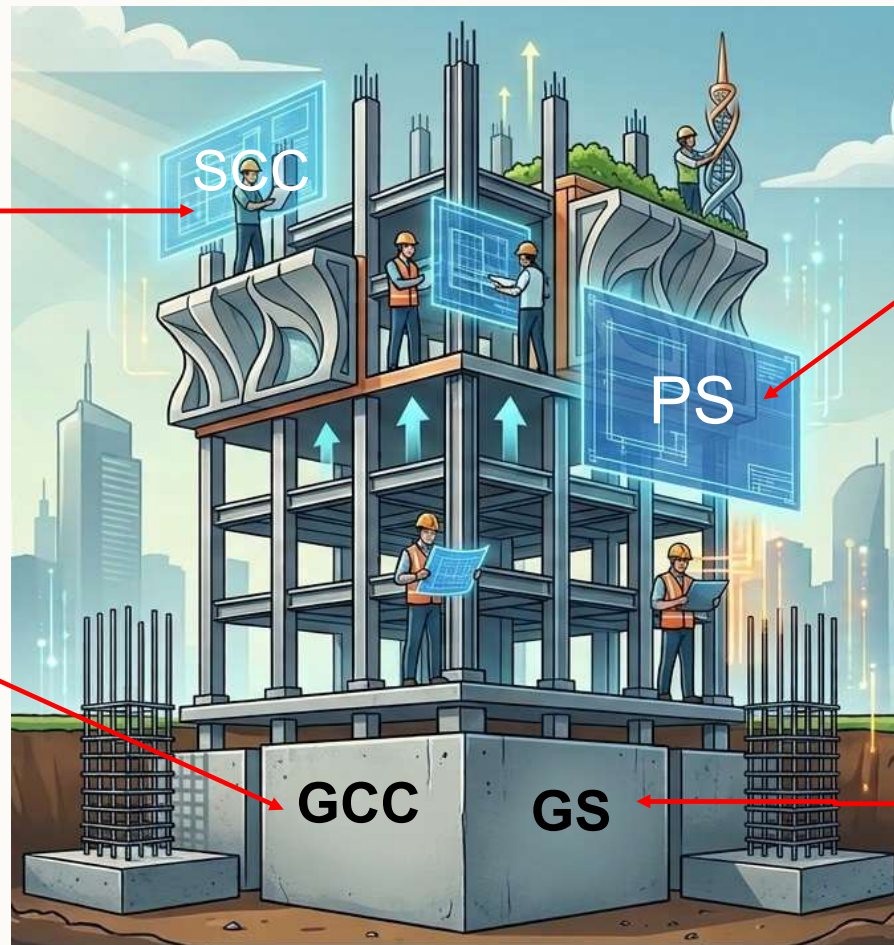
Tender Documents



Contractual and Specification Framework

Special Conditions of Contract (SCC) are project-specific alterations and additions to the GCC.

General Conditions of Contract (GCC): e.g. The Hong Kong Housing Authority General Conditions of Contract for Building Works 2013 Edition (version 1.1).

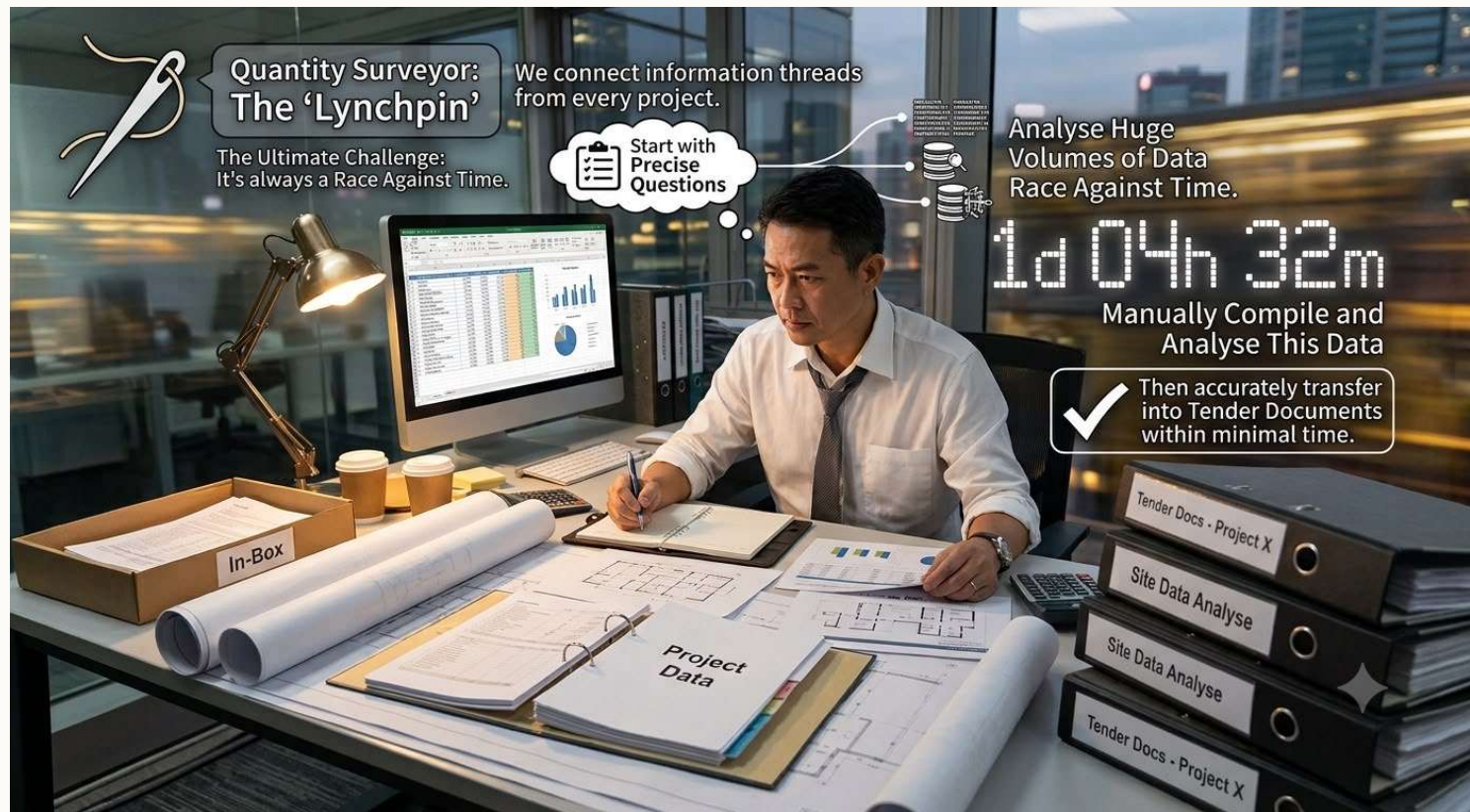


Particular Specifications (PS) are modifications to the GS to fulfill the specific needs of each project.

General Specifications (GS) are standard documents to set out the material standards and quality of workmanship.

Challenges

Process large volume of documents manually in a tight timeframe



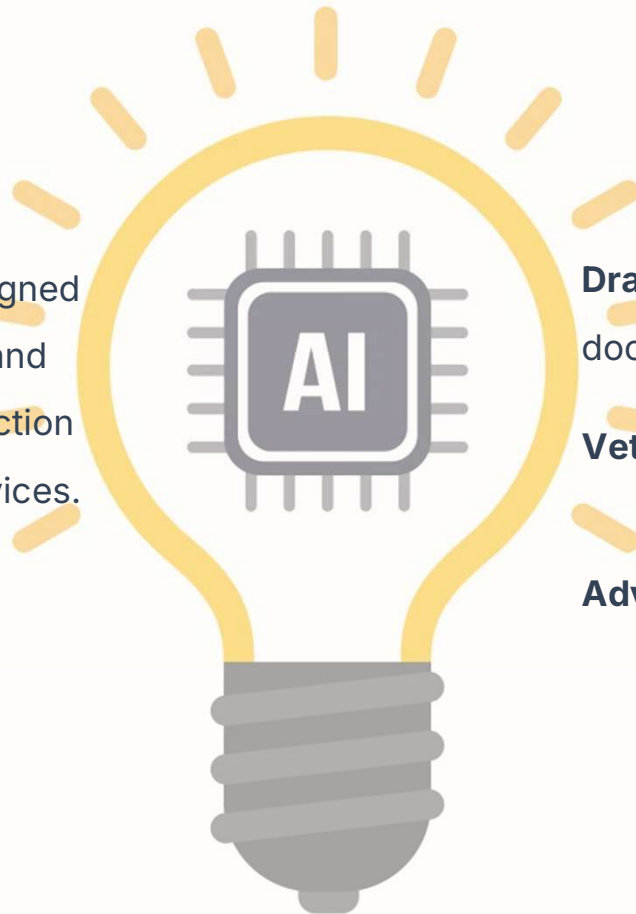
Challenges

Tender document vetting in a tight timeframe



The Proposed Solution

The proposed solution should be designed to streamline the process of drafting and vetting tender documents for construction contracts and provide contractual advices.



Drafting: Automated assembly based on standard documents and project-specific data.

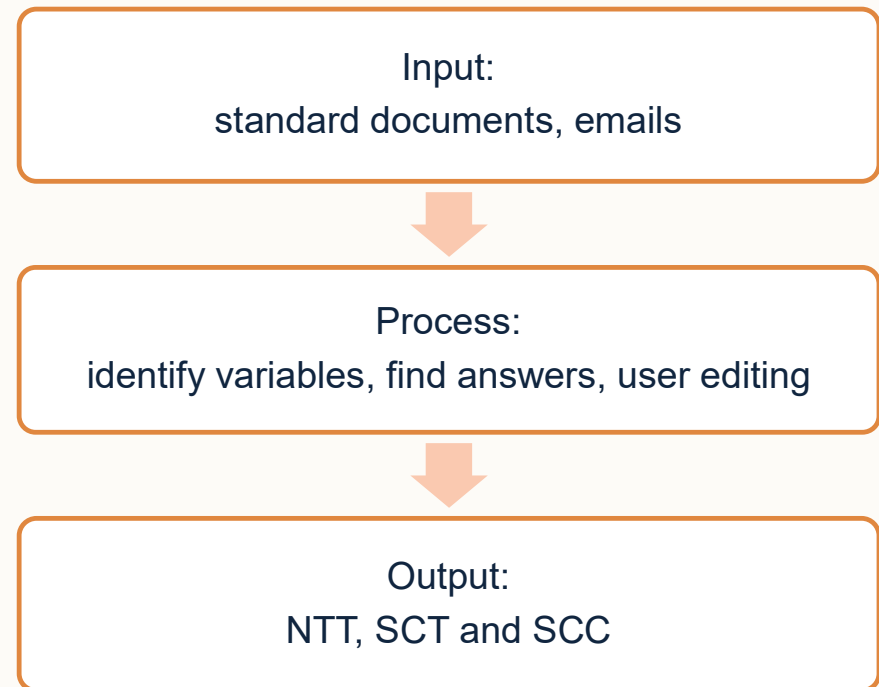
Vetting: Due compliance and consistency checks.

Advice: Natural language contractual Q&A.

Function 1: Tender Documents Drafting

Scope of the proposed solution

The solution focuses on drafting the **Notes to Tenderers (NTT)**, **Special Conditions of Tender (SCT)**, and **Special Conditions of Contract (SCC)** (excluding Appendices).



Function 2: Tender Document Vetting

-  **Conflict Detection:** Identifies ambiguities or contradictions among various parts of tender documents.
-  **Reference Verification:** Checks cross-references to clauses.
-  **Clauses Clarity Review:** Identify ambiguous clauses to improve clarity and avoid misunderstandings
-  **Textual Check:** Performs grammar and vocabulary audits for professional clarity.

Function 3: Contractual Advice

Natural Language: Enables users to query specific contract documents using natural language.

Answers with Basis: This function provides context-aware answers supported by direct links or extracts from the contract provisions.

"I don't know" Response: This function maintains integrity by stating "I don't know" when answers cannot be found in the provided contract provisions.

Required Deliverables

Documents to be provided to candidates in phases

- ❑ Contract Advisory challenge brief
- ❑ Sample standard documents
- ❑ Tender documents prepared for a hypothetical project
- ❑ Sample tender documents vetting report
- ❑ Sample questions for contractual advice

Proposal

A proposal to demonstrate how the candidate can develop a solution to perform the required functions

Hackathon Day

A developed prototype of solution to demonstrate how the required functions are performed.

Thanks

Briefing on Contract Advisory

✉ smartqs@cyberport.hk

🌐 https://www.cyberport.hk/en/smart_qs_hackathon_2026/

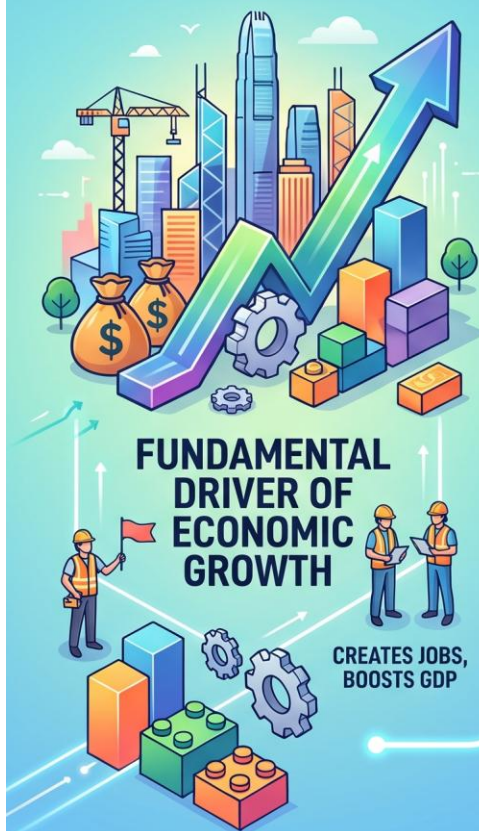


Challenge Brief

Payment Valuation

Building HK's Future

PILLAR OF THE ECONOMY



GOVERNMENT CAPITAL WORKS

PUBLIC INFRASTRUCTURE



SUPERSTRUCTURE WORKS



PUBLIC HOUSING PRODUCTION

10-YEAR SUPPLY TARGET

2026/27 → 2035/36

294,000 UNITS



UNDER LONG TERM HOUSING STRATEGY (LTHS)

5-YEAR PROJECTED SUPPLY

2026/27 → 2030/31

159,900 UNITS

HOUSING AUTHORITY PROJECTS...



Cash Flow Keeps Projects Alive

The Funding Pipeline

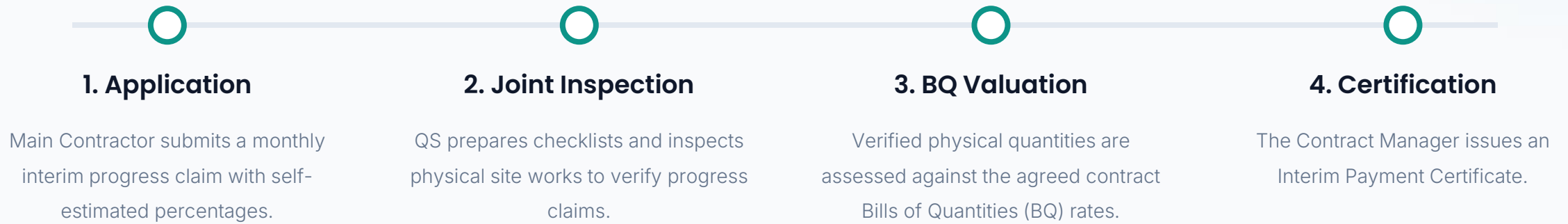
To get a construction project off the ground, you need cash upfront for workers and materials.

The Domino Effect

On-time payments keep subcontractors and frontline workers motivated, build trust, and ensure projects finish successfully without delays.



| Conventional Contract Payment Workflow



The Financial Gatekeeper

- **Critical Role:** QS acts as an independent professional assessing payment application.
- **Thorough Checking:** QS meticulously measures completed works against the "Bills of Quantities" (BQ) in Contract.
- **Assessing Value:** QS assesses a payable amount, establishing the crucial bridge between construction works and its contract value.



The Hurdles We Face Today

1 MANUAL PROCESS



2 MANDATORY ON-SITE PRESENCE



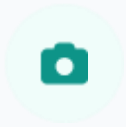
3 CONSTANT ARGUMENTS



4 CISOP ORDINANCE

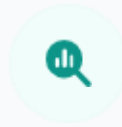


| The AI Payment Valuation Framework



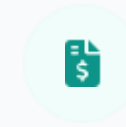
1. Reality Capture

360° cameras and technologies dynamically capturing site status in minutes.



2. BQ Smart Matching

LLM models a Computer Vision identifying completed components and cross-referencing against contract items.

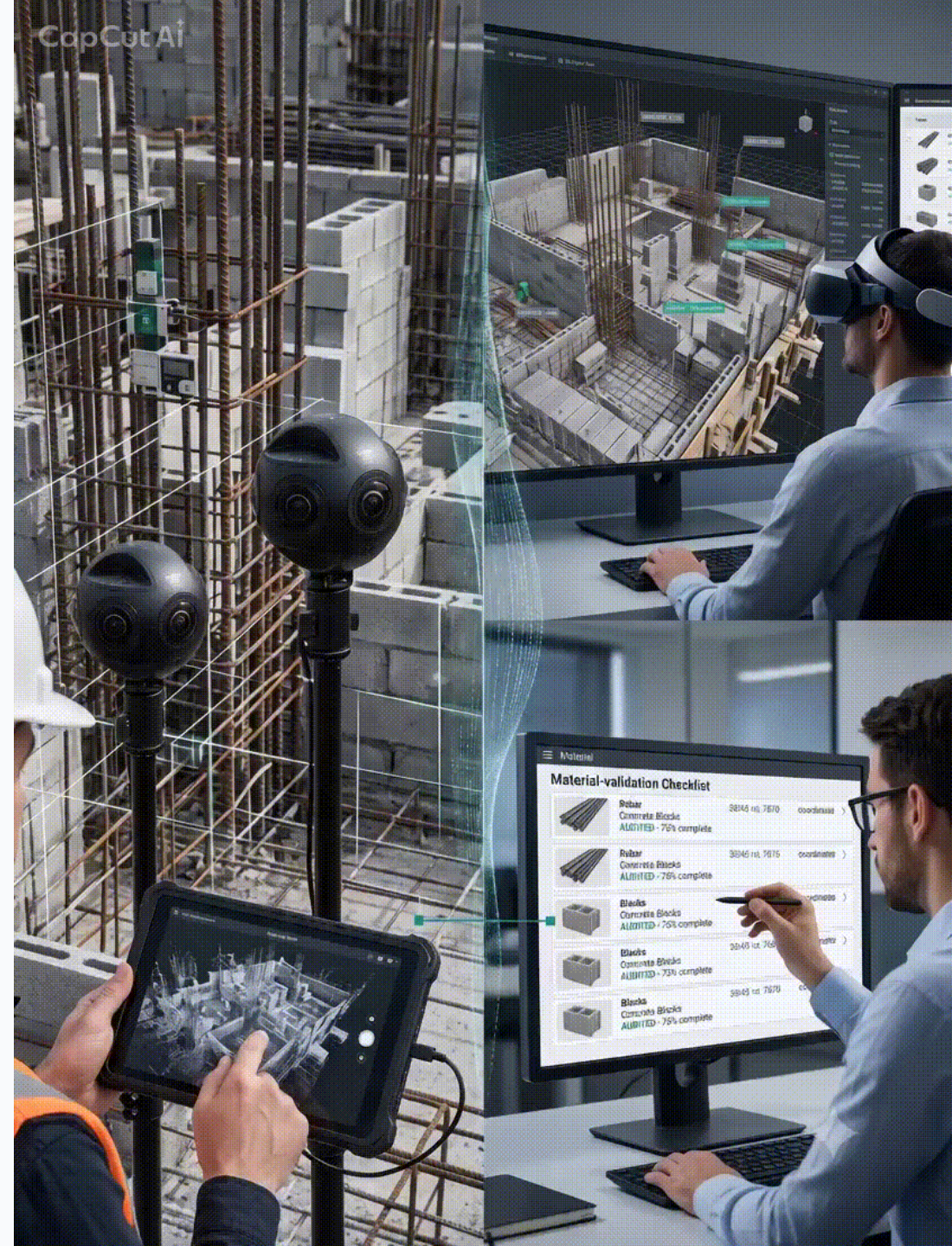


3. Auto Certification

Completion status mapped automatically into structured reports for QS cross checking.

Reality Capture

- **On Site Scans:** Using devices like 360 Camera, laser scanning devices to capture site progress from time to time.
- **The Digital Twin:** Reconstructs a spatial digital twin of the construction site.
- **Remote Inspection:** Allows engineering and QS teams to inspect material delivered to site, spatial parameters, and physical completion percentages from the office.



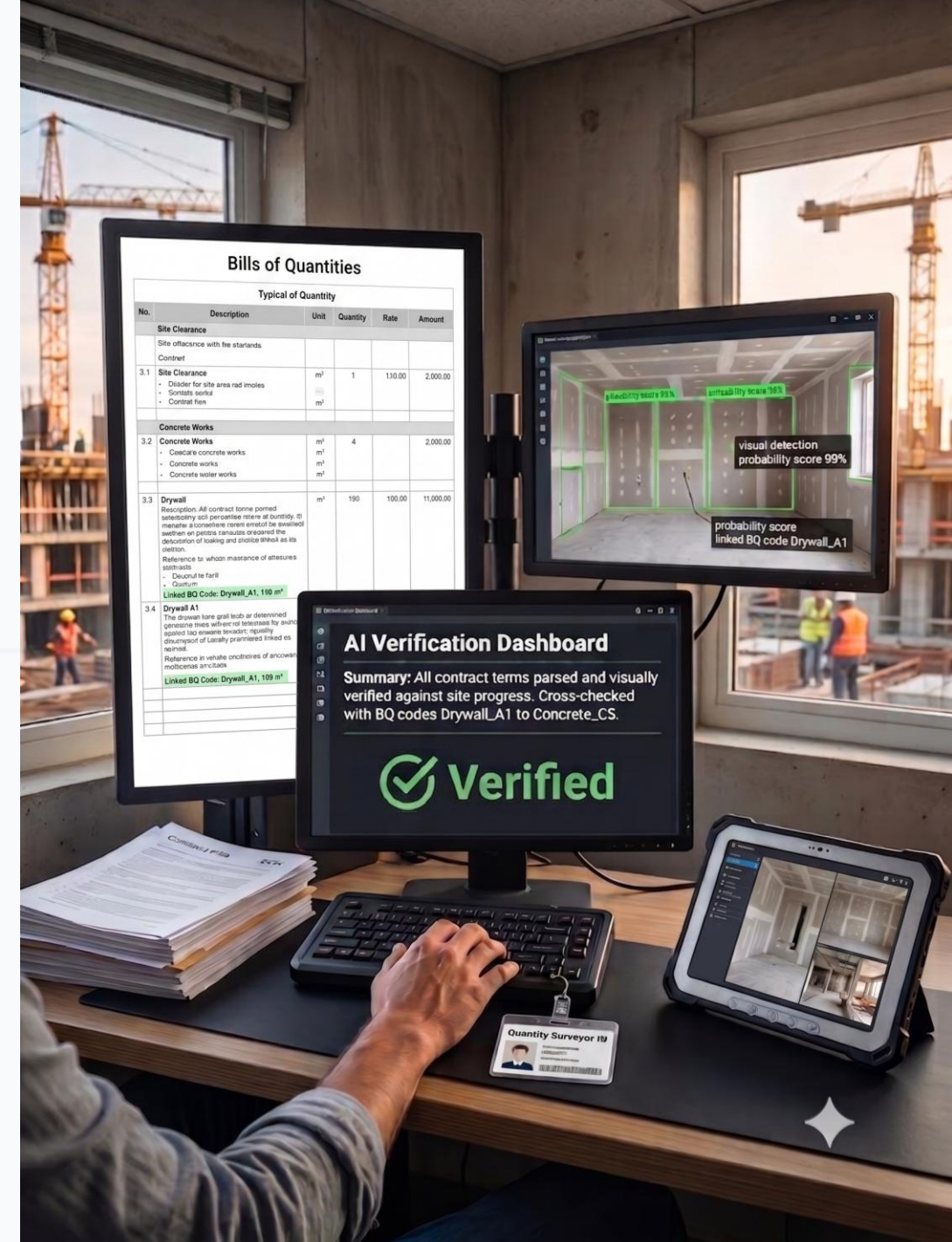
BQ Smart Matching

Smart Document Parsing

Natural Language Processing and Large Language Models read the complex contract files and BQs to build a structured database of standard pricing and specifications.

Visual Intelligence Engine

Custom AI model crosschecks the physical captures. If the system detects specific work done on site, it aligns them automatically with corresponding BQ items.



Auto Certification



Automated Valuation

Direct calculation of progress percentages mapped to agreed rates, determining net payable amounts immediately with links to visual evidence.



Interim Certificate Drafts

Automatically generates structured, review-ready interim certificate drafts.



A Win-Win for All



Operational Efficiency

Accelerates physical mapping cycles from days to mere hours, empowering teams with instantaneous digital evaluations.



CISOPO Compliance

Secures safe, transparent, timestamped audit trails that confidently comply with the statutory payment requirements.



Ensuring Project Continuity

Optimises financial control, resolves assessment disputes instantly, stabilises cash flow, and keeps construction programmes on track.

Reference Documents & Guidelines

- Hong Kong e-Legislation. (2024). *Construction Industry Security of Payment Ordinance* (Cap. 652). HKSAR Government. <https://www.elegislation.gov.hk/hk/cap652>
- Hong Kong Housing Authority. (2013). *General conditions of contract for capital works (Building works)* (2013 ed.). HKSAR Government. <https://www.housingauthority.gov.hk/en/business-partnerships/resources/general-conditions-of-contract-for-capital-works/index.html>
- Hong Kong Institute of Surveyors. (2018). *Hong Kong standard method of measurement of building works*. (4th ed. Revised).
- Hong Kong Institute of Surveyors. (2015). *Practice notes for quantity surveyors: Valuation for interim payment certificates*. <https://www.hkis.org.hk/ufiles/QS-IPC2015v2.pdf>

Note: The Payment Valuation Challenge focuses on conventional building contracts with monthly progress payments under the Hong Kong Housing Authority General Conditions of Contract (HAGCC).

| Site Visits (for Shortlisted Candidates)

Hong Kong Housing Authority New Works



Mid September 2026

First Site Visit — Assessment & Planning

Provides candidates with real experience of the physical site environment to analyse spatial and lighting constraints, establishing effective reality capture strategies.



Early November 2026

Second Site Visit — Live Hackathon Capture

Candidates execute live, on-site reality capture during the 48-Hour Hackathon to harvest real-time spatial and visual progress data required to solve the Payment Valuation Challenge.

Information Available to Shortlisted Candidates

Project Drawings

ROLLER SHUTTER SCHEDULE (S.S.) FOR RETAIL AT G/F

ROLLER SHUTTER MARK	CRS-1	CRS-2	CRS-3
LOCATION	SHOP NO. 01 (FAST FOOD) AT G/F		
STRUCTURAL OPENING	W. 1800 X H. 2600 AFFL	W. 3065 X H. 2600 AFFL	W. 3386 X H. 2600 AFFL
FRR	—	—	—
REMARKS			

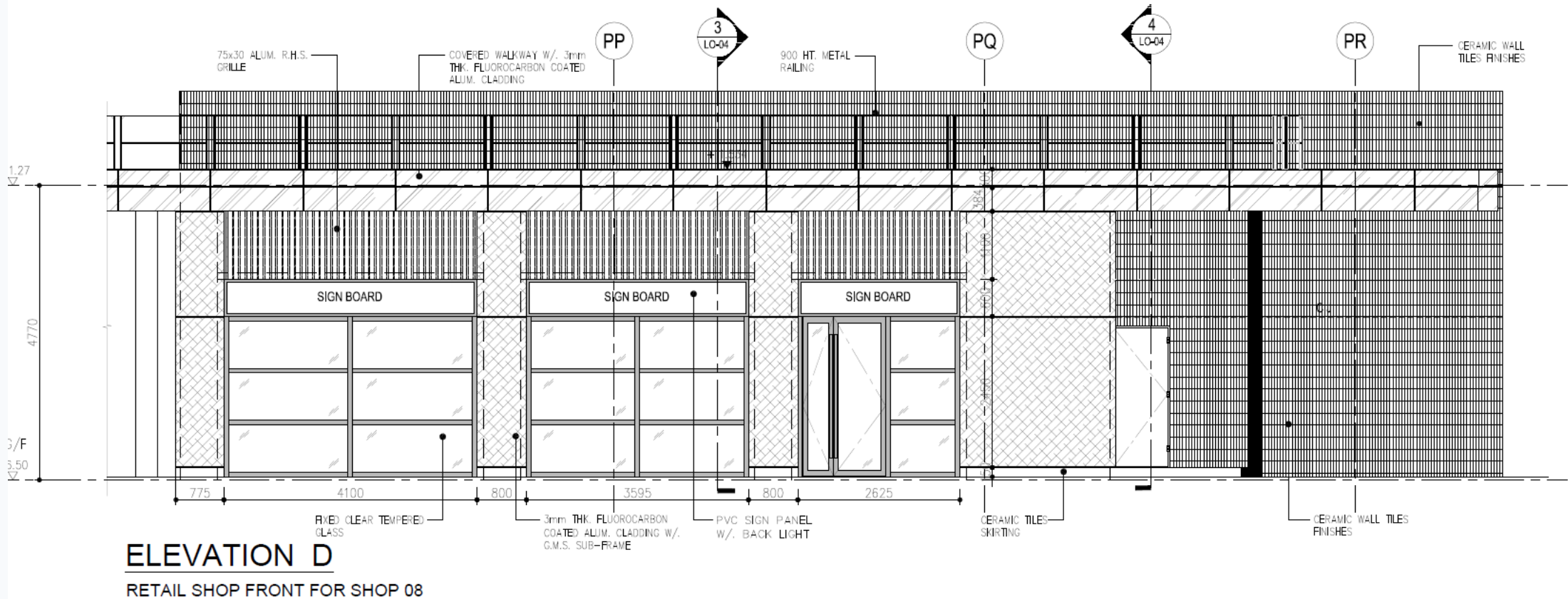
ROLLER SHUTTER MARK	CRS-7
LOCATION	PREFABRICATED VOLUMETRIC MODULE (RETAIL SHOP) NO. 02 (GENERAL TRADE), SHOP NO. 03 (EDUCATION & CULTURAL CENTRE), SHOP NO. 06 (MEDICINE, COSMETICS AND DRIED SEAFOOD (WITH CHINESE MEDICAL PRACTITIONER SERVICES)) & SHOP NO. 07 (BAKERY) AT G/F
STRUCTURAL OPENING	W. 5550 X H. 2650 AFFL
FRR	—
REMARKS	

Project Drawings



Information Available to Shortlisted Candidates

Project Drawings



Information Available to Shortlisted Candidates

On-site photos



Driving Industry Change

By marrying spatial technology with QS expertise, we build a faster, fairer construction future.



smartqs@cyberport.hk



https://www.cyberport.hk/en/smart_qs_hackathon_2026/