

## **What is the APQS all about?**

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# A. QS Industry's background

## 1. The need for Accreditation - What is the current state of QS profession?



- a) **Technology:** Rapid deployment will render many traditional skillsets/jobs today, defunct.
- b) **BE image:** Difficulties attracting & retaining new entrants - Perceived unsafe, dirty and unglamorous.
- c) **Singaporean QS shortage:** Severe shortage of Singaporean educated and trained candidates, willing to enter and remain in the profession. Due to?:
  - ☐ Lack of general public awareness of QS profession in Singapore - specialised role;
  - ☐ Long training period required to acquire professional financial and contractual skills;
  - ☐ Remaining in a single profession for decades not appealing to a new generation;
  - ☐ Lower salaries compared to other fields; or
  - ☐ **Lack of professional regulation and recognition – Not seen as Professionals**  
...like Architects, Engineers, Accountants and Lawyers.

# A. QS Industry's background

## 1. The need for Accreditation - What is the current state of QS profession?

- d) **Demand:** Construction projects growing increasingly complex, greater need for higher efficiency and productivity; intricate cost estimating; data analysis; cost management processes and/or software; **value-add; strategic, contractual and financial advice.**
- e) **Dilemma:** **Difficult to attract interested students in Singapore** versus an ageing QS working population, with low technology skills and abilities.
- f) **Unless the objectives of:**
  - ☐ greater awareness and **professional recognition;**
  - ☐ career progression transparency and **attractive pay;**
  - ☐ digitalisation and technology skillset adoption to spur efficiency, **innovation and interest;****are met, will be no Singaporean core of trained QS's in future....**  
**.....left with an aging and diminishing QS working population.**

# A. QS Industry's background

## 1. The need for Accreditation - What is the current state of QS profession?

g) **Framework:** The APQS initiative - proposed framework to achieve those objectives.

- ☐ Define the **desired workforce skills standards** and training needs for the QS profession.
- ☐ Clarity of **career progression and required skillsets**, will help to attract, train, upgrade and motivate candidates to continually learn and progress.
- ☐ **Higher pay** will follow higher skillsets, innovation and efficiency.
- ☐ The **esteem and pride associated with professional recognition** will help retention and bolster standards and professionalism in our industry.

h) **Common Goal:** The APQS initiative is therefore in line with the Singapore Government's key thrust of ***Good Paying Jobs and upskilling through Continuing Education and Training.***

# A. QS Industry's background

## 2. What are current QS no's? Target no. by 2030 to meet industry demand?

.....left with an aging and diminishing QS working population.

- **Global QS shortage:** In traditional commonwealth countries like the UK, Australia, etc.  
...dwindling QS numbers is not only a Singapore problem.

- **Current SISV QS Division numbers:**

Category	Yr 2018	Yr 2019	Yr 2020
Fellow	37	36	32
Member	417	424	430
Probationer	126	146	171
Tech Member	118	145	154
Student	4	3	3
Retired	34	38	42

At first glance, they do not look too bad....

....compare them to a traditional market where QS profession is vibrant and healthy,  
Hong Kong for example, the numbers look very **problematic for a number of reasons:**

# A. QS Industry's background

## 2. What are current QS no's? Target no. by 2030 to meet industry demand?

....problematic for a number of reasons:

### a) Professional regulation and recognition

#### 1) HONG KONG

- i. A **regulated profession**, similar to Malaysia and the UK.
- ii. HKIS Professional membership is therefore **mandatory to practice**, unlike Singapore.
- iii. There are about **3235no. QS Division members** in the HKIS in a population of 7,5 million.

#### 2) SINGAPORE

- i. Population of 5,7million, only has **462no. full SISV QS members**.
- ii. On a pro-rata basis, construction work volume is largely similar.
- iii. Should be **at least 2000 plus professional QS's in Singapore** to properly service industry.

**The problem:** Majority doing “**QS work**” in Singapore are not sufficiently qualified, trained and lack professional qualifications.....**because there is no regulatory need** and no defined standard.

**QS industry transformation and the upliftment of standards, cannot take place without regulation and recognition in Singapore. Only through GPE's and Employers requiring certain standards, will candidates see the need for professional qualifications.**

# A. QS Industry's background

## 2. What are current QS no's? Target no. by 2030 to meet industry demand?

....problematic for a number of reasons:

### b) Demographics

- Within the next 10 years, close to half (**191no.**) of existing members will be retired.
- Currently only **212no.** members under 50 years of age.
- Drastic measures need to be put in place to ensure Probationers do not leave the industry
- Technical members offered upskilling pathways to upgrade to future Accredited Professional QS's.

Population			5.7 SISV	7.5 HKIS	Pro-rata	Shortfall		
Category	Yr 2018	Yr 2019	Yr 2020	3235	2459	<b>1696</b>		
Tech Member	118	145	154			-154		
Probationer	126	146	171			-171		
Student	4	3	3			-3		
Fellow	37	36	32	210	160	128		
Member	417	424	403	3025	2299	1896	4.65	times more required
30 & below			10					
30 - 40			72					
41- 50			130				212	under 50
51 - 60			98					
61 - 70			53					
Unknown(due to no DOB on system)			40				191	will be retired by 2030
			763					
71 - 80			26					
>80			1					
Retired	34	38	42					
			832					
<b>Anticipated numbers</b>	<b>Fellow</b>	<b>Tier1</b>	<b>Tier2</b>	<b>Tier3</b>	<b>Prob</b>	<b>Tech</b>	<b>Total</b>	
Current SISV	32	98	295	10	174	154	763	
Estimated New members	49	118	760	219	50	500	1696	
	81	216	1055	229	224	654	2459	8



# A. QS Industry's background

## 2. What are current QS no's? Target no. by 2030 to meet industry demand?

....problematic for a number of reasons:

### c) Students and new entrants

#### 1) HONG KONG

- i. Approximately **100no. candidates EACH YEAR** who pass their Assessment of Professional Competence(APC) and become new HKIS practicing members.
- ii. There are **3 universities** that offer a specialised QS degree.

#### 1) SINGAPORE

- i. **No similar university degree in Singapore.** Only the NUS Project and Facilities Management degree with QS modules.
- ii. Out of a class of +/- 100 per year, **only around 10 are interested in QS.**
- iii. Of these 10, **more than half will leave the QS profession** after 3 to 5 years in the industry.

***Unless IHL's radically change the current course and curricular, Singapore QS graduates will cease to exist. Future hires will largely be Malaysian trained graduates willing to build a career in Singapore.***

# A. QS Industry's background

## 2. What are current QS no's? Target no. by 2030 to meet industry demand?

....Opportunity

### d) New entrants

- ❖ SISV believe that a realistic target of around 2450no. APQS working in **Consulting, Contracting and Employer organisations**, will be needed by 2030
- ❖ A large number is expected to come from **Contractor** organisations. There is **currently no procurement requirement** for Contractor QS to meet a certain standard.
- ❖ We understand that **this situation is changing** where certain GPE's are setting a professional qualification as a **tendering requirement**.
- ❖ This **adoption** moving forwards **will be the key driver for the upliftment** of cost and administration skillsets and competencies within our industry.

# B. APQS Framework

## 1. SISV Industry Transformation Map (ITM)

- ❖ SISV has been a key participant of national ITM
- ❖ Involved in BuildSG Tripartite Committee initiatives & development of BE Sector Skills Framework(SFw)
- ❖ SISV and Member Firms contributed to ensure QS Skills Framework **mapped out** to include:
  - ❑ the **appropriate** skillsets;
  - ❑ the **level** of skillsets; and
  - ❑ the **career progression** pathways required.

### SISV ITM Focus Areas and Action Plan

*\*Endorsed by FEC BE Cluster Sub-committee (Co-chaired by Min/Desmond Lee and Mr Lim Ming Yan) in Feb 2019\**

#### 1. Accreditation for QS

*Work with BCA to develop scheme recognized by GPEs, to raise the professional profile and standards of QS.*

#### 2. Build Competence + Education

*Work with CIJC and IHLs to streamline CPD and CET efforts*

#### 3. Raise Profile + Brand Outreach

*Reach out to wider QS practitioners within the Industry as an inclusive and embracing effort*

#### 4. Adopt Technology + New Capabilities

*Lead the adoption of technology (BIM, IDD,DfMA etc.) and build new capabilities and knowledge.*

# B. APQS Framework

## 2. Accreditation for QS - Cornerstones

❖ *SISV Transformation Initiative, to ensure Singapore QS's are Competent; Maintain the highest standards of Conduct and Service excellence; and seek Continuous development*



*A qualifying framework that is non-exclusive and embracing practicing QS Professionals*

❖ The SISV QS Division will ensure that an APQS has:

❑ **PASSED APC**

- a) **Satisfied stringent entry requirements** in terms of having recognized degree / qualifications / prescribed training;
- b) **Sufficient**, relevant, approved, post-graduation practice **experience**;
- c) **Successfully passed an Assessment of Professional Competence** conducted by SISV QS Division / equivalent international recognised Professional QS body;

❑ **LOCAL EXPERIENCE**

- a) Sufficient Singapore professional experience to provide services and **advice to clients**.

❑ **ABIDES BY CODE OF PROFESSIONAL CONDUCT**

- a) Agreed to be **bound by** a Code of Conduct - Services of a **high standard** with **care, efficiency, competence, confidentiality, fidelity and diligence; Integrity, Fairness and Impartiality**;
- b) Subject to **disciplinary actions** should he or she contravene the above; and

❑ **MAINTAINS CPD**

- a) Committed to currency of knowledge through **on-going CPD to maintain accreditation**.

## 3. SkillsFuture Accreditation alignment

- ❖ *The APQS has been reviewed in alignment with SFw and Accreditation Framework and expanded to 4 accreditation tiers*
- ❖ <https://www.skillsfuture.gov.sg/skills-framework/built-environment#skillsframeworktemplates>

The SFw for Built Environment contains information on career pathways, occupations, job roles, skills and competencies and training programmes.

### (i) Sector Information

This section provides information for SFw for Built Environment including information on trends and workforce profiles in the sector.

Click [here \(PDF, 8.63 MB\)](#) to download the comprehensive Guide to Occupations and Skills for the Built Environment sector.

### (ii) Career Pathways

The Career Pathways show the possible options for vertical and lateral progression for advancement and growth.

Click [here \(PDF, 39.56 KB\)](#) to download the Career Pathways for the QS in the Built Environment sector.

### (iii) Skills Maps

The Skills Maps covers a total of 49 job roles, critical work functions, key tasks and skills and competencies aligned to eight tracks.

Click [here \(ZIP, 7.34 MB\)](#) to download the Skills Map.

### (iv) Skills and Competencies

The Skills and Competencies identified for each of the job roles fall under two broad classifications:

- (a) Technical Skills and Competencies, and
- (b) Critical Core Skills (previously known as Generic Skills and Competencies).

#### (a) Technical Skills and Competencies for the SFw for Built Environment

- Technical Skills and Competencies comprise occupation/job-specific knowledge, skills and abilities that a person needs to have to perform the various tasks.  
Click [here \(PDF, 109.04 KB\)](#) to download the Overview of Technical Skills and Competencies for the SFw for Built Environment
- View the Technical Skills and Competencies for the SFw for Built Environment  
Click [here \(ZIP, 21.33 MB\)](#) to download all Technical Skills and Competencies for the SFw for Built Environment.

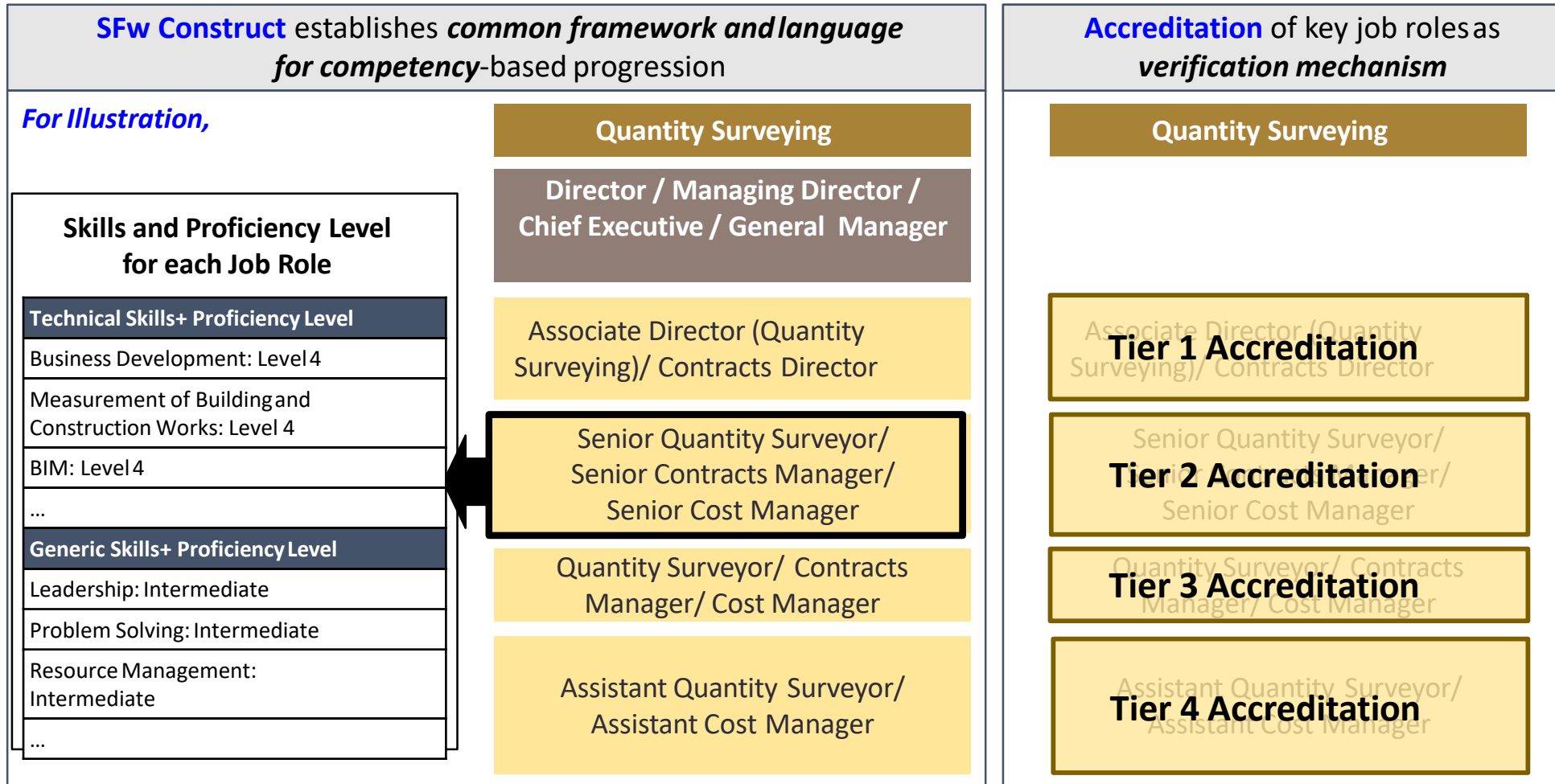
#### (b) Critical Core Skills (previously known as Generic Skills and Competencies) for the SFw for Built Environment

- An industry review of the GSCs was conducted in 2019, culminating in the creation of the Critical Core Skills (CCS).
- Visit <https://www.skillsfuture.gov.sg/skills-framework/criticalcoreskills> to access information about the CCS.

# B. APQS Framework

## 3. SkillsFuture Accreditation alignment

- ❖ The APQS has been reviewed in alignment with SFW and Accreditation Framework and expanded to 4 accreditation tiers
- ❖ <https://www.skillsfuture.gov.sg/skills-framework/built-environment#skillsframeworktemplates>





# B. APQS Framework

## 3. SkillsFuture Accreditation alignment

### Relevant Technical Skills and Competencies for the QS:

- Building Information Modelling Application
- Business Development
- Business Negotiation
- Business Performance Management
- Competitive Business Strategy
- Construction Technology
- Continuous Improvement Management
- Contract Administration and Management
- Critical Thinking
- Data Collection and Analysis
- Design for Manufacturing and Assembly
- Design Thinking Practice
- Dispute Resolution
- Ethical Climate
- Integrated Digital Delivery Application
- Life Cycle Costing and Analysis
- Measurement of Building and Construction Works
- People Management
- Procurement Coordination and Policy Development
- Project Cost
- Project Feasibility Assessment
- Project Risk Management
- Research and Information Synthesis
- Stakeholder Management
- Technical Presentation
- Technical Writing
- Technology Application
- Technology Scanning
- Value Engineering

### Relevant Critical Core Skills for the QS:

- Communication
- Creative Thinking
- Decision Making
- Developing People
- Interpersonal Skills
- Leadership
- Problem Solving
- Resource Management
- Service Orientation
- Teamwork



# B. APQS Framework

## 3. SkillsFuture Accreditation alignment

# Example

SKILLS FRAMEWORK FOR BUILT ENVIRONMENT  
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE

TSC Category	Business and Project Finance					
TSC	Measurement of Building and Construction Works					
TSC Description	Analyse proposed construction drawing plans and designs to prepare cost estimations					
TSC Proficiency Description	Level 1	Level 2 BEV-PMT-2027-1.1	Level 3 BEV-PMT-3027-1.1	Level 4 BEV-PMT-4027-1.1	Level 5 BEV-PMT-5027-1.1	Level 6
		Measure drawings, models and dimensions of works using measurement skills and methods	Manage drawings, models, measurements and dimensions to prepare cost estimates	Assess measurement reports to ensure accuracy of values and information	Evaluate measurement reports to identify opportunities for improvements	
Knowledge		<ul style="list-style-type: none"> <li>Fundamental principles and rules of appropriate standard methods of the measurements</li> <li>Methods and tools for measurements</li> <li>Basic measurements of specialist work</li> <li>Techniques to interpret construction drawings, models and dimensions</li> <li>Planning of the measurement framework in the digital environment</li> </ul>	<ul style="list-style-type: none"> <li>Principles and rules of appropriate standard methods of the measurements</li> <li>Methods and tools for measurements</li> <li>Advanced measurements of specialist work</li> <li>Definition of descriptive and numeric information</li> </ul>	<ul style="list-style-type: none"> <li>Up-to-date construction plans details</li> <li>Methodologies to reduce measurement errors and uncertainties</li> <li>Assessment techniques for quality and accuracy of measurement reports</li> </ul>	<ul style="list-style-type: none"> <li>Latest advanced technologies for measurements</li> <li>Methods of treating non-measurable work items</li> <li>Techniques to enhance measurement accuracy</li> <li>Measurement risk reduction techniques</li> </ul>	
Abilities		<ul style="list-style-type: none"> <li>Interpret construction drawings</li> <li>Identify elements of building and construction works</li> <li>Measure elements of building and construction works</li> <li>Measure dimensions of works on site</li> <li>Use building and construction measurements</li> <li>Apply construction measurements to building works and building services in accordance with</li> </ul>	<ul style="list-style-type: none"> <li>Assess compliance of measurements with appropriate standard methods of the measurements</li> <li>Convert measurements taken into descriptive and numeric information</li> <li>Prepare measurement reports</li> </ul>	<ul style="list-style-type: none"> <li>Interpret clauses in appropriate standard methods of the measurements</li> <li>Assess accuracy of values in measurement reports</li> <li>Assess degree of details used for measured information</li> <li>Verify that measurements are based on up-to-date building and construction plans</li> <li>Identify areas with high risk of errors and uncertainties in measurement reports</li> </ul>	<ul style="list-style-type: none"> <li>Oversee that measurements comply with appropriate standard methods of the measurements</li> <li>Advise on alternative measurements for enhanced accuracy of values in measurement reports</li> <li>Drive improvements to reduce risks of errors and uncertainties in measurement reports</li> <li>Implement advanced technologies to enhance accuracy of measurements</li> </ul>	

Note: Refer to links in Page 14 for updates

# B. APQS Framework

## 3. SkillsFuture Accreditation alignment

# Example

SKILLS FRAMEWORK FOR BUILT ENVIRONMENT  
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE

TSC Category	Environment Management					
TSC	Value Engineering					
TSC Description	Apply value principles to minimise overall operational costs and waste without compromising the reliability, quality and performance					
TSC Proficiency Description	Level 1	Level 2 BEV-OPR-2024-1.1-1	Level 3 BEV-OPR-3024-1.1-1	Level 4 BEV-OPR-4024-1.1-1	Level 5	Level 6
		Apply developed processes and procedures to minimise operational costs and waste in daily activities based on instructions	Detect shortcomings in the processes and procedures by carrying out value analyses and propose improvements	Develop processes and procedures that minimises the operational costs by reviewing value analysis reports		
<b>Knowledge</b>		<ul style="list-style-type: none"> <li>Value engineering principles and concepts</li> <li>Factors affecting operational costs</li> <li>Factors contributing to operational waste</li> <li>Methods of reducing operational waste</li> </ul>	<ul style="list-style-type: none"> <li>Value engineering methodologies and techniques</li> <li>Value engineering factors</li> <li>Types of resource requirements</li> <li>Methods of cost reduction</li> <li>Methods of waste reduction</li> <li>Relevant workplace safety and health (WSH) practices, guidelines and regulations</li> <li>Relevant quality assurance and quality control (QA/QC) policies and procedures</li> </ul>	<ul style="list-style-type: none"> <li>Value engineering strategies</li> <li>Value engineering processes and procedures adoption</li> <li>Prevailing processes and procedures to minimise operational costs and waste</li> <li>Methods of resource allocation</li> <li>Types of lean methodologies for reducing operational waste</li> <li>Principles of organisational behaviour</li> </ul>		
<b>Abilities</b>		<ul style="list-style-type: none"> <li>Reduce material and utilities wastage in daily activities</li> <li>Apply improvements in operational processes and procedures</li> <li>Provide feedback regarding gaps in present processes and procedures</li> </ul>	<ul style="list-style-type: none"> <li>Implement value analysis on operational processes and procedures</li> <li>Identify and analyse operational inefficiencies</li> <li>Define modifications to operational processes and procedures in adherence to relevant WSH and QA/QC requirements</li> </ul>	<ul style="list-style-type: none"> <li>Stay abreast of industry best practices</li> <li>Develop strategies and policies for application</li> <li>Consider resource requirements and feasibility while drafting new policies</li> <li>Promote value engineering across the organisation</li> </ul>		

Note: Refer to links in Page 14 for updates

# B. APQS Framework

## 3. SkillsFuture Accreditation alignment

### SKILLSFUTURE SINGAPORE CRITICAL CORE SKILLS (CCS) REFERENCE DOCUMENT

<b>CCS Category</b>	Interacting with Others		
<b>CCS</b>	Communication		
<b>CCS Description</b>	Convey and exchange thoughts, ideas and information effectively through various mediums and approaches		
<b>CCS Proficiency Description</b>	<b>Basic</b>	<b>Intermediate</b>	<b>Advanced</b>
	<b>GSC-CMC-B002-1</b>	<b>GSC-CMC-I002-1</b>	<b>GSC-CMC-A002-1</b>
	Communicate with others to share information, respond to general inquiries and obtain specific information	Tailor communication approaches to audience needs and determine suitable methods to convey and exchange information	Synthesise information and inputs to communicate an overarching storyline to multiple stakeholders
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>Range of technical and non-technical vocabulary</li> <li>Verbal and non-verbal communication techniques</li> <li>Writing techniques</li> <li>Listening techniques</li> <li>Emotional intelligence dimensions</li> <li>Types of communication channels and tools</li> <li>Information processing techniques</li> <li>Questioning techniques</li> <li>Information confidentiality and disclosure considerations</li> </ul>	<ul style="list-style-type: none"> <li>Verbal and non-verbal signals</li> <li>Communication styles</li> <li>Behavioural insights concepts</li> <li>Types of writing styles</li> <li>Presentation and information structuring techniques</li> <li>Types of visualisation tools and techniques</li> <li>Stakeholder analysis techniques</li> <li>Techniques for analysing audience reactions</li> <li>Interpersonal communication techniques</li> <li>Two-way communication techniques</li> <li>Persuasion methods</li> </ul>	<ul style="list-style-type: none"> <li>Storytelling techniques</li> <li>Negotiation strategies</li> <li>Stakeholder dynamics</li> <li>Stakeholder management strategies</li> <li>Strategies to drive behaviour change</li> <li>Strategies to overcome communication roadblocks</li> <li>Emerging communication channels and tools</li> </ul>
<b>Abilities</b>	<ul style="list-style-type: none"> <li>Identify appropriate communication channels to convey or exchange information</li> <li>Deploy listening techniques to engage with and understand the audience</li> <li>Ask questions to seek clarity when receiving information</li> <li>Present ideas using concise and clear language</li> <li>Implement verbal and non-verbal communication techniques to convey and receive information across communication channels</li> <li>Define desired outcomes for the exchange of information</li> </ul>	<ul style="list-style-type: none"> <li>Analyse communication objectives, types of stakeholders and needs to determine communication priorities</li> <li>Evaluate communication objectives, styles, verbal and non-verbal signals to adapt communication approaches and channels</li> <li>Present information in a structured flow and format which is reflective of audience needs</li> <li>Determine relevant information and visualisation techniques to share and convey a persuasive viewpoint</li> <li>Adapt communication approaches continuously to respond to audience reactions</li> <li>Analyse information exchanged to identify communication gaps</li> <li>Encourage two-way interactions and seek feedback on communication approaches</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate stakeholder dynamics and context to establish communication objectives and principles</li> <li>Synthesise various information sources and communication objectives to create a persuasive storyline</li> <li>Anticipate responses from stakeholders to adapt approaches appropriately</li> <li>Manage sensitive communications with discretion and tact</li> <li>Evaluate different stakeholder viewpoints to determine appropriate negotiation strategies</li> <li>Establish alignment between diverse stakeholders with differing viewpoints to achieve constructive outcomes</li> <li>Evaluate emerging communication channels and tools to define adoption opportunities</li> </ul>

# Example

Note: Refer to links in Page 14 for updates



# B. APQS Framework

## 3. SkillsFuture Accreditation alignment

### SKILLSFUTURE SINGAPORE CRITICAL CORE SKILLS (CCS) REFERENCE DOCUMENT

<b>CCS Category</b>	Thinking Critically		
<b>CCS</b>	Problem Solving		
<b>CCS Description</b>	Generate effective and efficient solutions to solve problems and capitalise on new opportunities		
<b>CCS Proficiency Description</b>	<b>Basic</b> GSC-PRS-B002-1	<b>Intermediate</b> GSC-PRS-I002-1	<b>Advanced</b> GSC-PRS-A002-1
	Identify problems and implement guidelines and procedures to solve problems and test solutions	Determine underlying causes of problems and collaborate with other stakeholders to implement and evaluate solutions	Anticipate potential problems to drive a culture of continuous improvement which seeks to turn problems into opportunities across the organisation
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>Problem identification techniques</li> <li>Questioning techniques</li> <li>Types of corrective actions</li> <li>Problem solving processes, tools and techniques</li> <li>Experimentation techniques</li> <li>Impact measurement techniques</li> </ul>	<ul style="list-style-type: none"> <li>Root cause analysis techniques</li> <li>Decision evaluation and prioritisation frameworks</li> <li>Exercises for developing big picture thinking approaches</li> <li>Strategies to manage experimentation processes</li> <li>Stakeholder analysis techniques</li> <li>Risk analysis techniques</li> <li>Types of metrics to measure solution effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Organisation's vision, objectives and operating climate</li> <li>Emerging problem solving processes, tools and strategies</li> <li>Types of social, political, economic and cultural factors which impact stakeholder relationships</li> <li>Conflict management strategies</li> <li>Risk management strategies</li> <li>Strategies to evaluate solution effectiveness</li> </ul>
<b>Abilities</b>	<ul style="list-style-type: none"> <li>Implement problem identification techniques to recognise issues within work area</li> <li>Identify decisions to be made to solve problems</li> <li>Suggest potential corrective actions to solve problems</li> <li>Conduct work area experiments to test potential solutions</li> <li>Report any issues which occur during solution testing to other stakeholders</li> <li>Collect information to monitor implementation of potential solutions against impact criteria</li> </ul>	<ul style="list-style-type: none"> <li>Diagnose underlying causes of issues by considering wider contexts</li> <li>Encourage behaviours and practices for team members that promote effective problem solving approaches and continuous improvement</li> <li>Facilitate exercises with different stakeholders to develop big picture thinking approaches to inform solution development</li> <li>Collaborate with other stakeholders to seek opinions on potential solutions</li> <li>Develop experiments to test potential solutions</li> <li>Determine the constraints and risks associated with potential solutions</li> <li>Analyse outcomes of experiments to recommend the most suitable solution for a problem</li> <li>Engage different stakeholders to secure buy-in for proposed solution</li> <li>Review the effectiveness of the problem solving process and solution against defined goals</li> </ul>	<ul style="list-style-type: none"> <li>Define objectives of organisational problem solving processes in line with organisation vision, objectives and operating climate</li> <li>Synthesise emerging trends to design organisational problem solving processes, tools and techniques</li> <li>Champion a culture of continuous improvement across the organisation</li> <li>Evaluate multiple variables and contexts to anticipate potential problems which may occur</li> <li>Determine appropriate stakeholders to be involved in problem solving processes in the organisation</li> <li>Oversee collaboration between multiple stakeholders across the organisation to design solutions</li> <li>Direct the resolution of any conflicts during problem solving processes</li> <li>Evaluate the business implications of implementing the proposed solutions across the organisation</li> <li>Endorse solutions to be implemented across the organisation</li> <li>Establish strategies to evaluate the effectiveness of problem solving processes across the organisation</li> </ul>

# Example

Note: Refer to links in Page 14 for updates

The APQS Framework has been formally endorsed by the BCA's Central Procurer Panel.

This framework will become the future procurement benchmark requirement in the Build Environment for Consultancy and Contracting services.

See link below:

[https://www.sisv.org.sg/doc/qs/Notification\\_of\\_Endorsement\\_for\\_Accredited\\_Professional\\_Quantity\\_Surveyor\\_\(APQS\).pdf](https://www.sisv.org.sg/doc/qs/Notification_of_Endorsement_for_Accredited_Professional_Quantity_Surveyor_(APQS).pdf)

❖ One of the Key Principles of the Accreditation scheme is **Inclusivity**.

Applicants **do not** have to be SISV members. Application for the APQS designation is available to:

- ☐ New applicants to SISV Membership / APQS registration
- ☐ SISV Members
- ☐ Non SISV Members who are **other equivalent\*** international recognised **Professional Quantity Surveying Institution Professional members**, who have successfully passed an Assessment of Professional Competence
- ☐ Non-QS degree holders who can demonstrate compliance with the Skills Framework requirements for Tier 4

*\* Professional Members of other Professional QS Institutes with SISV Reciprocity Arrangement through Reciprocity or other agreements.*

# B. APQS Framework

## 6. Prerequisites

Prerequisites: Please see below for appropriate option to APQS designation:	APQS Tier 4 Assistant QS/Assistant Cost Manager	APQS Tier 3 Quantity Surveyor/ Contracts/ Cost Manager	APQS Tier 2 Senior QS/Senior Contracts/ Cost Manager	APQS Tier 1 Associate Director/Contracts Director
<b>Option 1: APQS only Candidate - Non SISV Member route - local applicant</b>				
<ul style="list-style-type: none"> <li>Must have successfully completed all SISV QS Division Assessment of Professional Competency (<b>APC</b>) requisites including log book and supervision (<b>as necessary</b>) and successfully complete an SISV APC Interview (except Tier 4 applicants).</li> </ul>	APQS only Candidate preparing for SISV APC	Y	Y	Y
<ul style="list-style-type: none"> <li>Applicants under Option 1 must apply for APQS designation, with their <b>APQS Application ( and/or SISV Member grade, where applicable) Form</b> for administrative purposes. They will be required to pay an <b>APQS Candidate annual fee (same as SISV Probationers)</b> during any log book and supervision period required.</li> <li>SISV Membership is however, <b>not a mandatory requirement</b> for APQS designation. Applicants may elect, on the <b>APQS Application / SISV Member grade Application Form</b>, not to be full SISV Professional members upon successful completion of all APQS requirements and may elect to be <b>APQS designated only</b>.</li> <li>Different rights, privileges &amp; rates for APQS designated only apply.</li> </ul>	<p><u>or</u></p> <p>Non-QS degree holder who can demonstrate compliance with the Skills Framework requirements for Tier 4 <b>and</b> Complete APQS interview</p>			
<ul style="list-style-type: none"> <li>Not have had a breach of any items of the Code of Professional Conduct of SISV QS Division within the last 2 years.</li> </ul>	Y	Y	Y	Y
<ul style="list-style-type: none"> <li>Requisite years of demonstrated Quantity Surveying experience and local experience:</li> </ul>	At least 1 year of experience	See Note 3	See Note 2	See Note 1

**Note1** - At least 10 years recommended, 2 of which must be local. Subject to Company's discretion - Associate Directors promoted with less than 10 years also qualify.

**Note 2** - At least 5 years recommended, 2 of which must be local. Subject to Company's discretion - Senior QS's promoted with less than 5 years also qualify.

**Note 3** - At least 2 years of local QS experience

# Option 1(APQS only) Candidates

	Tier 4	Tier 4	Tier 3	Tier 3	Tier 2 / 1
Candidate	1	2	3	4	5
Status	Likely to remain in Tier 4 unless undertakes Bridging alternative	Future Candidate for APQS Tier 3	Candidate 1 who has undertaken necessary Bridging courses	Candidate 2 who has passed SISV APC	Has worked many years but never became a member
Qualification	Non-QS degree / Non recognised QS degree	SISV recognised QS degree	Non-QS degree / Non recognised QS degree + Required Bridging courses	SISV recognised QS degree	SISV recognised QS degree
Profile	Foreign/local degree holder in Civil / Arch etc. working as QS, but never became SISV Tech member	NUS PFM / Malaysian QS degree / Overseas degree etc.	Foreign/local degree holder in Civil / Arch etc. working as QS	NUS PFM / Malaysian QS degree / Overseas degree etc.	NUS PFM / Malaysian QS degree / Overseas degree etc.
Place of work	QS consultancy but mostly with contractor	QS consultancy and contractor	QS consultancy but mostly with contractor	QS consultancy and contractor	QS consultancy; contractor; GPE, developer etc.
Procedure	Fill in form, pay APQS Tier 4 application fee	Fill in form, pay APQS Tier 4 application fee	Fill in form, pay APQS Tier 3 application fee	Fill in form, pay APQS Tier 3 application fee	Fill in form, pay APQS Tier 2/1 application fee
Period of supervised Training	None	2 year log book, pay APQS only Candidate annual fee (same as SISV Probationers).	None	Completed (2 year log book) as part of SISV APC requirements	Fulfill SISV APC requirements as necessary
Interview	Not Applicable	Not Applicable	Sit APC / APQS interview	No need for APQS interview if have passed APC	Sit APC / APQS interview

Refer to A2 Pre requisites excel



# B. APQS Framework

## 6. Prerequisites

Prerequisites: Please see below for appropriate option to APQS designation:	APQS Tier 4 Assistant QS/Assistant Cost Manager	APQS Tier 3 Quantity Surveyor/ Contracts/ Cost Manager	APQS Tier 2 Senior QS/Senior Contracts/ Cost Manager	APQS Tier 1 Associate Director/ Contracts Director
<b>Option 2: SISV Member</b>				
• Be a Professional Member of the SISV QS Division in Good Standing.	Current Probationer preparing for SISV APC <u>or</u> Technical Member	Y	Y	Y
• Not have had a breach of the Code of Professional Conduct of SISV QS Division upheld within the last 2 years.	Y	Y	Y	Y
• Requisite years of demonstrated Quantity Surveying experience:	<i>At least 1 year of experience</i>	<i>See Note 3</i>	<i>See Note 2</i>	<i>See Note 1</i>

# Option 2 (SISV member) Candidates

	Tier 4	Tier 4	Tier 3	Tier 3	Tier 2 / 1
<b>Candidate</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Status</b>	Current Tech Member - Likely to remain in Tier 4 unless undertakes Bridging alternative	Current Probationer - Future Candidate for APQS Tier 3	Candidate 6 who has undertaken necessary Bridging courses	Candidate 7 who has passed SISV APC	SISV QS Member for many years
<b>Qualification</b>	Non-QS degree / Non recognised QS degree	Recognised QS degree	Non-QS degree / Non recognised QS degree + Required Bridging courses	Recognised QS degree	Recognised QS degree
<b>Profile</b>	Foreign/local degree holder in Civil / Arch etc. working as QS	NUS PFM / Malaysian QS degree / Overseas degree etc.	Foreign/local degree holder in Civil / Arch etc. working as QS	NUS PFM / Malaysian QS degree / Overseas degree etc.	NUS PFM / Malaysian QS degree / Overseas degree etc.
<b>Place of work</b>	QS consultancy but mostly with contractor	QS consultancy and contractor	QS consultancy but mostly with contractor	QS consultancy and contractor	QS consultancy; contractor; GPE, developer etc.
<b>Procedure</b>	Fill in form, pay APQS Tier 4 application fee	Fill in form, pay APQS Tier 4 application fee	Fill in form, pay APQS Tier 3 application fee	Fill in form, pay APQS Tier 3 application fee	Fill in form, pay APQS Tier 2/1 application fee
<b>Period of supervised Training</b>	None	2 year log book, pay Probationer annual fee.	None	Completed	None
<b>Interview</b>	Not Applicable	Not Applicable	Sit APC / APQS interview	No need for APQS interview if have passed SISV APC	Sit APQS interview

Refer to A2 Pre requisites excel

# B. APQS Framework

## 6. Prerequisites

Prerequisites: Please see below for appropriate option to APQS designation:	APQS Tier 4 Assistant QS/Assistant Cost Manager	APQS Tier 3 Quantity Surveyor/ Contracts/ Cost Manager	APQS Tier 2 Senior QS/Senior Contracts/ Cost Manager	APQS Tier 1 Associate Director/ Contracts Director
<b>Option 3: Professional Members of Other equivalent international recognised Professional Quantity Surveying Institutions Professional Members</b>				
<ul style="list-style-type: none"> <li>Be a Professional Member (Fellow or Member grade) of other equivalent international recognised Professional Quantity Surveying Institutions in Good Standing (except Tier 4 applicants).</li> </ul>	Non-Professional Member (Graduate, Probationer, Technician, Affiliate, Associate)	Y	Y	Y
<ul style="list-style-type: none"> <li>Successfully complete a SISV Assessment of Professional Competence (APC) (except Tier 4 applicants) / APQS Tier 4 Interview (for Tier 4 applicants)</li> </ul>	Complete APQS Tier 4 Interview	Y	Y	Y
<ul style="list-style-type: none"> <li>Applicants under Option 3 must apply for APQS designation, with their <b>APQS Application ( and/or SISV Member grade, where applicable) Form</b> for administrative purposes.</li> <li>SISV Membership is however, <b>not a mandatory requirement</b> for APQS designation. Applicants may elect, on the <b>APQS Application / SISV Member grade Application Form</b>, not to be full SISV Professional members upon successful completion of all APQS requirements and may elect to only be APQS designated.</li> <li>Different rights, privileges &amp; rates for APQS Designated only apply.</li> </ul>				
<ul style="list-style-type: none"> <li>Not have had a breach of any QS Code of Conduct upheld within the last 2 years.</li> </ul>	Y	Y	Y	Y
<ul style="list-style-type: none"> <li>Requisite years of demonstrated Quantity Surveying experience:</li> </ul>	<i>At least 1 year of experience</i>	<i>See Note 3</i>  <i>or</i>  <i>At least 5 years , 1 of which must be local</i>	<i>See Note 2</i>  <i>or</i>  <i>At least 10 years , 1 of which must be local</i>	<i>See Note 1</i>  <i>or</i>  <i>At least 15 years , 1 of which must be local</i>

# Option 3 (Other institutes) Candidates

	Tier 4	Tier 4	Tier 3	Tier 3	Tier 2 / 1
Candidate	11	12	13	14	15
Status	Current Technician / Affiliate / Associate member - Likely to remain in Tier 4 unless undertakes Bridging alternative	Current Graduate / Probationer- Future Candidate for APQS Tier3	Candidate 11 who has undertaken necessary Bridging courses	RICS / AIQS / HKIS etc.	RICS / AIQS / HKIS etc.
Qualification	Non-QS degree / Non recognised QS degree	Recognised QS degree	Non-QS degree / Non recognised QS degree	Recognised International PQS	Recognised International PQS
Profile	Foreign/local degree holder in Civil / Arch etc. working as QS	Overseas degree etc.	Foreign/local degree holder in Civil / Arch etc. working as QS	Overseas degree etc.	Overseas degree etc.
Place of work	QS consultancy but mostly with contractor	QS consultancy and contractor	QS consultancy but mostly with contractor	QS consultancy and contractor	QS consultancy; contractor; GPE, developer etc.
Procedure	Fill in form, pay APQS Tier 4 application fee	Fill in form, pay APQS Tier 4 application fee	Fill in form, pay APQS Tier 3 application fee	Fill in form, pay APQS Tier 3 application fee	Fill in form, pay APQS Tier 2/1 application fee
Period of supervised Training	None	As per International QS Institution rules.	None	Fulfill SISV APC requirements of logbook, written report, interview etc. as necessary	Fulfill SISV APC requirements of logbook, written report, interview etc. as necessary
Interview	Not Applicable	Not Applicable	Sit APC / APQS interview	Sit APC / APQS interview	Sit APC / APQS interview

Refer to A2 Pre requisites excel

<b>Application Fee (Subject to GST)</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Tier 4</b>
All applicants	\$162	\$162	\$162	\$162
<b>Interview Fee (Subject to GST)</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Tier 4</b>
All applicants	\$216	\$216	\$216	\$216

<b>Annual Accreditation Fee (Subject to GST)</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Tier 4</b>
SISV Member	FSISV-\$81 MSISV-\$108	\$81	\$54	\$54
Non-Member	\$297	\$270	\$284.80	\$162

## (i) Assessment of Candidates

- Assessed by a **minimum of 3 Panel Assessors (one being the Chairman)**
- Normal conflict of interest rules applies.** If the APQS applicant is a member of the SISV QS Council, all the QS Council members cannot be members of the assessment panel for the applicant.
- Determination of Accredited Professional Quantity Surveyor designation is assessed on an individual basis and is at **the sole discretion of the SISV QS Council**.
- Appointment or replacement the assessor has to be **done by QS Division Council President with 75% majority agreement** from the QS Division Council with selection criteria as follows:

Assessor for Tiers 3 and 4 Accreditation	Assessor for Tiers 1 and 2 Accreditation
<ul style="list-style-type: none"><li><input type="checkbox"/> Be a Fellow or Member of SISV</li><li><input type="checkbox"/> Possess at least 6 years of FSISV/MSISV</li><li><input type="checkbox"/> Be practicing relevant profession (QS, M&amp;E QS, Contract, etc.)</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Be a Fellow or Member of SISV and/or with other relevant professional qualification</li><li><input type="checkbox"/> Possess at least 10 years (for Tier 2 accreditation) or 15 years (for Tier 1 accreditation)</li><li><input type="checkbox"/> Be a practitioner in the relevant profession (QS, M&amp;E QS, Contract, etc.)</li><li><input type="checkbox"/> Be of equivalent or higher seniority to candidate</li></ul>

## (ii) Handling of appeal cases

- Applicants have the **right to appeal** an APQS decision on procedural / administrative irregularity grounds only. Claims that the APQS standards and prerequisites / Assessors are unreasonable, are not permissible.
- Structured Process:
  - An **initial review** by an appointed member of the SISV QS Council will be carried out **to determine the type of appeal**. Where a procedural or administrative error has occurred, a written response will be made to the applicant to resolve the matter at no cost to the applicant.
  - **Otherwise**, the case will be referred to the **Review Committee** for review and the applicant will be advised in writing on the outcome of the appeal.
  - Target to close each appeal case within a month of receiving the appeal.
- Composition of Review Committee:
  - The QS Division Council may appoint an independent Review Committee of **up to three persons** experienced in APQS matters to review the appeal and make a recommendation.
    - The members of the Review Committee must **not include any person involved in the original assessment** although the Review Committee may seek background information from the original Assessment Panel.
  - Following its deliberations, the Review Committee shall make a formal recommendation to the QS Division Council.

## (iii) Handling of disciplinary cases/feedback

- All accredited personnel will be required to adhere to the **Code of Professional Conduct**
- A breach of the SISV QS Code of Professional Conduct may result in **removal or suspension** of the APQS designation.
- The formal **feedback channel** will be detailed on SISV website and will be via an email to the SISV Secretariat addressed to the SISV Accreditation Chairman.
- Feedback will be handled on a **case by case** basis depending on the nature of the feedback. Each matter will be tabled at the SISV's Monthly Council meeting and a formal reply will be provided by the Accreditation Chairman as necessary. SISV targets to close each case within one month of receiving the feedback.



- ❖ ***A strong and competent Construction Cost Management Profession in Singapore, that is recognised as a profession that a parent would be Proud for their children to enter, because they clearly understand the value that the service brings to society.***
- ❖ ***Pride because they understand it to be an esteemed, globally recognised profession in high demand.***
- ❖ ***Pride because they understand that the profession is one based on:***
  - ❖ ***Integrity***
  - ❖ ***Fairness***
  - ❖ ***Trust***
  - ❖ ***Good conduct***

# Engagement with different stakeholders for adoption of accreditation

- Success **will be entirely reliant on public and private sector support** for the scheme.
- SISV has plans to engage:
  - **QS firms**
  - **Industry partners through CIJC and SCAL (Contractor QS)** to encourage their employees to receive accreditation;
  - **Procurers (REDAS and GPEs)** to encourage adoption of accreditation schemes in procurement
  - **IHLs** to promote the accreditation scheme and encourage entrants to receive accreditation
- To help non-degree graduates progress from Tier 4 accreditation to higher accreditation tiers. SISV is currently **working with other Professional institutions and Institute of Higher Learning to identify external courses**, in conjunction with SISV internal courses, **to arrive at a packaged curriculum that will serve these upgrading needs.**

***Thank you for your support***