

GUIDE TO CED JOURNEY

- 1 This guide provides the Applicant-company with a broad framework of the CED Journey which must accompany the application to join the CED Programme. The Applicant-company must submit three (3) hard copies of its proposed CED Journey in either a written report (*not exceeding 20 pages, excluding annexes*) or presentation slides (*not exceeding 60 slides*).

WHAT IS A CED JOURNEY

- 2 The CED Journey is a written proposal describing an Applicant-company's goals and plan to achieve the values it intends to create in the firm, as well as how it will go about doing so over the next 10 years to build up its construction engineering capability through a detailed implementation plan.

HOW TO CONSTRUCT THE CED JOURNEY

- 3 The Applicant-company should consider incorporating the following parts when developing its CED Journey.

(A) Part One: Goals Setting

- 4 In its CED Journey, the Applicant-company should set out the short, medium and long term goals to build up its construction engineering capability based on (but not limited to) the following Key Performance Indicators (KPIs):
 - (i) Increase its participation in pre-qualification / tender exercises of complex construction projects¹ on its own,
 - (ii) Increase its securing of complex construction projects on its own,
 - (iii) Improve its Value-Added Productivity² by at least 30% in 5 years,

¹ Examples of complex construction projects include construction of underground expressways, underground MRT stations, underground tunnels, super high-rise residential buildings with basements, buildings with deep basements in built-up area, buildings adjacent to existing MRT lines, complex structural steel buildings and water treatment plants, etc.

² Value-Added Productivity =
$$\frac{\text{Value - Added of firm (\$)*}}{\text{Total number of construction personnel (local + foreign) employed}}$$

- (iv) Build up the capabilities of its in-house construction engineering team,
- (v) Adopt good practices (management and work method) and advanced construction technology in all projects.

For KPI (i) to (iv), the Applicant-company has to identify its current state and propose exigent yet realistic targets to be achieved in the next 5 years (please refer to Appendix 1). For KPI (v), the Applicant-company has to list down and illustrate its good practices currently adopted in its project sites and identify new good practices which it wishes to adopt over the next 5 years. In addition, the Applicant-company is encouraged to identify other relevant KPIs to build up its construction engineering capability.

(B) Part Two: Organisation Profile

- 5 The Organisation Profile describes the organisation's business environment, organisational directions, strategic challenges as well as its relationships with key stakeholders (customers, suppliers, partners, etc). **The Applicant-company must be able to present its current organisation profile and also how the organisation propose to introduce change and adaptation (where applicable) to meet the identified KPIs.**

- 6 Applicant-company should consider incorporating the following information in its CED Journey:
 - (a) Organisation Environment
 - (i) Key personnel of the organisation involved in formulation and implementation of the CED Journey
 - (ii) Organisation's purpose, vision and values
 - (iii) Nature of main businesses and services and the respective annual turnover in the last 5 years
 - (iv) Previous participation in complex and non-complex projects (please refer to Appendix 2)
 - (v) Management of cash-flow, achievement of continuous profitability and attainment of increasing returns and turnovers
 - (vi) Employee profile including number, profession, education level (please refer to Appendix 3)
 - (vii) Fixed Assets, such as plant and equipment, storage land and the respective annual Fixed Assets per employee in the last 5 years (please refer to Appendix 4)

 - (b) Organisational Challenges
 - (i) Key positioning factors in the competitive environment
 - (ii) Organisational directions including major thrusts and alliances
 - (iii) Strategic challenges including operational, human resource, business/competitors and global influences
 - (iv) Plans to mitigate organisational challenges

* From income approach, Value-Added of firm includes total remuneration, net operating surplus, depreciation, indirect taxes & levies, net non-deductible GST and GST for imports.

- (c) Organisational Relationships
 - (i) Relationship with parent-holding and subsidiaries and associate companies (if applicable)
 - (ii) Relationship with clients (customers)
 - Principal customer types
 - Key customer and market requirements
 - Special relationship (if any) with key customer groups such as long-term partnerships
 - (iii) Relationship with main business associates, sub-contractors and suppliers
 - Types of main business associates, sub-contractors and suppliers and their key contributions
 - Special relationships (if any) with main business associates, sub-contractors and suppliers

(C) Part Three: Leadership and Organisation Culture

- 7 The leadership of an organisation refers to how the leaders of the organisation influence the organisation management practices and how they influence and inculcate the organisation culture. Similarly, **the Applicant-company must be able to present how the leaders of the organisation currently lead the organisation and also how the organisation propose to introduce change and adaptation (where applicable) to meet the identified KPIs.** The Applicant-company should also include the business continuity and succession plans of the company.

(D) Part Four: Action Plans

- 8 **Applicant-company is required to work out a detailed action plan, which includes manpower planning & development to achieve its identified goals and KPIs. Proper Measurement & Verification (M&V) mechanisms must be established** to monitor performance and progress of goals achieved. The action plan should cover the improvements/new implementations to be carried in the following areas:

- (a) Human Resource Planning and Manpower Development
 - (i) Human resource and manpower development plans that are aligned to the organisation's purpose, vision, mission, values and goals including to:
 - **Strengthen the construction engineering capability and increase headcount by building up an in-house professional & technical (P&T³) team including Professional Engineers:** Based on the current headcount of its staff that forms the P&T team provided under Organisation Profile, the Applicant-company is to set out the (progressive) increase in headcount and describe how it intends to build up the P&T team in order to achieve higher levels of construction engineering capabilities so as

³ These include personnel such as construction engineers, etc.

to participate and eventually secure local complex construction projects all on its own (please refer to Appendix 1).

- Record the current and targeted training budget and as a % of the EOM and total training hours / man (please refer to Appendix 1).

To be a CED Builder, he must commit to the below as part of its manpower development plan.

- To provide at least three (3) BCA-Industry Built Environment Scholarships in the years from 2012 to 2015, with the first scholarship to be provided in 2012 and the second scholarship to be provided not later than 2013. The BCA-Industry Built Environment Scholarship is described at www.bca.gov.sg/Workforce/bes.html.
 - To sponsor at least four (4) of its employees from the years of 2012 to 2015 for postgraduate study in complex construction engineering areas, provided that at least two (2) of these employees must study in overseas institution. The first sponsorship shall be awarded in 2012, and the first overseas sponsorship is to be awarded no later than 2013.
 - To send its employees for industry immersions for at least twenty-six (26) man-weeks per year from 2012 to 2015, of which six (6) man-weeks must be for overseas industry immersions.
- (ii) Effective human resource practices that support continuous growth in the organisation and motivate workforce
 - (iii) Effective mechanisms to drive employees' involvement, commitment, teamwork, improvements and innovation at all levels

(b) Advanced Technology, Plant & Equipment

The Applicant-company has to list down the advanced technology, plant & equipment currently being adopted and identify new advanced technology, plant & equipment which it wishes to adopt over the next 5 years. One of the new advanced technology to be adopted is Building Information Modelling (BIM) technology

(c) Processes and Construction Work Methods

- (i) Effective site management processes and construction work method plans that are aligned to the organisation's goals through:
 - **Adoption of good practices for project management, including site management and work processes for all projects:** The Applicant-company has to describe in details (providing documentary proof where necessary) on how it currently adopt good practices for its projects and set out the new good practices and how it intends to acquire, adopt

and implement such good practices and make improvements for all its future projects.

- **Capturing and Institutionalizing Knowledge Gained from Complex Construction Processes within the Builder:** The Applicant-company has to describe in details (providing documentary proof where necessary) on how it currently captures and institutionalizes knowledge gained in its projects and how it intends to better acquire, manage and propagate such knowledge gained in complex construction processes.

- (ii) Creative and innovative solutions that improve job-site efficiency to segment and sequence planning, design, engineering and construction processes

SUPPORTING DOCUMENTS FOR CED JOURNEY

- 9 The documents listed below are not exhaustive. Organisations may provide additional relevant documents to support their applications.

Key Performance Indicators to be Met

- Documents detailing the current and proposed future level and suitable short, medium and long term milestones for each of the output KPIs

Organisation Profile

- Organisation profile
- Overall organisation chart including roles and responsibilities of key management, professional and technical staff
- Profiles of key management, professional and technical staff and their year of service with the organisation
- Curricula vitae and educational certificates of the key management, professional and technical personnel

Leadership

- Documents to show communication of mission, vision and values to employees
- List of activities of senior management relating to values and client focus
- Management reports, Company newsletters
- Records of strategic planning process
- Corporate and departmental plans and goals

Resources

- Financial and DP credit rating reports
- HR practices and operating guidelines
- Documents highlighting contribution of employee involvement activities to organisational vision, values and goals
- Documents illustrating efforts contributing to employees' education, training and development
- List of major fixed assets (including plants and equipment) currently owned and leased
- Documents showing effective usage and deployment of plants and equipment

Processes

- Track record / examples showcasing organisation's construction engineering capability and adoption of construction technology
- Selected past projects showcasing organisation's performance and innovation
- Good practice guides on construction and project management
- Organisation's operating guidelines and site management framework
- Organisation's practices of measurement and verification

Summary of KPIs

KPIs 1 & 2	Status for CY2011	Target				
		CY 2012	CY 2013	CY 2014	CY 2015	CY 2016
KPI 1: Participation in PQ or tender exercises of complex construction projects on its own						
KPI 2: Securing of complex construction projects on its own						

KPI 3	Status for FY 2011 (Base Year)	Target				
		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
\$/man-year						
% improvement from Base Year						

KPI 4	Status for CY 2011	Target				
		CY 2012	CY 2013	CY 2014	CY 2015	CY 2016
C&S	PE					
	Registrable Degree (excl. PE)					
	Non-Registrable Degree					
	Diploma					
M&E	PE					
	Registrable Degree (excl. PE)					
	Non-Registrable Degree					
	Diploma					
Architect	Registered Architect (RA)					
	Registrable Degree (excl. RA)					
	Non-Registrable Degree					
	Diploma					
QS	Degree					
	Diploma					
Others	Degree					
	Diploma					
Training Budget						
Training Budget as % of EOM						
Training hrs / man (Company-Wide)						

Complex Projects⁴ Secured between 2006 & 2011 (JV and non-JV)

S/N	Client	Project Description	Date Participated	JV? (Y/N)	Contract Sum (\$)	Project Commencement Date	Expected / Actual Completion Date

Note:

Please insert additional page(s) if space provided is insufficient.

⁴ Examples of Complex Projects include, but not limited to:

- a) For Civil Engineering Projects: Underground expressways, underground MRT stations and underground tunnel projects
- b) For Building Projects: Complex Commercial/Residential/Institutional Buildings which are > S\$150 million and meeting 1 or more of the following conditions :
 - (i) Building of above 40 storeys with basement
 - (ii) Uses extensive structural steel
 - (iii) Uses advanced construction technologies
 - (iv) Buildings above existing MRT lines
 - (v) Deep basement in built-up areas
- c) Complex Industrial Buildings: Engineering Procurement and Construction (EPC) projects such as water treatment plants, desalination plants and refuse incineration plants.

Employee Profile as of End CY 2011

Status of as of End of CY 2011	Academic Qualification			Total
	Degree	Diploma	Others	
Management				
Professional				
Technical				
Executive				
Tradesmen & Workers				
Others				
Total				

Status of as of End of CY 2011	Training Discipline					Total
	C&S	M&E	Archi	QS	Others	
Management						
Professional						
Technical						
Executive						
Tradesmen & Workers						
Others						
Total						

Note:

- Examples of “Management” are Managing Director, Executive Directors, CEO, CFO, COO, General Managers.
- Examples of “Professional” are Project Managers, Construction Managers, C&S Engineers, M&E Engineers, Architects, Contracts Managers, Quantity Surveyors, Safety Officers, Accountants.
- Examples of “Technical” are C&S Supervisors / Foremen, M&E Supervisors / Foremen / Coordinators, Architectural Coordinators, Technicians, Mechanics, Draftsmen.
- Examples of “Executive” are Secretaries, Administrators, HR Officers, Public Relationship Officers.
- Examples of “Tradesmen & Workers” are Tilers, Plumbers / Pipefitters, Steel Reinforcement Workers, Carpenters, Formwork Workers, Welders, Operators, General Workers.
- Examples of “Others” are Drivers, Security Officers, Cleaners.

Total Fixed Assets in the Last 5 Years

		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Total Fixed Assets in the last 5 years	\$					
Fixed Assets comprising only plant and equipment <u>owned</u> in the last 5 years, [a]	\$					
Plant and equipment <u>leased</u> in the last 5 years, [b]	\$					
Total no. of Employees, [c]	nos.					
Amount of plant and equipment <u>owned</u> and <u>leased</u> per Employee in the last 5 years, [(a) + (b)] / (c)	\$					