



# MSC Malaysia Capability Development Programme

## Capability Maturity Model Integration (CDP CMMI)

### *Guide Book*

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## SECTION 1: GENERAL INFORMATION

### 1.1 Background – Why is Software Process Improvement Important?

There is strong interest from Information and Communication Technologies (ICT) companies in implementing SEI CMMI® and other quality initiatives such as ISO and ITIL. Multimedia Development Corporation (MDeC) concurs that ICT companies should be encouraged to obtain recognition in form of attainment of an internationally recognised certification/assessment. SEI CMMI assessment will help the Malaysian software organisations to improve their software engineering capabilities and compete with other software organizations in the world. This is also in line with the MSC Malaysia vision to realise Malaysia as a global hub and preferred location for ICT and multimedia innovations, services and operations.

### 1.2 CMMI – Capability Maturity Model Integration

CMMI is for projects or organisations that want to use common, integrated and improving processes for systems and software development. It is a process improvement method that combines the best practices of software, system Engineering and integrated product development into one single model so as to standardise the structure, terms and assessment for organisations. CMMI facilitates enterprise-wide process improvement and improves predictability of the critical measures of cost, schedule, performance, and customer satisfaction. CMMI is designed to cater for business needs so that maximum benefits can be achieved.

Applicants applying for the Programme will need to choose SEI CMMI for assessment. More information on CMMI can be obtained at the SEI official website <http://www.sei.cmu.edu/cmmi/>

### 1.3 Stages of CMMI Assessment

Normally, a CMMI assessment is conducted in four stages. The first stage involves the Programme definition which includes a gap analysis on the current environment of the organisation. The second stage will consist of formulating a Project Plan with details of implementation activities. The third stage is the actual implementation according to the Project Plan, which includes documenting all the processes into a Process Manual and implementing the processes in the production environment. The final stage is the formal assessment, which must be conducted under the supervision of a qualified CMMI Lead Appraiser.

## **1.4 Software Engineering Institute (SEI)**

The Software Engineering Institute (SEI) is a federally funded research and development centre sponsored by the U.S. Department of Defense (DoD) through the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. The SEI's core purpose is to help others make measured improvements in their software engineering capabilities and to develop the right software, delivered defect free, on time and on cost, every time. The SEI provides the technical leadership to advance the practice of software engineering so the industry can acquire and sustain its software-intensive systems with predictable and improved cost, schedule, and quality. The Capability Maturity Model Integration (CMMI) is a model developed by the Software Engineering Institute (SEI) of Carnegie Mellon University (CMU) to improve software development and systems engineering process. Since its establishment in 1987, the model has gained popularity throughout the world and become the de facto international standard for software process improvement and software capability evaluation.

## **1.5 CDP CMMI Programme Goals**

The CDP CMMI Programme (CDP CMMI) general goal is to increase competitiveness for export of the Malaysian software organisations. This is done through raising the software engineering capabilities of these organisations to compete successfully in the global market and to be a global player.

These organisations also serve as catalysts for Malaysia to become a net exporter of software. As such it is imperative that Malaysian software exporters obtain SEI CMMI assessment to improve their competitive advantage.

## **1.6 CDP CMMI Programme Objectives**

Specifically, the aim of the CDP CMMI Programme is to assist local qualified MSC Malaysia status organisations, to achieve minimum SEI CMMI Maturity Level 2 rating.

## 1.7 Programme Scope

The CDP CMMI programme will assist programme participants to achieve the CMMI rating. The programme will cover:

- ✓ **Training Services**
- ✓ **Consultancy Services**
- ✓ **Appraisal Services**

Details of the Financial Incentive:

### First Time Appraisal:

Maturity Level	Maturity Level 3 to 5	Maturity Level 2
Scope	<ul style="list-style-type: none"> <li>▪ Training</li> <li>▪ Consultancy</li> <li>▪ SCAMPI A Appraisal</li> </ul>	
Incentive to participants	50% of project cost or up to RM 150,000, whichever is lower.	50% of project cost or up to RM 50,000, whichever is lower.
Vendor	Only registered SEI partner are allowed.	
Payment mode	<ul style="list-style-type: none"> <li>▪ First 50% is to be paid to the vendor by the participating companies, according to agreed milestone.</li> <li>▪ Second 50% is to be <b>REIMBURSED</b> to the participating companies by MDeC, according to agreed milestone.</li> </ul>	

**Re-Appraisal:**

Maturity Level	Maturity Level 3 to 5	Maturity Level 2
Scope	<ul style="list-style-type: none"> <li>SCAMPI A Appraisal only</li> </ul>	
Incentive to participants	50% of Appraisal Cost or <b>RM 31,250, whichever is lower.</b>	50% of Appraisal Cost or <b>RM 20,000, whichever is lower.</b>
Vendor	Only registered SEI partner are allowed.	
Payment mode	<ul style="list-style-type: none"> <li>To be <b>REIMBURSED</b> to the participating companies upon listing in <b>Published Appraisal Results website (sas.sei.cmu.edu/pars)</b></li> </ul>	

**Upgrade:**

Item	Detail
Scope	<ul style="list-style-type: none"> <li>Upgrade to Maturity Level 3, Maturity Level 4 or Maturity Level 5</li> <li>SCAMPI A Appraisal only</li> </ul>
Incentive to participants	50% of Appraisal Cost or <b>RM 31,250, whichever is lower.</b>
Vendor	Only registered SEI partner are allowed.
Payment mode	<ul style="list-style-type: none"> <li>To be <b>REIMBURSED</b> to the participating companies upon listing in <b>Published Appraisal Results website (sas.sei.cmu.edu/pars)</b></li> </ul>

The Programme covers these 3 constellations of the CMMI. Applicant would need to choose **ONE** of the models to be implemented in the CMMI project.

- CMMI-DEVELOPMENT
- CMMI-SERVICES
- CMMI- ACQUISITION

For more information on the models, please refer to:  
<http://www.sei.cmu.edu/cmmi/models/>

## 1.8 Eligibility Criteria

The CDP CMMI Programme is targeted specifically at local software development organisations with at least 51% Malaysian ownership. The organisations must satisfy a set of criteria listed below in order to qualify for the Programme.

### Eligibility Criteria

- *MSC Malaysia Status – applicant must be an MSC Malaysia status organisation*
- *Ownership – the applicant must be at least 51 percent Malaysian owned.*
- Top management support and commitment – applicant must receive full support from top management.
- Willing to commit resources to the project – applicant must agree to the terms and conditions of the CDP CMMI Programme and must be willing to commit resources to the project.
- Organisation existence – the company must be in existence for a minimum of two (2) years and above
- Export – applicant is either currently exporting or have a concrete export plan
- Number of employees involved in Software Process Improvement – a minimum of ten (10) employees must be involved and dedicated to the programme

## 1.9 Mandatory Requirements

Applicants are required to comply with the Application for Incentive instructions, procedures, eligibility criteria described in this document. Failure to do so may cause the Application to be disqualified and rejected.

## 1.10 Implementation Agent

MDeC is the implementation agent of the Programme and the CMMI Programme Secretariat under MDeC is responsible for the overall administration of the Programme. In detail, the Secretariat will process all applications submitted by companies, monitor the progress of each approved application; and arrange for funding disbursement based on the disbursement guidelines upon the satisfactory progress of the CMMI assessment and the documentary proof of the vendor.

## 1.11 Capability Development Committee

A committee have been formed by MDeC to facilitate the SPI Programme. It is comprised from MDeC staff with domain expertise in areas related to the Programme. The Committee will provide the necessary commercial, technical and policy input in the application and monitoring processes. The Committee will make recommendations based on the complete submission by the applicant.

## 1.12 Programme vendor

The main scope of services of the vendor are to provide professional services in the form of consultancy, training and assessment services to assist the successful applicants to achieve SEI CMMI Maturity Level Rating.

***Participants are free to appoint any SEI Registered Consultant and Appraiser, but with prior approval from MDeC.***

The list of SEI partner that are registered with MDeC can be obtained here:  
<http://cdp.mscmalaysia.my/images/pdf/SPI/CMMI%20Service%20Provider.pdf>

The official list of the SEI partner can be found here:

<http://www.sei.cmu.edu/partners/directory/>

## SECTION 2: CDP CMMI PROGRAMME APPLICATION GUIDELINES

### 2.1. Application Process and Deadlines

*Before applying for the programme, those interested are strongly encouraged to contact the [CMMI Programme Secretariat](#) first for discussion. The contact details of the Secretariat can be found in Section 5.*

The application form can be downloaded from the CDP website <http://cdp.mscmalaysia.my/>. All sections of the application form have to be completed with supporting documents wherever required.

Before filling in an application form, please read this Guide carefully. Each applicant organisation should submit only one application form for the Programme. No application fee will be charged.

The application form with all supporting documents should reach the Secretariat **before 31 March 2010**. The contact details of the [Secretariat](#) can be found in Section 5.

MDeC reserves the right to amend or delete any section of this Application for Incentive at any time without prior notice in order to give effect to any change in policy or to correct any error, omission, ambiguity or inconsistency that may arise. In the event of any amendments to the application document, all applicants will be notified accordingly.

All applications shall be in English; or if not in English, shall include an English translation as an attachment. The appendices can be submitted in Bahasa Malaysia or English.

MDeC shall not be liable to any payment or costs incurred in the preparation and submission of the Application Form. All expenses incurred by the applicants in providing the application shall be borne by the applicants themselves.

No advertisement or press release regarding the application shall be published in any newspaper, magazine or any other form of media, electronic or otherwise.

After the issuance of the Application Form, information relating to the contents, examination, evaluation and recommendations concerning will not be disclosed to persons not officially concerned with the process. MDeC is not obliged to inform or provide the details of the incentive evaluation process either the successful or unsuccessful applicants in Application of Incentive.

The application will be screened for completeness. If an application cannot be accessed due to insufficient information, the secretariat will send a Request for Information letter to the applicants.

The successful application (if any) shall be notified in writing through Letter of Eligibility.

## 2.2. Vendor Selection and contractual requirement

Upon receiving of Letter of Eligibility, successful applicants should start to select a vendor to provide consultancy for its CMMI project through competitive bidding. The applicant should ensure that the selection must be carried out in an unbiased and fair manner with minimum three vendors' quotations to be obtained.

As each applicant may have its own considerations on cost, practice and quality requirement, the applicant is free to choose any vendor for its CMMI assessment. However, if the lowest bid is not selected, a justification must be given. In case that less than three vendors' quotations are obtained, explanation must also be given.

Once the vendor is selected, the applicant should submit to the Secretariat the received quotations, the quotation selection justification and a schedule of project for reference. The Secretariat will check the reasonableness of the price and the schedule in the quotations. If the Secretariat is not satisfied, the applicant will be required to discuss with the vendors and resubmit the related documents. If the submission is still found to be unsatisfactory or exceeds the deadline of re-submission as specified by the Secretariat, the Secretariat reserves the right to cancel the approved application and give the chance to other applicants in the waiting list.

Completed submission will be reviewed by the Committee. Following that the recommendations will be made to MDeC Management. Upon approval, a Letter of Offer will be sent to the applicant to inform on the decision.

The successful applicant will be required to sign a formal agreement with the MDeC and comply with all the terms and conditions laid down in the agreement, this Guide and all instructions and correspondences issued by the Secretariat from time to time in respect of the Programme and the approved application.

The applicant can only award the CMMI project to the vendor once the agreement has been signed.

The vendor selection process can be summarised as below:

- Applicant is required to select a vendor based on a competitive bidding exercise.
- A minimum of **3 proposals** must be obtained.
- Applicant is then required to present the selection result to the CMMI Programme Secretariat.
- The findings will be presented to the Capability Development Committee.
- The Committee will review and approve or reject the vendor selection.
- The applicant signs a formal agreement with MDeC.
- The CMMI project can only be initiated upon signing of the formal agreement.
- The award to the vendor also can only be done upon signing of the formal agreement.

The process of the CDP CMMI Programme application and evaluation process can be summarised in the Figure below:

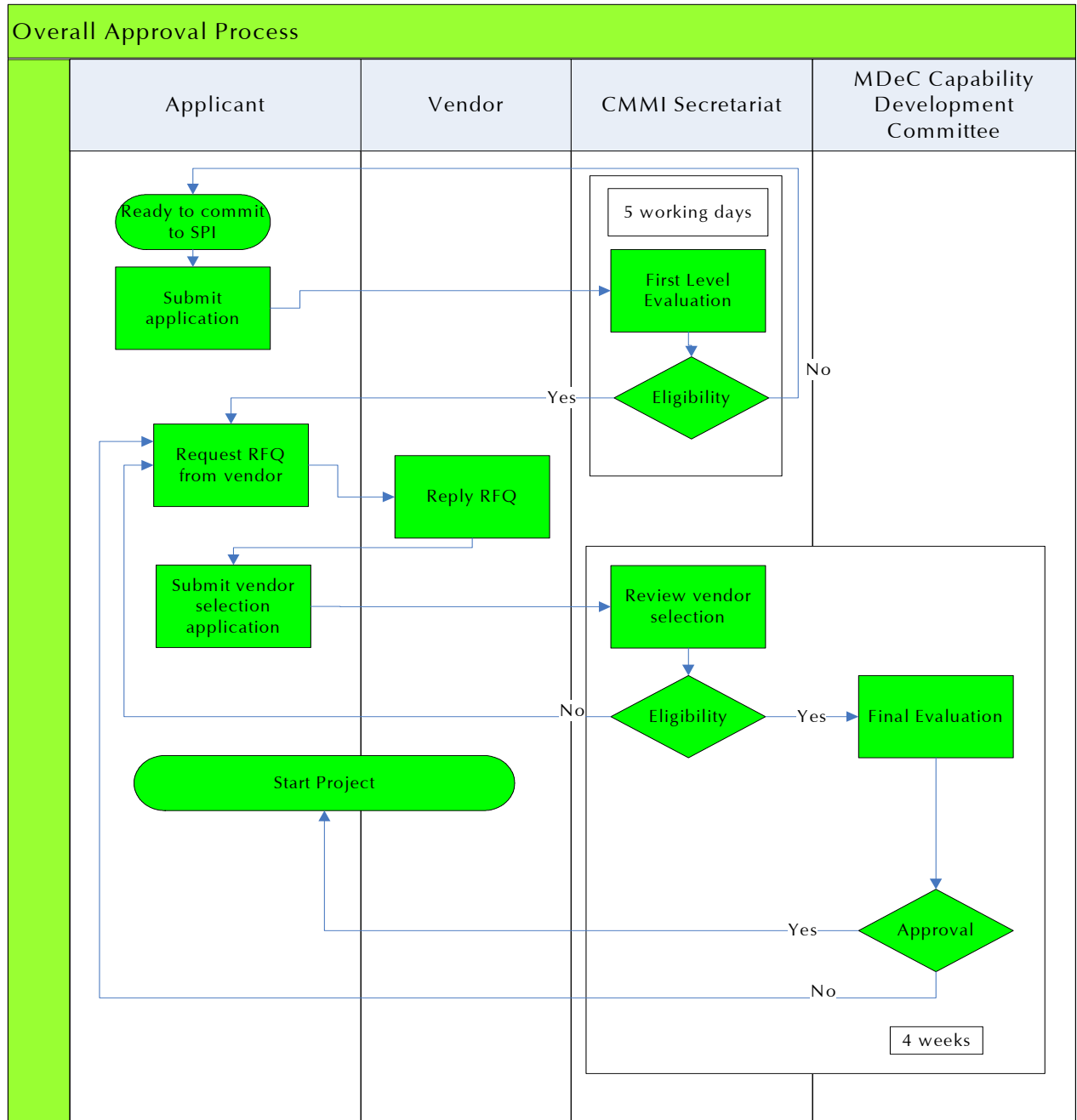


Figure 1: CDP CMMI Programme Application and Evaluation Process Flow

## SECTION 3: FUNDING DISBURSEMENT GUIDELINES

### 3.1 Funding Guides and requirement

#### General Guide:

- MDeC have the right to amend the payment amounts and cap value.
- MDeC reserves its right at any time to defer or suspend any payments, discontinue with or vary the Programme including continuing or discontinuing with the disbursement of the fee towards the Programme regardless of its completion status
- MDeC will not pay for out of pocket expenses.
- All SCAMPI A appraisal results, should be published in SEI website before the reimbursement dateline, **15 November 2010**

#### First Time Appraisal:

- First 50% is to be paid to the vendor by the participating organisations, according to agreed milestone.
- Second 50% is to be **REIMBURSED** to the participating organisations by MDeC, according to agreed milestone.
- Payment by MDeC will be made directly to the participating organisations based on the agreed payment milestones and upon receipt of **proof of payment to vendor** and **project progress report**.
- MDeC will disburse the funds on “as used basis” up to 50% of the total project cost or the predetermined maximum cap value, as determined by MDeC, in the amount and in the time and manner as approved by MDeC.

#### Re-Appraisal and Upgrade:

- Approved Incentive to be **REIMBURSED** to the participating companies upon listing in **Published Appraisal Results website ([sas.sei.cmu.edu/pars](http://sas.sei.cmu.edu/pars))**

The approved incentive will be in accordance with the selected quotation and the condition of a maximum predetermine cap amount.

Once the agreement is signed, unless approved by the Capability Development Committee, no amendment can be made to the approved funding, even if additional services are added to the selected quotation.

### 3.2 Funding Disbursement Example

An example of the funding disbursement is shown in the Table below. Please note that this is only an example used to demonstrate the disbursement guidelines and in no way represents the true value of the funds or depicts the actual fees proposed as well as the incentive amount provided by MDeC.

Column (A)	Column (B)	Column (C)	Column (D)
Milestone	Date	Payment to Service Provider from The Company (RM)	Reimbursement to The Company from MDeC (RM)
(1) Upon Completion of Gap Analysis	By November 2009	29,000	
(2) Completion of first 2 trainings from list	By November 2009	29,000	
(3) Upon completion of next 3 trainings from list	By January 2010	29,000	
(4) Completion of Process Definition for all applicable areas and PAL Set-Up	By March 2010	29,000	
(5) Completion of SEI Official CMMI Intro Training	By April 2010	29,000	
(6) Completion of Documentation and commence Implementation	By June 2010	29,000	29,000
(7) Upon Completion of Mock Assessment and Gap Closure Report	By August 2010	29,000	29,000
(8) Completion of SCAMPI B for CMMI® L3	By September 2010	29,000	29,000
(9) Completion of ATM	By October 2010	29,000	29,000
(10) Completion of SCAMPI A for CMMI® L3	By November 2010	29,000	29,000
GRANT TO THE COMPANY		290,000	145,000

Table 1: Sample of Funding Disbursement

## **SECTION 4: OTHER ADMINISTRATIVE HIGHLIGHTS**

### **4.1. Progress Monitoring**

The approved application is monitored by the Capability Development Committee with the support of the Secretariat. Upon request by the Secretariat, the organisation will be required to provide timely clarification and/or additional information to substantiate the content of the progress reports. Both the Capability Development Committee and the Secretariat may organise visits or progress review meetings to examine the progress of the approved application.

### **4.2 Suspension or termination of Programme funding**

MDeC may terminate an approved application or suspend the disbursement of the programme at any time for reasons which include, inter alia, lack of progress of the programme in a material way; slim chance of completion of the programme in accordance with the application form; change of company status or management structure that is considered to affect the original planning; or MDeC sees fit to terminate the approved application in view of public interest.

### **4.3 Change of company status and project details**

An approved application is required to be carried out strictly in accordance with its application form appended to the agreement. The applicant must inform the Secretariat in writing for any modification, amendment or addition to the application form or the agreement, including change of company status, project in-charge, management structure, project commencement or completion dates, vendor, assessment scope, methodology, fee schedule, etc. The Secretariat reserves the right to react to these changes.

### **4.4 Role of project-in-charge**

The project in-charge is responsible for overseeing the approved application generally; monitoring its expenditure and ensuring the proper fee disbursement of the Programme in accordance with the approved application, this Guide and other instructions set for the application; liaising with and answering all enquiries and requests raised by the Committee or the Secretariat for information and clarification on all aspects of the approved application; and attending progress meetings as required.

#### 4.5 Procurement Procedures

All quotations and tendering documents from the vendors related to the application of the Programme should be kept by the applicant for MDeC's inspection for at least two years after completion of the approved application or termination of the agreement, or as otherwise specified by the Secretariat within that two-year period.

### SECTION 5: CONTACT

Enquiries regarding the CDP CMMI Programme can be forwarded to:

**CDP CMMI Programme Secretariat**  
Capability Development Division  
Multimedia Development Corporation  
MSC Headquarters  
Persiaran APEC  
63000 Cyberjaya  
Selangor Darul Ehsan,  
Malaysia

**Attention:**

**Ir. Ahmad Syahrir Mohd Shuib**

Tel: 03-83153383

E-Mail: Syahrir@mdec.com.my

**A.K.Alagendran**

Tel : 03-8315 3346

E-Mail: alagendran@mdec.com.my

## SECTION6: GLOSSARY AND TERMS

1. Applicants	Refers to MSC Malaysia status companies that have submitted applications to <b>MDeC</b> to enrol in the CDP CMMI Programme
2. CMMI	Capability Maturity Model Integration
3. CMU	Carnegie Mellon University
4. ICT	Information and Communication Technologies
5. MDeC	Multimedia Development Corporation
6. MSC Malaysia	Multimedia Super Corridor Malaysia
7. Participating Organisation	Refers to MSC Malaysia status organisations that have been accepted by <b>MDeC</b> into the SPI programme
8. SEI	Software Engineering Institute
9. SPI	Software Process Improvement
10. Vendor	Companies that have been approved by MDeC to implement the CMMI programme