CMMI V2.0 ESSENTIALS

Module 1: Introduction

QMS TRAINING
Version 1.0
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INTRODUCTION

1. Purpose
2. Who is this course for
3. Benefits of the course
4. Course topics

1. PURPOSE

- This 2-day course offers you a detailed introduction to the CMMI V2.0 model with an emphasis on product development.
- As well as acquiring the necessary specialist knowledge and practical tips, you will learn when it makes sense to apply the model pragmatically to your work. This training course also lays a useful foundation for further CMMI training and allows you to work as a team member on official assessments.
- In essence CMMI provides a toolkit that helps companies optimise processes and implement improvements. The model offers a practical framework for achieving higher quality standards, optimising cost controls, meeting project deadlines and ensuring customer satisfaction.

2. WHO IS THIS COURSE FOR

Participants include Managers and Team Lead who have already a basic understanding of CMMI Maturity Level 3, such as:

- BOM member
- PMO, Project Managers, Project Team Leads, Architect, Senior Developers
- Process Quality Assurance managers and staff
- Managers of support functions, especially HR, Training, Sales, IT Infrastructure, DEVOPS
- The key members of the Information Technology projects

3. BENEFITS OF THE COURSE

By the end of this course, participants will be able to:

1. Understand the purpose and principle of CMMI Version 2.0
2. Understand The architecture of CMMI V2.0
3. Know the updates of CMMI V2.0 vs previous version 1.3
4. Plan a high level roadmap of adopting CMMI for an organization
5. Know how to apply the CMMI practices in real activities of the organization

4. COURSE TOPICS

1. What is CMMI
2. CMMI V2.0
3. The CMMI Model
4. Summary of the Process areas up to ML 3
5. High Maturity Process: Planning (PLAN)
6. High Maturity Process: Managing Performance and Measurements (MPM)
7. High Maturity Process: Causal Analysis & Resolution (CAR)
8. High Maturity Process: Process Management (PCM)
9. High Maturity Process: Governance (GOV) and Supplier Agreement Management (SAM)
10. Q&A and Final Test

1. WHAT IS CMMI ?

1. What is CMMI ?
2. Why CMMI ?
3. Key concepts

What is a PROCESS ?

- A process is a series of steps and decisions involved in the way work is completed. We may not realize it, but processes are everywhere and in every aspect of our leisure and work. A few examples of processes might include:

- Preparing breakfast
- Placing an order
- Developing a budget
- Writing a work order
- Triaging a patient
- Cleaning a roomProcess
- Process model / framework
- Categories
- Maturity level
- Practice area

A New Definition for "What is a Process?"
A process consists four major elements:

Steps and decisions — the flowchart. A series of steps and decisions describing the way work is completed.
Variability of processing time and flow — the pattern of processing times.
Timing and interdependence — when the arrivals happen, when people work, etc.
Assignment of resources — how many and where are they assigned.

1. What is CMMI?

- **CMMI (Capability Maturity Model Integration) is a framework to improve the quality of software and development efficiency**.
- It provides a set of best practices and guidelines for process improvement in a project, division or the whole organisation.
- It’s also used as a model for assessing the process maturity level within an organisation.
- CMMI originated in 1987 and has undergone many alterations and improvements since then. CMMI 2.0 is the current version of the framework, released in 2018.

2. Brief history

CMMI was developed by Carnegie Mellon Software Engineering Institute (SEI). Its goal was to make maturity models—which measure the ability of organizations to have ongoing improvement in a particular area—more effective and usable by integrating a number of models into a single framework.

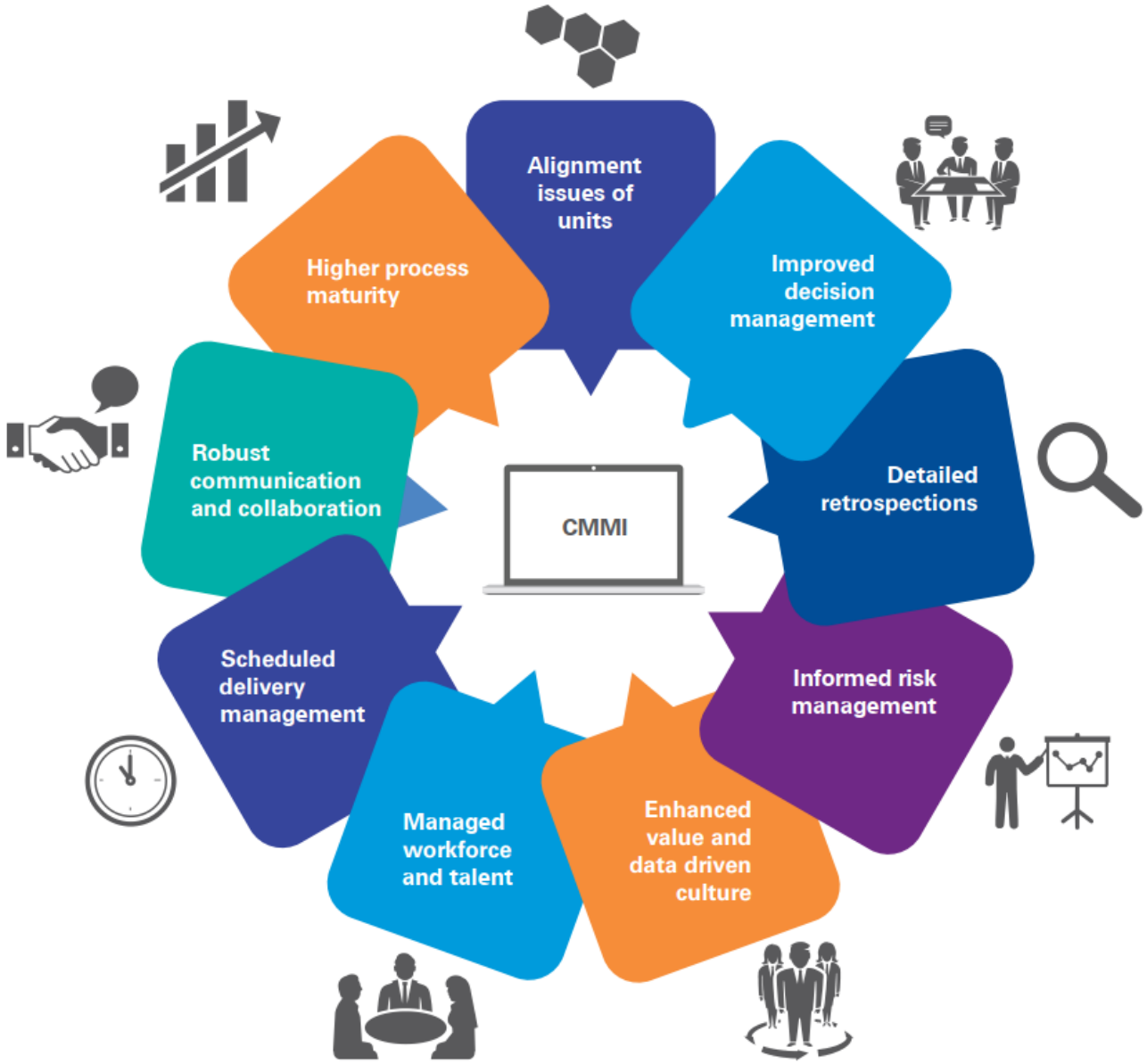
The first version of the CMMI was released in 2002 and built upon the Capability Maturity Model (CMM), which was developed from 1987 to 1997.

In 2002, version 1.1 was released, in 2006 version 1.2 was released, and in 2010 version 1.3 was released.

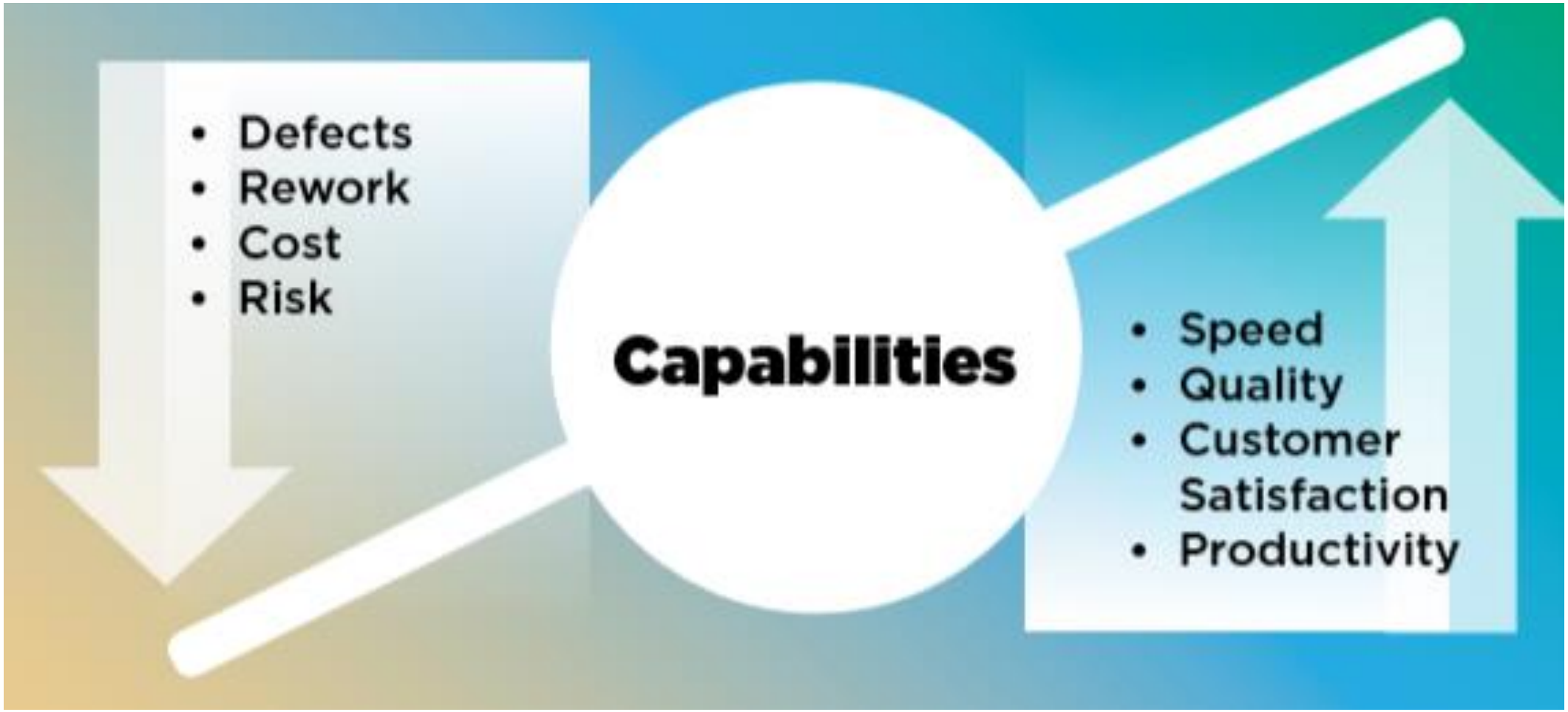
Version 2.0 launched in 2018 with some notable changes that make the model more accessible and effective for businesses in any industry.

The CMMI is administered by the CMMI Institute, which was bought by ISACA in 2016.

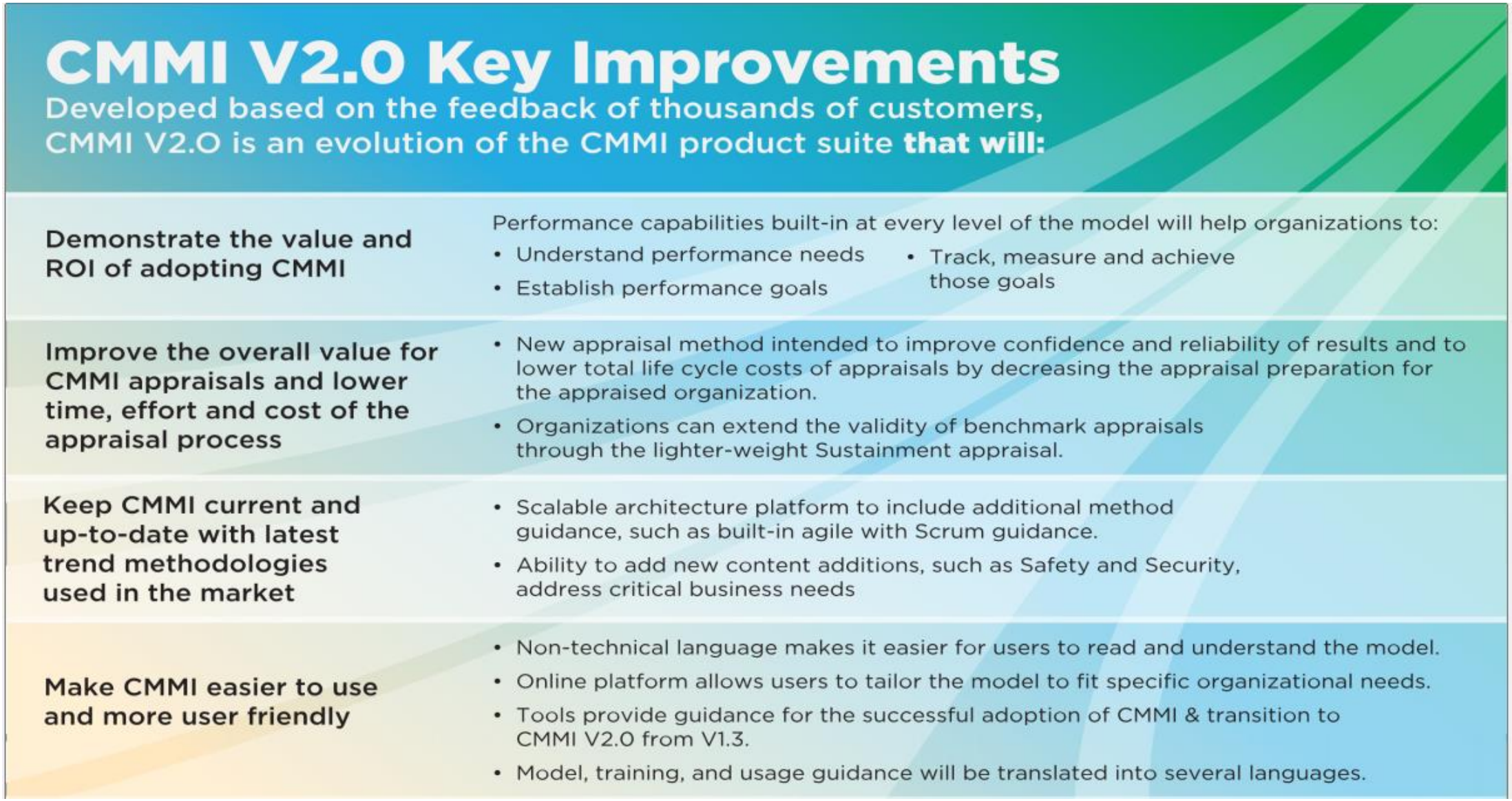
3. Why CMMI?


Alignment issues of units
Improved decision management
Detailed retrospections
Informed risk management
Enhanced value and data driven culture
Managed workforce and talent
Scheduled delivery management
Robust communication and collaboration
Higher process maturity
CMMI

Benefits


• Defects
• Rework
• Cost
• Risk
Capabilities
• Speed
• Quality
• Customer Satisfaction
• Productivity

4. Changes in CMMI V2.0



4. Changes in CMMI V2.0

CMMI V2.0, earlier known known as Next Generation of CMMI, has been released by the CMMI Institute and will completely replace the CMMI Version 1.3 after the transition period.

Following are some of the changes and improvements in CMMI V2.0 over CMMI v1.3:

Key Capabilities Identification: New CMMI Model i.e. CMMI V2.0 will helps organizations in identification of their key capabilities that directly impact Return on Investment (ROI) and Quality, so helping in reducing costs and time to market.

Practice Areas: Now term Process Area has been replaced with Practice Area. Its due to the fact that we have Practices in a Process Area and so it is logical to address Process Area ads Practice Area.

Separate Practice Area for Estimation: CMMI Institute has taken out the Specific Practice of Estimation and has developed a separate Practice Area just to ensure that estimation has focus and is not neglected for better project management, monitoring and control.

Generic goals and generic practices are no longer available: Generic goals and generic practices required for institutionalization are no longer part of the new CMMI Model. Rather these has been incorporated into the CMMI Model as set of Practices. Also, the new model has been designed in such a way that processes are institutionalised by design of the model so that every required process has some part at every Maturity Level.

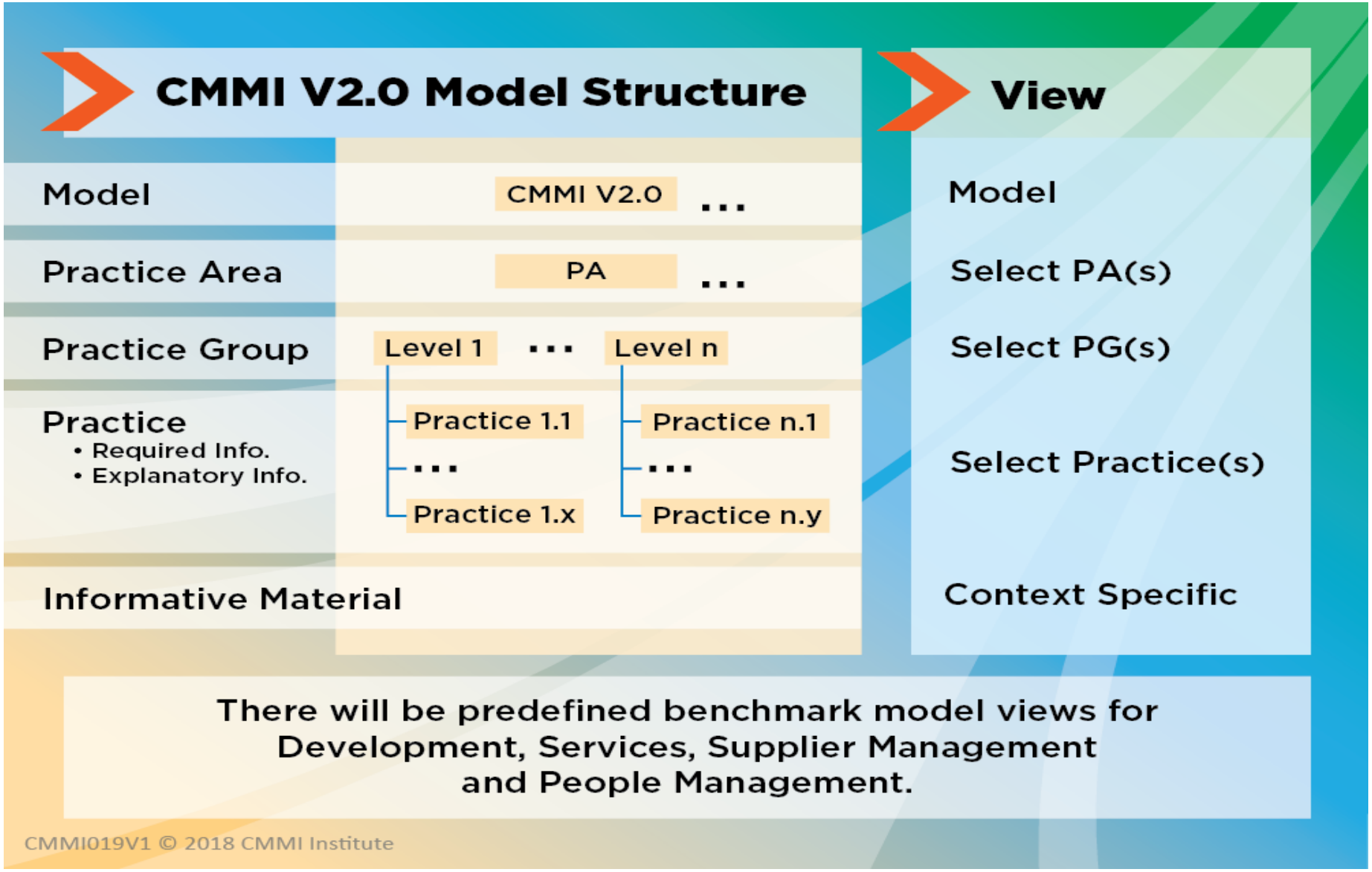
Single CMMI Constellation: Contrary to the earlier separate constellations for CMMI for Development (DEV), CMMI for Services (SVC) and CMMI for Acquisition (ACQ), now CMMI Institute has merged them into a single model. This will make it easier to implement and adopt to different stream.

PCMM and CMMI V2.0: Popular People CMM has been integrated into CMMI V2.0 as part of **Managing the Workforce (MWF)** practice area. This will help in better management of people working on project

2. THE CMMI MODEL

1. Key concept: Process
2. Practice area, Capability area, Categories
3. Maturity levels

What is a PROCESS ?



Practice Areas, Capability Areas, Categories

CMMI describes the **Practice Areas** and **Capability Areas**.
These areas are grouped into **4 Categories**.

Manage business resilience	Envisage, anticipate and adapt disruptions and opportunities impacting business
Build and sustain capability	Strategise to build and sustain business process and technology efficiency for performance
Improve performance	Establish business goals in alignment to organizational needs and track them.
Manage workforce	Talent acquisition, development and management for business effectiveness
Select and manage suppliers	Coordinate with supply chain for desired business outcome and risk management
Engineer and develop products	Enhance end user experience and bring in delight
Plan and manage work	Optimise time to market and schedule
Support implementation	Collaborate with stakeholders for informed decisions, support product integrity and deliver committed outcome
Ensure quality	Individuals, team and organisation to define and maintain superior standard of deliverables for customer and business

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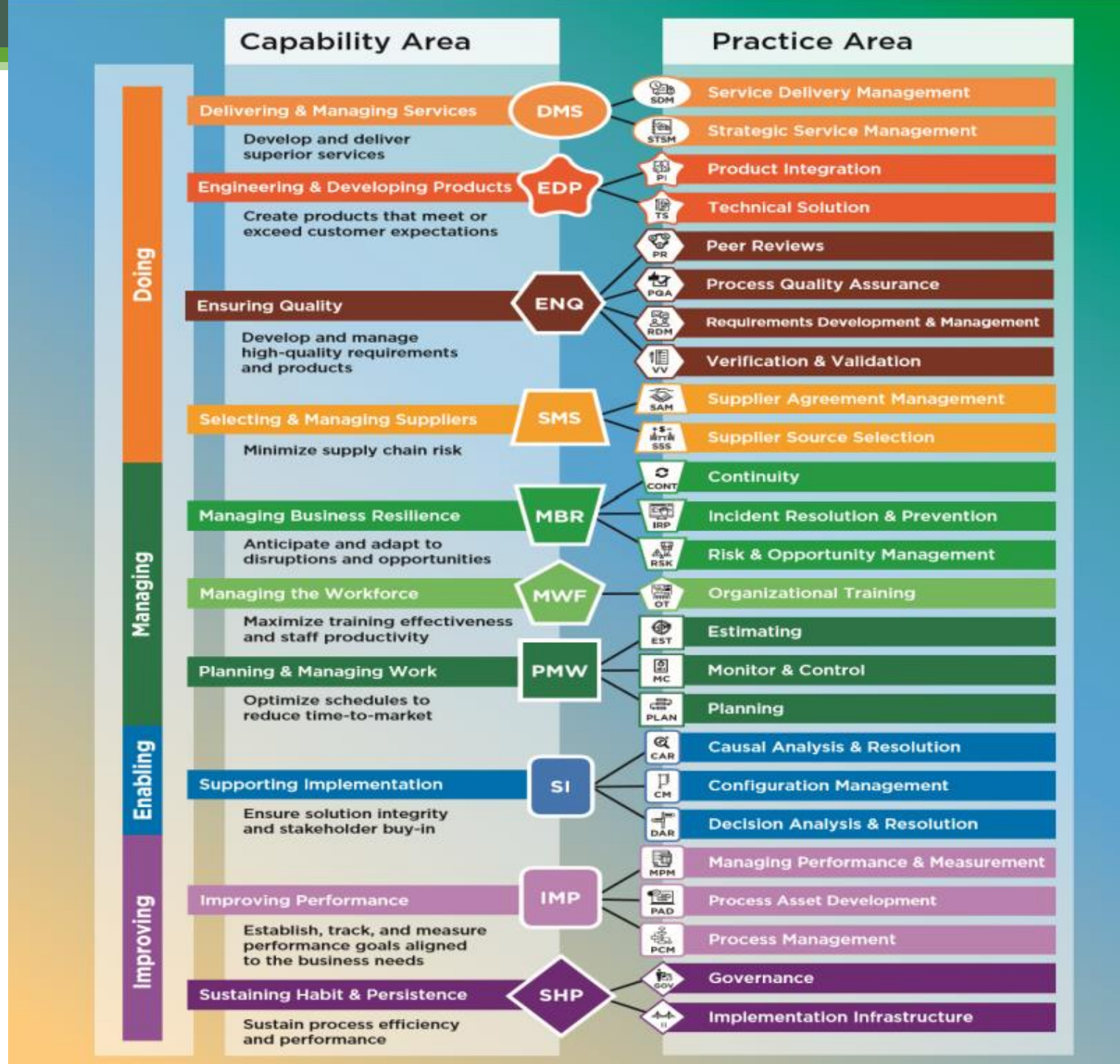
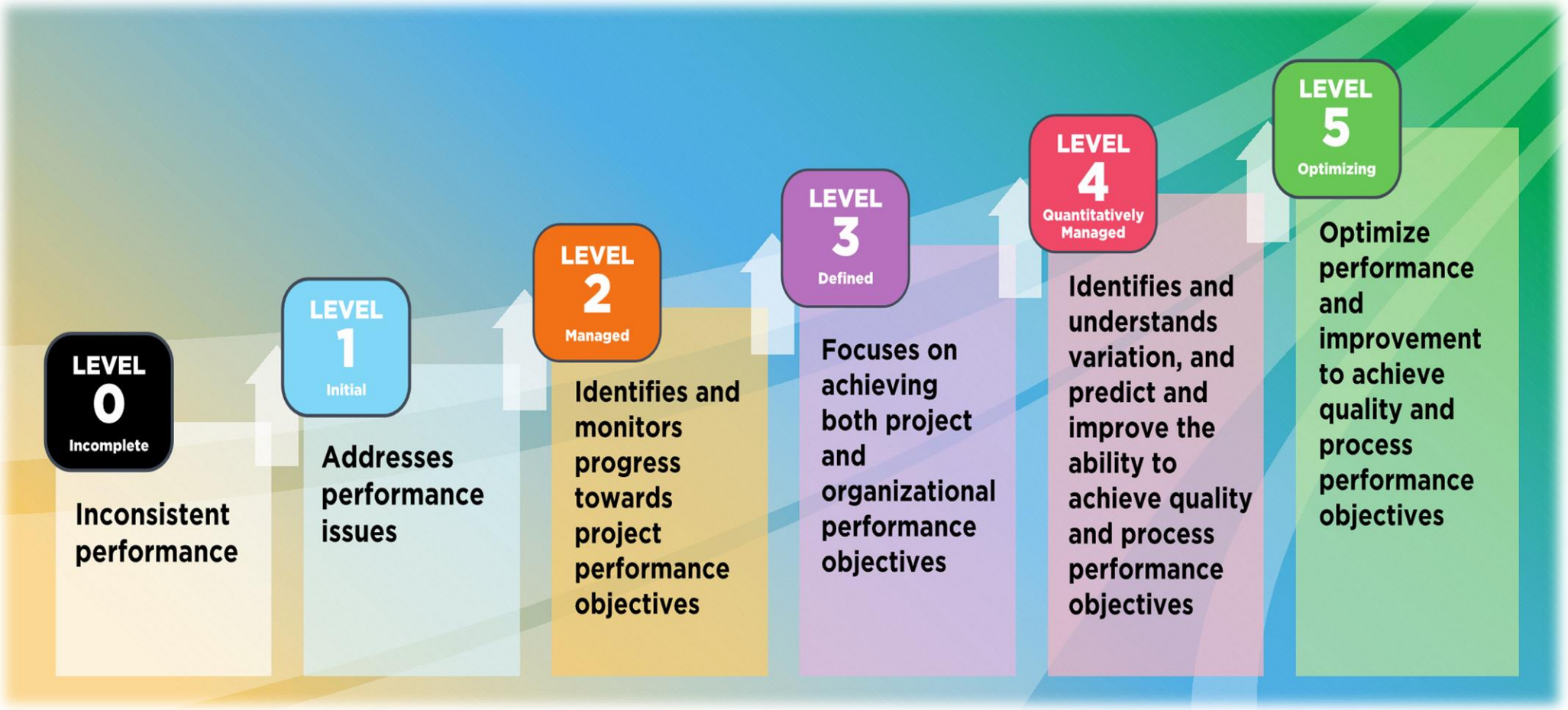


Maturity levels

Evolutionary paths for each practice area



Maturity levels

Evolutionary paths for each practice area

Cateogry	Practice Area (PA)	Level 1	Level 2	Level 3	Level 4	Level 5	Notes
Doing	Supplier Agreement Management (SAM)						+/ -
Improving	Governance (GOV)						On Mgt
Improving	Implementation Infrastructure (II)						On Org
Enabling	Configuration Management (CM)						
Managing	Estimating (EST)						
Managing	Monitor & Control (MC)						
Improving	Managing Performance & Measurement (MPM)						
Managing	Planning (PLAN)						
Doing	Process Quality Assurance (PQA)						
Doing	Requirements Development & Management (RDM)						
Enabling	Causal Analysis & Resolution (CAR)						
Enabling	Decision Analysis & Resolution (DAR)						
Managing	Organizational Training (OT)						
Improving	Process Asset Development (PAD)						
Improving	Process Management (PCM)						
Doing	Peer Reviews (PR)						
Managing	Risk & Opportunity Management (RSK)						
Doing	Verification & Validation (VV)						
Doing	Technical Solution (TS)						DEV
Doing	Product Integration (PI)						DEV

PA & Practices applicable at a Level: