



CMCSoft

Quality Management System & Project Execution

A member of CMC Corporation



- 1 Overview CMC's Quality Management System**
- 2 CMC Center of Quality**
- 3 Process Quality Management**
- 4 Project Execution**
- 5 Project Management Tool**
- 6 Q&A**



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FROM OUTSOURCING PROJECTS TO STRATEGIC PARTNERSHIP

Overview CMC Quality Management System

ISO 9001:2000

CMMI 3

Dedicated Center of Quality department (CQ)

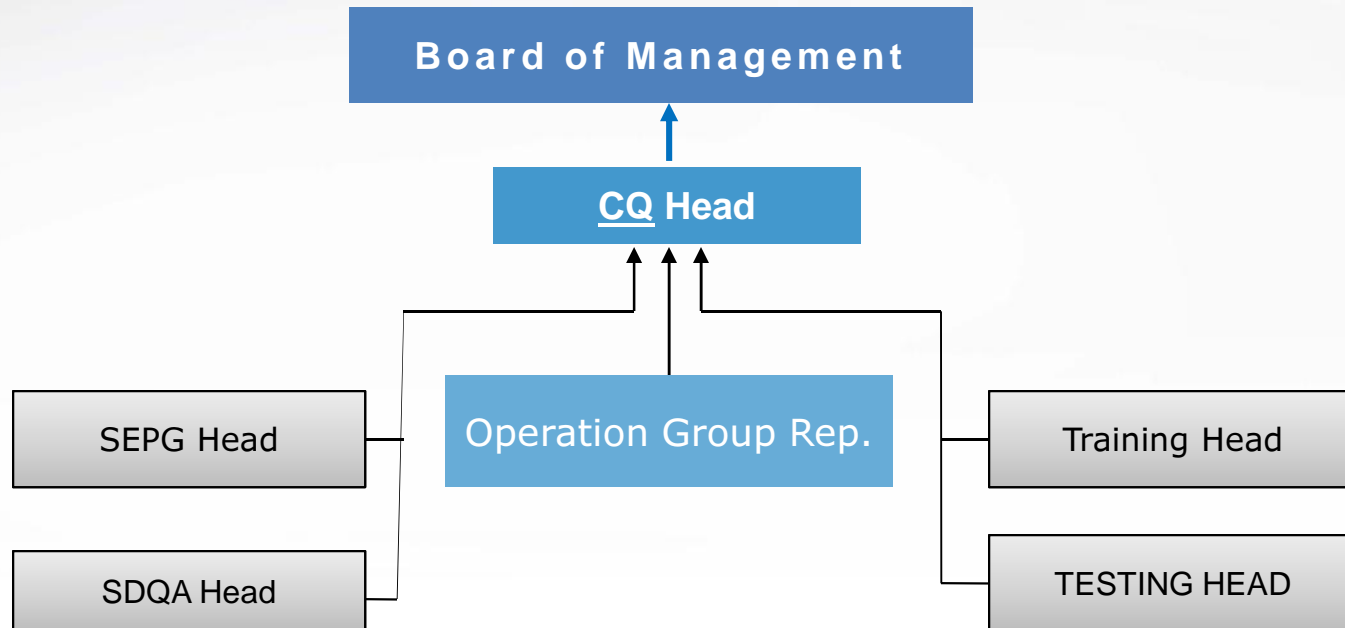


Center of Quality

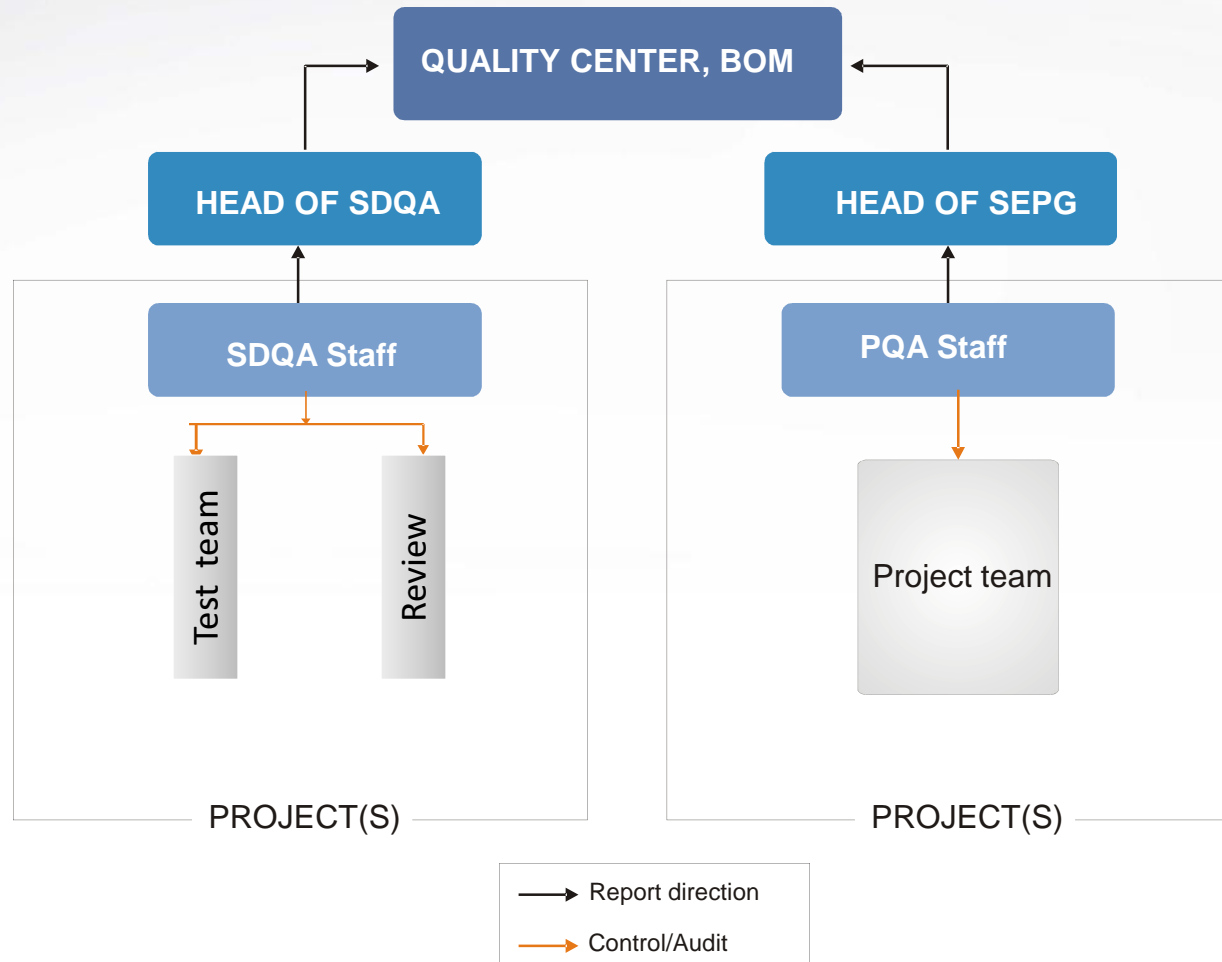
- **Quality Planning and Improvement**
SEPG: Process Development & Improvement

- **Quality Assurance (Separated from Operation Groups)**
SDQA – Process Quality Assurance
PKQA – Product Deployment Quality Control
Review
Test

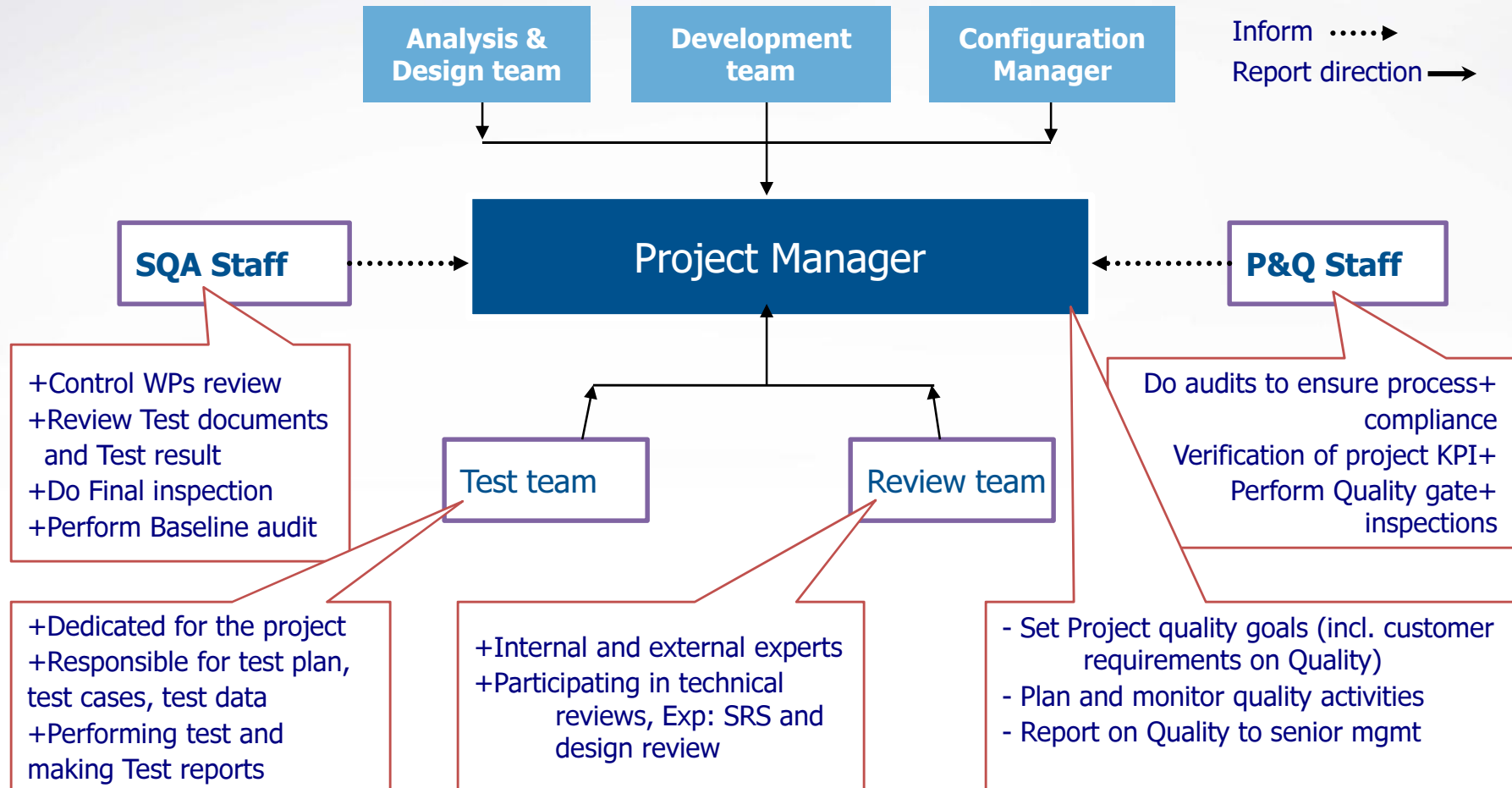
- Training**
 - Training new tech, process.



Process, Product Quality Organization

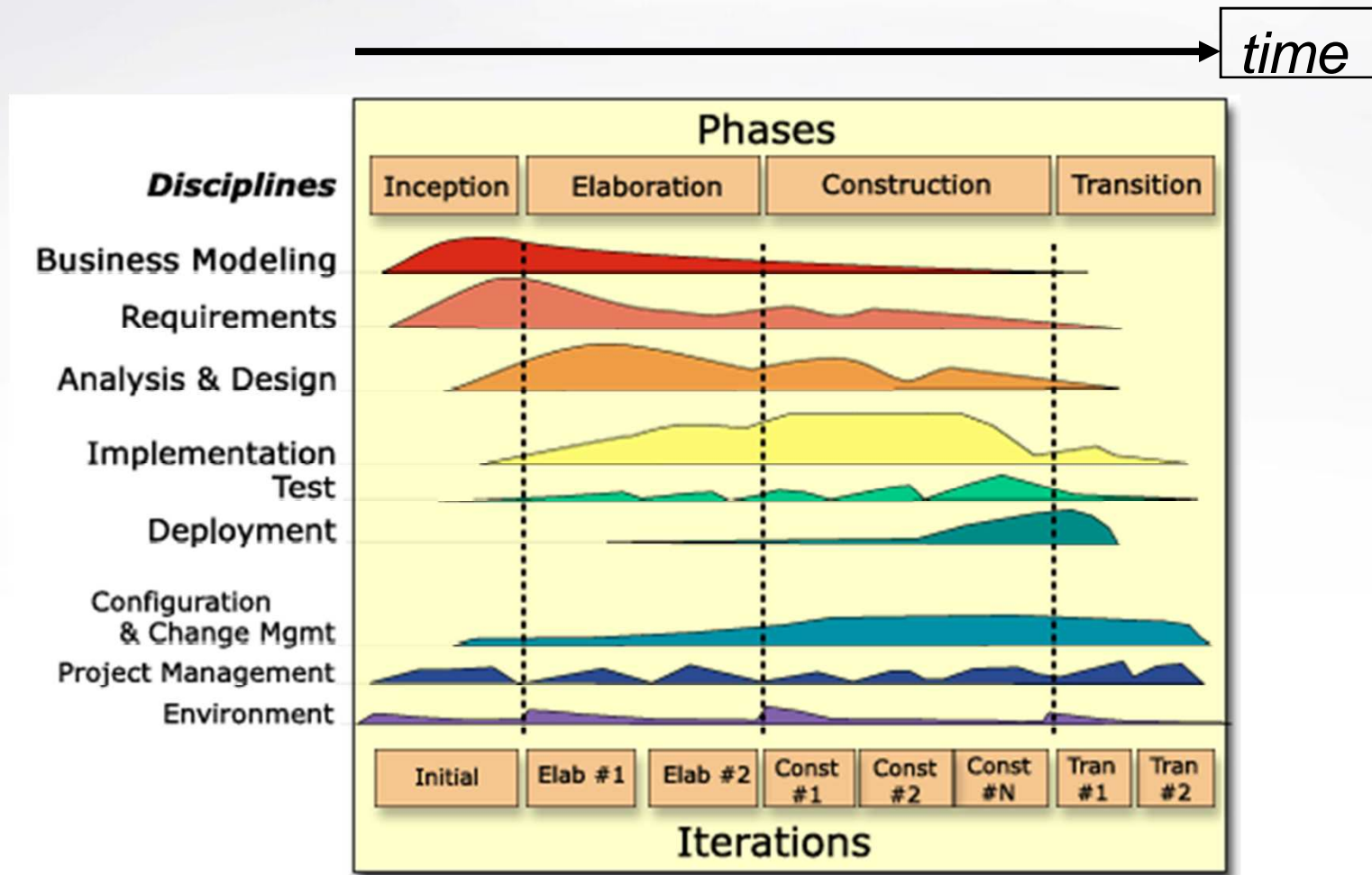


Quality Activities in Project





- Standard Software Life Cycle
- Main Project's Activities
- Responsibilities matrix
- Quality gate
- Quality metric
- Process tailoring
- Client request process





All projects we have to implement:

- Life cycle definition
- Estimation and planning
- Define communication plan
- Quality objectives defining and monitoring
- Identify and track critical incidents & high risks
- Configuration management
- Quality audit and control
- Status reporting and review
- Effort & schedule monitoring and deviation analysis
- Records of customer communication.

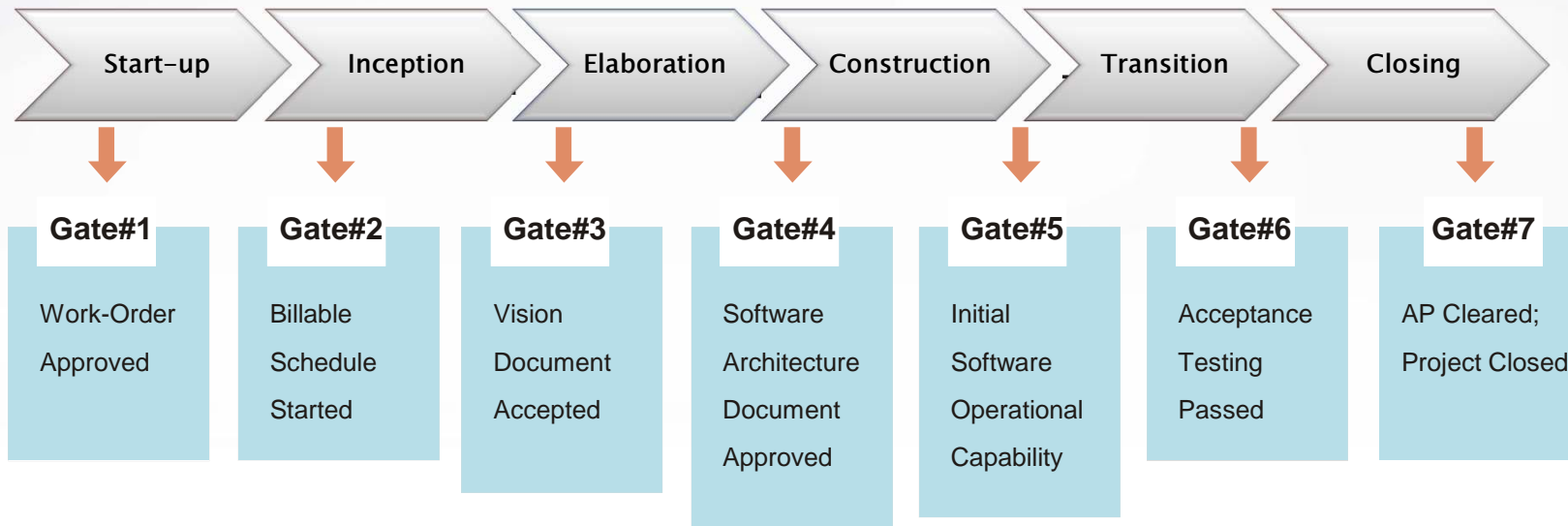


Responsibilities Matrix

Activities	Product	Customer	Reviewer	SBU Director	PD	PM	Developer	Tester	SQA	P&Q
Create Technical solution proposal	Technical solution proposal	A	A	R	A	D			V&V	I
Define customer requirement	URD	A	I	R	A	D				I
Create SRS	SRS	A	R	R	A	D	I	I	V&V	I
Develop Prototype	Prototype	A	I		A	D	D	R	I	
Architect design	Architect design document	R	R		A	D	R	R	V&V	I
Create Test Plan	Test Plan				A	R	I	D	R	
Detail design	Detail design		R		A	D	D		V&V	
Create Test Case & test data	Test Case & test data				I	R	R	D	A	
Coding	Software Package				I	A	D	I	I	
Software testing	Test report				A	R	I	D	V&V	
Fix defect in development	Software Package				I	A	D	R	I	
Transition software to customer	Release note, Software package	I	I	I	A	D			A	I
Fix defect in Acceptance	Software package, Acceptance record	A			A	D	D	R	I	
Create Installation manual	Installation manual	I		I	A	D			V&V	
Create User manual	User manual	I		I	A	D			V&V	

Notes: D (Done), R (Review), V&V (Verify & Validate), A (Approval), I (Inform)

The concept of responsibilities matrix allowing alignment right people doing right task in each stage during project execution, apply in outsourcing project





Major Quality metrics

Effort	Comparison of effort estimated, vs. actual spent, analyzed by each activity, milestone, and deliverable.
Schedule	Measured as a deviation in time units from the planned dates/ effort. 95% of CMC's projects are delivered on time (within 5% deviation).
Code quality	Number of defects per KLOC in the delivered product. CMC Software's current achievement in this area is 8 Defects / KLOC
Review Efficiency	How many defects were trapped as compared to predicted defects, measured together with the defect leakage metrics. CMC's current review efficiency is about 70%. The review process specifies the minimum efficiency for acceptance of reviewed product.
Leakage	This metric indicates the rate of post-release defects of project.
Customer Satisfaction	To provide the customer satisfaction and to measure the success of project.



Tailoring

- Follow tailoring guidelines
- Small team: Use external staff, reduce formal meetings
- Short duration: Merge stages, combine work product
- High skill: Reduce formal review
- Project type: New application, Migration, Maintenance: each have to adjustment in term of stage and percentage of effort distribution.
- Using Whizible Tool to manage and track project

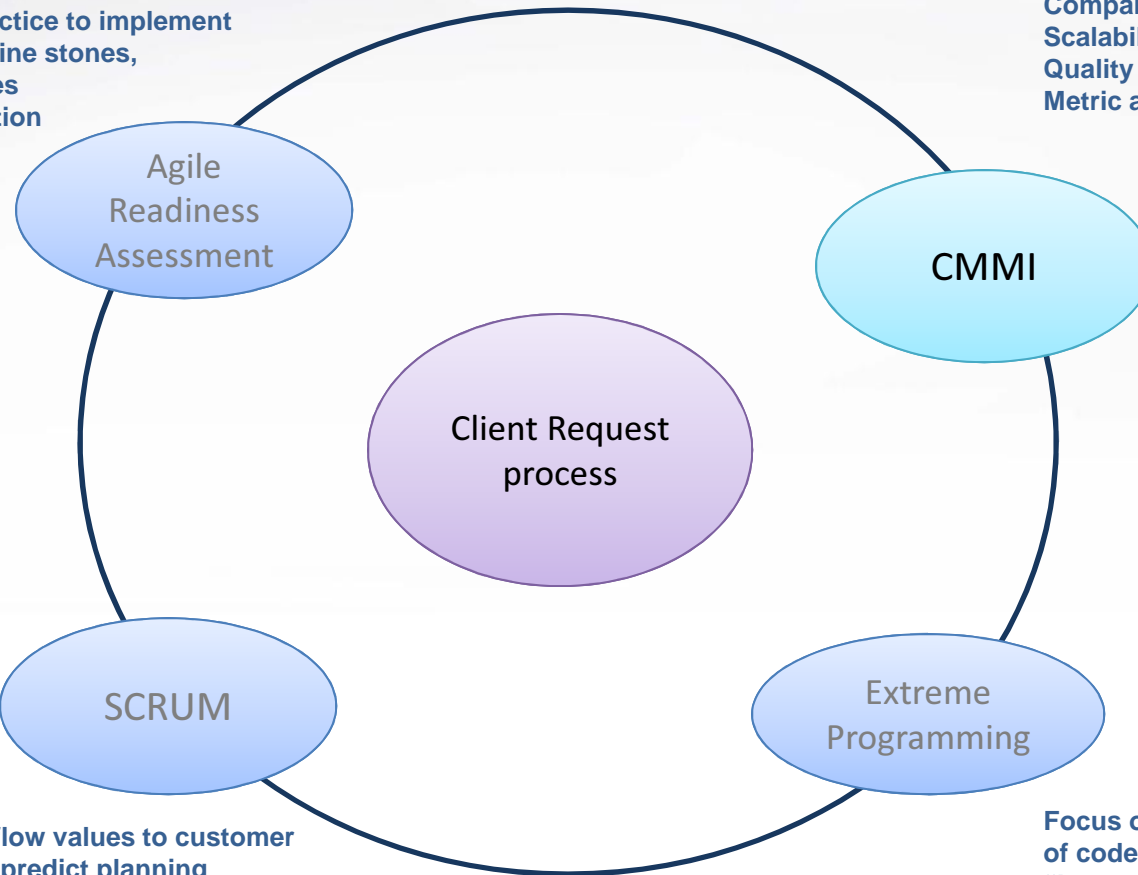
Deviation

- Do not follow tailoring guidelines
- Customer requirements, R&D



Client Request Process

Mapping existing process
Identify key Agile practice to implement
Roadmap: phases, mile stones,
benchmarks, practices
Hand on implementation



Company-wide process discipline
Scalability, manageability
Quality assurance frame work
Metric and benchmarks

Focus on continuous flow values to customer
Adaptive planning Vs. predict planning
Scalability without loss of velocity

Focus on producing high quality
of code
“Lean manufacturing” of
software development
Test-driven development
Continuous development



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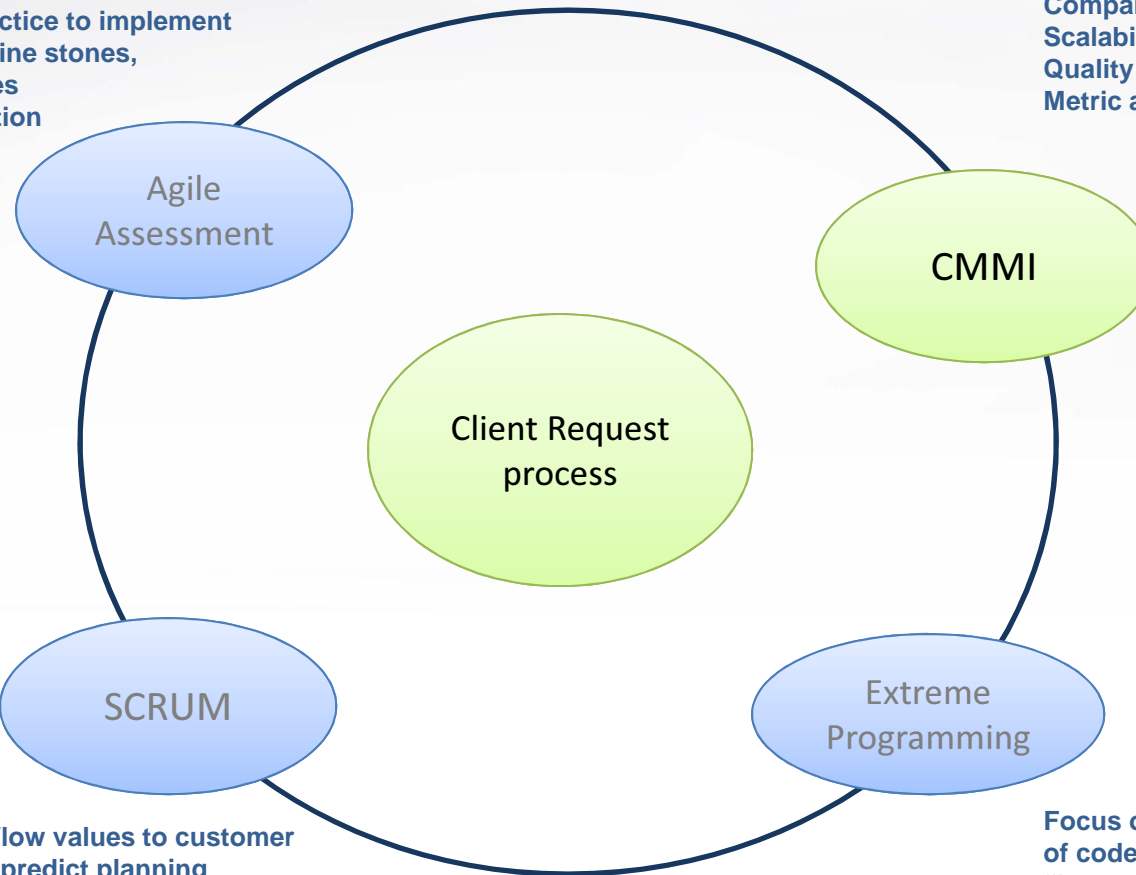
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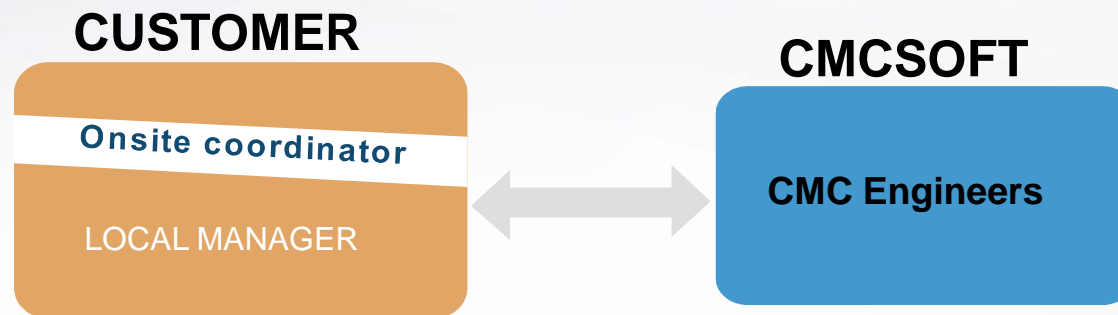
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Project Execution

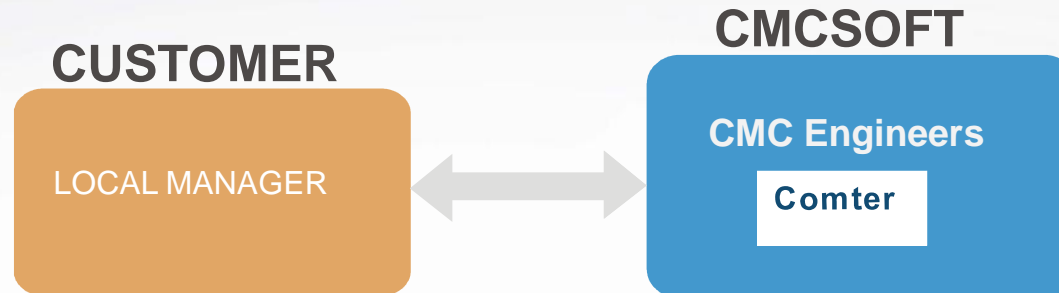
- Communication Models
- Communication Methodologies
- From Pilot to ODC



Onsite coordinator role: Assure the smooth communication between sides

- Requirements gathering and analysis
- Technical support engineer
- Can play project leader/tester role

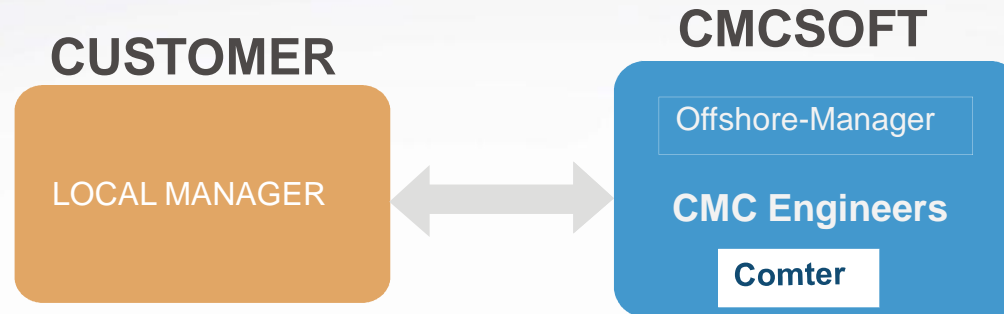
Capability: 1 Onsite coordinator or BridgeSE/5-15 off-shore engineers



Benefits:

- Easy to scale up
- Cost effectiveness

Capability: 1 Comter /5-7 Off-shore Engineers for non-English project



Benefits:

- Easy to scale up
- Cost effectiveness
- Very good communication

Capability: 1 Off-shore Manager/30-60 Engineers



Project Management

- Whizable SEM

Exchange Information in

- Email
- Telephone, Conference Call POLYCOM
- Skype, Messenger, WebEX, Net Meeting

Onsite Support

- Onsite Coordinators
- CMC Office oversea

Offshore Support

- Customer's staffs work in Vietnam
- Customer's Office in Vietnam



Objectives

- Knowledge/technology transfer

Typical approach

- Discussion of requirement via Questions & Answers documents
- On-site engineers, face-to-face discussion to get requirement if necessary

Heads count

- Depending on customer needs. We can start from very small scale

Time-frame

- 3-6 months



Objectives

- Co-operate to support Customer cut-down the cost, increase profits, and to make faster time-to-market

Typical approach

- Offshore with intensive communication. Onsite when it is necessary

Heads count

- Depending on customer needs

Time-frame

- Depending on customer needs

Objectives

- To sustain experienced people and leverage the accumulated knowledge

Typical approach

- Offshore Development Team full time dedicated to customer's projects

Heads count

- Depending on customer needs

Time-frame

- Continuously on-going



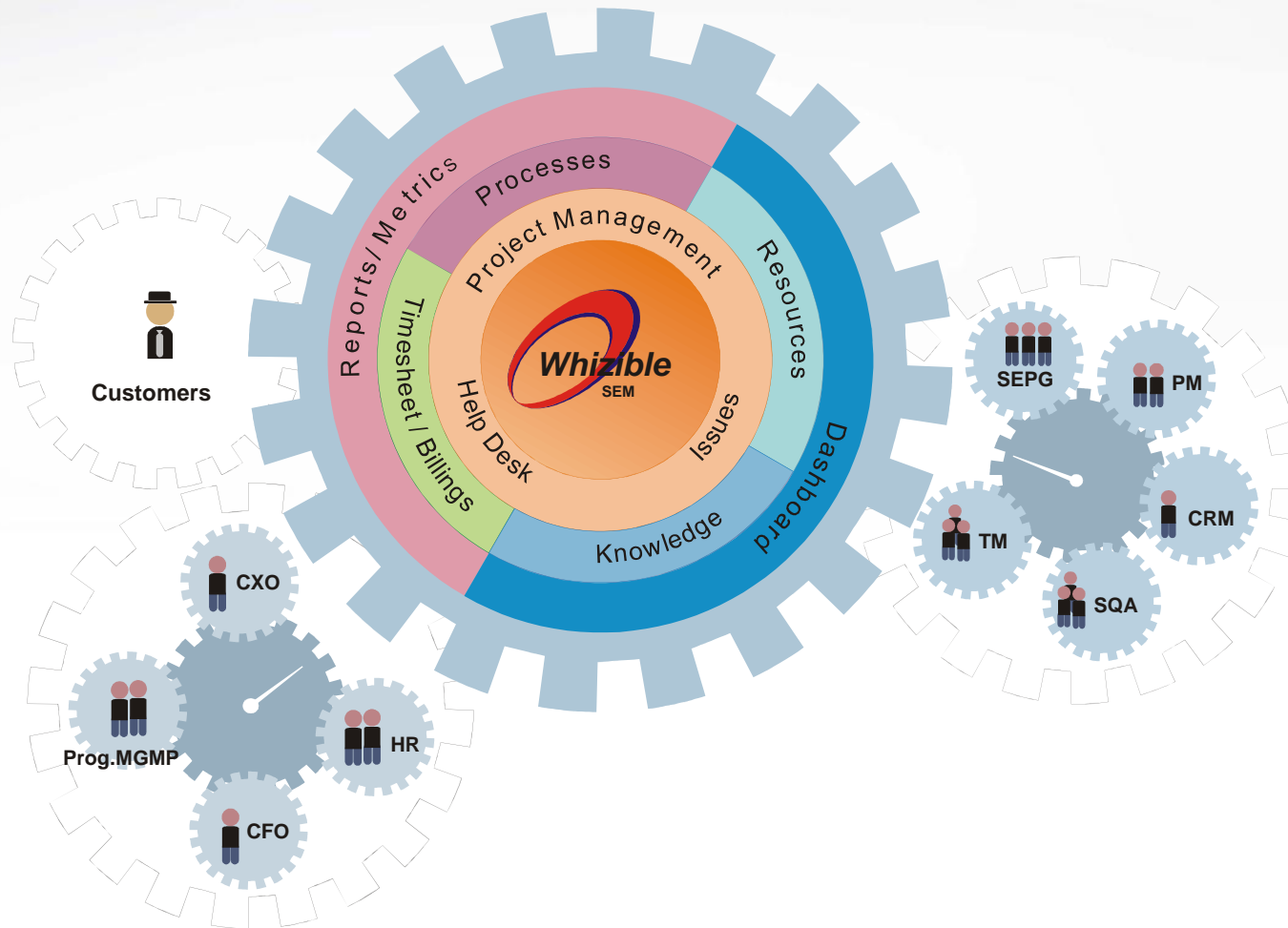
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PROJECT MANAGEMENT TOOL

- Project Management Whizable SEM
- Project Management Frame work
- Sample Project Organization
- Sample Project Phase



Connecting Projects, Processes and Customers





PROJECT MANAGEMENT- Whizable

Project Management

- MS Project Integration and Tracking
- Issue Management
- Risk Management
- Timesheet

Resource Management

- Availability
- Utilization
- Skill Inventory

Billing

Helpdesk Management

Knowledge

E-Dashboard & Report Builder

- Custom Query Building
- Custom Graphs and Reports

Additional features like Test Case Management and Requirements Management are also available

CMCSoft deployed WhizableSEM which is web based project management solution from India, specifically designed for a Global Services Delivery organization.



e-Dashboard | Projects | Issues | Timesheet | Billing | Processes | Reports/Metrics | Help-Desk | Knowledge | Res

User: tbvu(Administrator) | Set As Default Tab | Res

e-Dashboard | Management Dashboard (High Level) ▾

Dashboard

- Project Health
- Resource Utilization
- Billing
- Revenue Forecast Vs Realization
- Resources
- Help-Desk Internal Dashboard

Project Health Sheet (Activities in RED indicates Slippage/Overdue)

SQERT Details till 16-Apr-2009

Project Name	Reporting Date	Scope	Quality	Effort	Risk	Time	Project Overview
CM - 2006.005.eDocman - BTC - VTLT	05-Jun-2008	●	●		●	●	●
CM - 2007.002.ED20 - VIB	05-Jun-2008	●	●		●	●	●
CM - 2007.004.ED20 - ICE	05-Jun-2008	●	●		●	●	●
CM - 2007.007.eDocman - Bo GDDT	05-Jun-2008	●	●		●	●	●
CM - 2008.001.eDocman - PV Power	05-Jun-2008	●	●	●	●	●	●
CM - 2008.002.ED25 - Nang cap VMS	05-Jun-2008	●	●		●	●	●
CM - 2008.005.ED20 - Vien KTQHTS	05-Jun-2008	●	●		●	●	●
CM - 2008.ED - Hỗ trợ	05-Jun-2008	●	●	●	●	●	●
CM - BIDV	05-Jun-2008	●	●		●	●	●
CM - HT QLV& HSCV	05-Jun-2008	●	●	●	●	●	●
CM - PVFC	05-Jun-2008	●	●		●	●	●
CM - PVI	05-Jun-2008	●	●	●	●	●	●
CM - Sở TC Cao Bằng	05-Jun-2008	●	●	●	●	●	●
CM - Support-eDocman	05-Jun-2008	●	●		●	●	●
GSDC - COA Portal	03-Mar-2008	●	●		●	●	●
GSDC - Calstate - Phase IV	27-Jan-2008	●	●		●	●	●

Reports/Metrics | Help-Desk | Knowledge | Resources | Configuration

Generate Resource Utilization rep

Related Data | Show Deployable | Close | ?

Organization Unit : CM SBU Project : 2008.014.CM - Techcombank

Period : This Month

Month	Resource	Hrs		%		Hrs		%		
		Install Capacity	Available	Planned	Actual	Billable				
March										
	Bùi Ngọc Dung	32.00	32.00	100.00	64.00	200.00	28.00	87.50	0.00	0.00
	Cung Phương Nga	152.00	152.00	100.00	192.74	126.80	136.00	89.47	136.00	89.47
	Đỗ Thị Thuỳ	152.00	152.00	100.00	88.00	57.89	88.00	57.89	88.00	57.89
	Lê Quang Anh	152.00	152.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
	Lương Thị Minh Hồng	152.00	152.00	100.00	252.87	166.36	149.75	98.52	149.75	98.52
	Lương Xuân Hùng	112.00	112.00	100.00	0.44	0.39	8.00	7.14	8.00	7.14
	Nghiêm Tuấn Anh	152.00	152.00	100.00	127.36	83.79	116.00	76.32	108.00	71.05
	Nguyễn Mạnh Tùng	152.00	152.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
	Nguyễn Thị Kim Thanh	152.00	152.00	100.00	192.74	126.80	136.00	89.47	136.00	89.47



- **To start a project:**

- Project Work-order
- Estimation



- **Start-up phase:**

- Project Plan
- Kick-off Meeting
- CM Plan
- EVMS
- Project Schedule



- **Weekly:**

- Weekly Report
- Updated EVMS
- Updated Project Schedule
- Deliverable Log
 - Evidence
- NC/NX report
- Customer Complain Report

- **Daily:**

- Questions-Answers List

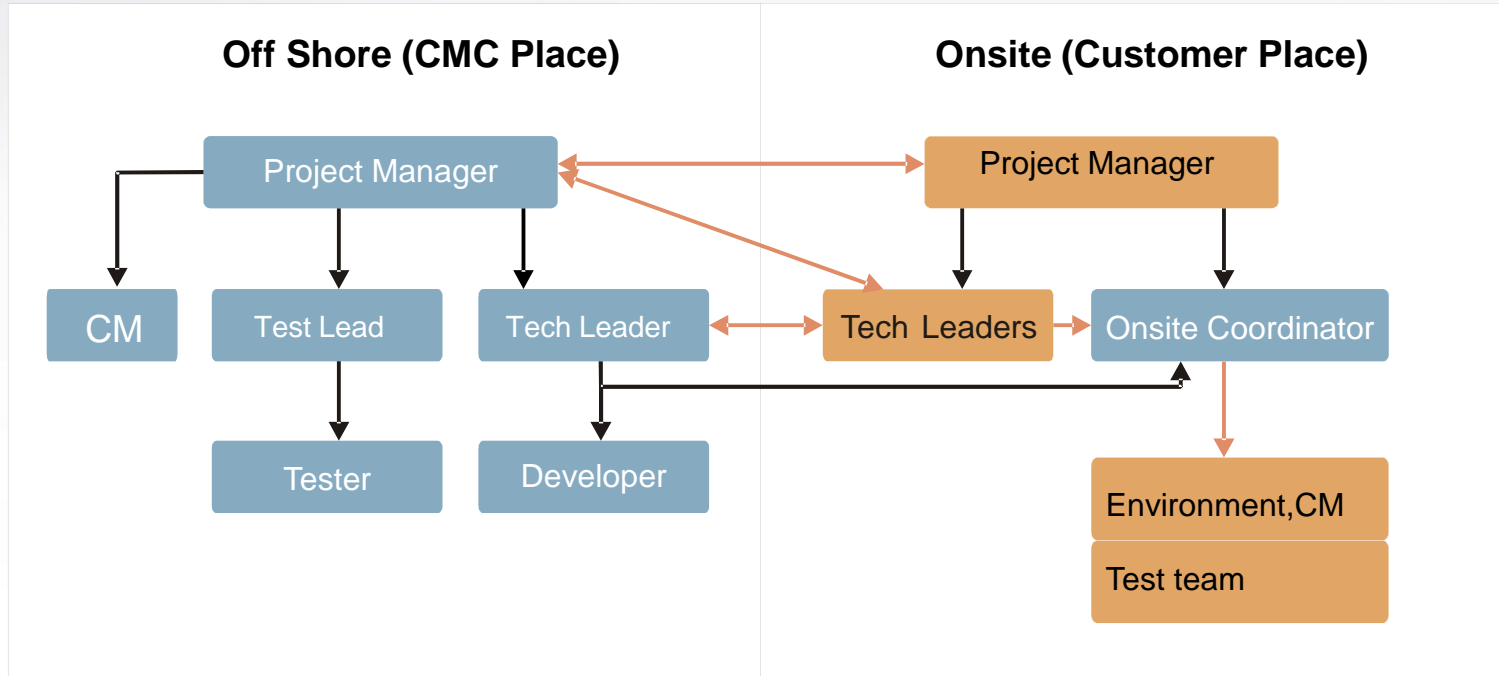
- **Milestone**

- Milestone report
- Baseline report
- Issue report
- Risk control report
- Work product
- Required artifacts
- Metrics report

- **Closure:**

- Cost report
- Project evaluation report
- Closing report
- Final baseline

Sample Project Organization

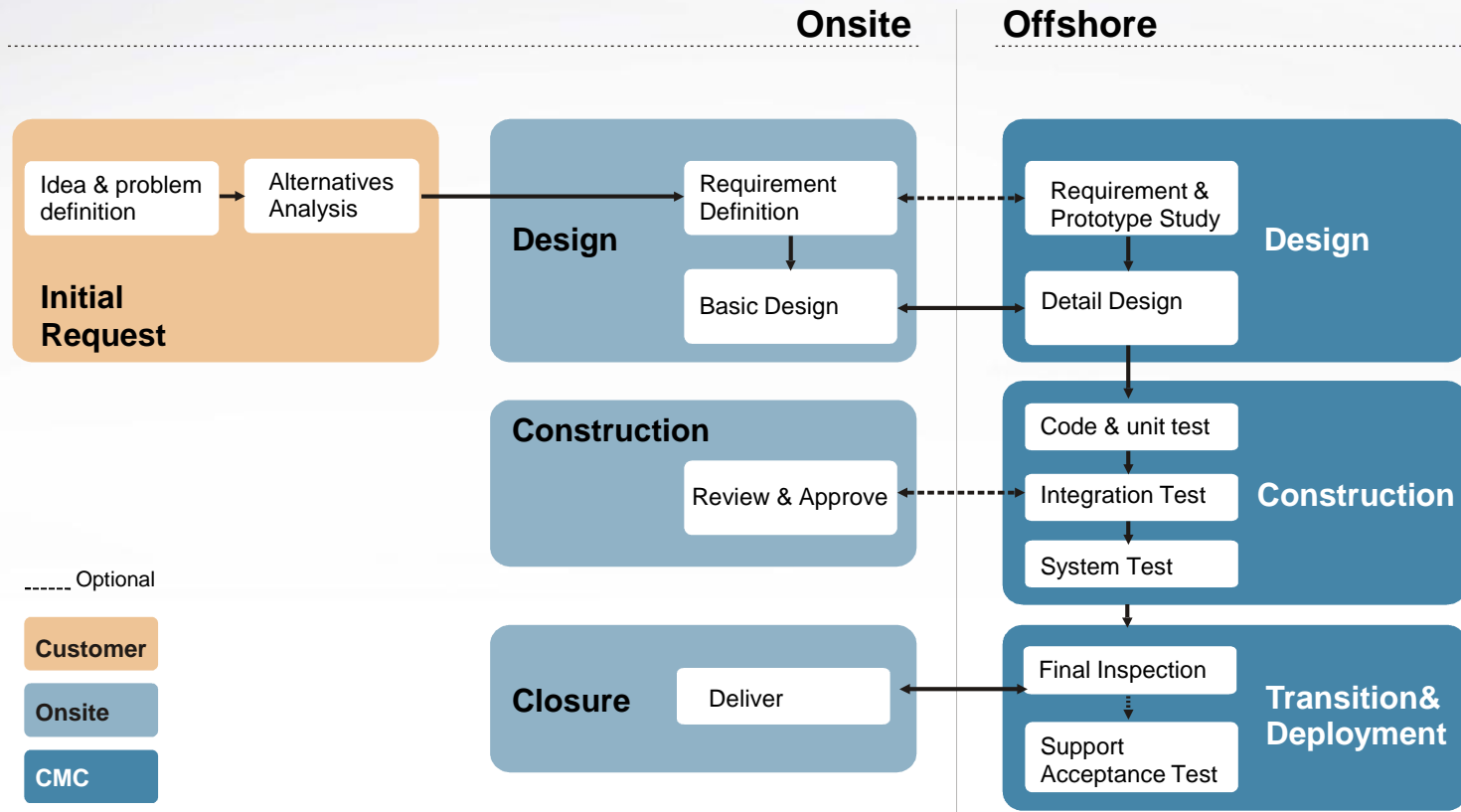


Business Assurance

P&Q HR IT

- Requirements, Reports, Q&A
- Organizational Interface
- CMC Software
- Customer

Sample Project Development Phases





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Toward The Digital Furture

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● Thank you for your attention!



CMC Intelligent Tower