LEADING SOFTWARE OUTSOURCING COMPANY IN VIETNAM

TMA SOLUTIONS

TMA Quality Processes

2012

QMS

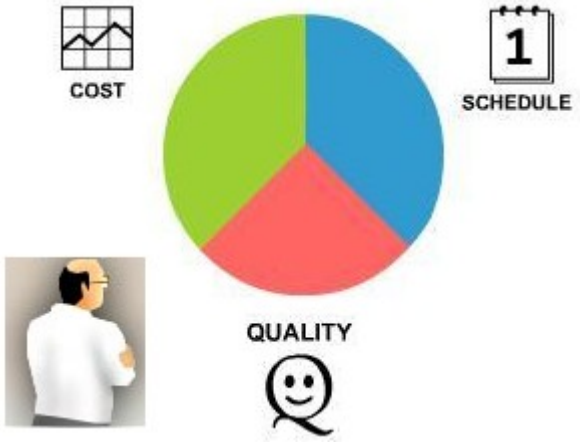
Agenda

1. Opening
2. TMA Quality Processes Introduction
3. CMMI-based process
4. Agile-based process
5. Why + Where + How do we apply these processes
6. Closing

A successful project?

- **The success of a project is usually measured by :**
  - **Schedule:** Was the project delivered on time?
  - **Quality:** Was the product of good quality?
  - **Cost:** Did the project stay within budget?

What is the most important factor?



- PM usually focus on Schedule and Cost and
- Customer can forgive
  - Slightly behind schedule
  - Little higher cost

- But not forgive poor **quality!**

Quality vs Process

The quality of a product is largely determined by the quality of the process that is used to develop and maintain it.

Based on TQM principles as taught by Shewhart, Juran, Deming and Humphrey.

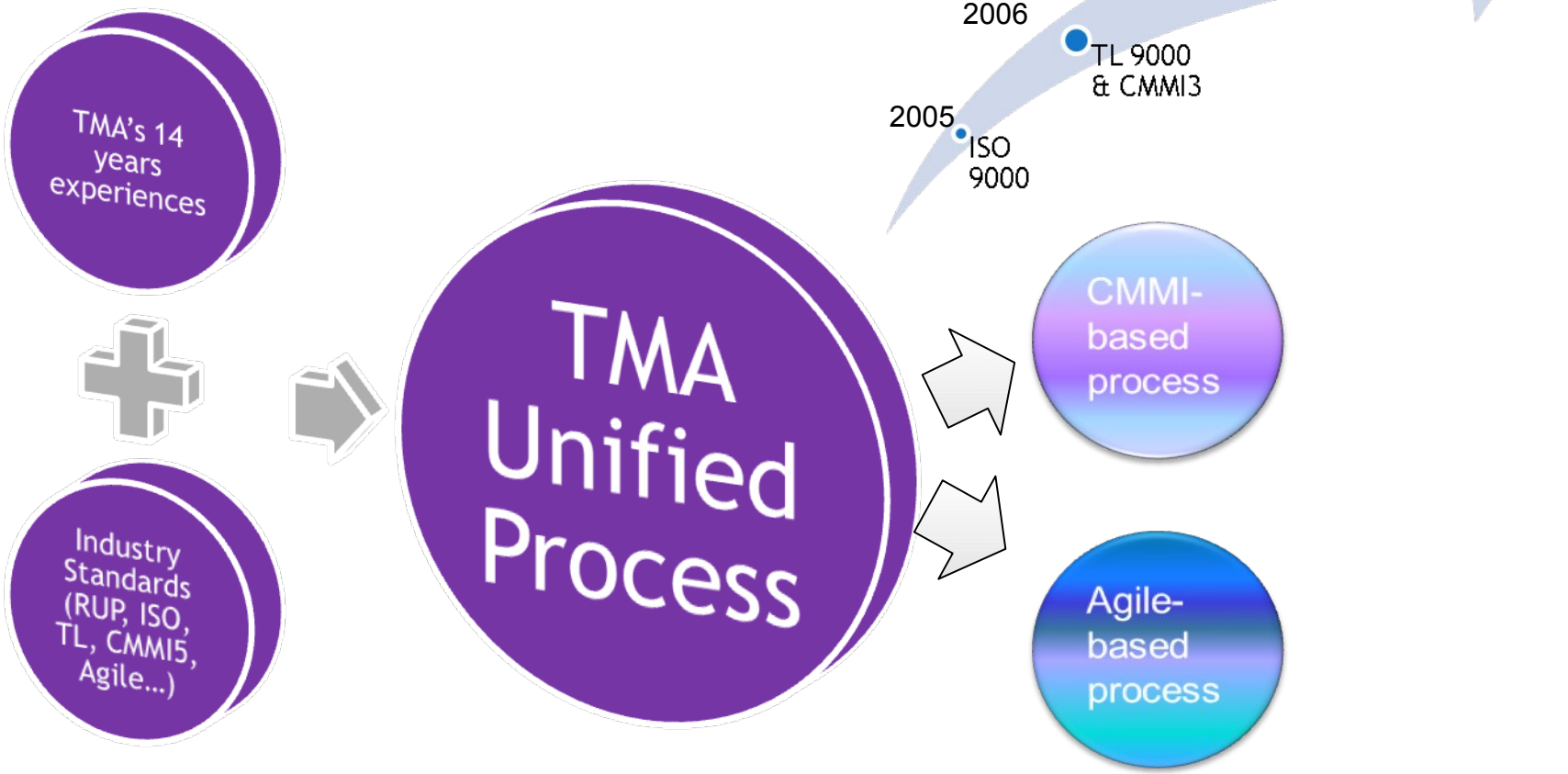
If we don't apply process…

Don't	Problem
• Validate REQ with customer	• Wrong assumption with customer needs
• Follow coding standard	• Difficult to maintain source code
• Apply unit test	• Defect escape to Customers
• Perform code review	• The solution might be incomplete
• Develop enough Test Cases	• Defect escape to Customers
• Perform CM	• Override code of others

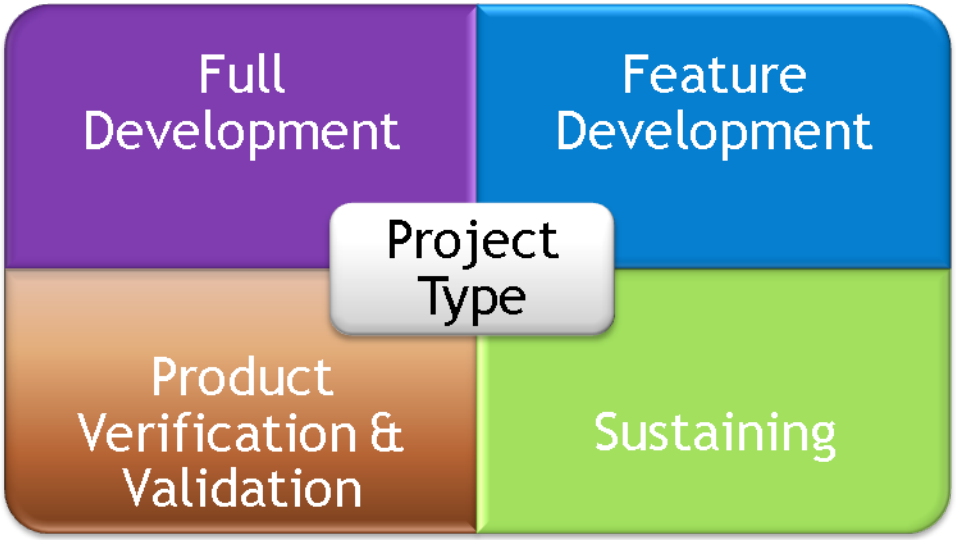
Quality is the pride of TMA

- Breaking engineering processes is considered as a serious mistake because it is significant impacted to quality of delivery to customer. For example
  - Don’t perform Unit Testing, Code Review

TMA Quality processes at a glance



Project Types



Development Project

- **Full Development (D1)**
  - TMA project team mainly participates in the development of a product from a complete set requirements
  - **Iteration is normally a release of product**
- **Feature Development (D2)**
  - TMA project team participates in developing a number of new features of the existing software product.
  - **Iteration is normally a release of feature**

Sustaining Project

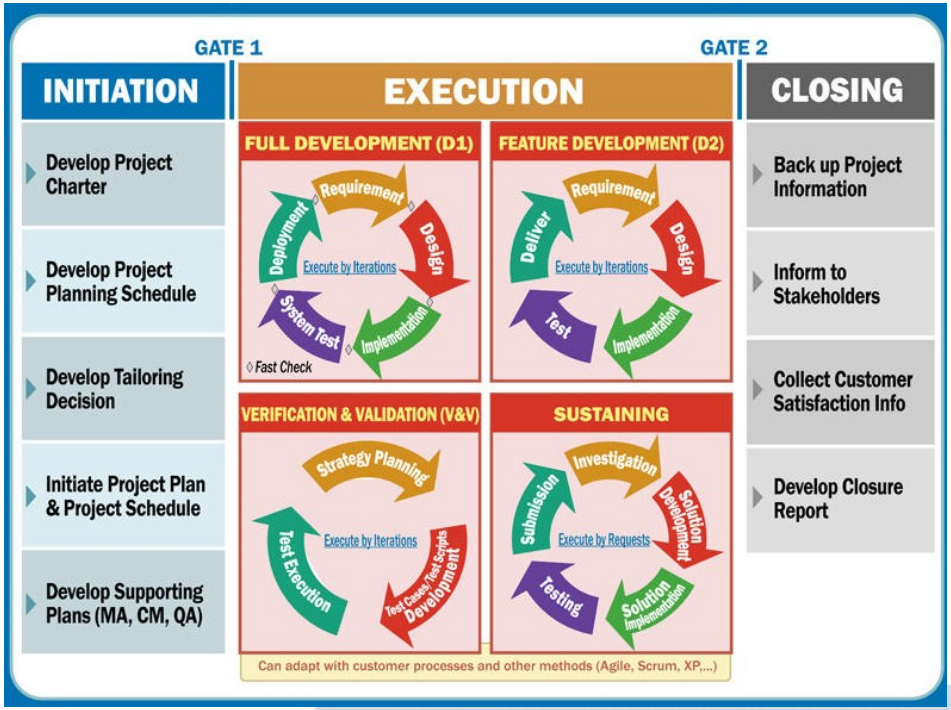
- **TMA project team is responsible for:**
  - Implement modification requests, fix defects of existing product
  - Develop patch
  - Provide technical support to customers and/or end-users.
- **No iteration**

Product Verification & Validation Project

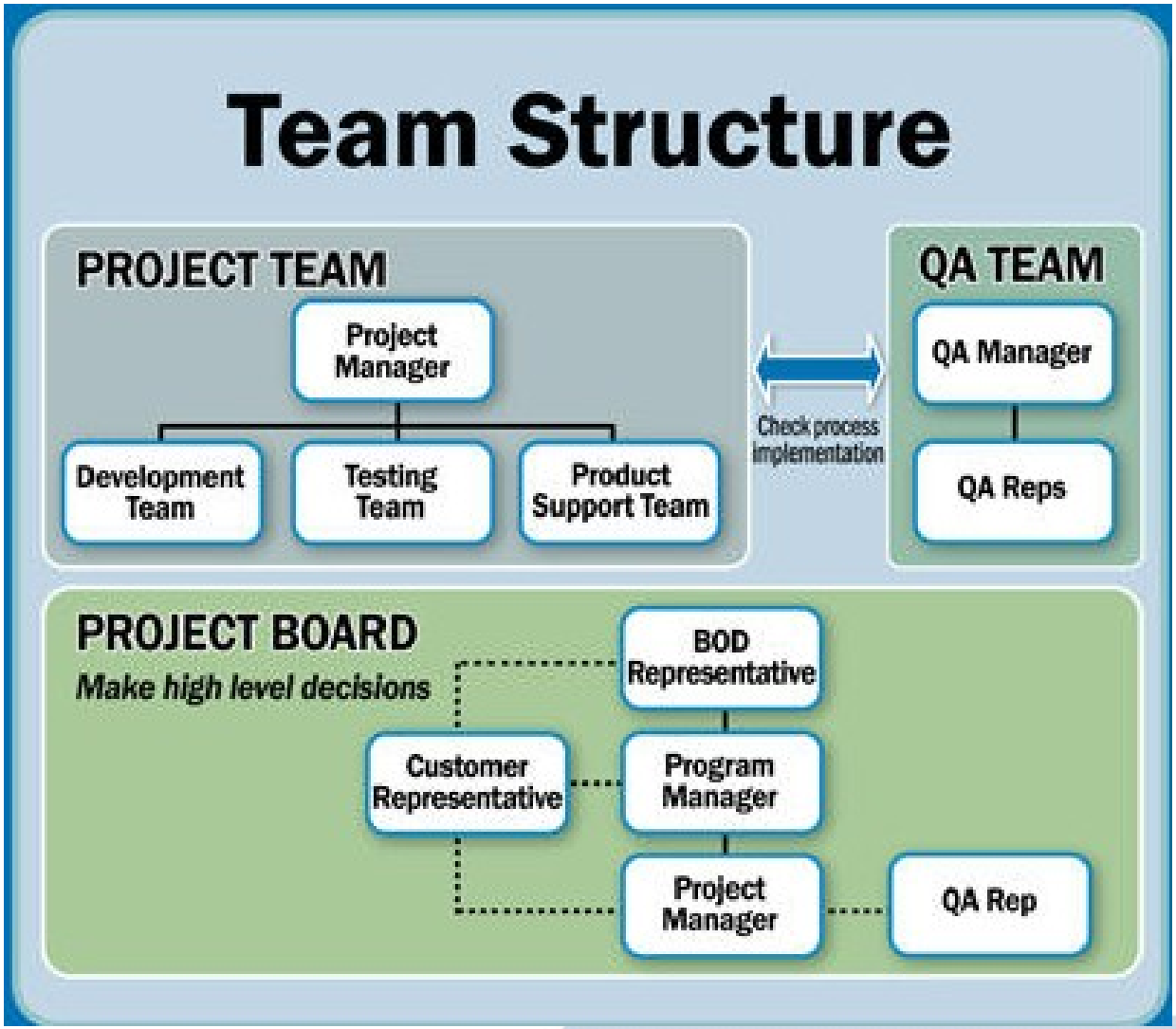
- **TMA project team is responsible for**
  - Verify and validate product either automation (test scripts) and manual (or part of it) against pre-defined requirements or test suites
  - **Iteration is normally a test cycles with activities: Test Planning, Test Execution and Test Report**

CMMI-based processes

- A set of processes, procedures, guidelines, standards that are developed based on CMMI best practices
- Project management and software engineering framework
- 4 project types are able to apply



Who involve ?


Team Structure
PROJECT TEAM
Project Manager
Development Team
Testing Team
Product Support Team
Check process implementation
QA TEAM
QA Manager
QA Reps
PROJECT BOARD
Make high level decisions
BOD Representative
Customer Representative
Program Manager
Project Manager
QA Rep

CMMI Processes

Full Development	Feature Development	Sustaining	V & V
• Requirement • Design • Implementation • System Test • Product Deployment	• Feature Development	• Product CR Handling • Service Request Handling • Patch Handling	• System Test • Test Script Development

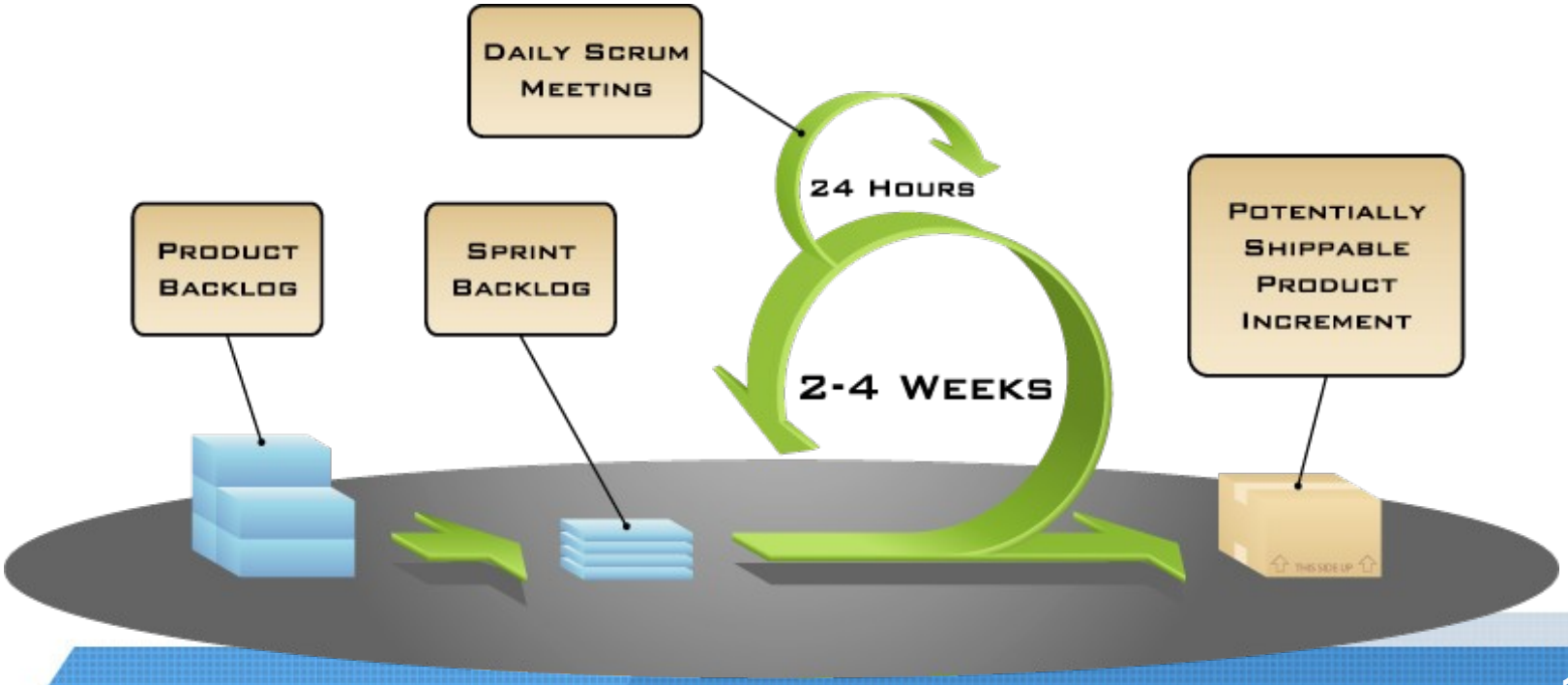
All Project Types				
Project Management	**Causal Analysis Resolution**	**Measurement Analysis**	**Quality Assurance**	**Configuration Management**

Typical Metrics

	Productivity	Quality	Schedule
Development	• Coding • Effort Deviation	• Ratio of defect by phase	• Schedule Deviation
Sustaining	• CR Fixing • Effort Deviation	• Percentage of failed CR	• On-time CR Delivery
Testing	• Test Case Creation •Test Case Execution • CR Verification	• Percentage of valid CR •Ratio of CR to Test Case Executed	

Agile-based process (1)

- A set of processes, guidelines that are developed based on Agile practices (Scrum, XP)
- Project management framework and engineering best practices
- Development & Sustaining are able to apply

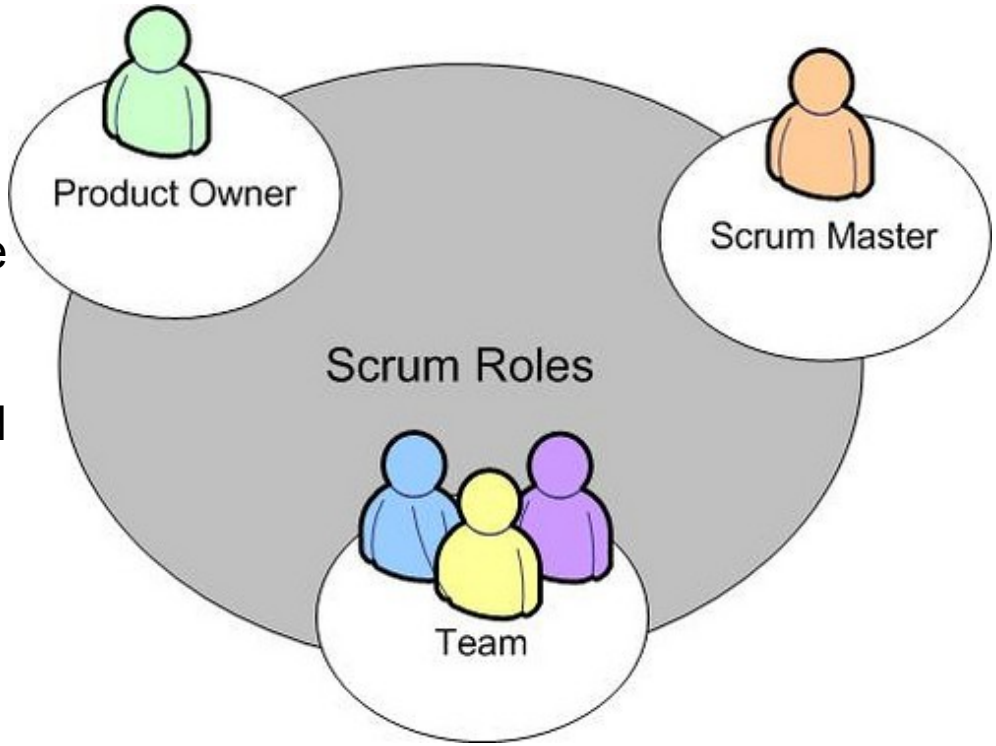


Advantage of Agile-based process

- Customer satisfaction by rapid delivery of useful software
- Welcome changing requirements, even late in development
- Working software is delivered frequently (weeks rather than months)
- Close, daily co-operation between business people and developers
- Face-to-face conversation is the best form of communication (co-location)
- Self-organizing teams

Who involve ?

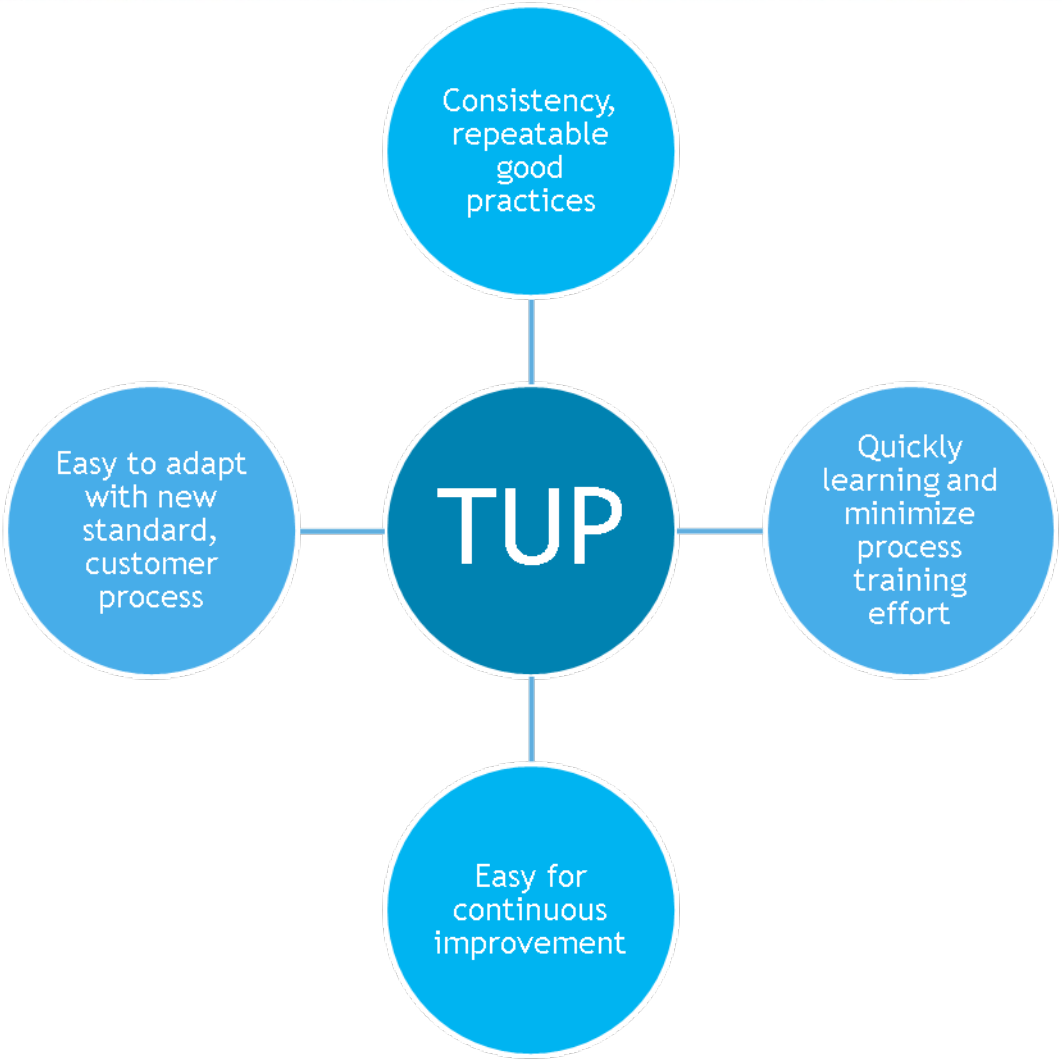
- Represent customer and stakeholder requirements to the team
- Keep the product backlog maintained and prioritized
- Responsible for release planning



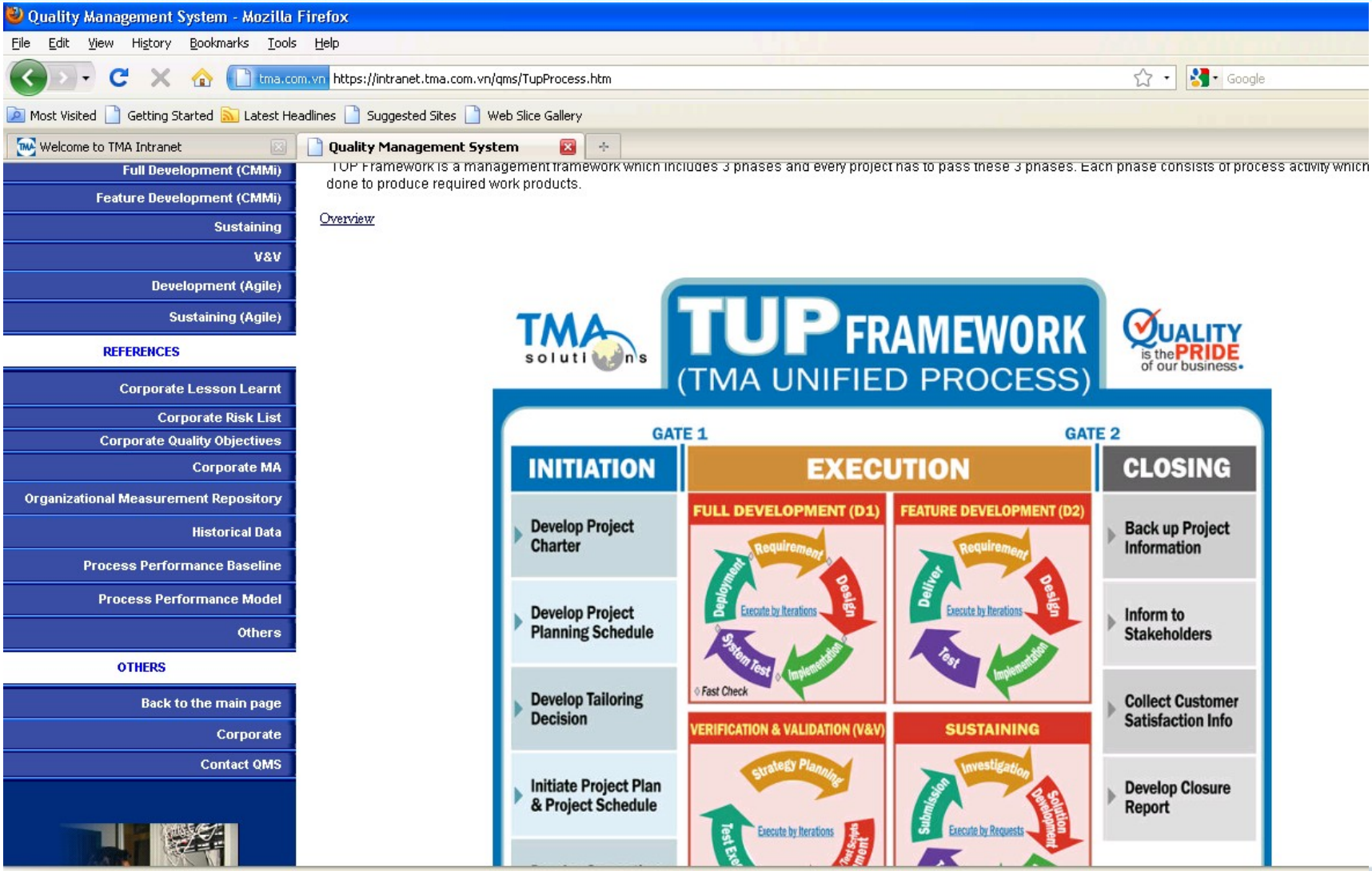
- Build and maintain a healthy team that conforms to the processes
- Helps the team overcome impediments

- Creating the software
- Selects user stories at the start of the sprint
- Fix bugs
- Define test cases, perform tests and verify bug

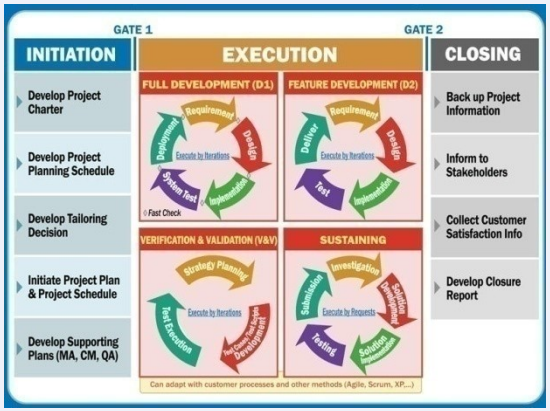
Benefit of Quality Processes

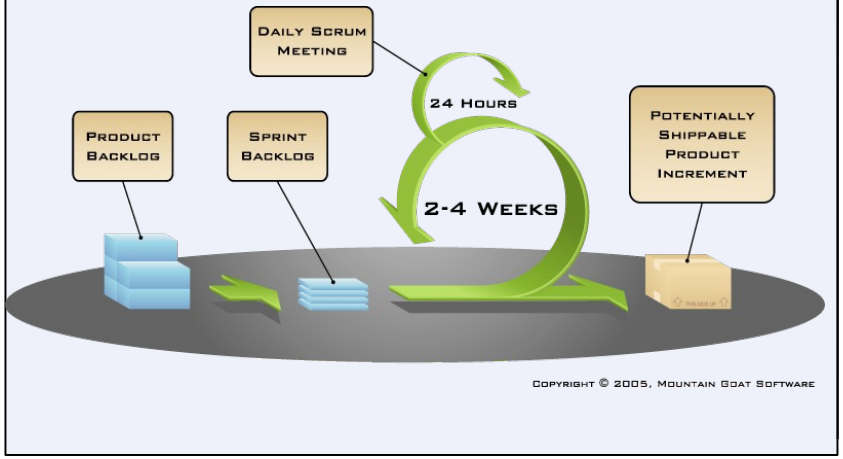


Where to find ?



How to implement ?





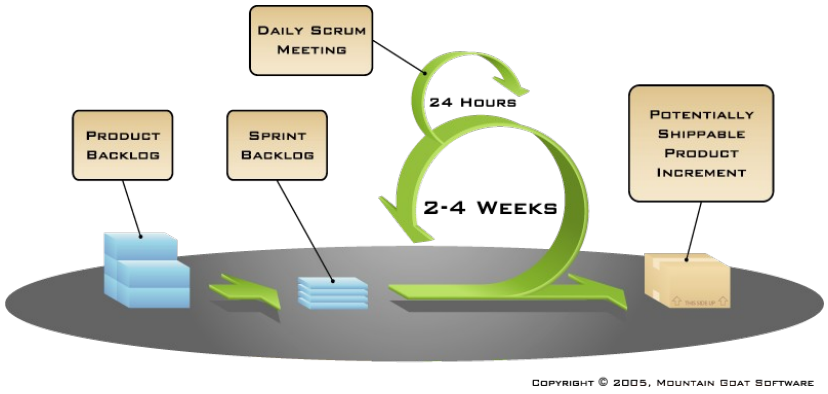
Contribute improvement

Select & Tailor

TMA Projects

Summary


COST
1
SCHEDULE
QUALITY


Daily Scrum Meeting
24 Hours
Product Backlog
Sprint Backlog
2-4 Weeks
Potentially Shippable Product Increment
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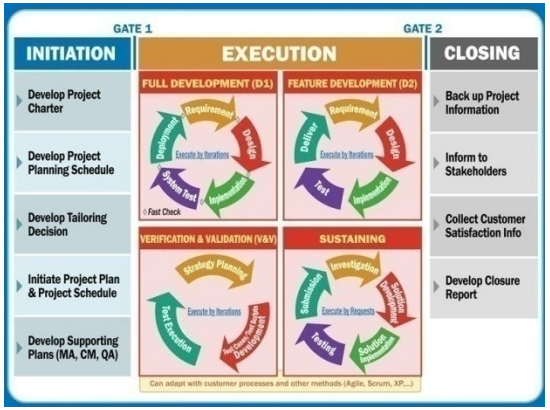
GATE 1
GATE 2
INITIATION
EXECUTION
CLOSING
Develop Project Charter
Develop Project Planning Schedule
Develop Tailoring Decision
Initiate Project Plan & Project Schedule
Develop Supporting Plans (MA, CM, QA)
FULL DEVELOPMENT (D1)
FEATURE DEVELOPMENT (D2)
VERIFICATION & VALIDATION (V&V)
SUSTAINING
Back up Project Information
Inform to Stakeholders
Collect Customer Satisfaction Info
Develop Closure Report

Thank you !