



MASARYKOVA UNIVERZITA

## **PV213 Enterprise Information Systems in Practice**

### **04 – Project management**



# MASARYKOVA UNIVERZITA

Tento projekt je spolufinancován Evropským sociálním fondem a státním rozpočtem České republiky.



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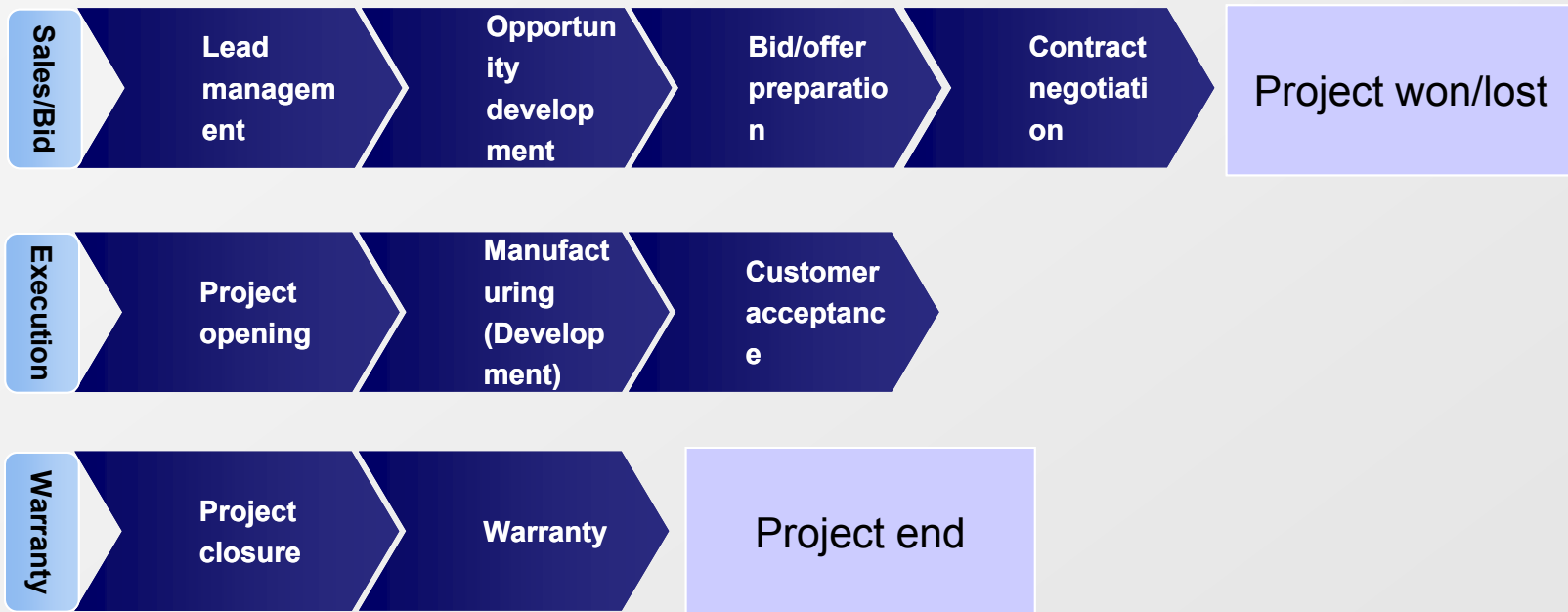


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## Content of this presentation

- Role of project management
- Project plan
- Project controlling and reporting
- Estimations
- Project management supporting tools
- Project management qualifications
- Next lesson

# Project process



## After winning a project

- Handover to project execution
- Setup project organization
- Project clarifications
- Project execution plans
- Kick off
- ...

## Project

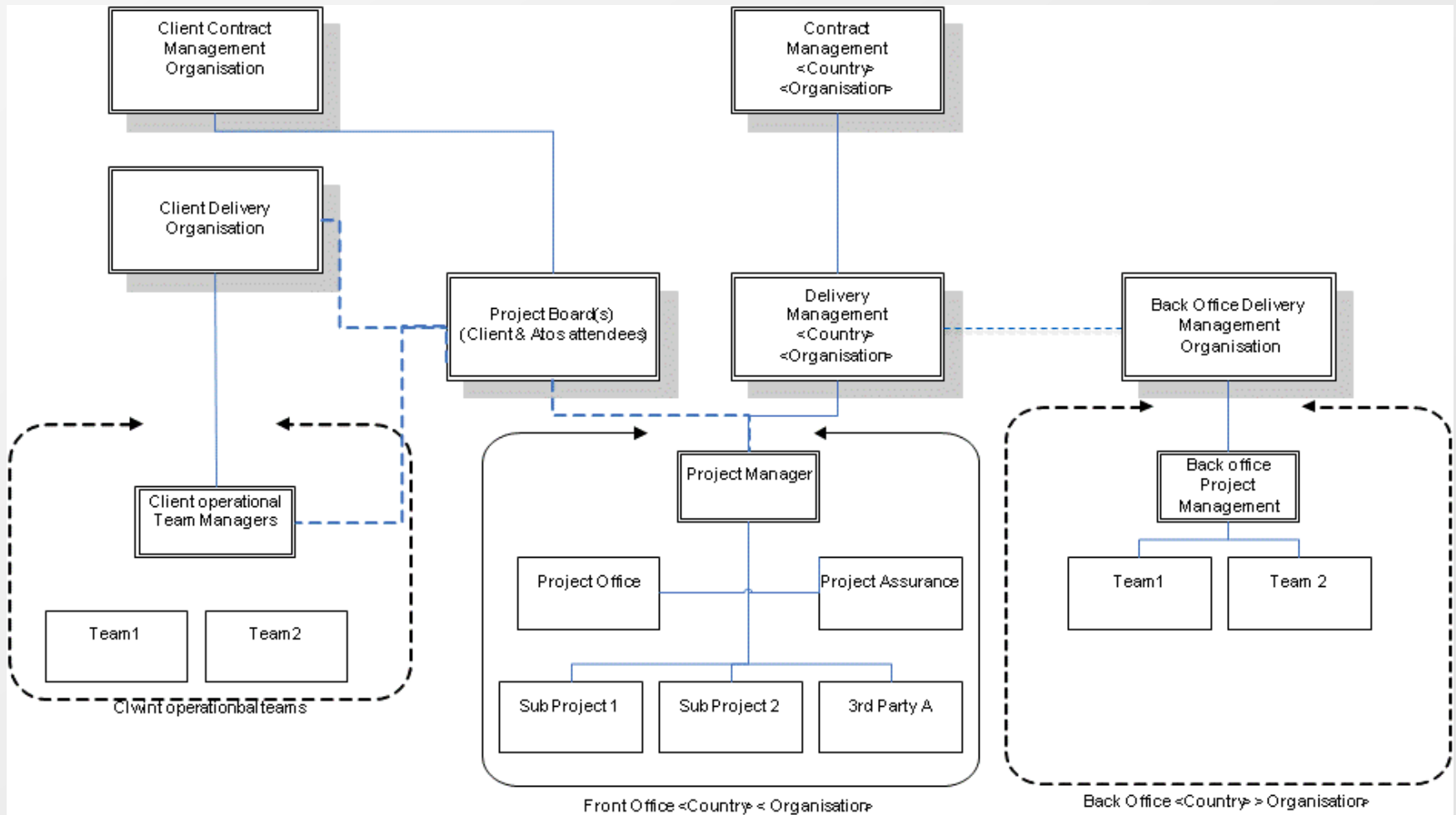
- What is a project?
- What are its characteristics?

## Project

- A project is a temporary endeavor undertaken to create a unique product, service, or result.
  
- Project has
  - Dimensions (scope, schedule, cost, profit)
  - Project manager
  - Defined objectives
  - Beginning and end
  - Plan



# Typical project structure

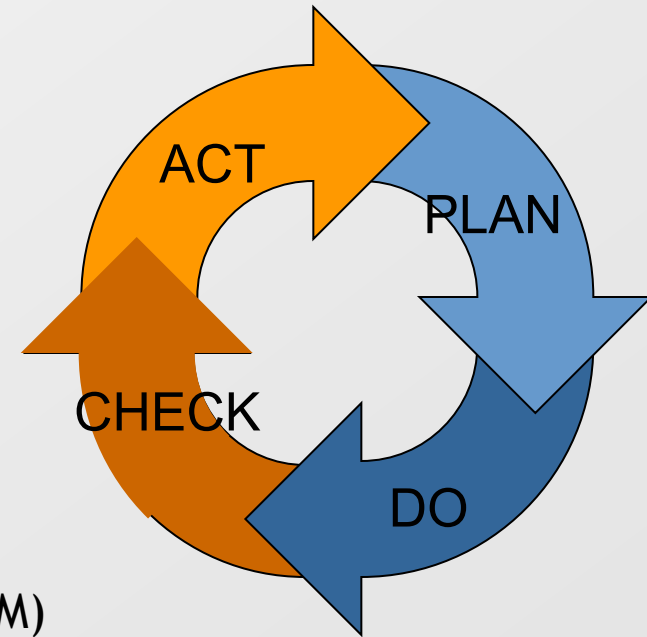


## Role of project management

- Establish & maintain the project environment and monitor and assure that the project objectives are realized

## Project management tasks

- ❏ Planning
  - ❏ Define, allocate & manage work packages
  - ❏ Establish and manage operational schedule
  - ❏ Initialize & re-estimate the budget
  - ❏ Project Meeting Schedules & Agenda
- ❏ Realizing
  - ❏ Project Start-Up
  - ❏ Constitute and facilitate the project team
  - ❏ Manage stakeholders & expectations
  - ❏ Process Change Requests & Defects
  - ❏ Contribute to support activities (CM, QM, RM)
  - ❏ Deliver final products to Customer
- ❏ Controlling
  - ❏ Monitor the project progress, deviations and reporting



## Project management areas (PMI)

- Integration Management
- Scope Management
- Time Management
- Cost Management and Controlling
- Quality Management
- Human Resource Management
- Communications Management
- Risk and Opportunity Management
- Procurement Management

## Integration Management

- Develop Project Charter
- Develop Project Management Plan
- Direct and Manage Project Execution
- Monitor and Control Project Work
- Perform Integrated Change Control

## Project Scope Management

- Collect Requirements
- Define Scope
- Create WBS
- Verify Scope
- Control Scope

## Project Time Management

- Define Activities
- Sequence Activities
- Estimate Activity Resources
- Estimate Activity Durations
- Develop Schedule
- Control Schedule

## Project Cost Management and Controlling

- Estimate Costs
- Determine Budget
- Control Costs



## Project Quality Management

- Plan Quality
- Perform Quality Assurance
- Perform Quality Control

## Human Resource Management

- Develop Human Resource Plan
- Acquire, replace and release Project Team members
- Develop Project Team
- Manage Project Team

## Project Communications Management

- Identify Stakeholders
- Plan Communications
- Distribute Information
- Manage Stakeholder Expectations
- Report Performance

## Project Risk and Opportunity Management

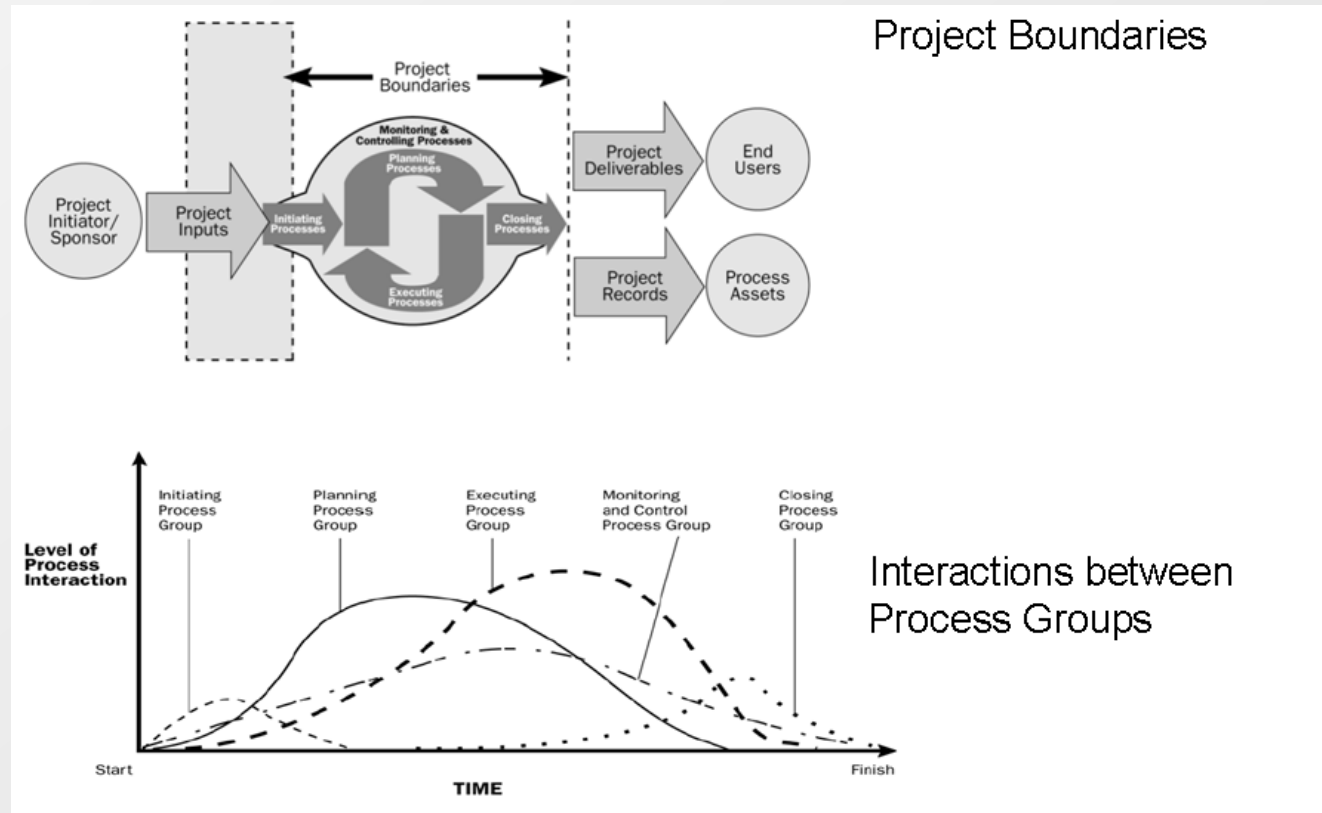
- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Monitor and Control Risks

## Project Procurement Management

- Plan Procurements
- Conduct Procurements
- Administer Procurements
- Close Procurements

# Project management process groups (PMI)

- Initiation
- Planning
- Execution
- Monitoring & Control
- Closure



## Project plan

- ☒ Defines and documents the structure and sequence of the entire project

## Project plan content

- Key project data
- Project organization
- Component planning
- Planning the project volume
- Planning the course of the project
- Risk management
- Project checks and control



## Effort estimations

- Team, possibly estimation experts
- Decomposition - based on structured objects (requirements, features, stories ...)
- Include “load” factors (effort for review, travels, communication, ...)
- Usage of alternative estimation methods/different teams
- It is just an estimation

## Expert estimations

- Most often used
- Intuition and judgment of a group of experts

## Planning poker

- Based on Delphi/Wideband Delphi method
- Principle
  - Estimated package is discussed
  - Each team member selects a card which is not shown
  - The cards are shown simultaneously
  - Differences in estimations are discussed
  - **If a consensus is not reached, start next iteration**

## Estimations - example

- ▣ Task to estimate:
  - ▣ Write an essay about your favorite weekend

## Affinity estimation

### ➤ Principle

- Estimated packages are discussed
- Team silently sorts stories (big to small)
- Packages with similar effort are clustered
- Team assigns estimations to clusters

## Function point analysis

- Formal measurement of functionality
- Five ISO standards (COSMIC, IFPUG, NESMA...)
- Estimation based on previous experience
- Data Functions
  - Internal Logical Files
  - External Interface Files
- Transactional Functions
  - External Inputs
  - External Outputs
  - External Inquiries

## Project controlling, reporting and escalations

- ❏ Company internal
  - ❏ Reviews x reports
  - ❏ Different levels and paths
    - ❏ Local management
    - ❏ Business unit
    - ❏ Quality management
  - ❏ Supported by software tools
  
- ❏ Reporting to customer
  - ❏ Regular reports (e.g. weekly, sprint)
  - ❏ Prototyping
  - ❏ Tests on customer site
    - ❏ Change requests in early stage (documented!)
    - ❏ Saves analysis costs

## Project management supporting tools

### ▣ Areas

- ▣ Planning and resource allocation
- ▣ Estimations
- ▣ Defect, CR and task tracking
- ▣ Controlling
- ▣ Collaboration and communication

### ▣ Type

- ▣ Web/Desktop
- ▣ Single/Multiuser

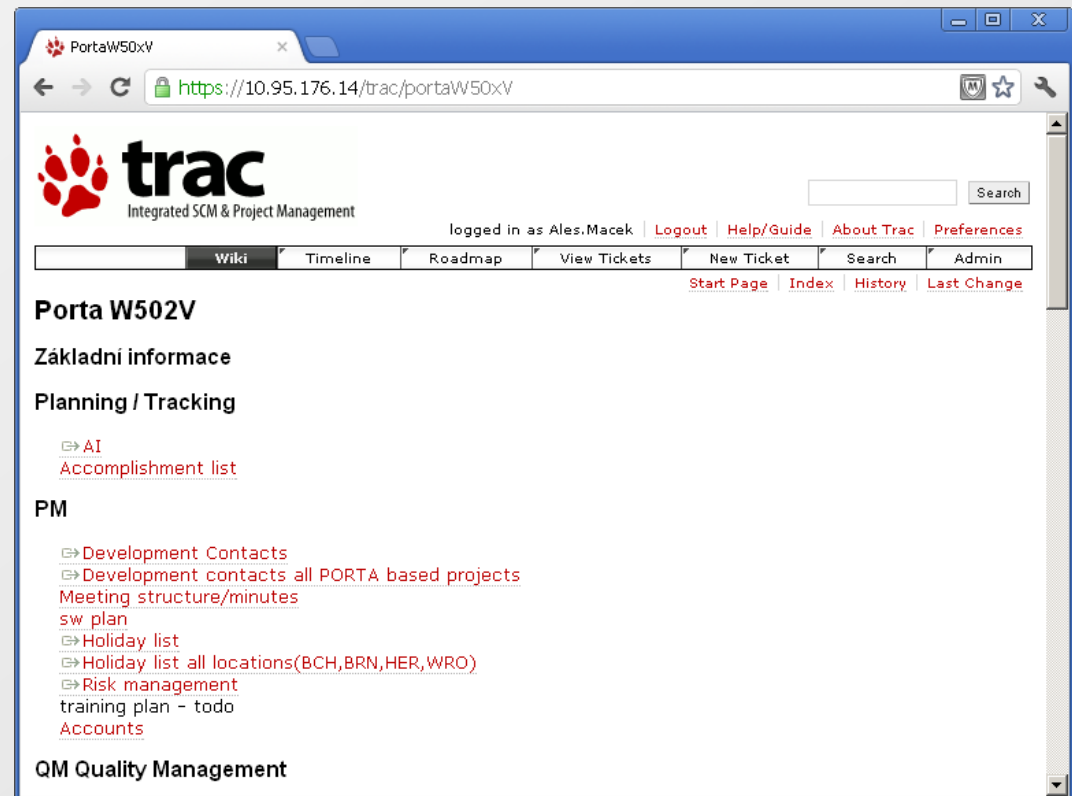


## Microsoft

- MS Project + Enterprise Project Management
- MS Team Foundation Server + SharePoint
  - Reporting and tracking
  - Source control
- MS Excel
  - Easy to enhance
  - Standard SW set
  - Limited functionality

# Trac

- <http://trac.edgewall.org/>
- OSS
- Wiki
- Tracking
- SCM interface



## Redmine

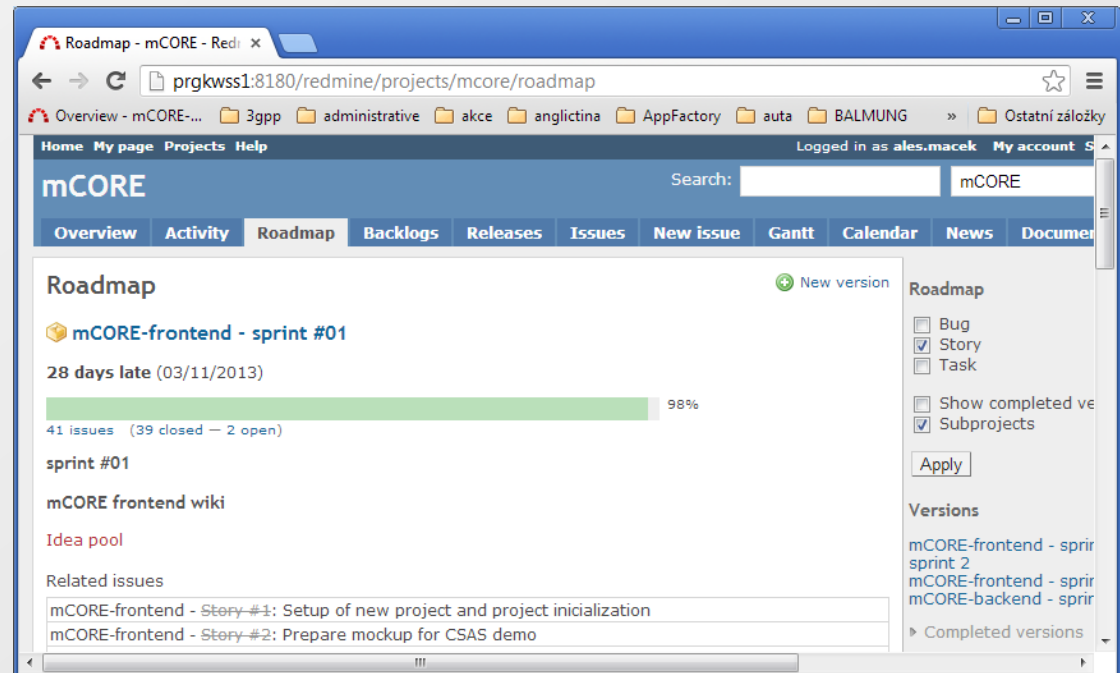
➤ <http://www.redmine.org/>

➤ OSS

➤ Wiki

➤ Tracking

➤ SCM interface



# Jira

- <https://www.atlassian.com/software/jira>
- Commercial tool
- Tracking
- Confluence integration

The screenshot displays a Jira Team Scrum Board for 'Sprint 3'. The board is organized into four columns: 'To Do', 'In Progress', 'In Review', and 'Done'. Each issue card includes a title, a description, a progress indicator (upward arrow), and a count of sub-tasks or comments. The 'In Review' column has a yellow background, and the 'Done' column has a red background.

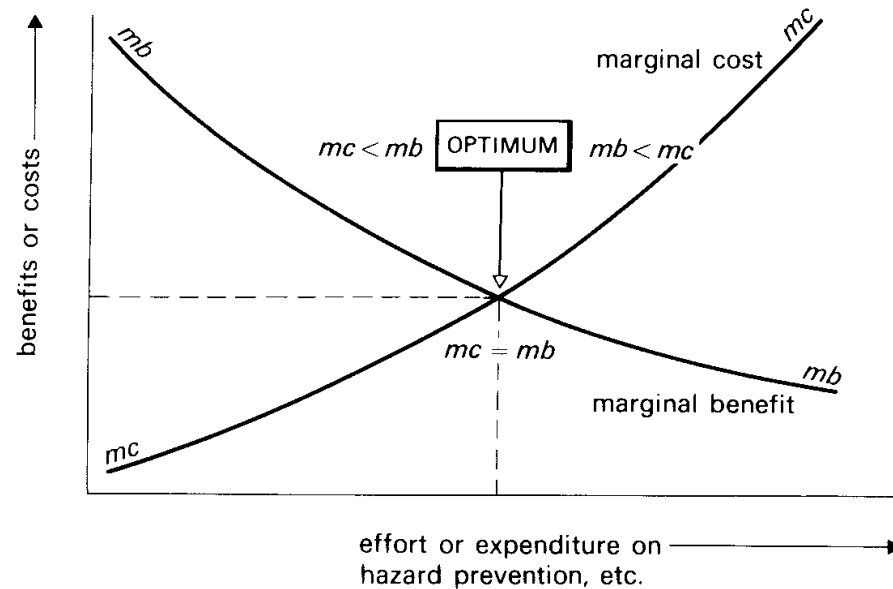
Column	Issue ID	Title	Description	Progress	Count
To Do	TIS-28	Research options to travel to Pluto		↑	5
	TIS-8	Requesting available flights is now taking > 5 seconds		↑	
In Progress	TIS-27	Add Phobos and Deimos Tours as a Preferred Travel Partner		↑	8
	TIS-10	Bad JSON data coming back from hotel API		↑	
	TIS-25	Engage Jupiter Express for outer solar system travel		↑	5
	TIS-20	Engage Saturn Shuttle Lines for group tours		↑	3
In Review	TIS-58	Add feedback button to the plugin sample code		↓	
	TIS-45	Email non registered users to sign up with Teams In Space		↑	2
Done	TIS-9	After 100,000 requests the SeeSpaceEZ server dies		↓	
	TIS-16	Establish relationship with local office supplies company		↑	3
	TIS-7	500 Error when requesting a reservation		↑	
	TIS-11	Register with the Mars Ministry of Labor		↑	2

## Atos standard tools

- IBM Rational Team Concert
- IBM Rational ClearQuest
- IBM Rational ClearCase
- HP Application Life Management

## Company tools unification

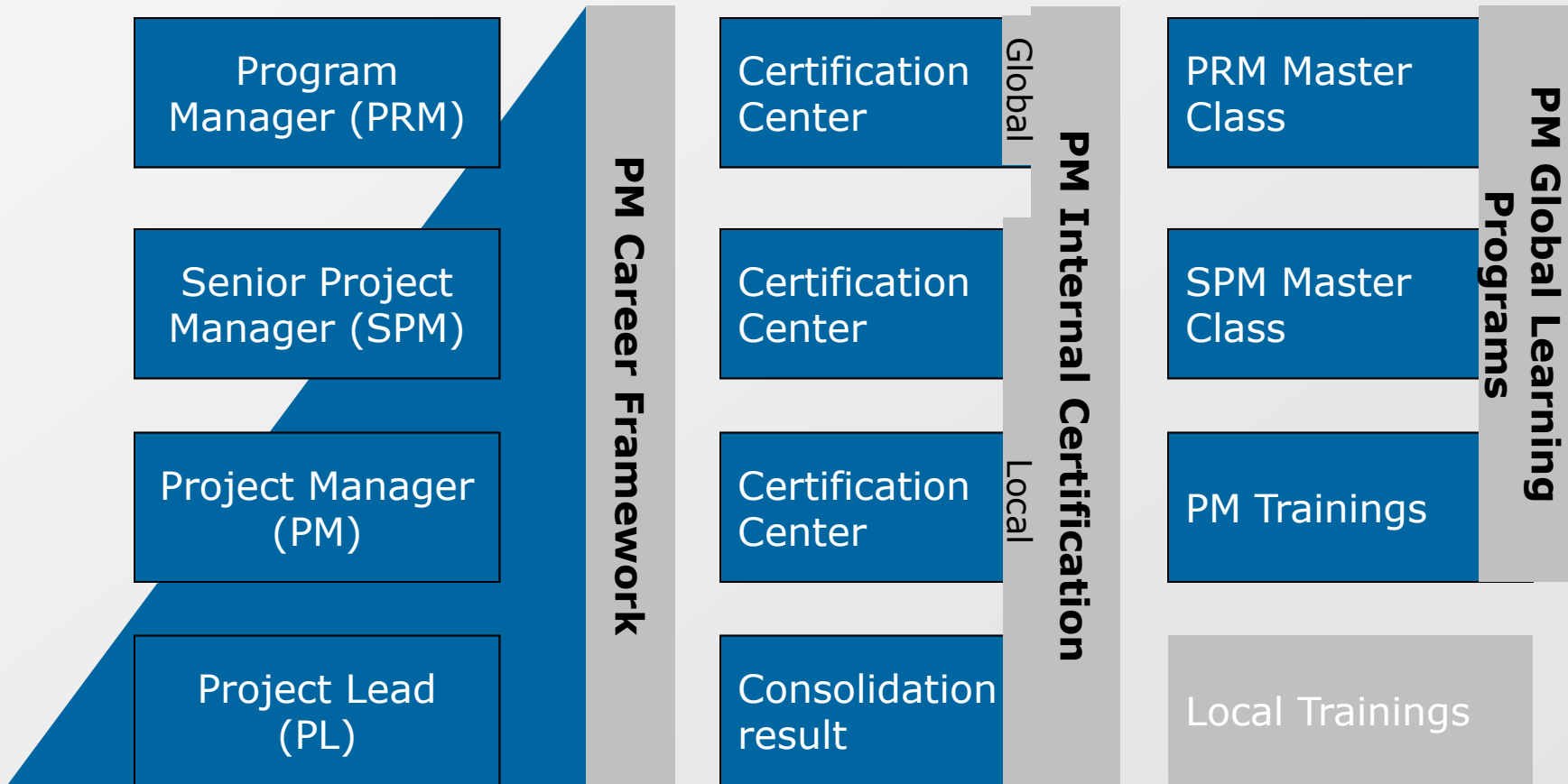
- Costs vs. benefits
- Buy vs. build
- Training costs



## Project management certifications

- ❏ Several certification possibilities
  - ❏ PMI (Project Management Institute)
  - ❏ PRINCE2 ( projects in controlled environments, v2)
  - ❏ IPMA (International Project Management Association)
  - ❏ Internal certifications
    - ❏ PM Small Project
    - ❏ Project manager
    - ❏ Senior project manager
    - ❏ Project director
  - ❏ Agile and Scrum

## Internal management levels example





# PM seniority

Cluster	Competency	GCM Level					
		PM4	PM5	PM6	PM7	PM8	PM9
Leadership	Project review and evaluation	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Leading a project team	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	People focus	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Personal development	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Dynamic (Results Oriented)	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Project Organization	Planning and control	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Risk management	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	AO tools and processes	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Project closure and handover	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Flexibility	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Delivery Management	Business case management	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Requirements management	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Delivery focus	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Creative pragmatism	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Quality	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Relationship Management	Client focus	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Integrity	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Team working	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Communications	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Commercial Drive	Profitability focus	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Change control management	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Cost management	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Contract management	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue

## Another topics

- Project classification (volume, complexity, risk...)
- Project roles + contracting, letter of empowerment
- Mentoring
- Off shoring
- Kick-off, project experience workshop

## Next lesson

- ☒ Quality assurance
  - ☒ Role of quality management and quality assurance
  - ☒ QA plan
  - ☒ Document management + tools
  - ☒ Reviews
  - ☒ Product deviations and measures
  - ☒ ISO
  - ☒ CMMI

# Děkuji za pozornost.

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