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Quality of Project Schedule to Successful Project/Programs

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2022

About Us

- Senbag Rajamani, Vice President/ InTerms LLC
- InTerms LLC is a Technology & Management Company
- 31 Years of Technology and Management experience
- Supported 2020 Census Schedule Management
- Supporting US Census Bureau in American Community Survey / Research and Methodology PMO

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Purpose and Learning Objectives

The purpose of this presentation is to highlight the importance of Project Schedule Quality and its compliance with agencies such as DCMA, GAO etc.

At the end of this presentation, you will be able to:

1. Understand the need for the compliance
2. Identify the issues in the project schedule
3. Describe the way to resolve the issues
4. Explain the reasons for the fix

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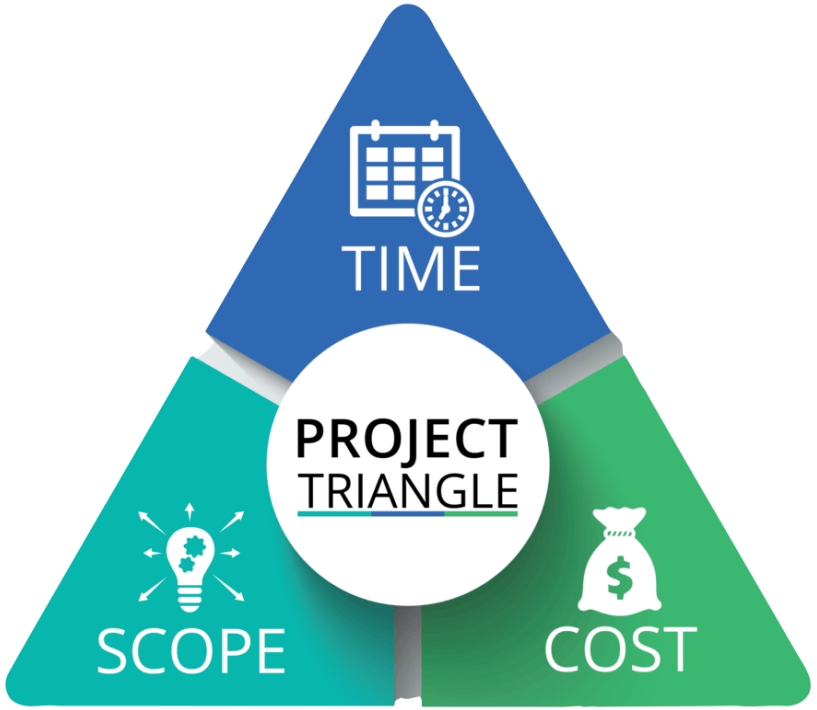
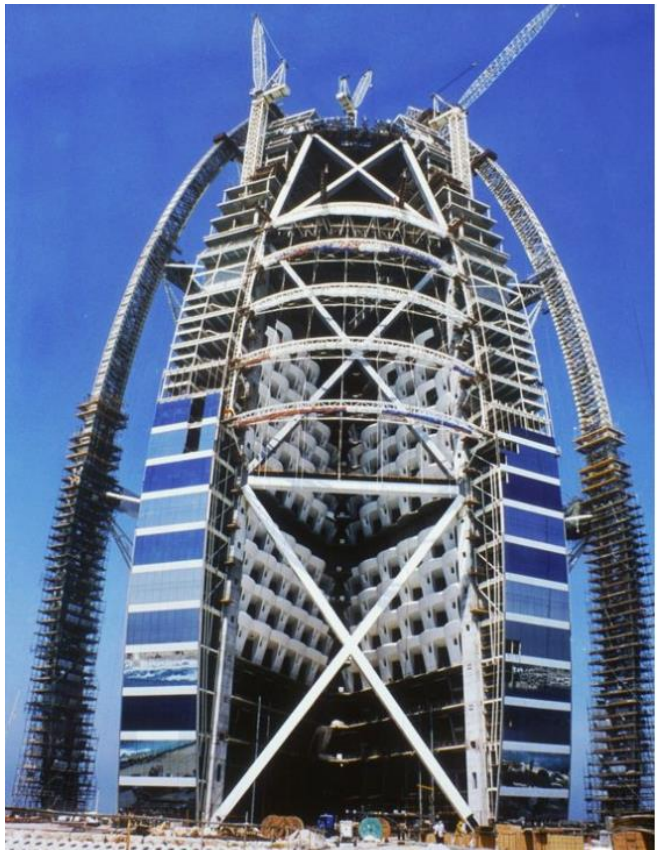
Project Schedule Management

- Triple constraints of Project Management
- Interdependent factors but time is finite
- Schedule controls the time of a Project



One of the Projects...Burj Al Arab



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Scope creep as Schedule challenge

Three features resulting from the high-level requirements

- The building shall resemble a dhow's (local type of boat) sail
- The building shall be built on the man-made island
- The building shall meet or exceed the current requirements for a 6-star hotel as defined by the European Hotel stars Union
- SCOPE/SCHEDULE CREEP – All unknowns as above

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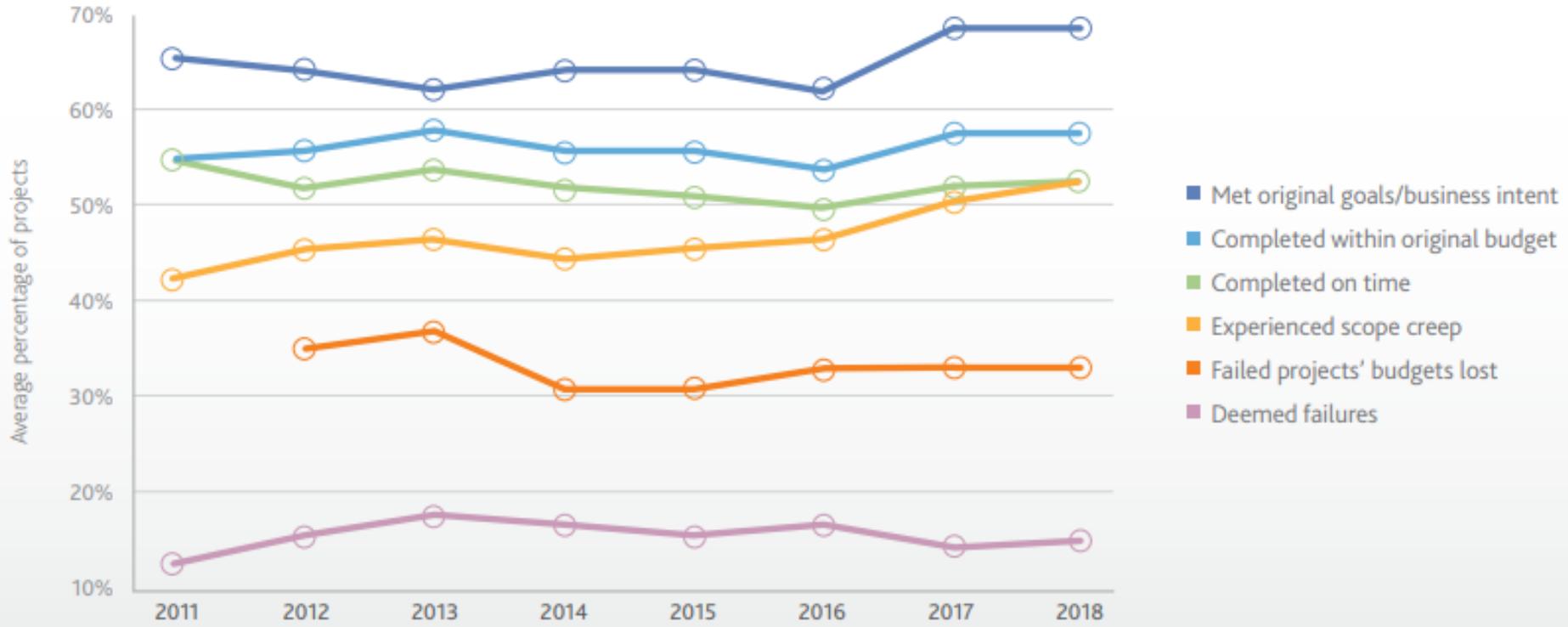
Metrics

Figure 6: Project Performance Metrics



PMI: Pulse of the profession 2018, Project Management Institute

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Benefits from Proper Scheduling

- Provides a consistent framework for repeatable project successes
- Effectively illustrates the interdependence of all tasks
- Clearly denotes the dates that resources need to be available
- Determines milestone and project completion dates
- Identifies critical path activities that if delayed will delay the project completion date
- Identifies which activities are not on the critical path and thus can be delayed if needed without affecting the project completion date
- Identifies resource availability
- Shows which tasks can or are being done in parallel

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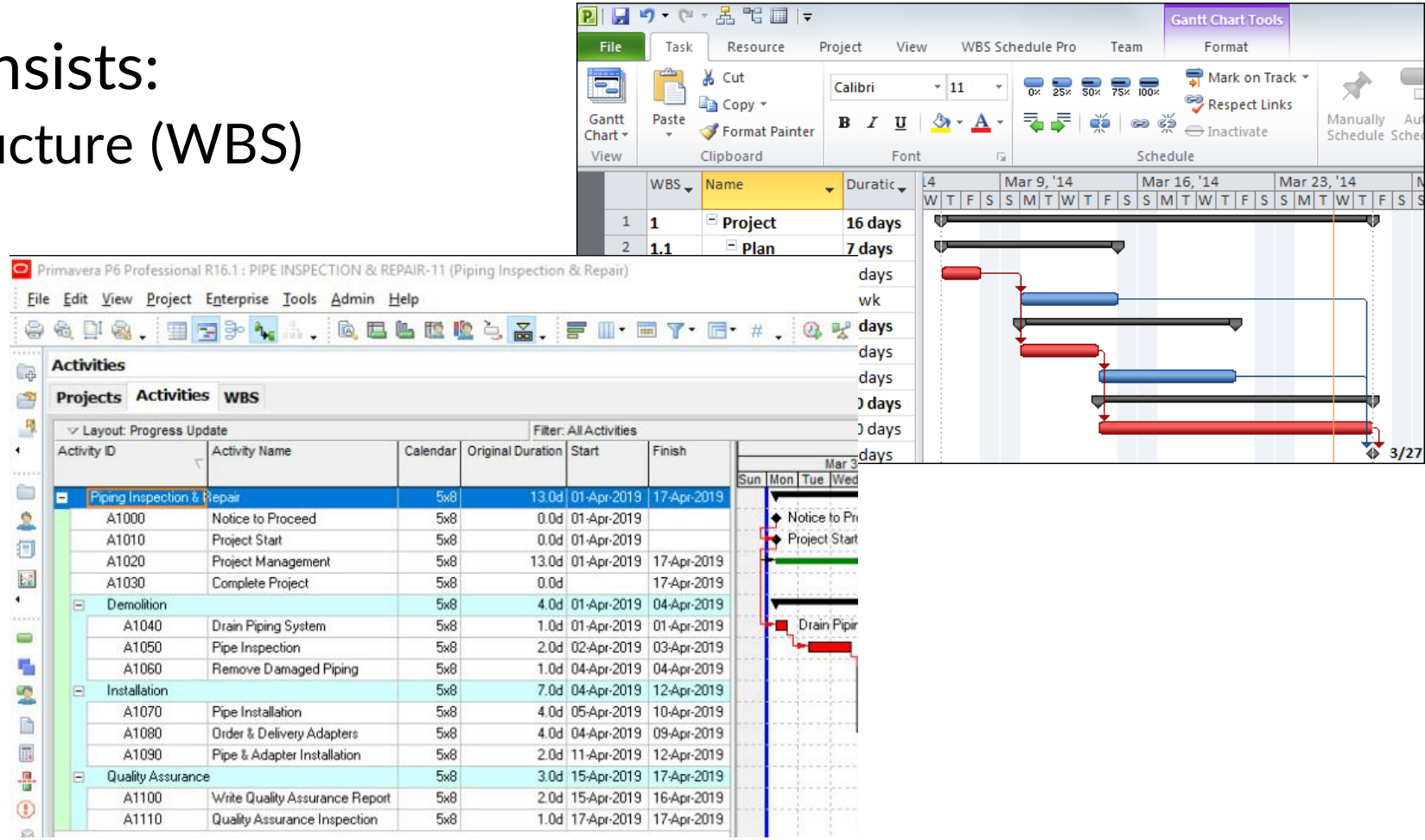
Project Schedule Components

A Project schedule consists:

- Work Breakdown Structure (WBS)
- Tasks
- Duration
- Work
- Dependency and type
- Resources
- Critical Path
- Baseline/Actuals



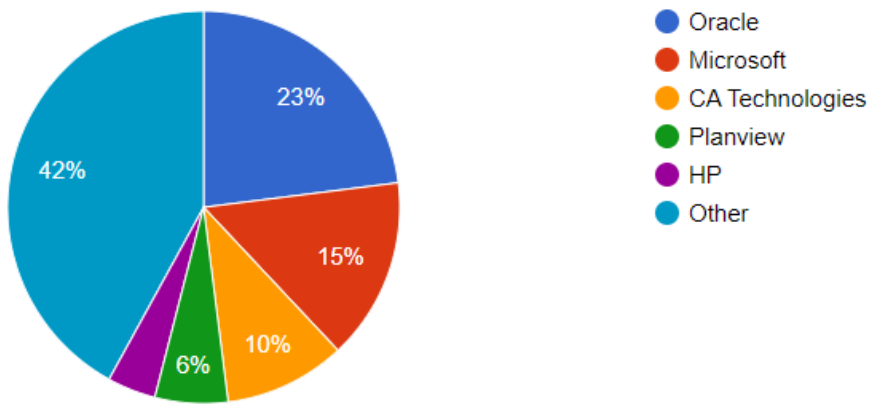
Project Schedule software

Major Scheduling software

- Microsoft PPM
- Oracle EPPM

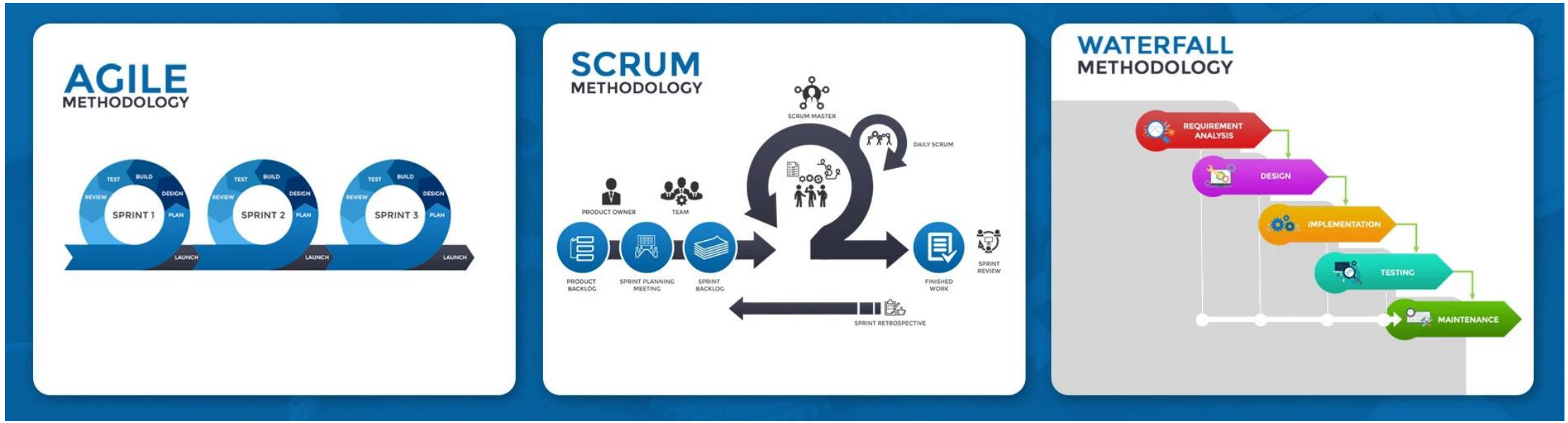
Market shares

- Microsoft Project pro - 15% *
- Oracle Primavera - 23%*
- Others 62%



* https://www.infoclutch.com/installed-base/project-management-software/oracle-primavera/#counts-by-industry

Methodology – Paradigm shift



- Scheduling concepts are the same
- Methodology agnostic
- Need for proper scheduling increases
- New Tools available but micro-scheduling is old

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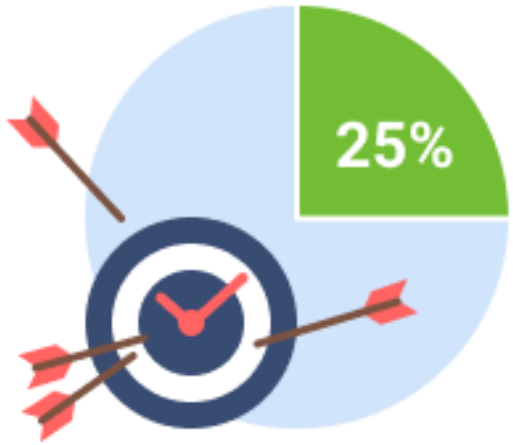
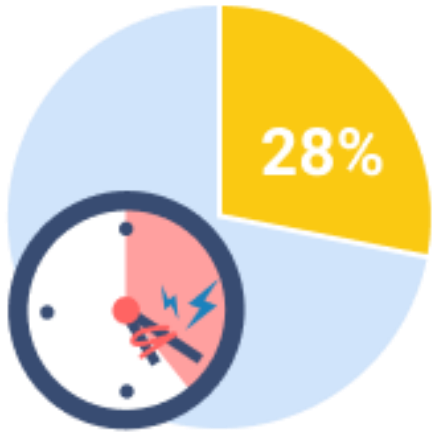
Time Management - impact

TIME ESTIMATION STATISTICS IN PROJECT MANAGEMENT

Only 50% of projects were completed on time in 2017



In 2018, inadequate time estimation became the primary cause of project failures in 25% of instances



Large IT projects face a high risk of failure due to schedule overruns in 28% of cases

Reference:

- The PMI's Pulse of the Profession study of 2017
- The PMI's Pulse of the Profession study in 2018
- Survey Shows Why Projects Fail

Advantages of better scheduling

When done well:

- Gives a clear picture of the requirements set before you.
- Highlights the chance to catch issues early and alert clients if a timeline isn't feasible.
- Holds EVERYONE accountable for the exact due dates.
- Provides data to *anticipate when resources will be available* for other projects.
- Integrates the procedures, company policies, and documentation guidelines that will govern the project.

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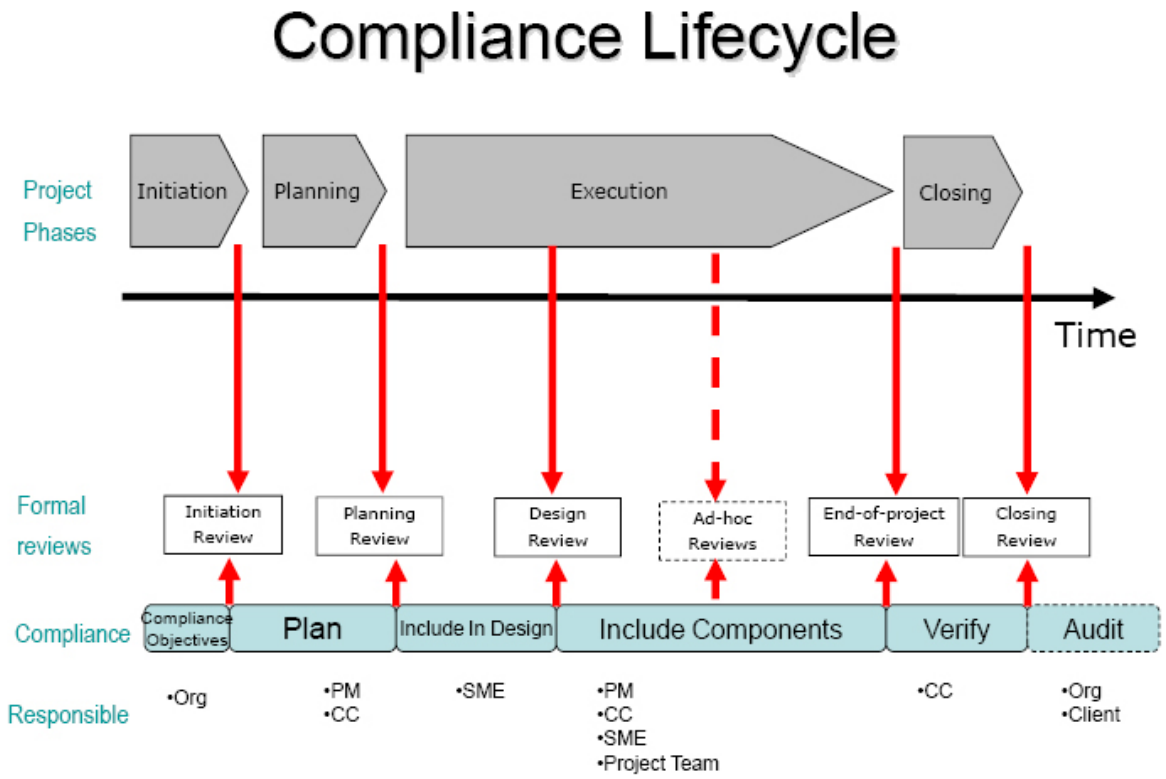
Project Schedule Compliance

Compliance Life Cycle

- Gated review
- Iterative and interactive handling of the different components
- Stages of the compliance
- Compliance audit with a formal document



Reference: My project should be compliant (pmi.org)

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Compliance for Federal Agencies

- Requirements versus Compliance
- Two major schedule compliances

- The USA Defense Contract Management Agency (DCMA) 14 point check
- The U.S. Government Accountability Office- Schedule Assessment Guide

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Defense Contract Management Agency (DCMA)

- USD AT&L* has mandated the use of an Integrated Master Schedule (IMS) for cost or incentive contracts/subcontracts and intra-government work agreements of at least $20 million
- To ensure that the IMS is at an acceptable level of quality to support compliance with ANSI/EIA-748
- Developed a comprehensive approach to Earned Value Management known as DCMA EVMs
- 14 Point Assessment to improve their ability to assess the quality of IMS submittals to support EVMs
- Provides a consistent, DoD-wide approach to schedule analysis

* The Office of the Under Secretary of Defense for Acquisition, Technology and Logistics

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DCMA 14 Point Assessment

1	**Logic:** Activities that do not have either predecessor or successor (or both), no more than 5%, > 90%	8	**High Duration:** % of activities with duration greater than 2 months, no more than 5%
2	**Leads:** 0% (forced overlaps)	9	**Invalid Dates:** No historically incomplete activities and no completed activities in the future.
3	**Lags:** Less than 5%	10	**Resources:** All incomplete activities must have resources assigned
4	**FS Relations:** Number of activities with Finish to Start (FS) logic	11	**Missed Activities:** Number of activities that have slipped from baseline, no more than 5%
5	**Hard Constraint:** Activities with hard constraints, no more than 5%	12	**Critical Path Test:** Forced time now delay is equal to finish delay +/- Total Float
6	**High Float:** Activities with total float > 2 months, no more than 5%	13	**Critical Path Length Index (CPLI):** < 1 bad >1 good
7	**Negative Float:** No negative float	14	**Baseline Execution Index:** Number of tasks you should have completed as per your baseline, < 1 bad >1 good

GAO Schedule Assessment Guide

1	**Capturing all activities.**	The schedule should reflect all activities as defined in the program's work breakdown structure (WBS), which defines in detail the work necessary to accomplish a program's objectives, including activities both the owner and contractors are to perform.
2	Sequencing All Activities	The schedule should be planned so that critical program dates can be met. To do this, activities must be logically sequenced and linked—that is, listed in the order in which they are to be carried out and joined with logic.
3	Assigning Resources to All Activities	The schedule should reflect the resources (labor, materials, travel, facilities, equipment, and the like) needed to do the work, whether they will be available when needed, and any funding or time constraints.
4	Establishing the Duration of All Activities	The schedule should realistically reflect how long each activity will take. When the duration of each activity is determined, the same rationale, historical data, and assumptions used for cost estimating should be used.
5	Verifying That the Schedule Can Be Traced Horizontally and Vertically	The schedule should be horizontally traceable, meaning that it should link products and outcomes associated with other sequenced activities.

GAO Schedule Assessment Guide

6	Confirming That the Critical Path Is Valid	The schedule should identify the program's critical path—the path of longest duration through the sequence of activities.
7	Ensuring Reasonable Total Float	The schedule should identify reasonable total float (or slack)—the amount of time a predecessor activity can slip before the delay affects the program's estimated finish date—so that the schedule's flexibility can be determined.
8	Conducting a Schedule Risk Analysis	A schedule risk analysis starts with a good critical path method schedule. Data about program schedule risks are incorporated into a statistical simulation
9	Updating the Schedule Using Actual Progress and Logic	Progress updates and logic provide a realistic forecast of start and completion dates for program activities.
10	Maintaining a Baseline Schedule	A baseline schedule is the basis for managing the program scope, the time period for accomplishing it, and the required resources.

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WHY DCMA or GAO assessment?

- On a large-scale capital program submits schedules from both the consultant and contractor on a monthly basis.
- This could result in well over one hundred schedules being given to the PMO every update cycle.
- PMO needs to understand if the schedules
- Schedules will be rejected ff the schedule does not reach a pre-agreed quality score for reworking.
- Thus, the quality of schedules has improved considerably, and the level of project time-related failure has also reduced.

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WHY Software for the assessment?

- Each part of the 14-point analysis or GAO 10 best practices has a mathematical calculation related to it.
- The calculations used in DCMA can be performed manually
- Identify and rectifying deficiencies manually is daunting
- Tracking required consistent reporting
- Prone to manual error

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TONE - Software

- Supports GAO Assessment
- Supports DCMA 14-point Assessment
- Create custom Assessments
- Multiple score cards
- Multiple Reports
- Track Trends by Trend Reports

TOne
My Schedule Reviewer

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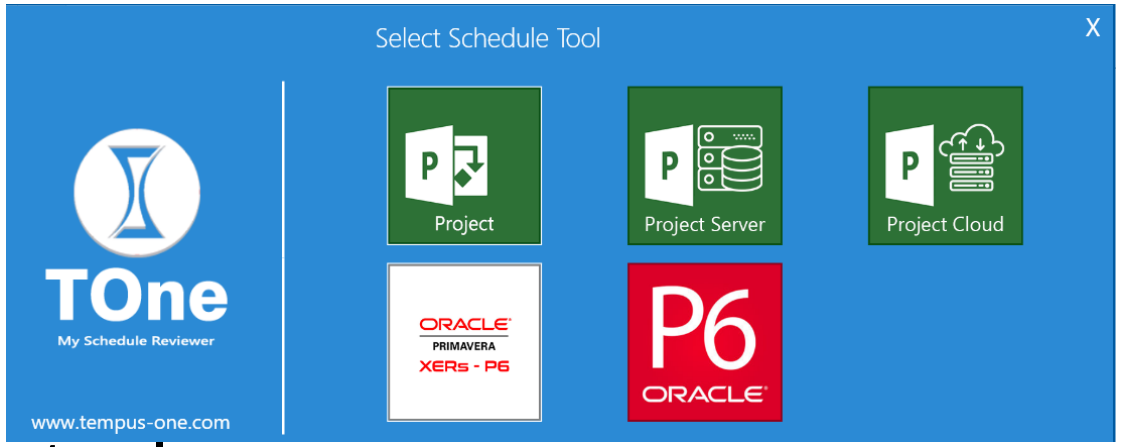
TONE - Software

- Works with
  - Microsoft Project
  - Microsoft Project Server (PPM)
  - Project Online
  - Oracle Primavera (EPPM)
  - P6 Oracle
- Cost is cheaper than other Similar tools
- Built by Schedules for schedulers



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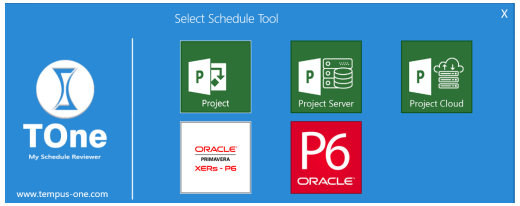
Process – As easy as 1.2..3…

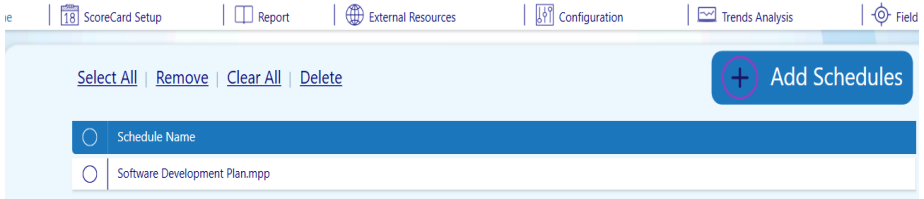
1

- Select Type of Project schedule
- Enter username/pwd/server URL for server based tools



2

- Add Schedules by browsing in local drive or find projects in Server based tools
- You can select Multiple Schedules/IMS



3

- Click Inspect Button to get an array of customized score cards
- Click the deficiencies and directly rectify issues in the schedule to be COMPLIANT

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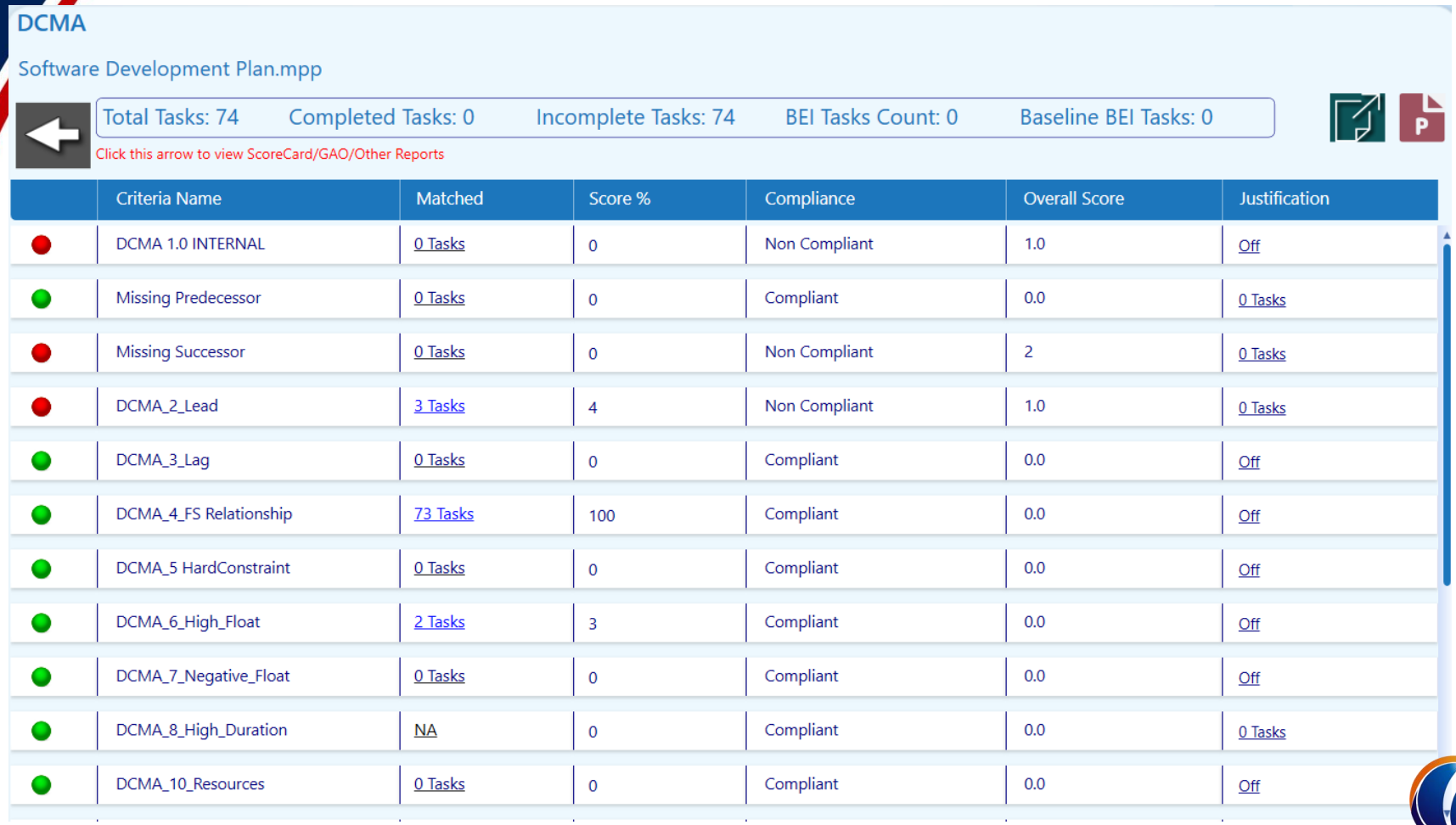
Reports



	Criteria Name	Matched	Score %	Compliance	Overall Score	Justification
●	DCMA 1.0 INTERNAL	0 Tasks	0	Non Compliant	1.0	Off
●	Missing Predecessor	0 Tasks	0	Compliant	0.0	0 Tasks
●	Missing Successor	0 Tasks	0	Non Compliant	2	0 Tasks
●	DCMA_2_Lead	3 Tasks	4	Non Compliant	1.0	0 Tasks
●	DCMA_3_Lag	0 Tasks	0	Compliant	0.0	Off
●	DCMA_4_FS Relationship	73 Tasks	100	Compliant	0.0	Off
●	DCMA_5 HardConstraint	0 Tasks	0	Compliant	0.0	Off
●	DCMA_6_High_Float	2 Tasks	3	Compliant	0.0	Off
●	DCMA_7_Negative_Float	0 Tasks	0	Compliant	0.0	Off
●	DCMA_8_High_Duration	NA	0	Compliant	0.0	0 Tasks
●	DCMA_10_Resources	0 Tasks	0	Compliant	0.0	Off

- Open the schedule filtered to the selected deficiencies to correct
- Can add Justification
- Can add weight of the score
- Separate configuration section for individual components
- Tutor is available for each assessment components
- Major Assessments are divided into multiple smaller ones
- Can customize the score card
- Export to PPT, Excel, PDF, Word

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New Features in next version

- Schedule Risk Analysis
- More Reporting
- Web-based interface

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DEMO

Questions?

THANK YOU

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