CCPM Transformation Challenges

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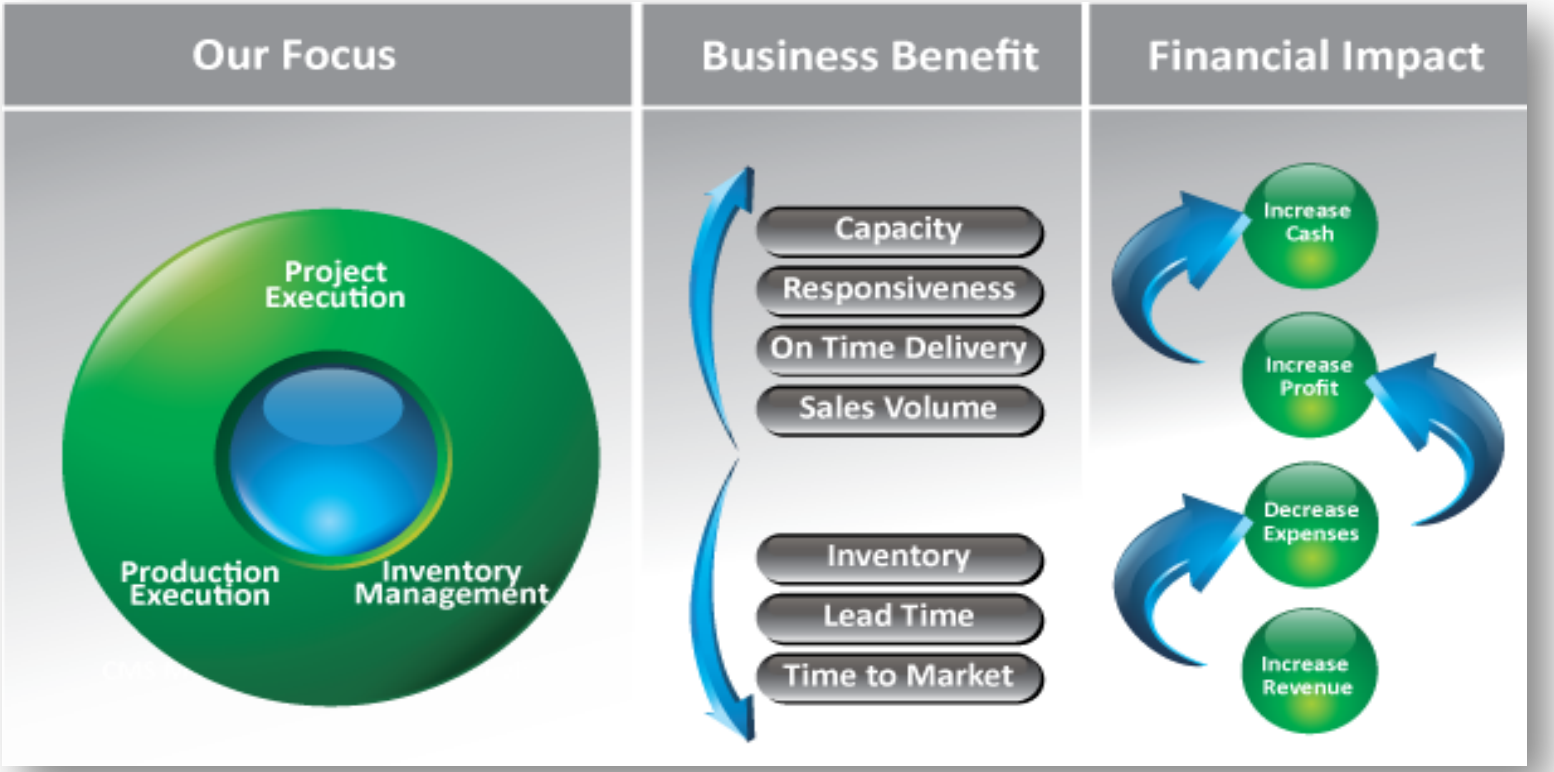
Agenda

- Introduction
- Objectives
- CCPM solution
- CCPM benefits
- Implementation enablers
- Implementation challenges
- How to build a bridge
- Change Management issues

Who is CMS Montera?

- CMS Montera Provides Management Solutions and Software to Accelerate Projects and Optimize Operations



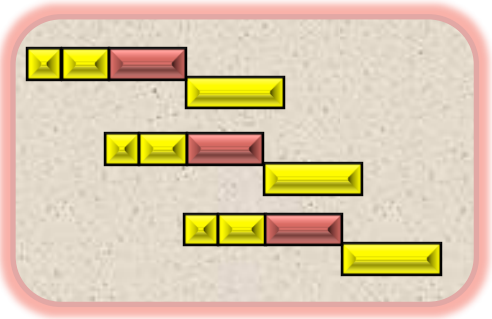
Presentation Objectives

- Discuss common challenges preventing fast and effective CCPM transformation
- Suggest proven ways of speeding up CCPM implementations
- Describe some CCPM software capabilities required to enable change management principles

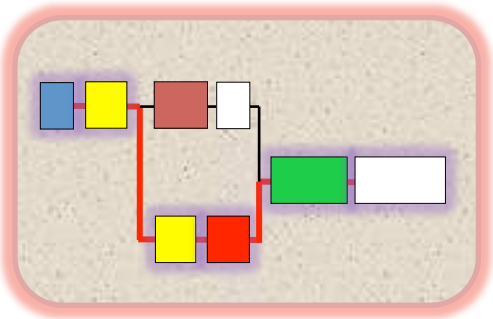
CCPM Solution

- Stagger the release of projects into execution in order to limit the number of active projects in the pipeline
- Buffer project plans in order to better protect against unknowns
- Prioritize task execution based on project completion vs. buffer consumption

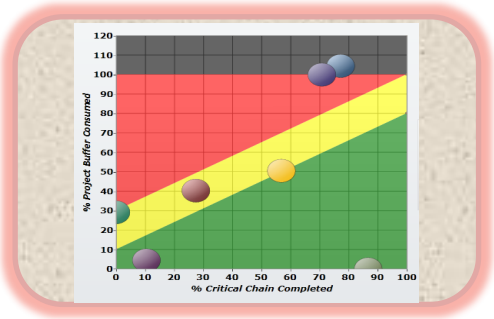
Stagger



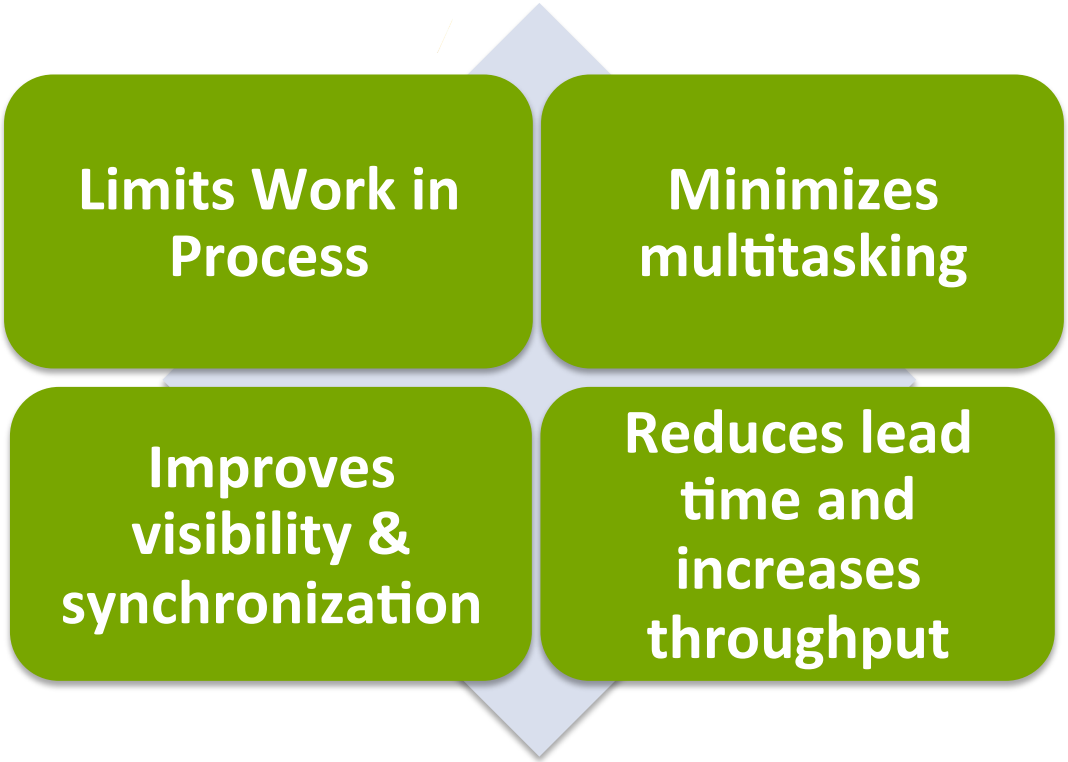
Buffer



Prioritize



CCPM Benefits



CCPM Benefits

- Most organization that decide to follow CCPM methodology can achieve the following results

More Sales / Profit

Lower Costs	Happy Customers	More Capacity
25 to 50% Faster	> 90% On-Time	10 to 25% More Projects

Implementation Enablers

Things to Avoid

- Releasing the project as soon as possible
- Creating fixed task schedule – Map
- Planning Project like a Train Schedule – gains are lost
- Prioritizing based on Project Manager's judgement
- In-frequent Project / Task updates focused on work completed
- Focusing on Resource Efficiency - Assign Tasks to Resources to maximise resource utilization

Things to Embrace

- Choking project release based on phase or resource loading
- Creating flexible tasks schedules- GPS
- Planning Project like a Relay Race – gains are utilized
- Prioritizing based on Project Flow Index and Chain Delay
- Frequent Project / Task updates focused on work remaining
- Focusing on Task Efficiency – Assign Resources to Tasks to minimize task duration

Implementation Challenges

- Lack of "buy–in" to cutting Task Durations
- Difficult to do meaningful Resource Management / Scheduling (prediction of revenue and future resource efforts)
- Difficult to know when a vendor (outside resource) really needs to deliver to the schedule
- Starting Feeding Chains too early
- "Just give me more dates"
- If the Flow Index is below 1, how many days need to be recovered? (how to perform a "what-if" on various buffer recovery options)

Implementation Challenges

- Difficult to prioritize among competing Feeding Buffers
- Too much clutter on the Networks / too hard to maintain
- Difficult to communicate PERT chart and Buffered Gantt Chart with customer
- Sometimes there is a requirement for fixed milestones
- Difficult to manage very large projects – poor or no link with sub projects
- No easy way to stagger projects and see impact on resource load

How to build a bridge

Use aggressive durations for Internal Tasks

- Assume everything goes nearly perfect (optimistic duration)
- Add 50% buffer to all tasks (be positive ☺)

Specify 'expected' start dates of all chains and tasks

- Assumes all tasks will consume their buffer
- External Tasks split expected durations into 2/3 : 1/3

Base Resource Management on "expected' start dates

Show 'Early Start Date' to mitigate risks

How to build a bridge

Calculate Flow Index for ALL tasks relative to Project Buffer only

- Feeding buffers are used only to determine chain start date

Automate RDU updates for linearly declining task durations (Supply Chain, Lab testing, etc…)

Calculate Delay Days based on Flow Index

- Any task that consumes more / less than its allowable buffer adds / reduces Delay Days (Flow Index of 1 equals 0 Delay Days)

When needed, 'Fix' resource start dates and provide Delay Days impact of resource scheduling decisions (e.g. critical resource vacations)

How to build a bridge

Delay Days indicate how many days to recover

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Task Priorities

Project	Task	Task Name	Delay Days	Task Owner	Start Date	Early Start	Status	Predecessors Not Complete	RDU	Last Update	Note	Activities
Project 02	194	Receive Late mech BOM items	23	Res 12			A	0	15	2015-08-17	...	...
Project 02	1	Design	11	Res 10			AS	0	1		...	...
Project 02	73	sw IO check	11	Res 53			AS	0	1		...	...
Project 04	2	Order & Receive LLI - Tescom / Weh Connector	6	Res 12			A	0	10	2015-08-17	...	
Project 01	199	Final Mechanical Design Test Station	4	Res 16			A	0	10	2015-01-30		...
Project 06	50	Electrical red pen updates	3	Res 52			A	0	11	2015-08-17	...	
Project 03	04	Project 04	0				AS	0	25		...	...
Project 03	194	Receive Late mech BOM items	0	Res 12	2015-10-13		A	1	5	2015-08-17	...	...
Project 04	24	Syst. Cabinet Wiring	-1	Res 390			AS	0	3		...	...
Project 06	48	Create preliminary user manual	-2	Res 52			A	0	3	2015-08-17	...	
Project 06	88	ET Integrate S24	-2	Res 390			AS	0	2		...	...
Project 06	501	Vision Group integration	-3	Res 44			A	0	2	2014-08-20	...	...
Project 05	73	sw IO check22	-8	Res 53			A	0	1	2013-12-19	...	...
Project 05	93	validate test wiring	-8	Res 390			AS	0	1		...	...

Filter by:

Resource Group: Show tasks: All Active Not Started Milestones Completed Show projects: Active Planning Inactive RDU Calculator

Show tasks starting in (days): 1 Get Tasks Display Selected Task Longest Chain Display Selected Task Predecessors

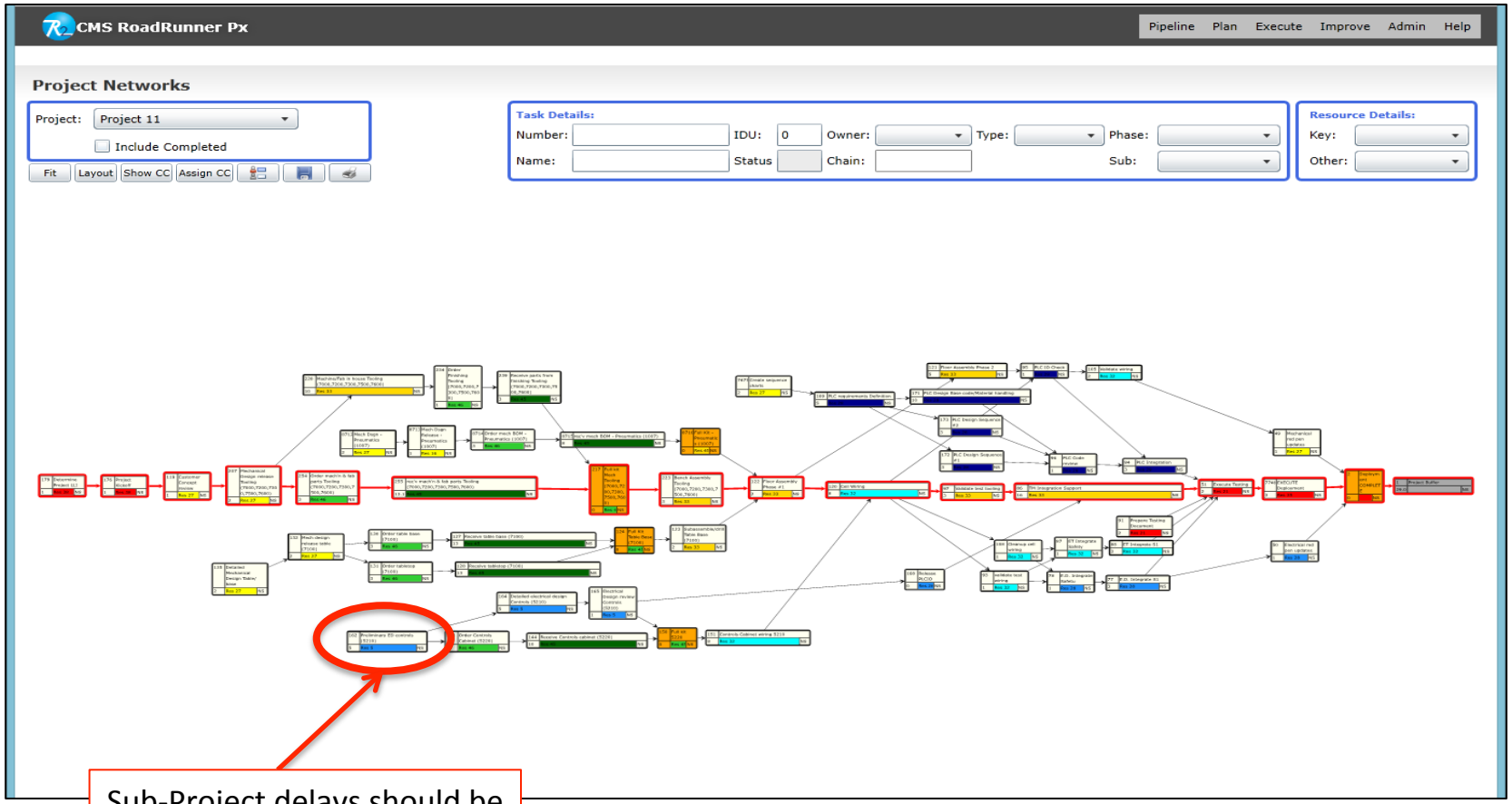
How to build a bridge

Create Gantt Charts based on task “expected” start dates and durations (no visible buffer, for external communication)

Link sub-projects to the main project buffer – provide visibility of the sub-project delay impact on the main project buffer

Enable What-if Capability by staggering projects based on Resource Group or Project Phase (Virtual Drum) and changing start date

How to build a bridge



How to build a bridge

% Load is used for staggering decisions (VD or Resources)

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Phase Loading

Collapse All | Expand All | Save to Excel...

	2013-11-25		2013-12-02		2013-12-09		2013-12-16		2013-12-23		2013-12-30		2014-01-06		2014-01-13		2014-01-20		2014-01-27		2014-02-03	
	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%
1-Design	8	27%	7	22%	13	42%	13	43%	14	45%	18	61%	16	52%	6	18%	11	37%	19	63%	9	28
2-Build	17	43%	3	6%	11	26%	4	9%					3	8%	9	23%	9	23%	5	13%	1	
3-Debug																						
Active	60	120%	65	130%	53	105%	48	97%	34	67%	9	17%	5	9%								
Planning	1	1%	2	3%					1	2%	9	17%	10	20%	7	13%	5	9%	10	20%	10	20
3-Debug Total	**61**	**121%**	**67**	**133%**	**53**	**105%**	**48**	**97%**	**35**	**69%**	**17**	**34%**	**15**	**29%**	**7**	**13%**	**5**	**9%**	**10**	**20%**	**10**	**20**

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Resource Group Loading

Collapse All | Expand All | Save to Excel... | Show Resources

	2013-11-04		2013-11-11		2013-11-18		2013-11-25		2013-12-02		2013-12-09		2013-12-16		2013-12-23		2013-12-30		2014-01-06		2014-01-1
	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days	%	# Days
Elec Design - 7	2	29%	2	6%	5	13%	7	19%	10	29%	5	13%	8	21%	7	19%	10	29%	12	34%	
Electrician - 6	5	83%	24	78%	15	50%	16	52%	10	32%	14	47%	13	43%	8	27%	2	5%			
Machine Shop - 2																					
Mech Design - 10	1	10%	13	26%	13	26%	13	26%	12	23%	16	32%	15	29%	14	27%	18	37%	16	31%	
PLC Programmers - 4	1	25%	8	40%	1	3%															
Quality - 1					3	60%	3	60%	6	120%	1	20%	5	100%	4	80%	5	100%			
Software Dev - 11	7	64%	18	32%	16	29%	18	33%	24	43%	3	5%	10	18%	11	20%	2	3%	6	11%	
Toolmaker - 8	10	125%	54	135%	40	100%	37	93%	21	53%	36	89%	18	45%	13	31%	4	10%			

Change Management Issues

A very effective and often used change management approach is to remove the "old system and process" to prevent people from migrating back

In our experience this is impractical since most of the tools are imperative to sustain the financial processes of the business (especially in large organizations)

In addition, there are many existing software tools to support traditional PM framework – CCPM software often adds to the plethora of tools

Therefore, the CCPM implementation and supporting software not only need to support CCPM processes but also provide a bridge to an already familiar PM framework to enable successful CCPM Transformation

Presenter Bios

- **Jack Warchalowski** is the President of CMS Montera.
- Prior to CMS, Jack was the head of operations for the High Tech manufacturer, Ernst & Young management consultant, and a project engineer with Babcock & Wilcox.
- Jack is a Certified Management Consultant and a Professional Engineer registered in Ontario. He holds an MBA degree from the Wilfrid Laurier University and a Bachelor of Applied Science in Mechanical Engineering from the University of Waterloo in Waterloo, Ontario. In addition, Jack is certified by the TOCICO in all aspects of TOC.

- **Haell Khatib** is a Director – Consulting with CMS Montera Inc.
- Prior to CMS, Haell has 15 years of experience in project engineering and process improvement
- Haell is a Project Management Professional (PMP) and a Professional Engineer registered in Ontario. He holds a Bachelor of Applied Science in Mechanical Engineering from the University of Waterloo in Canada. He is also certified by the TOCICO in Critical Chain Project Management.