

Todd Hitt  
Senior Program Manager  
Contract Research  
November, 2018

# Improving Project Controls at Battelle

It can be done

# Our mission and purpose

Our mission: To translate scientific discovery and technology advances into societal benefits

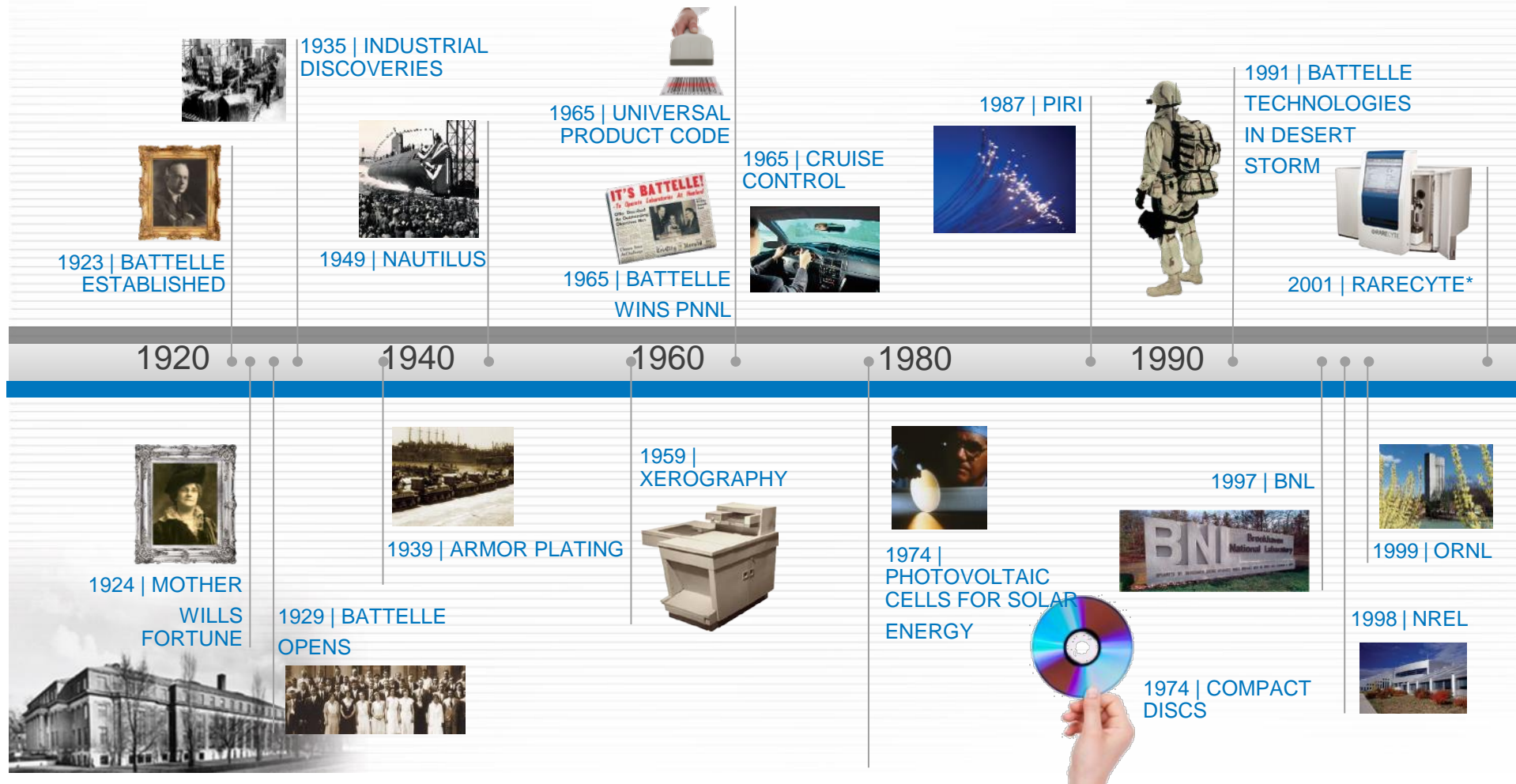


Gordon Battelle, Founder

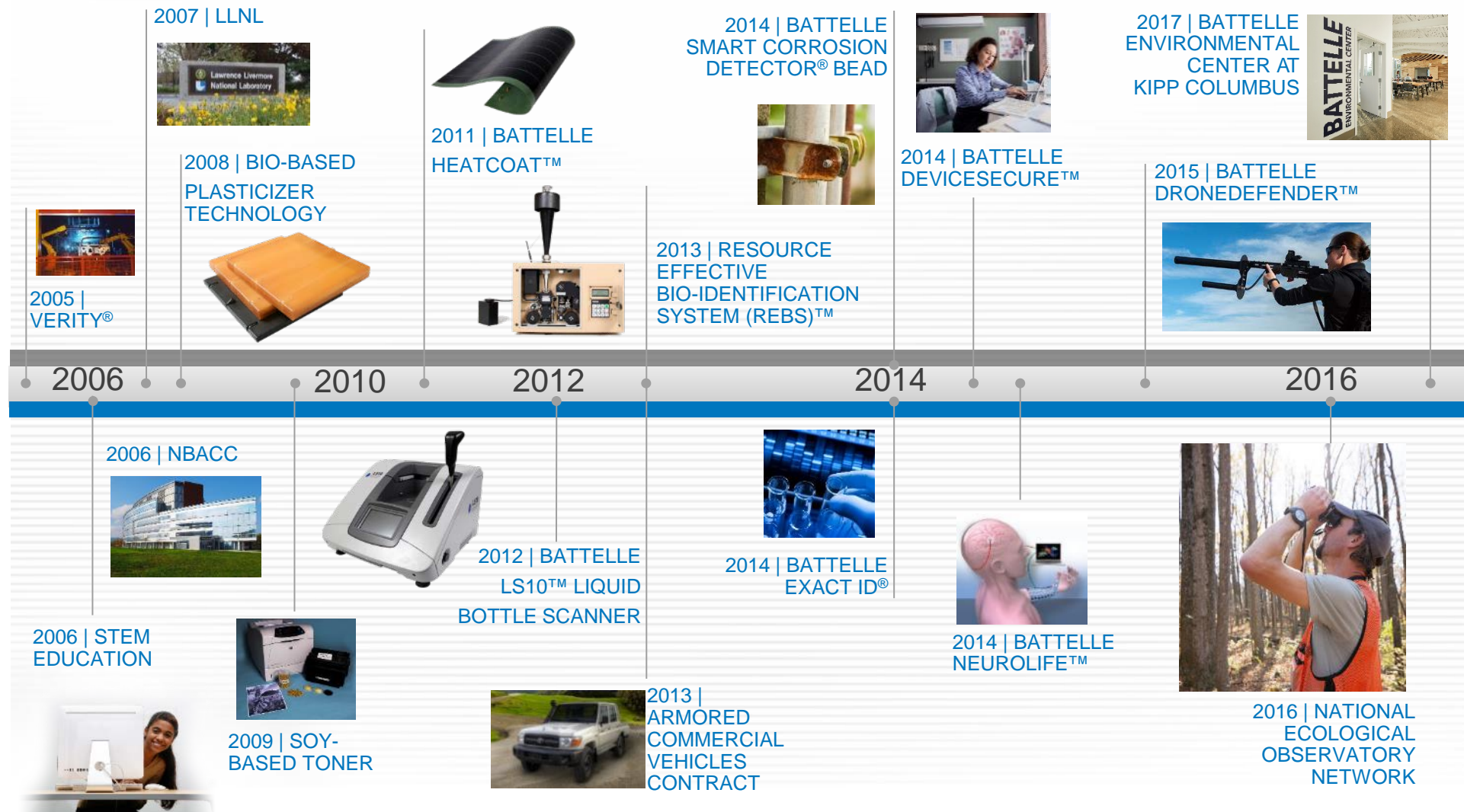
- Nonprofit, charitable trust formed in 1925
- Profits reinvested in science & technology and in charitable causes, making the world better for generations to come
- Knowledge, talents and resources applied to help our customers achieve their most important goals

# A history of innovation...

Inspiring new industries; revolutionizing products



# ...having a positive impact today.

















Wolf Pack  
Say Fierce





A: They are all projects



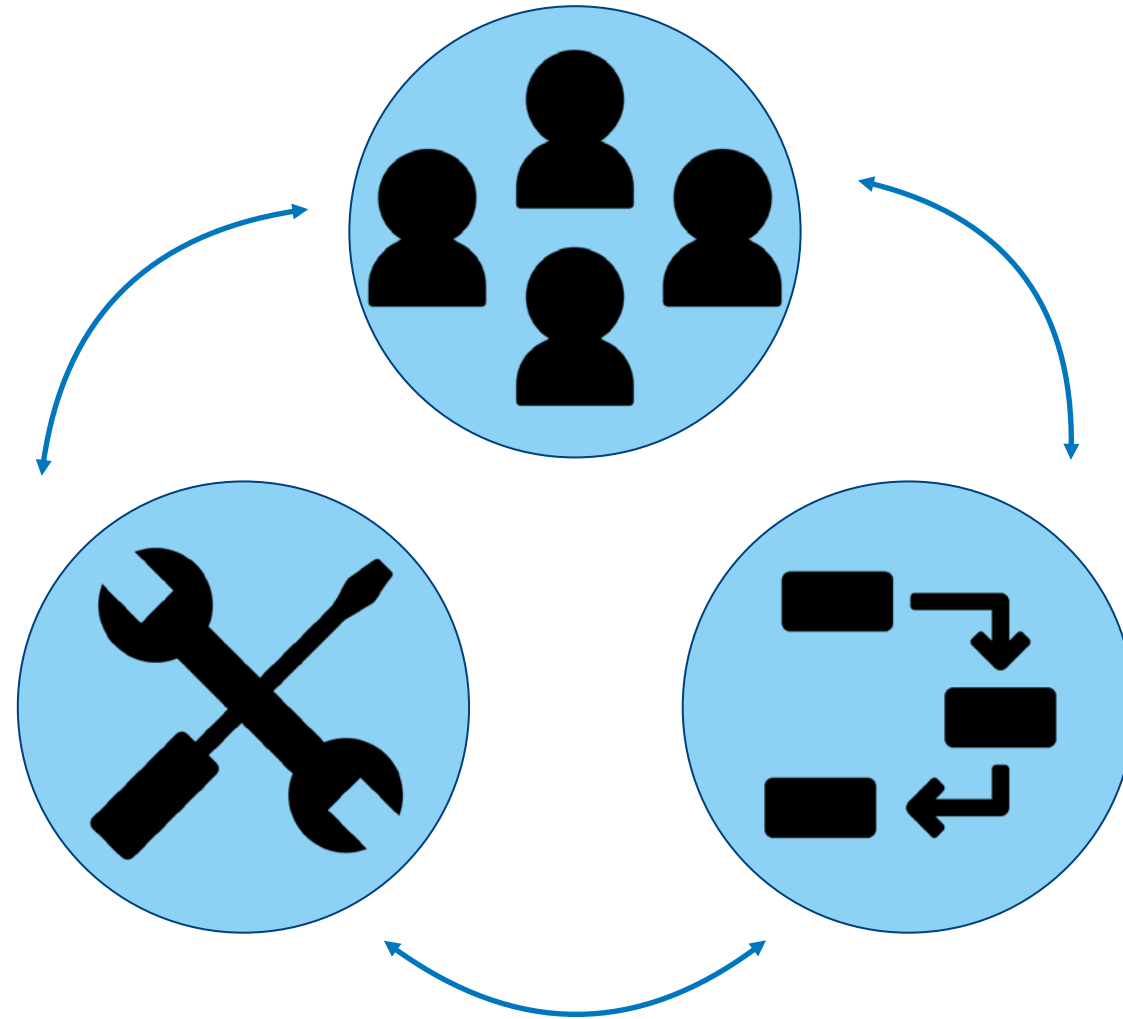
# Concurrent projects

1,000

Project Managers

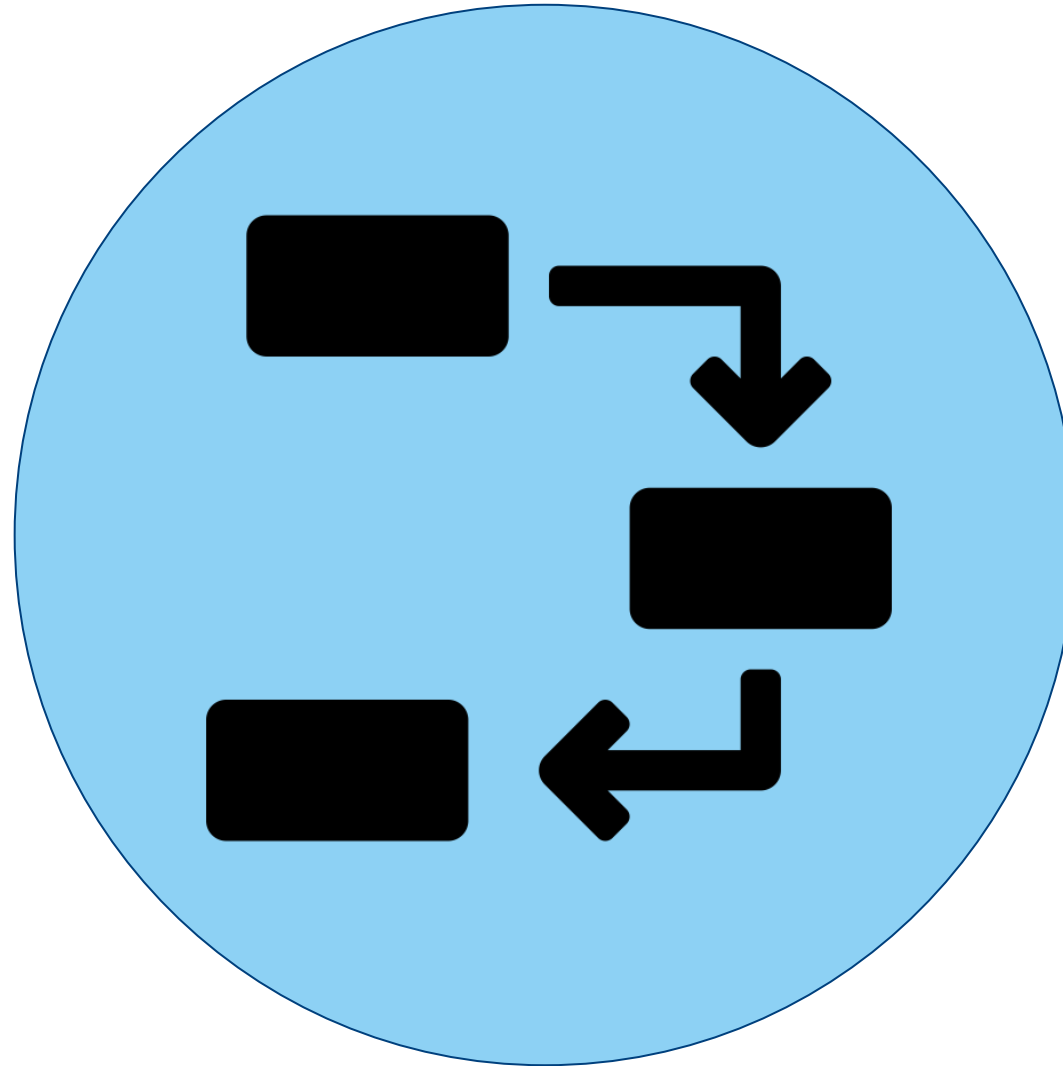
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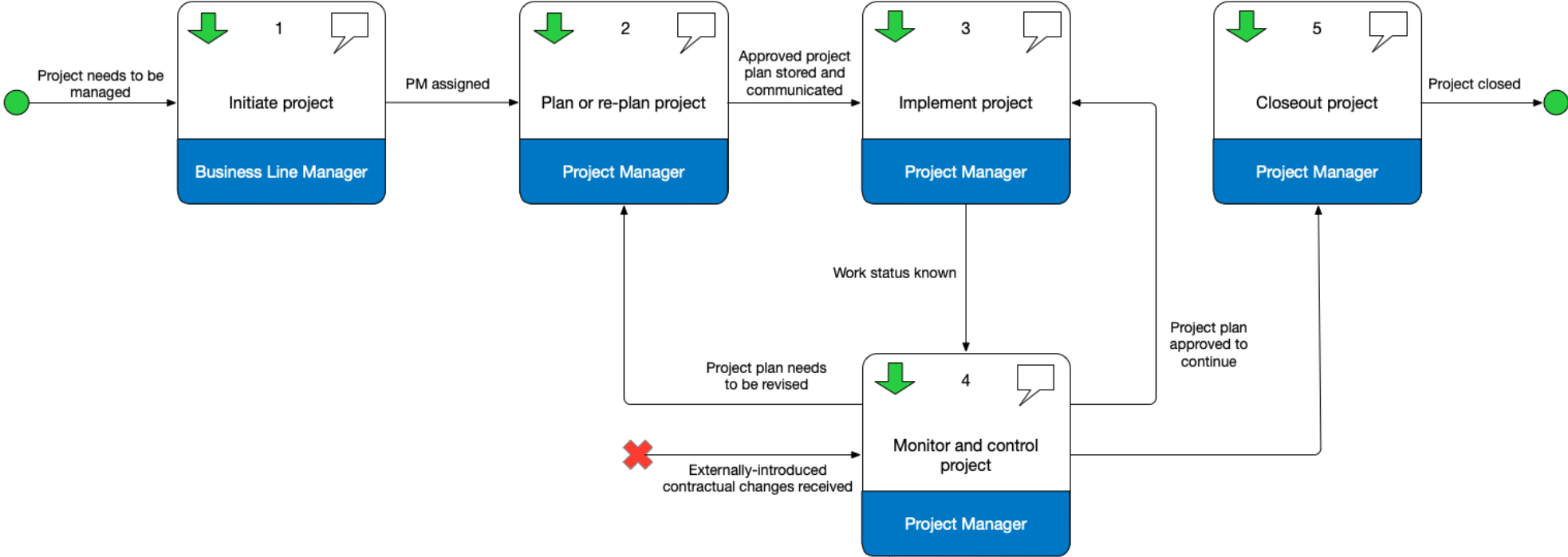
# People - Processes - Tools





# Process

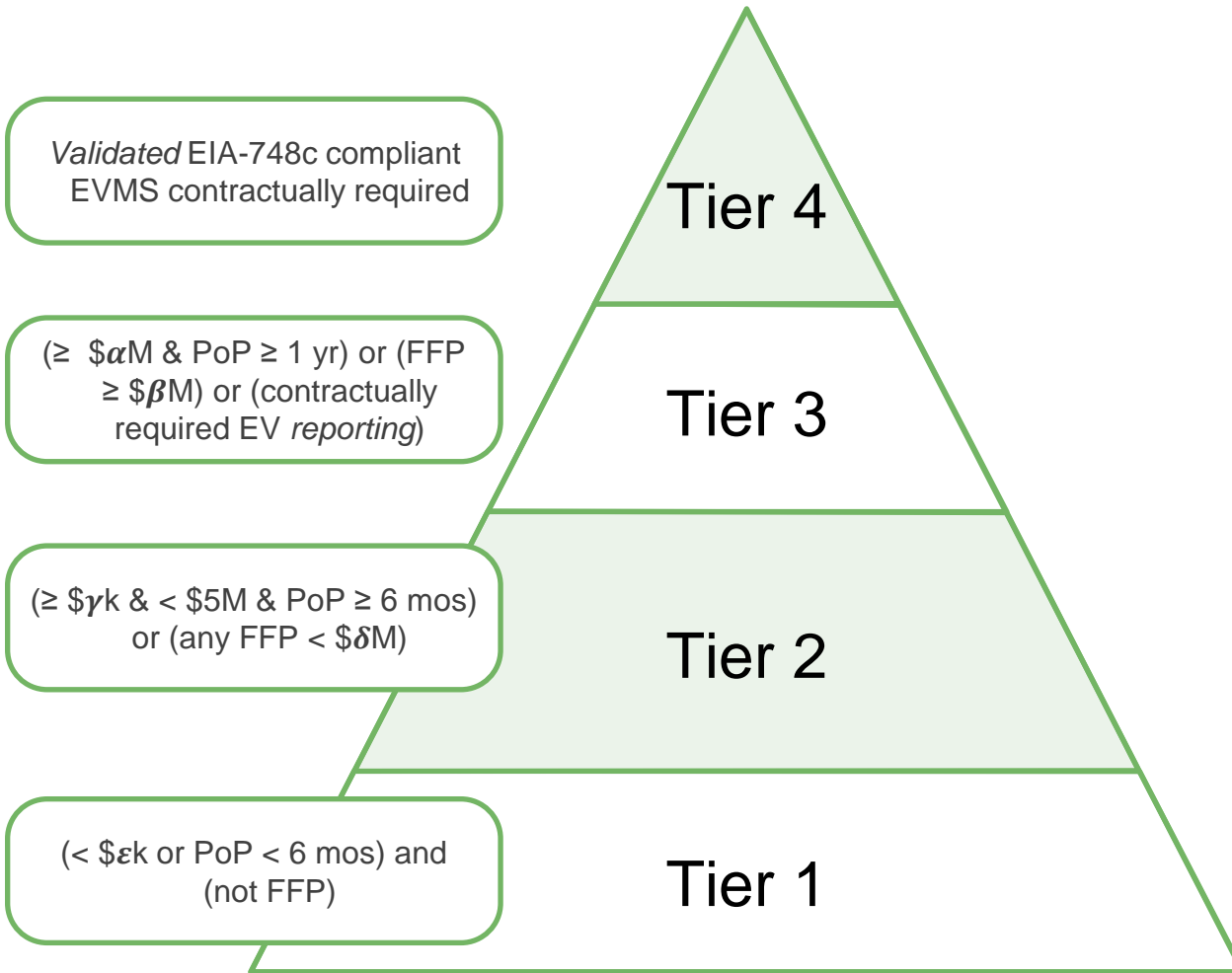




Issue Date: 4/20/2016  
Version: 2.1  
Status: Published



# Graded Approach



Cost/ Schedule Control	Metrics	Project Reviews
EIA-Compliant EVMS	<ul style="list-style-type: none"> <li>•Financial</li> <li>•EVM (w/IMS, CPR)</li> <li>•Risk</li> <li>•Customer Satisfaction</li> </ul>	PM: Monthly LM: Monthly GM: Monthly
EVM	<ul style="list-style-type: none"> <li>•Financial</li> <li>•EVM (w/Networked Schedule)</li> <li>•Risk</li> <li>•Customer Satisfaction</li> </ul>	PM: Monthly LM: Monthly GM: As required
Time-phased budget plan vs actuals	<ul style="list-style-type: none"> <li>•Financial</li> <li>•Project performance &amp; schedule</li> <li>•% complete, EAC, EV</li> <li>•Risk</li> <li>•Customer Satisfaction</li> </ul>	PM: Monthly LM: Monthly or waived GM: As required
Budget vs Actuals	<ul style="list-style-type: none"> <li>•Financial</li> <li>•Project performance</li> <li>•% complete, EAC</li> <li>•Risk</li> <li>•Customer Satisfaction</li> </ul>	PM: Monthly LM: As required

# People





# Training

Tier 4

- Intermediate Systems Acquisition Part A (DAU)

Tier 3

- EVM 101 (DAU)
- Fundamentals of Systems Planning, Research, Development, and Engineering (DAU)

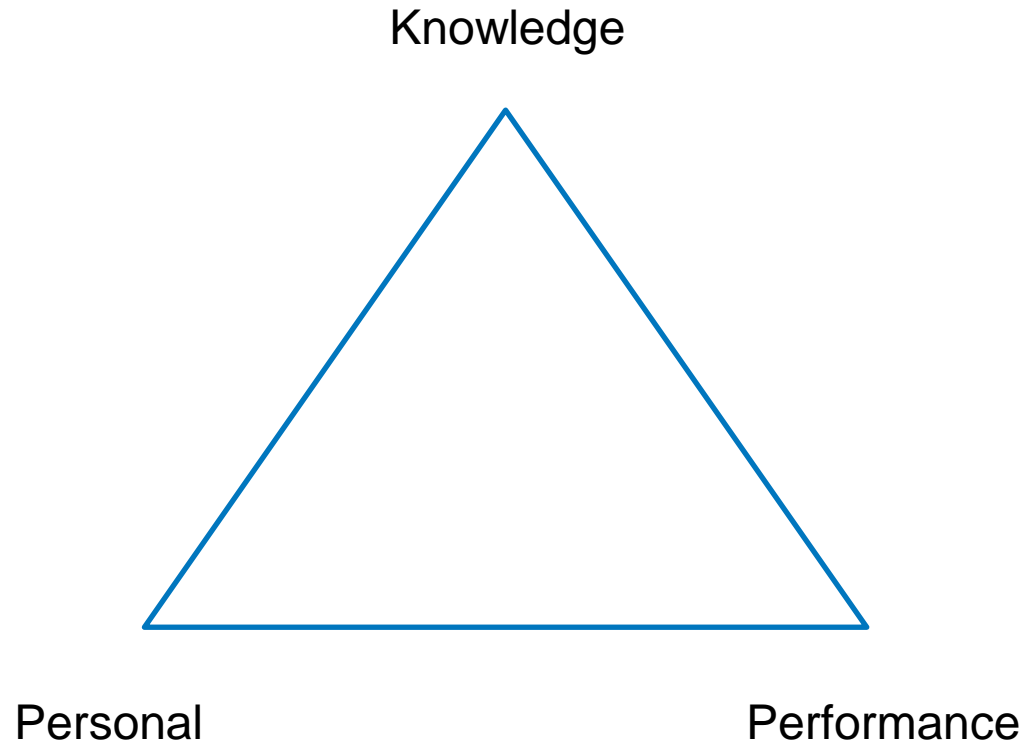
Tier 2

- EVMS Fundamentals
- Finance for Project Managers
- Contracts for Project Managers
- Crucial Conversations
- Crucial Accountability
- Situational Leadership
- Contracting for the rest of us (DAU)
- Fundamentals of Systems Acquisition Management (DAU)
- Social Styles - Managing for Results
- Social Styles - Understanding and Managing Behavior Differences

Tier 1

- PM 101
- PPM: Project Manager Training
- Risk Management Overview
- Battelle Project Management System (BPMS) Intro
- PPM: Portfolio Manager Training
- Basis of Estimate: Your formula for Success
- Risk Management (DAU)
- PM Simulation

# Certification



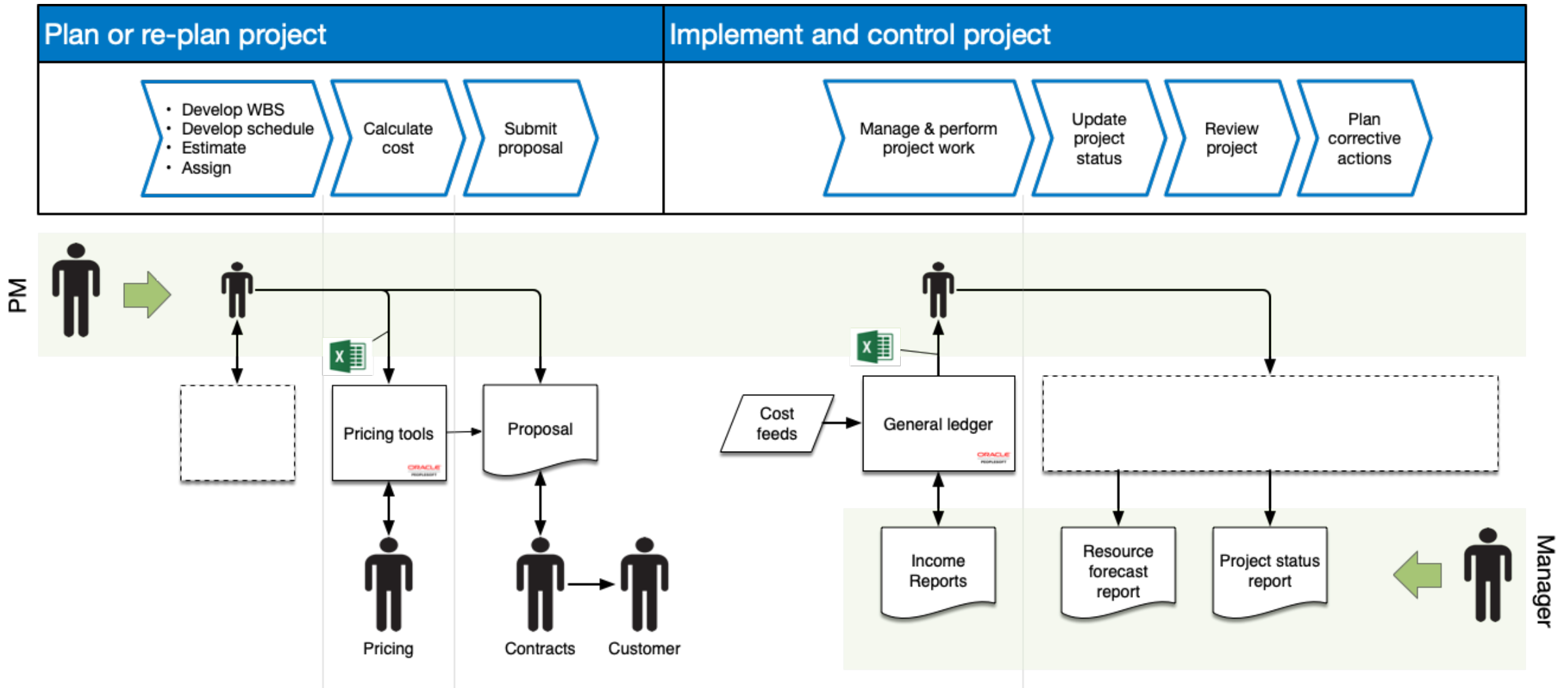
- Use a competency model for starters
  - PMI PM Competency Development Framework
  - APM Competence Framework
  - IPMA Individual Competence Baseline
- Add Battelle-environment competencies
- Certification body

# Tools

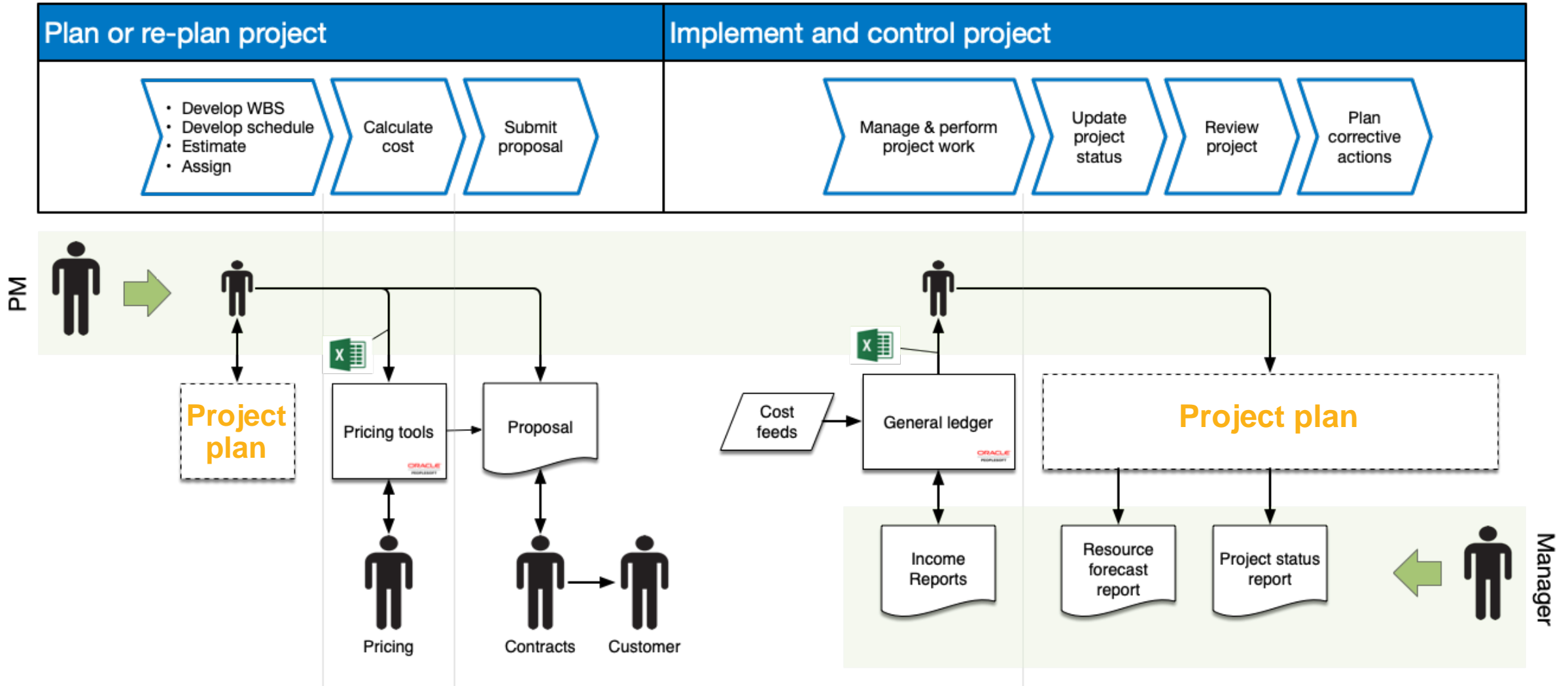




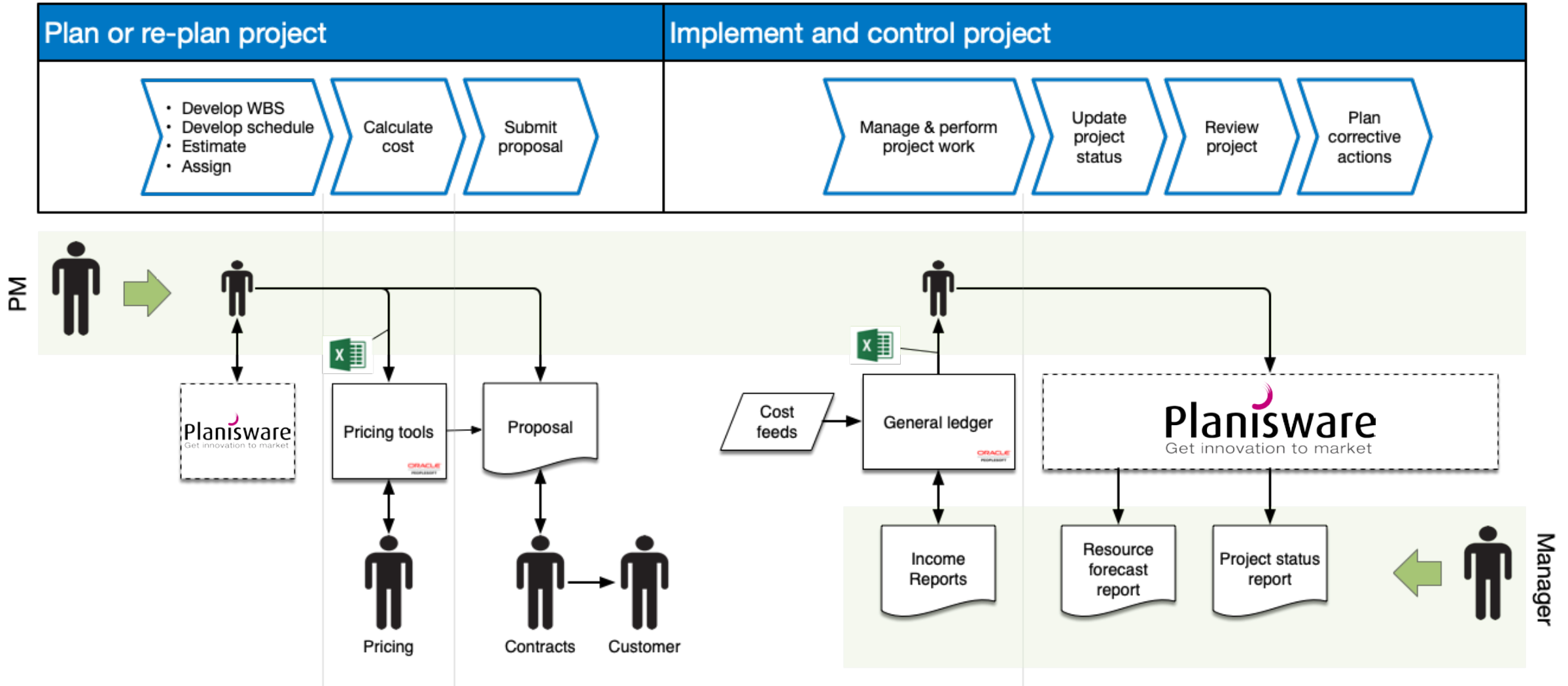
# What's missing?



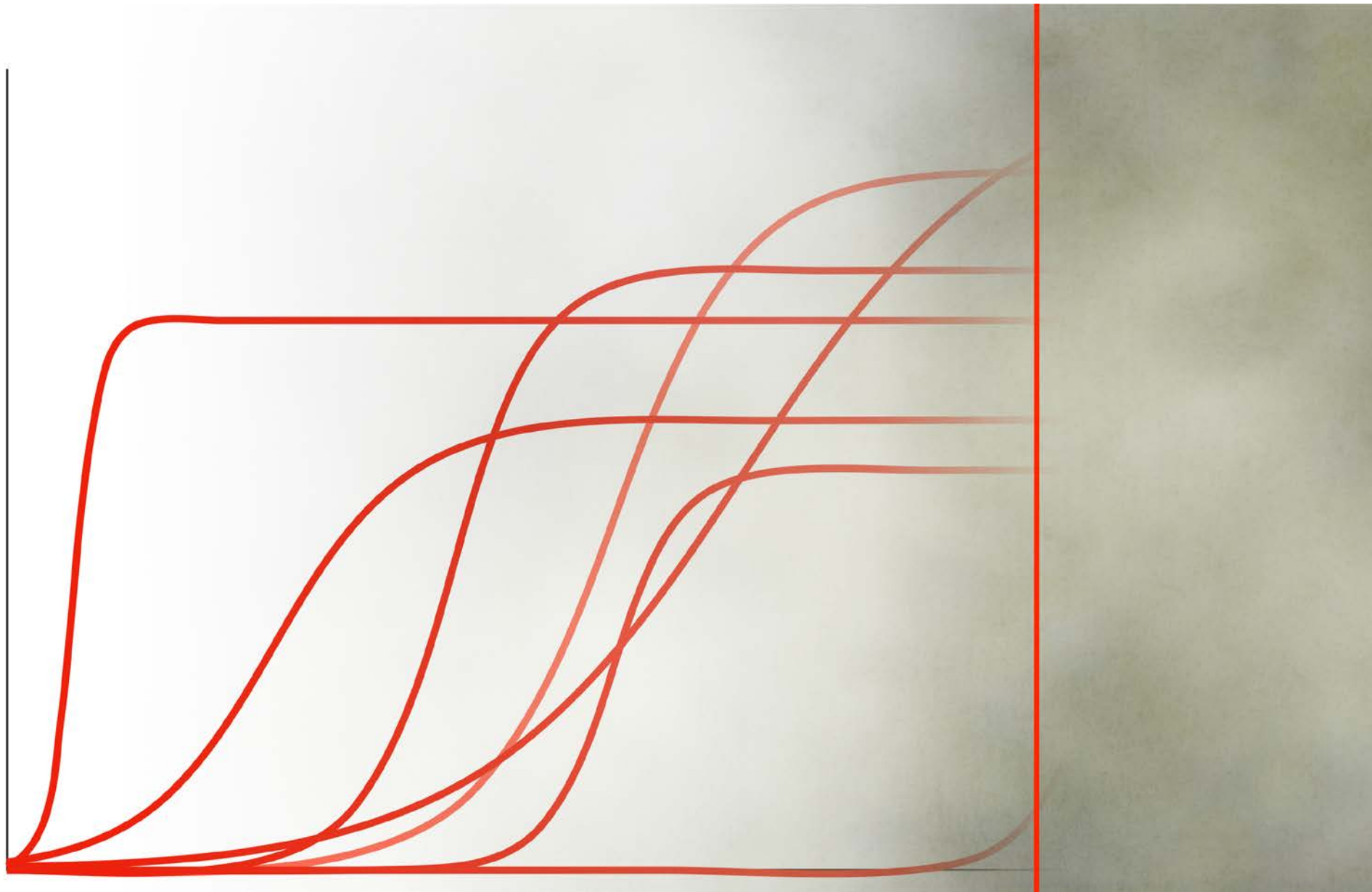
# The project plan & a tool for the PM



# Enterprise project controls - Planisware









# Goal



~1 tool (modern, consistent, easy-to-use)



Integrated & automatic



Contract management



EVM



Make project plans visible to improve compliance



Forecast & control business performance based project plans



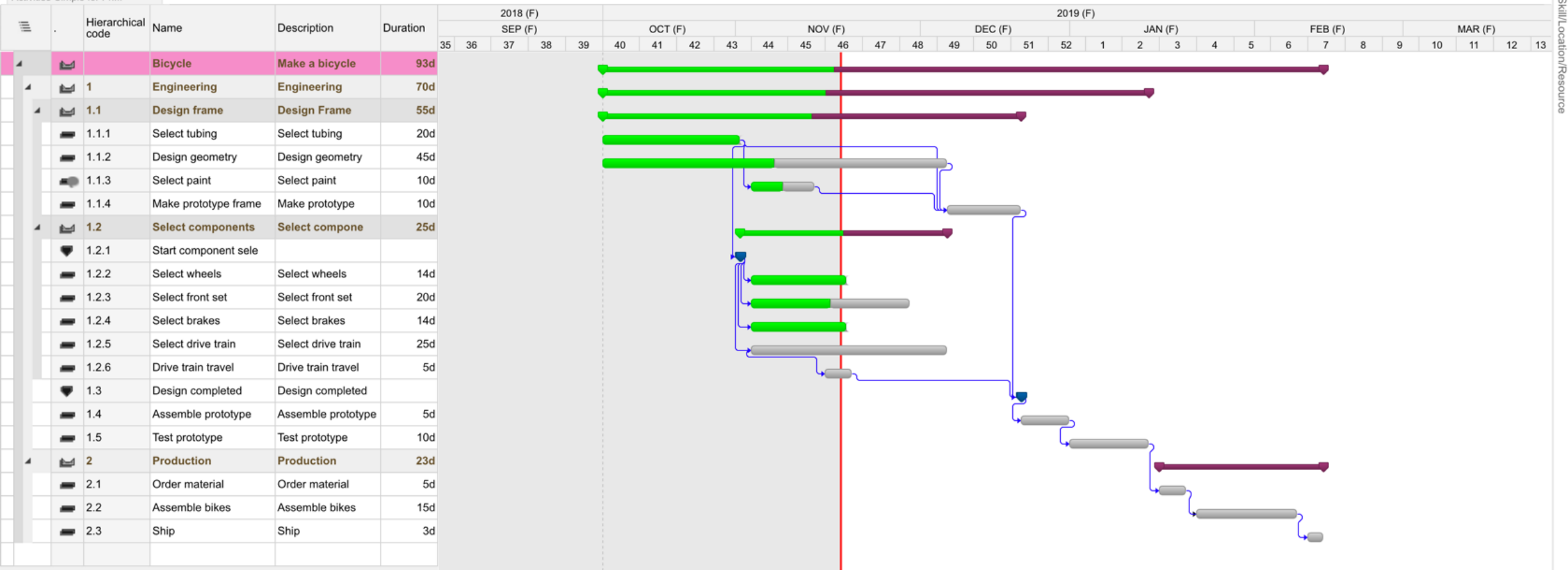
Improved service to clients





Tools: Insert, Track, Transform, View, WBS, RBS

Default style: Activities-Simple for Pri...

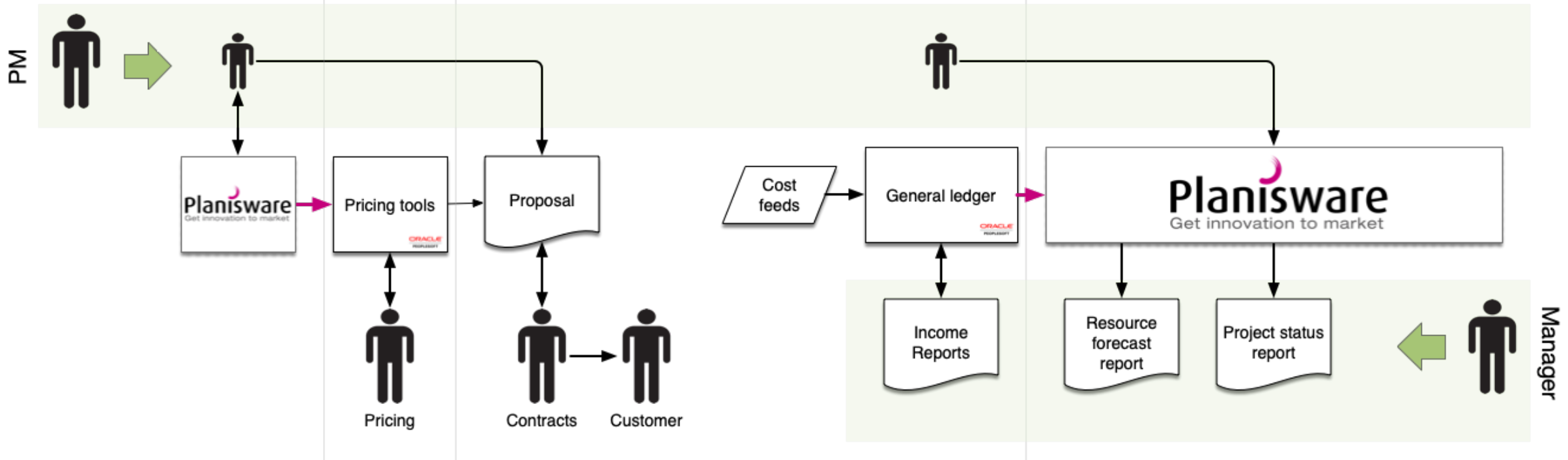
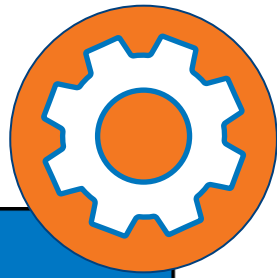


# Benefits

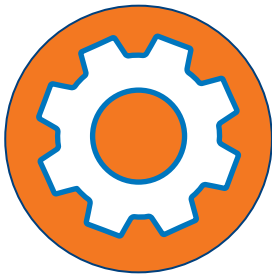


- Consistency
- PM's don't have to make their own tools
- Correctness
  
- Greatly improved rigor
- More successful projects
- Satisfied clients

# Integrated & automatic







# Integrated & automatic

- *Integrated with Oracle PeopleSoft accounting system*
- Reduced manual steps
- Reduced double entry
- Fewer errors
- Default charge codes for staff
- Schedule integration
- Integration with procurement
- Integration with travel
  
- Greatly improved rigor
- More successful projects
- Satisfied clients

# Contracts



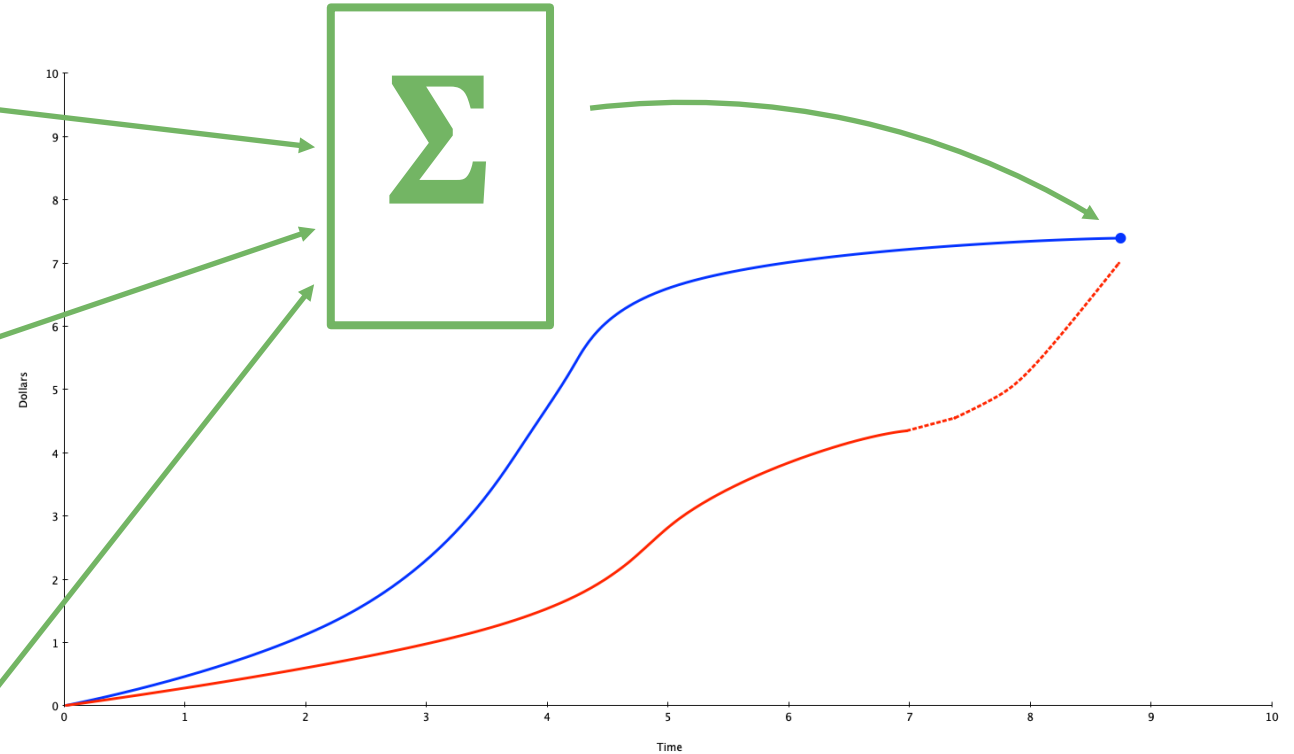
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Page 2 of 32

## Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	max QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0001	Travel COST		Lot	UNDEFINED	\$2,500

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002	NRE Labor CPFF		Lot		\$20,000
ESTIMATED COST					\$19,500
FIXED FEE					\$5,00
TOTAL EST COST + FEE					\$20,000

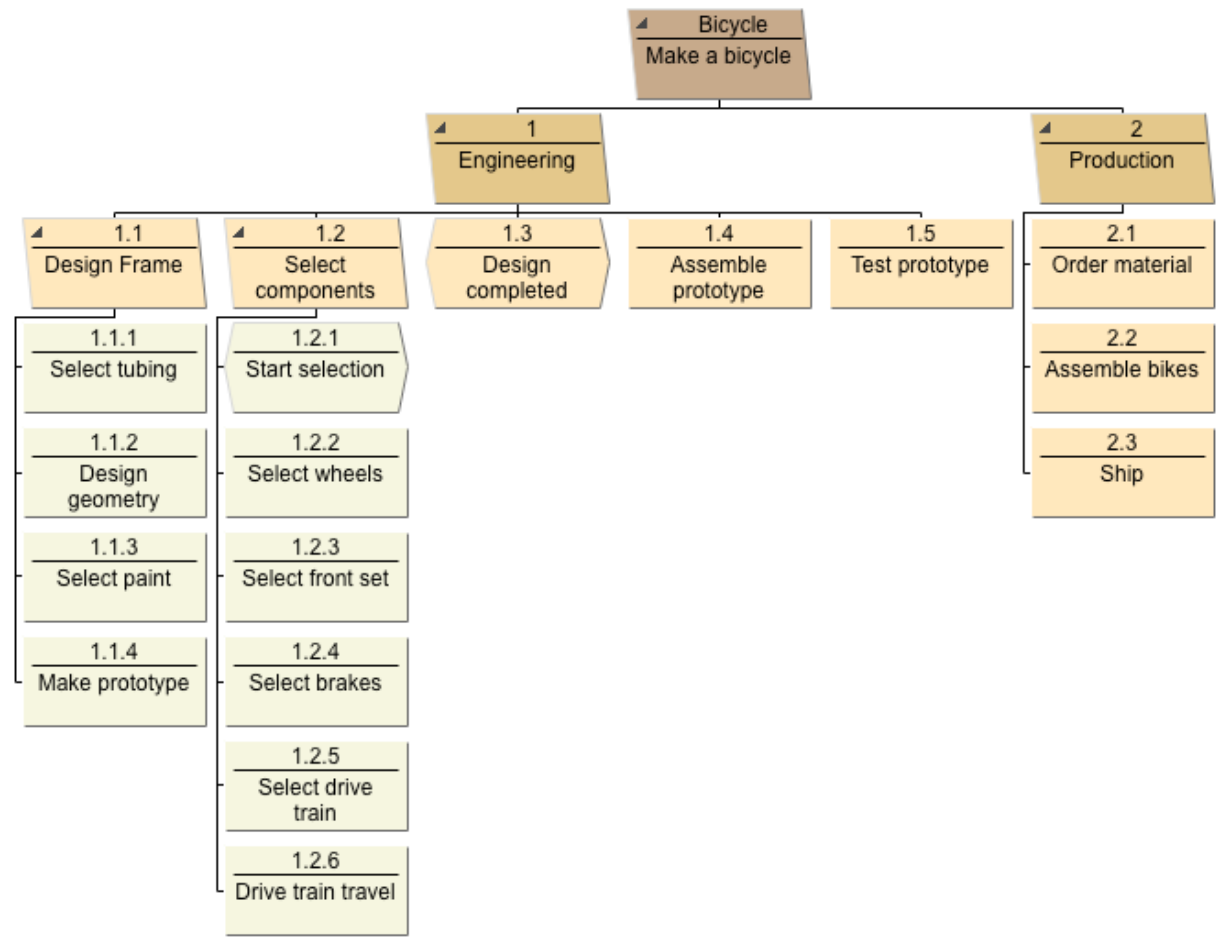
ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003	Bicycles FFP	10		\$1,000	\$10,000





Vertical WBS\*

WBS level 1 WBS level 2 WBS level 3 WBS level 4 Milestone WBS element





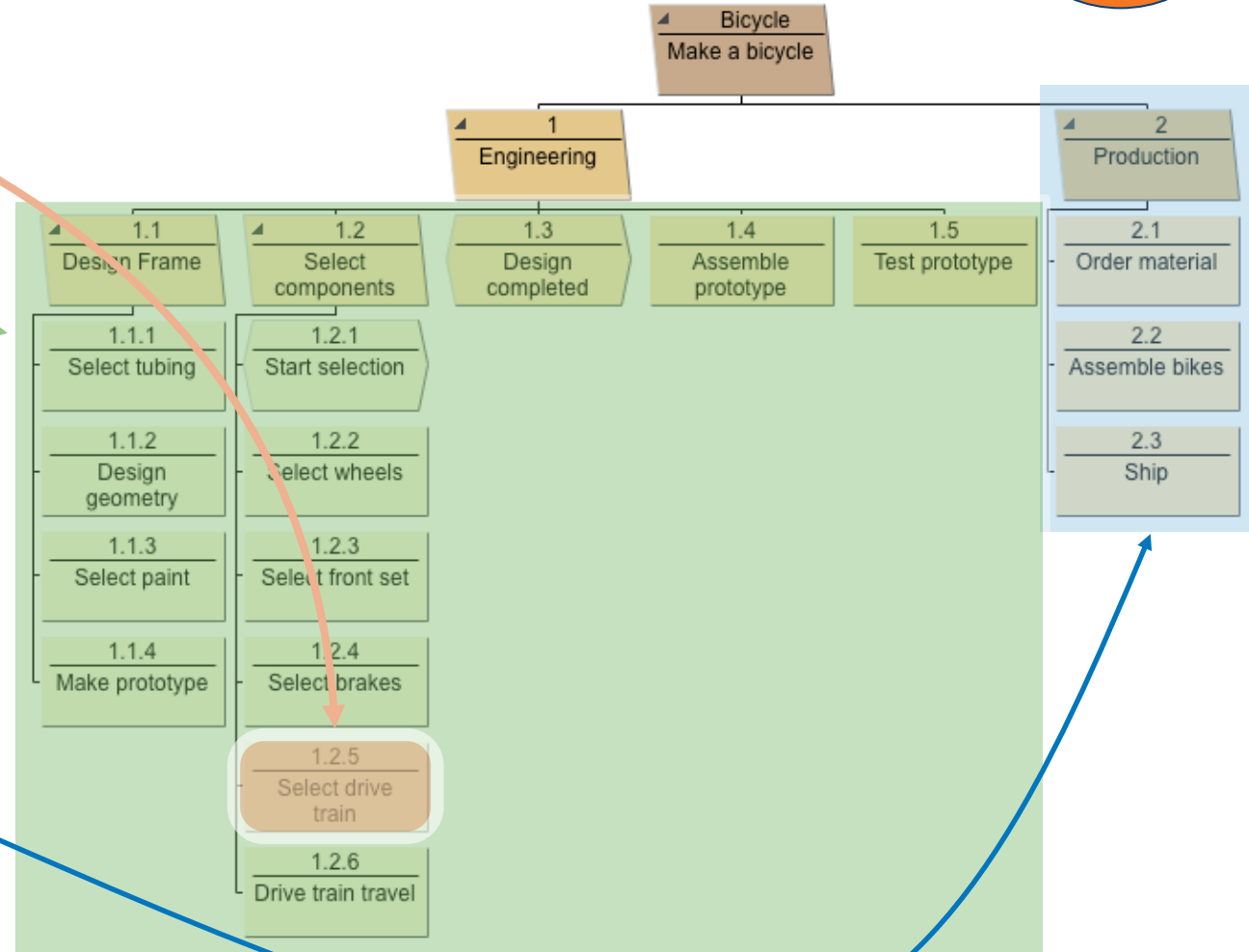
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ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003	Bicycles FFP		10	\$1,000	\$10,000







Planisware Home Projects [Bicycle] Make a bic... Search...

Data | Gantt | Resources | Cost and load | Contract structure | Battelle dashboards | Wall | Properties | WBS

Tools: Insert, View, WBS, RBS

Contract elements: Contract element default

Name	Description	Rate plan	Contract type	Cost			
				Funding (cost)	ACWP (total cost)	EAC (total cost)	BAC (total cost)
Entire Contract	Entire Contract			14	0	8	14
CLIN 0001	Travel	ST_COM	CPFF	1	0	0	1
CLIN 0002	NRE Labor	ST_COM	CPFF	10	0	4	10
CLIN 0003	Ten bikes	ST_COM	FFP	3	0	3	3

Planisware Home Projects [Bicycle] Make a bic... Search...

Data | Gantt | Resources | Cost and load | Contract structure | Battelle dashboards | Wall | Properties | WBS

Tools: Insert, Track, Transform, View, WBS, RBS

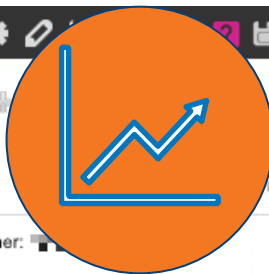
Activities: Activity default style\*

Hierarchical code	Name	Description	Dates		Duration	Contract element	Catalyst project ID	Catalyst activity ID	Display BOE
			Planned start	Planned finish					
-	Bicycle	Make a bicycle	10/01/18	02/13/19	93d				
1	1	Engineering	10/01/18	01/11/19	70d				
1.1	1.1	Design Frame	10/01/18	12/18/18	55d				
1.1.1	1.1.1	Select tubing	10/01/18	10/26/18	20d	CLIN 0002			
1.1.2	1.1.2	Design geometry	10/01/18	12/04/18	45d	CLIN 0002			
1.1.3	1.1.3	Select paint	10/29/18	11/09/18	10d	CLIN 0002			
1.1.4	1.1.4	Make prototype	12/05/18	12/18/18	10d	CLIN 0002			
1.2	1.2	Select components	10/27/18	12/04/18	25d				
1.2.1	1.2.1	Start selection	10/27/18	10/26/18	3d	CLIN 0002			
1.2.2	1.2.2	Select wheels	10/29/18	11/15/18	14d	CLIN 0002			
1.2.3	1.2.3	Select front set	10/29/18	11/27/18	20d	CLIN 0002			
1.2.4	1.2.4	Select brakes	10/29/18	11/15/18	14d	CLIN 0002			
1.2.5	1.2.5	Select drive train	10/29/18	12/04/18	25d	CLIN 0002			
1.2.6	1.2.6	Drive train travel	11/12/18	11/16/18	5d	CLIN 0001			
1.3	1.3	Design completed	12/19/18	12/18/18	1d				
1.4	1.4	Assemble prototype	12/19/18	12/27/18	5d	CLIN 0002			
1.5	1.5	Test prototype	12/28/18	01/11/19	10d	CLIN 0002			
2	2	Production	01/14/19	02/13/19	23d				
2.1	2.1	Order material	01/14/19	01/18/19	5d	CLIN 0003			
2.2	2.2	Assemble bikes	01/21/19	02/08/19	15d	CLIN 0003			
2.3	2.3	Ship	02/11/19	02/13/19	3d	CLIN 0003			

# Benefits

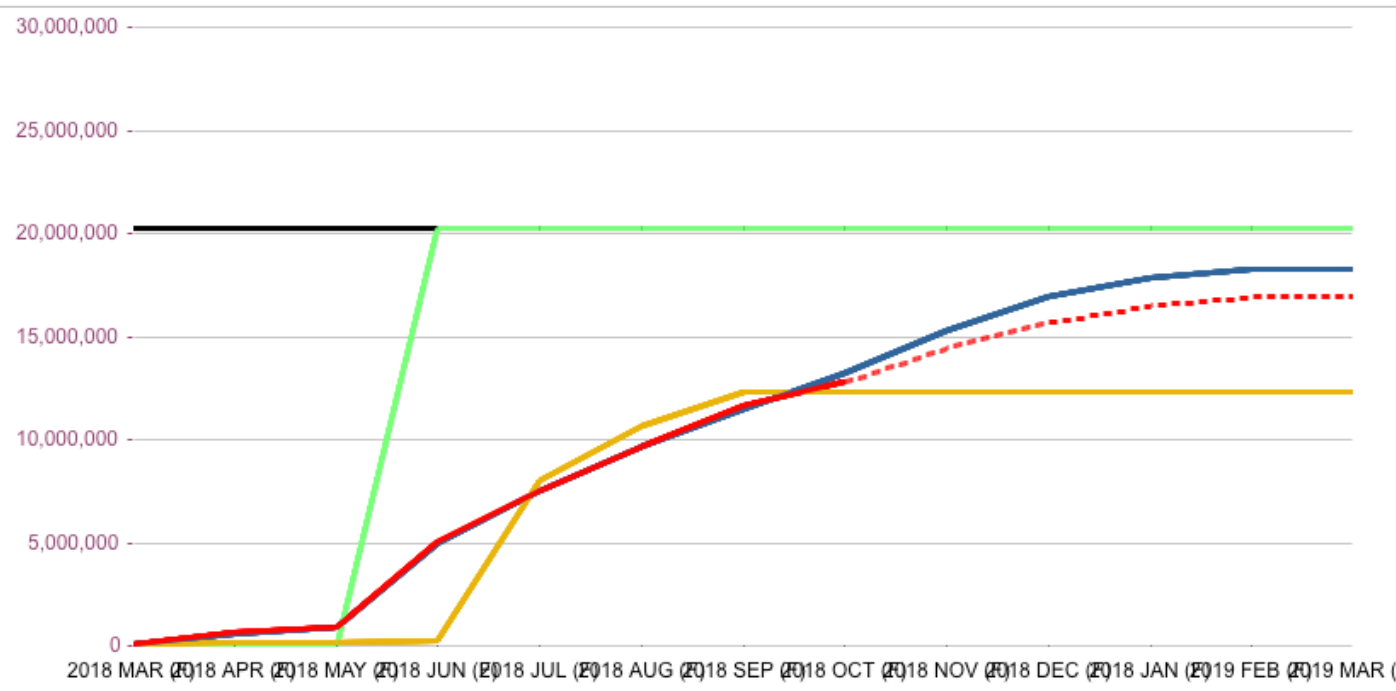


- Better visibility
- Learning. PMs learn about contract issues — data is not hidden from them. Helps them learn.
- Improved rigor: Process support. More rigor around EACs, financial performance, making sure we are good stewards of budget
- Improved financial outcomes – more satisfied clients and managers
  
- Greatly improved rigor
- More successful projects
- Satisfied clients



# BATTELLE S Curve with project data

Contract type: FFP Project owner: Responsibility: Ground & Planned dates: 03/01/18 to 03/13/19



█ Total contract value     █ Earned value (total cost)     █ ACWP (total cost)  
█ Funding (total cost)     █ Budget at completion (total cost)     - - - Estimate to complete (total cost)

End date	03/12/19	Actuals through	10/25/18
Total contract value	20,278,178	Total funded value	20,278,178

Values at Completion		
	<u>Total price</u>	<u>Total cost</u>
Budget at completion	18,252,186	18,252,186
Estimate at completion	16,964,948	16,964,948
Variance at completion		1,287,237
Forecasted profit/fee		1,287,237
Target profit/fee		-53,710

Current Values			
PV (total cost)	13,239,921	EV (total cost)	12,336,852
Actual cost (total cost)	12,841,135	ETC (total cost)	4,123,813
SPI	0.93	CPI	0.96
Funds expended (%)	63.32 %		

Other Statistics			
Gross margin (\$)	2,523,659	Gross margin (%)	14.88 %
Billable - Actual costs	0	Total OPC (\$)	1,606,931

Generated by Todd Hitt on 11/04/18

Displayed dates: 02/23/18 to 03/29/19

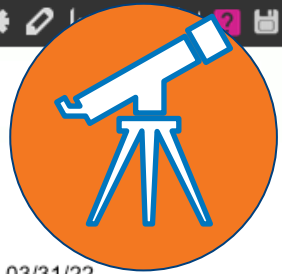
Powered by Planisware

# Benefits



- PMs have a tool to perform EVM
- More efficient and consistent
- PMs have a tool to do EACs
- Line managers can evaluate a project's performance quantitatively
- Line managers can also dig into the details of they want to
  - Are you doing EVM appropriately?
  
- Greatly improved rigor
- Prediction of project success
- More successful projects
- Satisfied clients





Portfolio Intro to Planisware

# BATTELLE Portfolio overview

Portfolio: Intro to Planisware

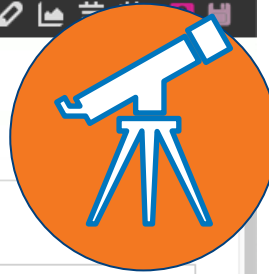
Planned dates (portfolio): 09/25/15 to 03/31/22

Project Description Owner	Contract type Project tier	Total contract value	Costs				Billable actuals - GM margin values	Earned value vs. ACWP	EAC trend indicator	Months of funding remaining	Planned finish	Last PM assessment	PM assessment	PM assessment comments	Last business line review	Business line review
			Budget at completion	Estimate at completion	Earned value	ACWP										
<b>100110650</b>	Tier 1	0	128,391	0	114,065	140,578	0	⚠	➡	0	09/28/18	12/15/17	🔴	PoP Extension required. Diary Entry will be submitted week of 12/18.		
	FFP Tier 2	329,131	145,434	268,697	6,671	168,838	0	⚠	➡	7	04/21/20	12/18/17	🟡	Schedule crashing to leverage available resources is temporarily driving low CPI. Expect situation to correct over remainder of FY18.		
	CPFF Tier 2	15,254	399,166	13,867	210,750	121,673	0	✅	➡	11	09/30/19					
	CPFF Tier 2	1,208,449	4,444,540	1,131,314	3,516,802	3,243,619	-632	✅	➡	0	06/28/19					
	CPFF Tier 2	86,354	2,594,878	78,504	1,207,839	1,452,368	-85	⚠	➡	1	10/31/18	09/06/17	🟢	Project fully funded and underway. 2 Expats in-country as of Sept 5. Scope, budget and performance on track.		

Generated by Todd Hitt on 11/04/18

Selected dates: 10/01/18 to 05/31/19

Confidential - Powered by Planisware



CPR format 1\* Display GA costs on separate line

### Cost Performance Report (Format 1) - WBS

<b>Contractor</b> Name Battelle Location Columbus Ohio		<b>Contract</b> Name Number Type Share ratio		<b>Program</b> Name Phase		<b>Report period</b> From 10/01/18 To 10/25/18	
--	--	---	--	---------------------------------	--	--	--

Quantity	Negotiated cost	Est. cost authorized unpriced cost	Target profit / fee	Target price	Estimated price	Contract ceiling	Est contract ceiling	Date of OTB/OTS
	18,384,320			18,252,186	17,097,082	18,252,186	17,097,082	

	Management estimate at completion	Contract budget baseline	Variance
Best case			
Worst Case			
Most likely	17,097,082	18,384,320	1,287,237

<b>Authorized contractor representative</b>	
Name	Title
Signature	Date signed

Item	Current period								Cumulative to date								Reprogramming adjustments			At completion		
	Budgeted cost		ACWP	Variance		Performance		Budgeted cost		ACWP	Variance		Performance		Cost variance	Schedule variance	Budget	Budgeted	Estimated	Variance		
	Work scheduled	Work performed		Schedule	Cost	SPI	CPI	Work scheduled	Work performed		Schedule	Cost	SPI	CPI								
	1,297,720		789,194	-1,297,720	-789,194			9,868,933	9,803,647	9,390,121	-65,285	413,526	0.99	1.04				13,479,467	12,034,158	1,445,309		
	161,023		108,584	-161,023	-108,584			2,520,679	2,318,332	2,497,135	-202,347	-178,803	0.92	0.93				3,110,861	2,982,462	128,400		
Production Support	119,457		157,971	-119,457	-157,971			119,664		158,178	-119,664	-158,178						698,766	730,643	-31,878		
Project Management & Su	46,537		68,465	-46,537	-68,465			257,917	0	279,845	-257,917	-279,845						462,860	482,203	-19,343		

Cost of money	668		914	-668	-914			668		914	-668	-914						3,906	4,287	-246
Undistributed budget																				
Subtotal	1,625,406		1,125,127	-1,625,406	-1,125,127			12,767,861	12,121,979	-44,512	-645,882	-204,214	0.95	-272.33				18,120,052	16,832,814	1,287,237
Management reserve																		132,134		
Total	1,625,406		1,125,127	-1,625,406	-1,125,127			12,767,861	12,121,979	-44,512	-645,882	-204,214	0.95	-272.33				18,384,320		
<b>Reconciliation to contract budget base</b>																				
Variance adjustment																				
Total contract variance											-645,882	-204,214						18,384,320	16,832,814	1,287,237



# Presentation Module



Program Review Example

Home Insert Draw Design Transitions Animations Slide Show Review View

Search in

### Bicycle Program Review

28 October, 2018

Project Manager: Todd HR  
 PCA: Jill Forrester  
 Contract Number: CON0002112  
 Contract Type: T&M  
 Project Number(s): 10008335  
 Business Line: Scientific Research

### A-Basin - CON0001234

**Project Information**

- Contract Type: CFFP
- Contract Value: \$1,500,000
- Funded Value: \$500,000
- BAC (BAC cost): \$1,500,000
- EAC (BAC cost): \$1,400,000
- CLIN: 0001,0002
- Target Profit: \$100,000 (7.2%)
- Fundamental Profit: \$100,000 (7.2%)
- Percent of Performance: \$100,000 / \$1,500,000 = 6.67%
- Subcontractors: \$175,000
- 7%

**PM's Assessment**

Overall Health: Good

Overall Risk: Low

Overall Status: On Track

### Performance Overview

BATTELLE S Curve with project data

### CLIN information

ID	Name	Description	Contract element	Contract type	Pricing level	Cost	ACWP (incl cost)	EAC (incl cost)
CLIN-0001	Travel	Travel	Extra Contract	CFFP	0.00	9.00	0.40	0.40
CLIN-0002	Field Labor	Field Labor	Extra Contract	CFFP	0.00	9.00	4.26	4.26
CLIN-0003	Site Labor	Site Labor	Extra Contract	CFFP	0.00	9.00	3.00	3.00

### EV/EAC Status

ID	Name	Description	Contract element	Contract type	Pricing level	Cost	ACWP (incl cost)	EAC (incl cost)
CLIN-0001	Travel	Travel	Extra Contract	CFFP	0.00	9.00	0.40	0.40
CLIN-0002	Field Labor	Field Labor	Extra Contract	CFFP	0.00	9.00	4.26	4.26
CLIN-0003	Site Labor	Site Labor	Extra Contract	CFFP	0.00	9.00	3.00	3.00

### Resource Discussion

- PM's prognosis regarding resources and the basis for that prognosis
  - General Staffing requirements
    - Key Personnel
    - Current Gaps?
    - Anticipated future skills needed?
  - Key Equipment/Facilities
    - Current issues
    - Anticipated future needs?

### Risks

ID	Name	Description	Contract element	Contract type	Pricing level	Cost	ACWP (incl cost)	EAC (incl cost)
CLIN-0001	Travel	Travel	Extra Contract	CFFP	0.00	9.00	0.40	0.40
CLIN-0002	Field Labor	Field Labor	Extra Contract	CFFP	0.00	9.00	4.26	4.26
CLIN-0003	Site Labor	Site Labor	Extra Contract	CFFP	0.00	9.00	3.00	3.00

### Issues

ID	Name	Description	Contract element	Contract type	Pricing level	Cost	ACWP (incl cost)	EAC (incl cost)
CLIN-0001	Travel	Travel	Extra Contract	CFFP	0.00	9.00	0.40	0.40
CLIN-0002	Field Labor	Field Labor	Extra Contract	CFFP	0.00	9.00	4.26	4.26
CLIN-0003	Site Labor	Site Labor	Extra Contract	CFFP	0.00	9.00	3.00	3.00

### Schedule

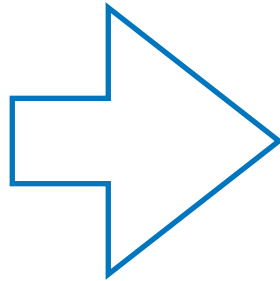
### CPR (format 1)

ID	Name	Description	Contract element	Contract type	Pricing level	Cost	ACWP (incl cost)	EAC (incl cost)
CLIN-0001	Travel	Travel	Extra Contract	CFFP	0.00	9.00	0.40	0.40
CLIN-0002	Field Labor	Field Labor	Extra Contract	CFFP	0.00	9.00	4.26	4.26
CLIN-0003	Site Labor	Site Labor	Extra Contract	CFFP	0.00	9.00	3.00	3.00

### EAC by Cost Category

Category	Value
Personnel	1,000,000
Equipment	200,000
Materials	100,000
Travel	50,000
Other	50,000
Total	1,400,000

Slide 1 of 11 English (United States) 148%



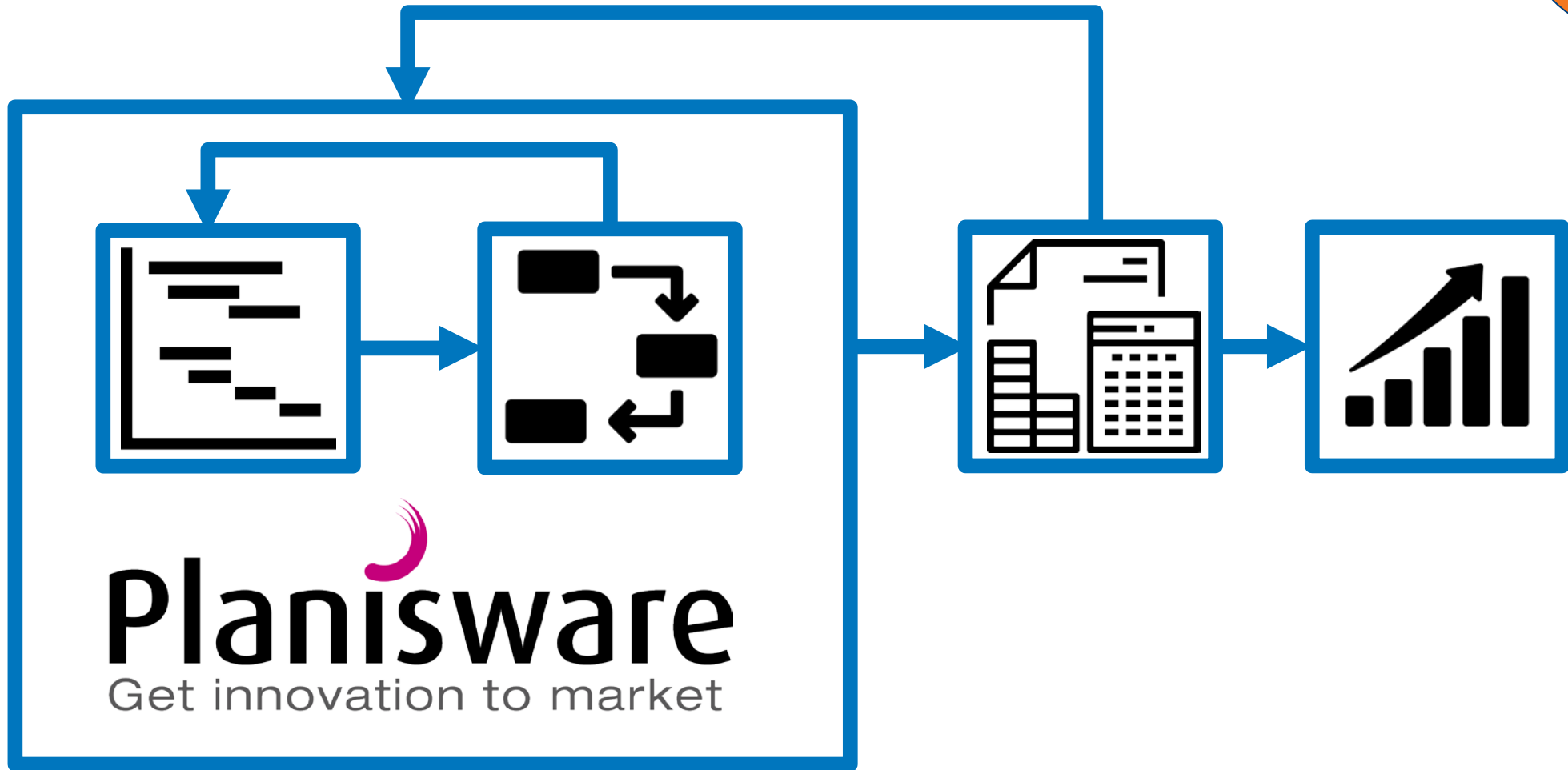


# Benefits



- Significantly less time doing data calls
- Consistency = less confusion
- Process support: Help managers decide where they should be spending their time. What projects need help?
  
- Greatly improved rigor
- Prediction of project success
- More successful projects
- Satisfied clients

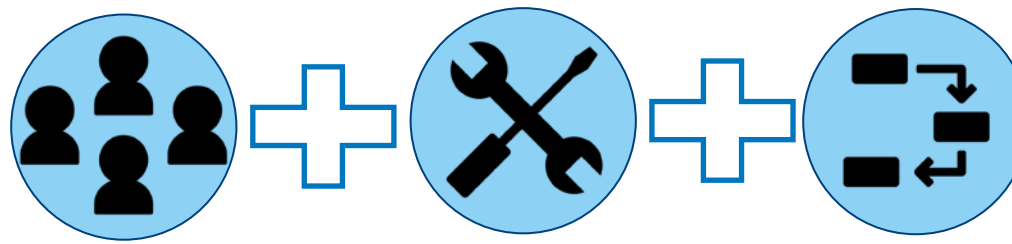
# Forecast & control business performance based project plans












# Improved decision making ability

- What projects need our attention?
  - How many staff do we need of what type?
  - Forecast our finances
  - What projects are profitable? Aren't?
- 
- Greatly improved rigor
  - More successful projects
  - Satisfied clients



# Planisware

Get innovation to market

- ✓  ~1 tool (modern, consistent, easy-to-use)
- ✓  Integrated & automatic
- ✓  Contract management
- ✓  EVM
- ✓  Make project plans visible to improve compliance
- ✓  Forecast & control business performance based project plans
- ✓  Improved service to clients





# ***BATTELLE***

**It can be done**

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# Planisware

Get innovation to market

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Stand 16, Project Controls Expo 2018