

# Earned Value and PRINCE2®

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# Earned Value and PRINCE2

- Are Earned Value and PRINCE2 compatible?
- What value does EV bring to PRINCE2?
- What are the challenges of using Earned Value in a PRINCE2 environment?

## Are Earned Value and PRINCE2 compatible?

- In short, yes they are!
- Focus on the following PRINCE2 principles:

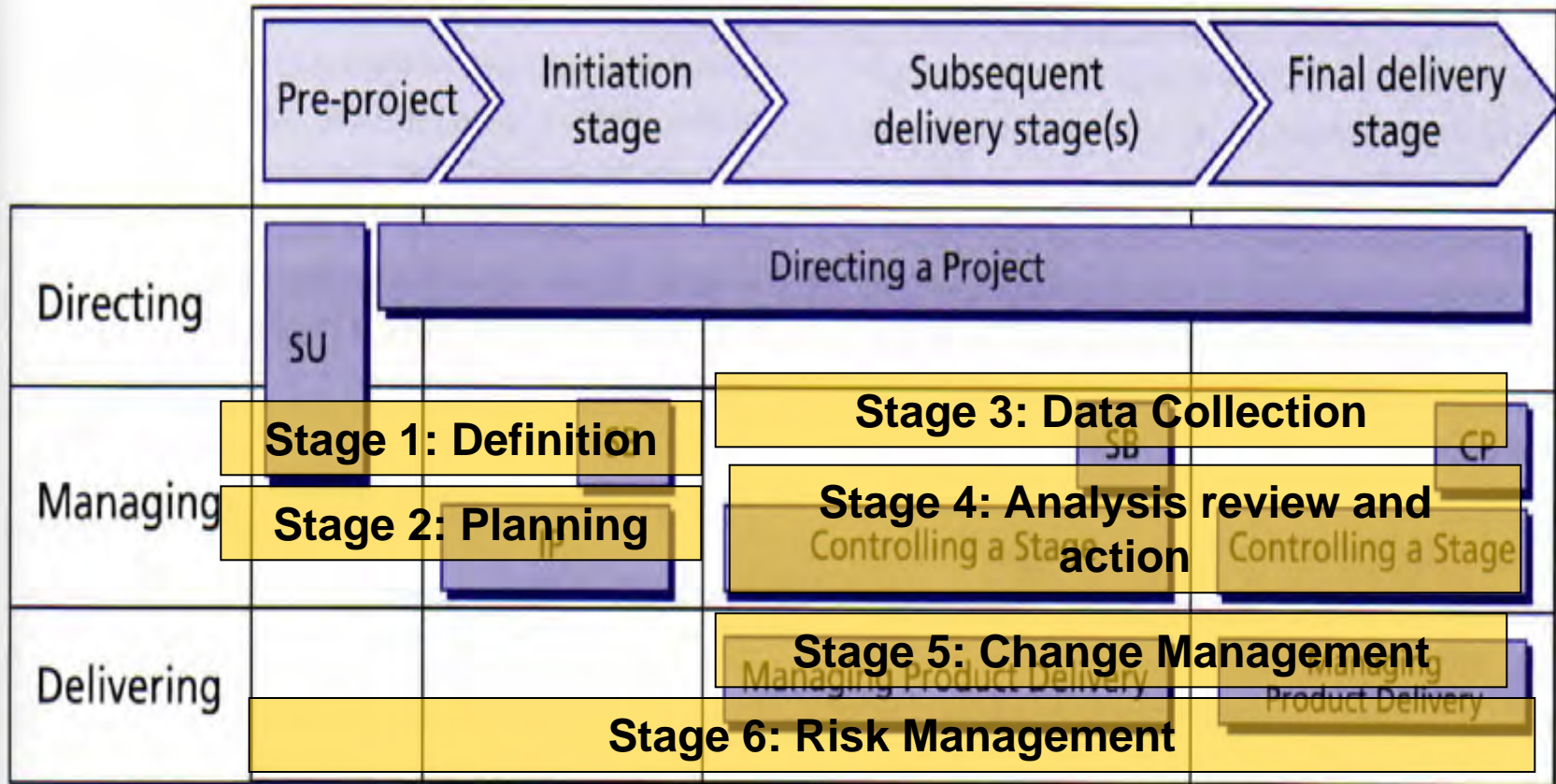
PRINCE2 PRINCIPLE	EVM ASPECT
Defined roles and responsibilities – Project Management Team	OBS and Responsibility Assignment Matrix (RAM)
Manage by stages – plan one stage at a time	EVM employs rolling wave planning
Management by exception (use of tolerances)	EVM provides forecasts to amount and use of Management Reserve
Focus on products (scope definition)	Part of the EVM system requires scope to be defined

# Are Earned Value and PRINCE2 compatible?

- EVM and PRINCE2 are not incompatible with other three Principles

PRINCE2 PRINCIPLE	EVM ASPECT
<b>Continued Business Justification updated at the end of every stage</b>	<b>Business Case is updated with time, cost, benefits forecasts at a Gate, milestone or key decision point</b>
<b>Learn from experience</b>	<b>Feedback of recommendations into changing the contents of WPs e.g. test/trials instructions, acceptance criteria, contract clauses</b>
<b>Tailor to suit the project environment</b>	<b>Level of project controls used are aligned to scope, complexity, visibility, level of assurance and available resources (The EVM Compass)</b>

# PRINCE2 Processes and the Project Control Lifecycle



**Key**  
 SU = Starting up a Project  
 IP = Initiating a Project  
 SB = Managing a Stage Boundary  
 CP = Closing a Project

## Are Earned Value and PRINCE2 compatible?

PRINCE2 Theme	EVM equivalent
<p><b>Plans</b></p> <ul style="list-style-type: none"> <li>▪ Who does what, by when?</li> <li>▪ Has a set of logically linked product activities with resources, milestones and control points</li> <li>▪ Has a Product Breakdown Structure</li> <li>▪ Confirms targets are achievable</li> <li>▪ Contains resources and budget</li> </ul>	<p><b>Plans</b></p> <ul style="list-style-type: none"> <li>▪ What needs to be done, by whom and when?</li> <li>▪ Has a set of logically linked activities that reflect the project's milestones, goals and objectives</li> <li>▪ Has a Work Breakdown Structure</li> <li>▪ Integrated Baseline Review</li> <li>▪ Has budgets/resources assigned to activities</li> </ul>

# Are Earned Value and PRINCE2 compatible?

PRINCE2 Theme	EVM equivalent
<p><b>Progress</b></p> <ul style="list-style-type: none"> <li>▪ Compares achievement of work with the plan</li> <li>▪ Provides a forecast against project deliverables</li> <li>▪ Identifies exceptions against agreed tolerances</li> <li>▪ Initiates corrective action</li> <li>▪ Authorises further work</li> </ul>	<p><b>Progress</b></p> <ul style="list-style-type: none"> <li>▪ Compares physical achievement against the baseline costs and timescale and produces variances</li> <li>▪ Provides cost and time forecasts, based on current performance</li> <li>▪ Identifies exceptions against cost and time tolerances – both historical and future</li> <li>▪ Identifies options for corrective action to keep project performance within Baseline</li> <li>▪ Authorises further work packages, both new and existing, using EV performance data as a guide</li> </ul>

## Are Earned Value and PRINCE2 compatible?

PRINCE2 Theme	EVM equivalent
<b>Change</b> <ul style="list-style-type: none"><li>Identify, assess and control any potential and approved changes to the baseline</li></ul>	<b>Change</b> <p>Change management process ensures change is assessed and incorporated into the baseline in a timely and controlled manner</p>



## Are Earned Value and PRINCE2 compatible?

PRINCE2 Theme	EVM equivalent
<p><b>Risk</b></p> <ul style="list-style-type: none"> <li>▪ Procedure: Identify, Assess, Plan, Implement and communicate</li> <li>▪ Risk responses are built into appropriate level of the plan</li> <li>▪ Risk budget               <ul style="list-style-type: none"> <li>– Covers known risks</li> <li>– Unknown risks</li> </ul> </li> <li>▪ States that PM must monitor risk response through early warning indicators – how?</li> </ul>	<p><b>Risk</b></p> <ul style="list-style-type: none"> <li>▪ Key process activities: identification, assessment, produce response strategy</li> <li>▪ Process for ensuring risk mitigation activity is included in the baseline</li> <li>▪ Management Reserve (MR)               <ul style="list-style-type: none"> <li>– Specific Risk Provision</li> <li>– Non Specific Risk Provision</li> <li>– EV helps identify ‘cost of delay’ risk</li> </ul> </li> <li>▪ EV helps monitor effectiveness of risk mitigation/response</li> </ul>

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## What value does EV bring to PRINCE2?

- Enhances clarity of project scope
  - Time, cost, quality
- Determines project status
  - It tells you what you've achieved
- More importantly...
  - How much is left to do
  - Provides a means of forecasting
  - Will time and cost tolerances be exceeded?
  - How can the Project Manager do this?

# What value does EV bring to PRINCE2?

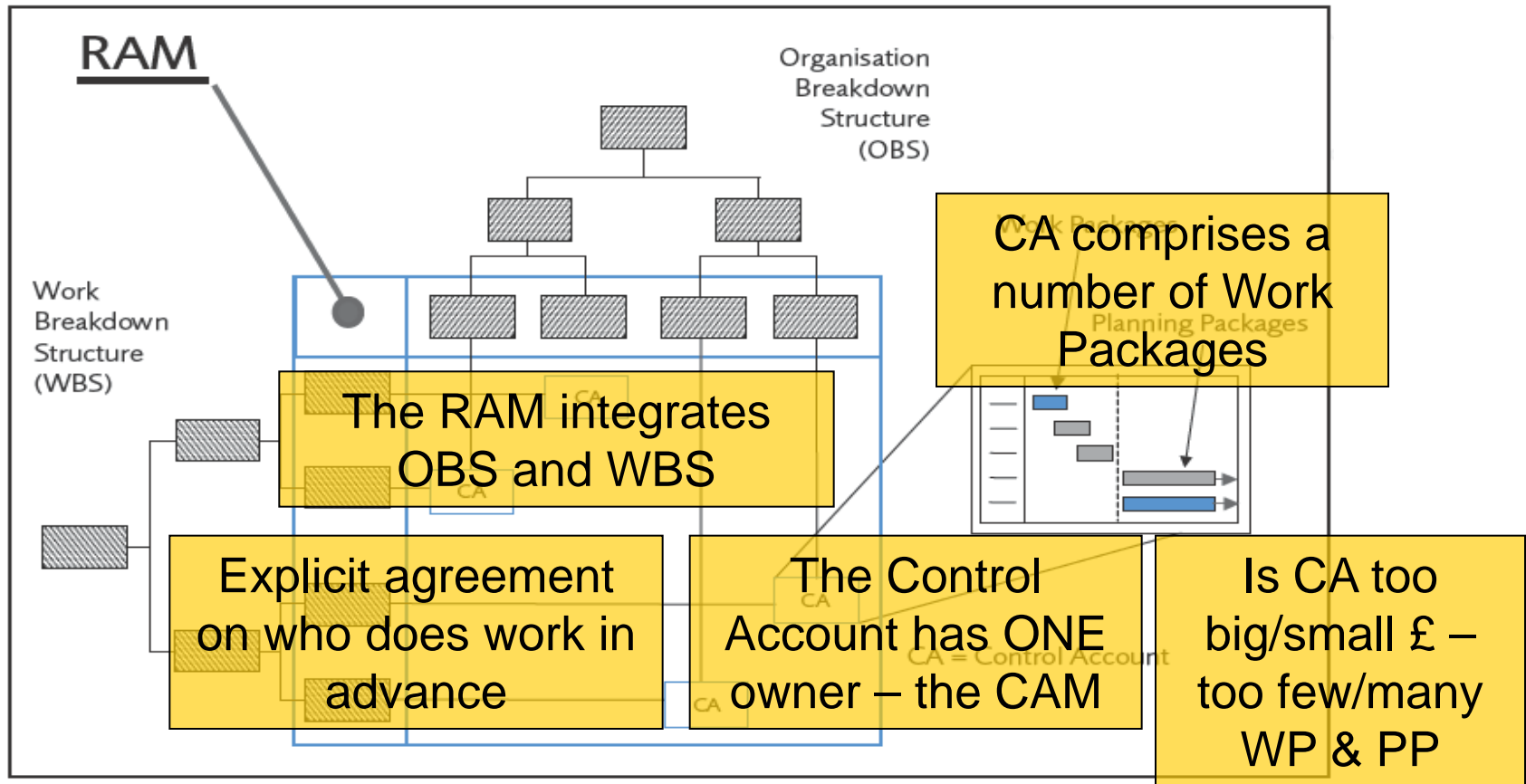


Figure 5.1 – Responsibility assignment matrix

## What value does EV bring to PRINCE2?

- PROGRESS
  - Update Work Packages
  - Progress/cost collection
  - Provides you with a measure of achievement
  - Enables Forecasting - ETC and EAC
  - Assumes current performance doesn't change from 'time now' until a specified event/milestone/gate

## What value does EV bring to PRINCE2?

- FORECASTING
  - Cost to date + Cost estimate for remaining work
  - Similar forecasts for time
  - Also forecast the future cost & time performance needed to deliver the project to the planned budget

Estimate at completion

$$EAC = ACWP + ETC$$

Extrapolations of future cost assuming past performance include:

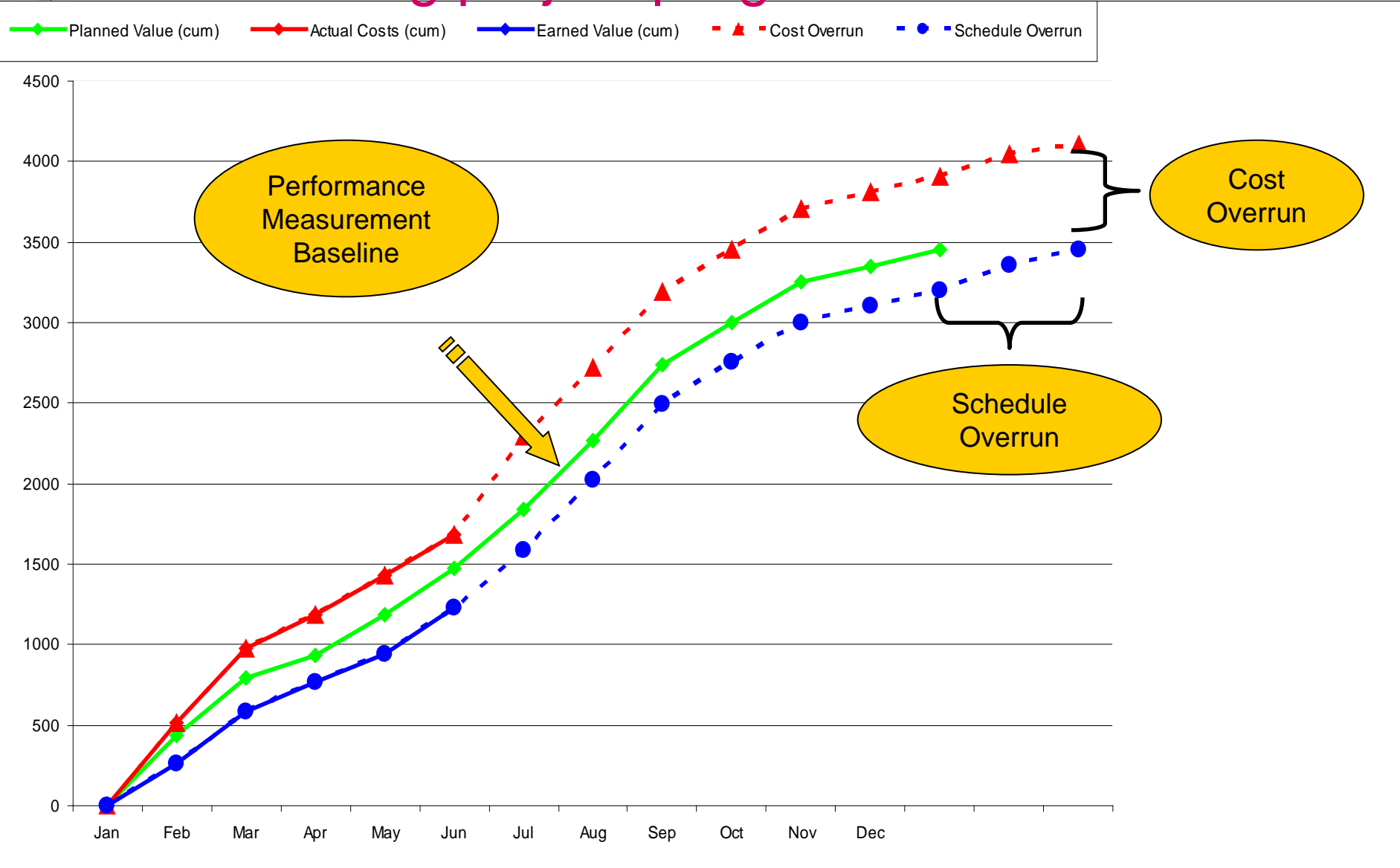
Independent estimate to completion

$$ETC = \frac{(BAC - BCWP)}{CPI}$$

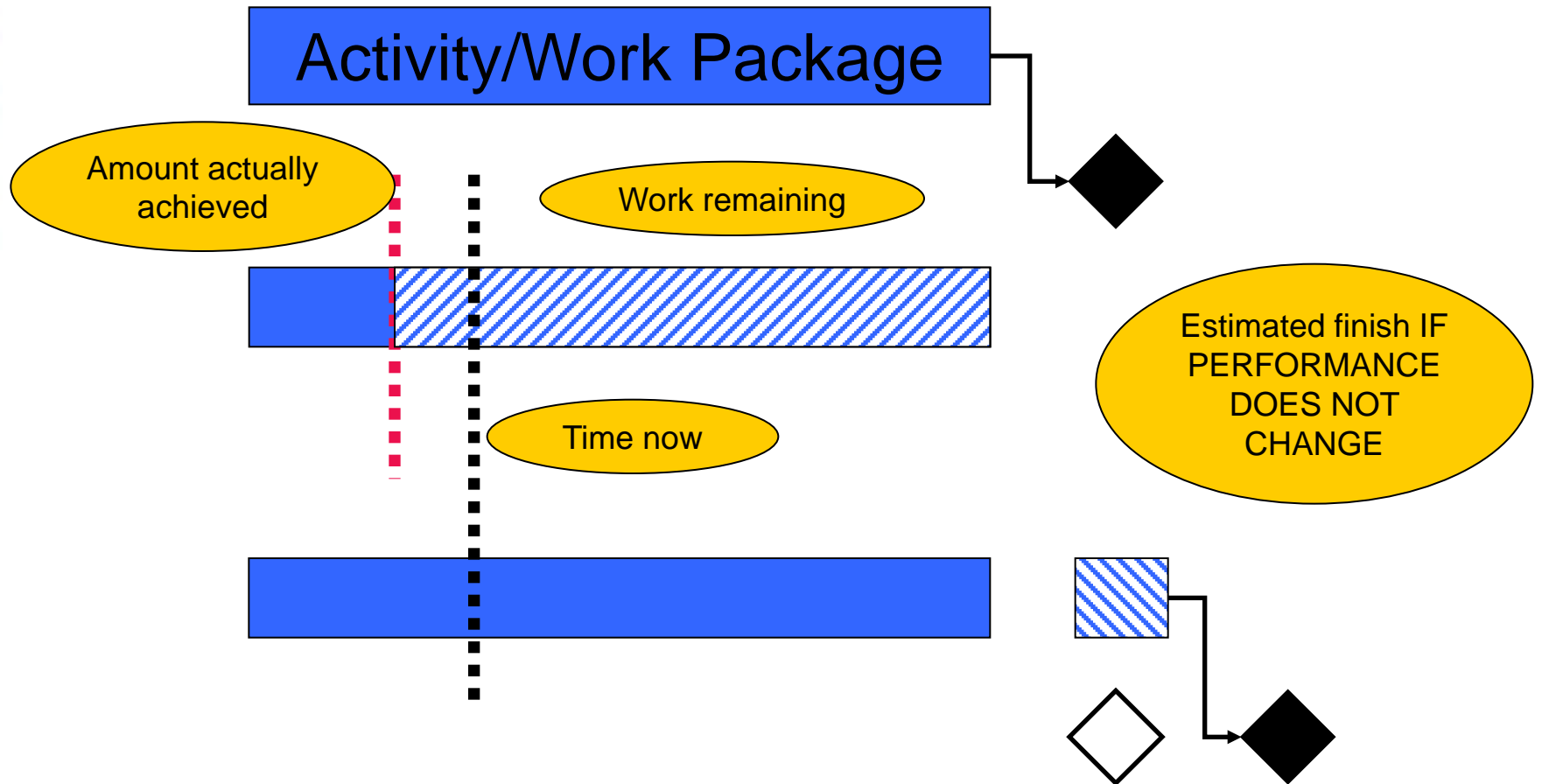
Independent estimate at completion

$$EAC = ACWP + \frac{BAC - BCWP}{CPI \times SPI}$$

# Forecasting project progress

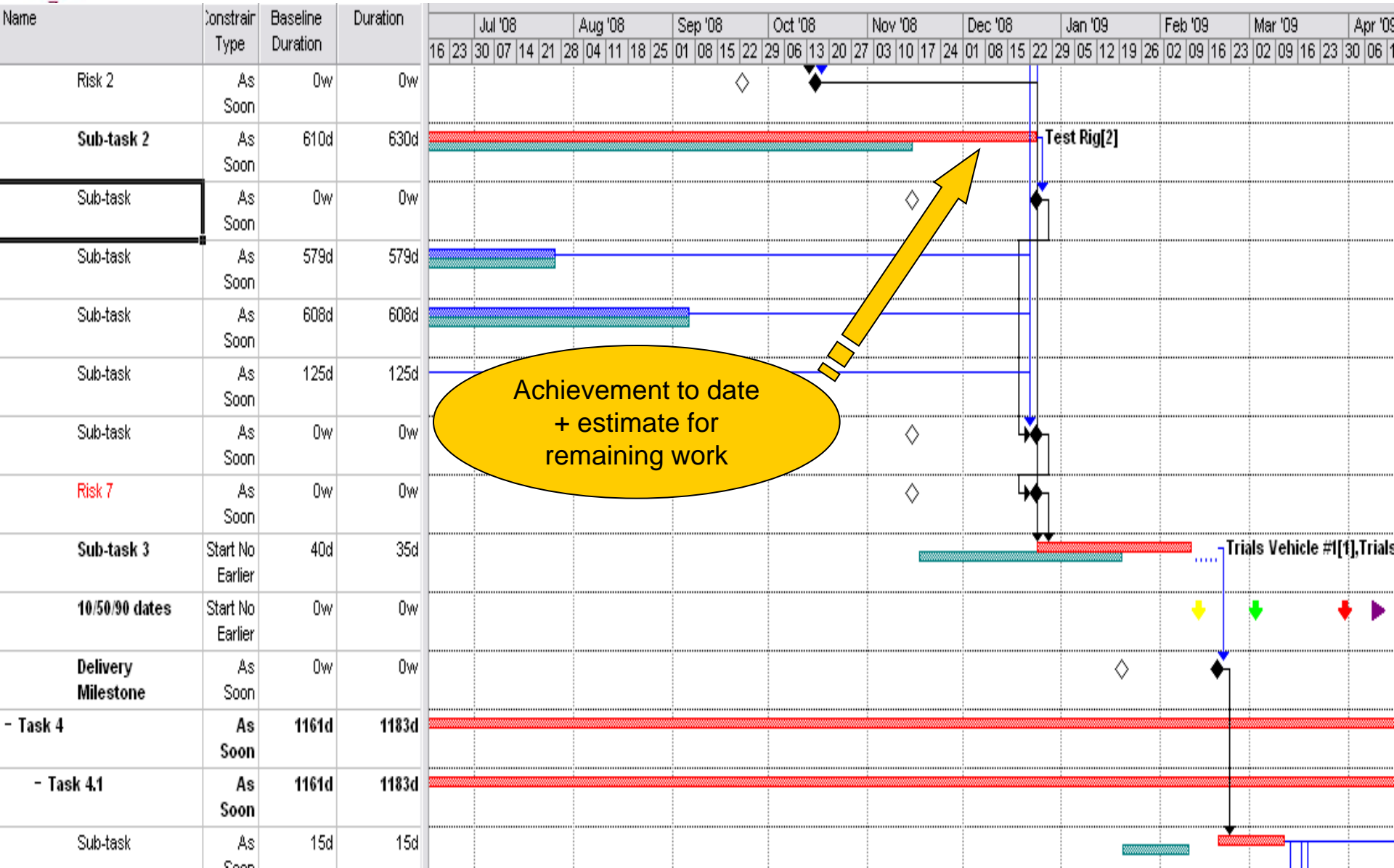


# Forecasting project progress using EVM

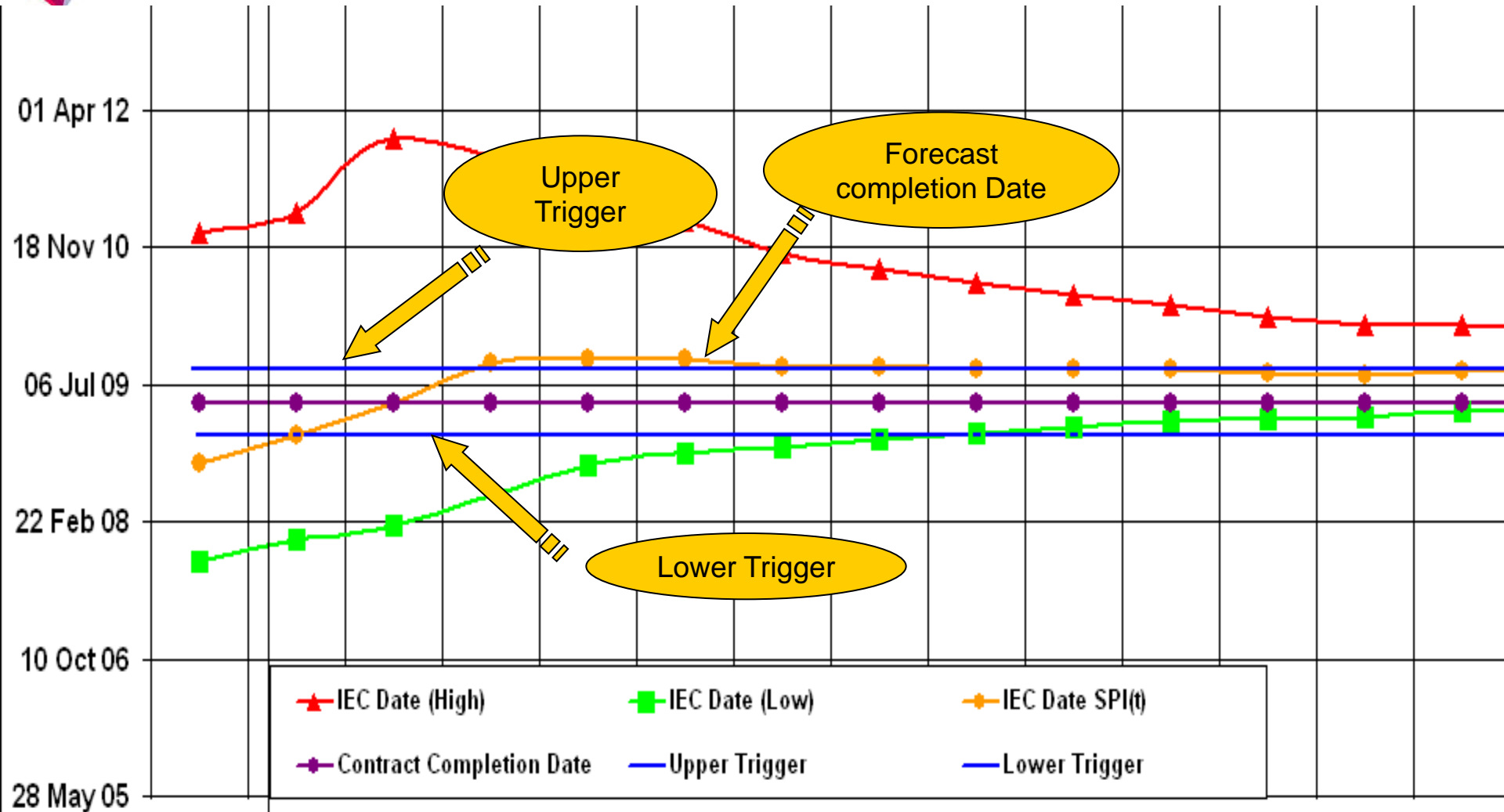




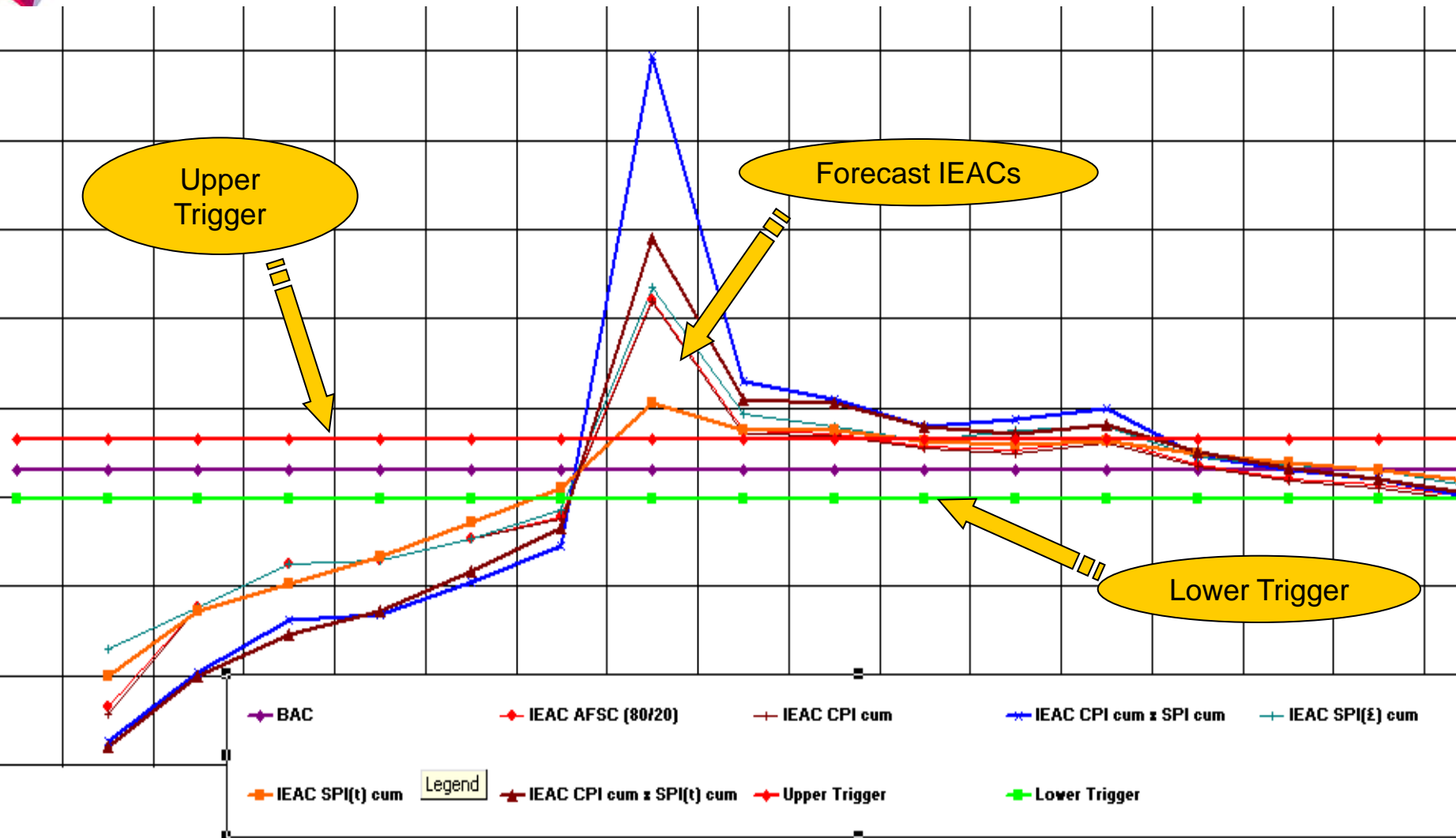
# Forecasting project progress using EVM



# Forecasting – Project Timescale



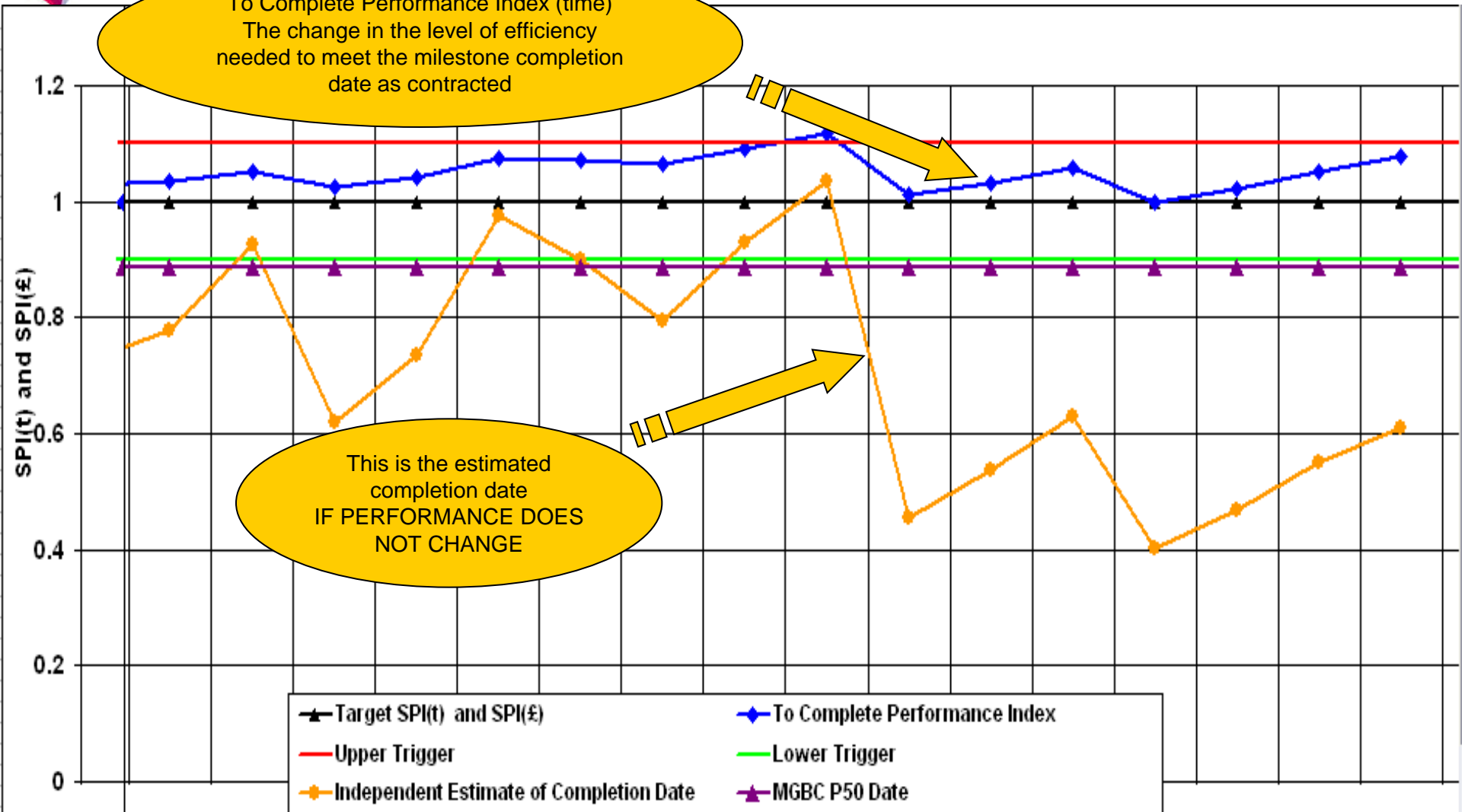
# Forecasting – Project Costs



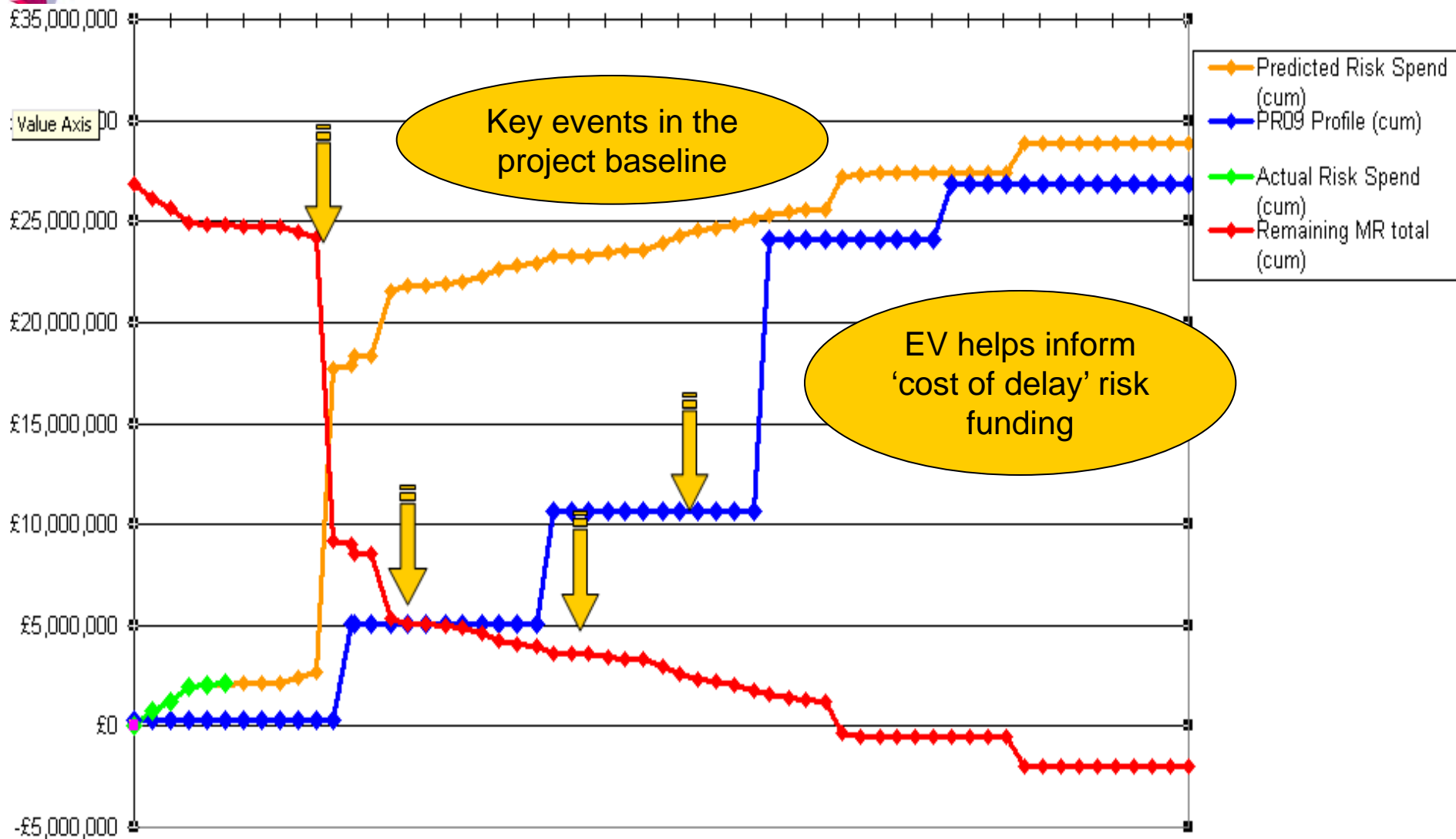
# Forecasting – simple test of reasonableness

To Complete Performance Index (time)  
The change in the level of efficiency needed to meet the milestone completion date as contracted

This is the estimated completion date IF PERFORMANCE DOES NOT CHANGE

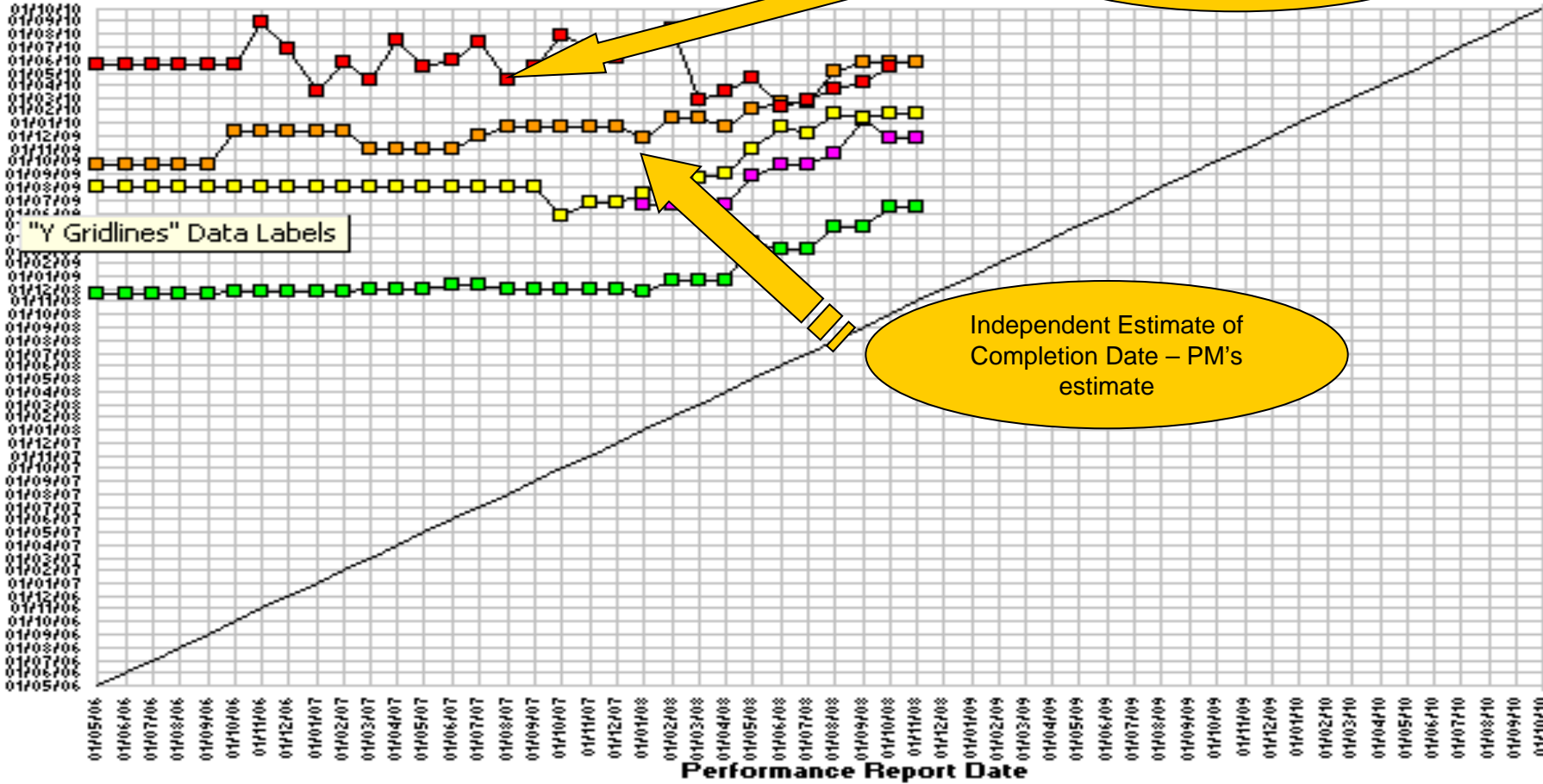


# Forecasting – Management Reserve Drawdown



# Forecasting – milestone delivery

Actual/Forecast Date



Independent Estimate of Completion Date – Earned Value

Independent Estimate of Completion Date – PM's estimate

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# What are the challenges of using Earned Value in a PRINCE2 environment?

- Product and Work Breakdown Structures
  - PBS relates to outputs
  - WBS relates to activities and hence resources & costs
- Planning
  - PRINCE2: Stage-by-stage planning
  - EVM Guide: Rolling Wave Planning



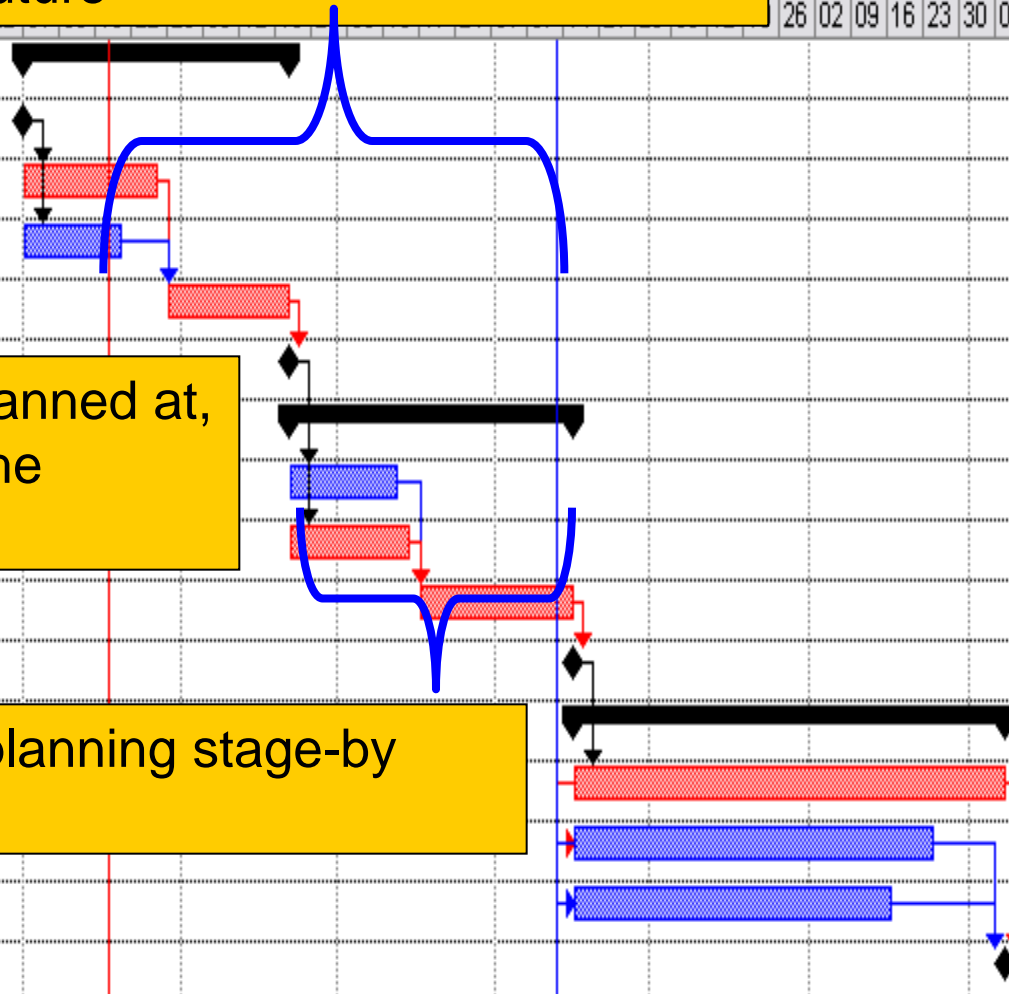
# Challenges – Rolling Wave Planning

Rolling Wave Planning – at least 3 reporting periods into the future

	Task Name	Duration	Start	Finish		Aug '10	Sep
						26	02 09 16 23 30 06
1	- Management Stage 1	38 days	Mon 01/03/10	Wed 21/04/10			
2	Start	0 days	Mon 01/03/10	Mon 01/03/10			
3	Work Package 1	20 days	Mon 01/03/10	Fri 26/03/10			
4	Work Package 2	15 days	Mon 01/03/10	Fri 19/03/10			
5	Work Package 3	18 days	Mon 29/03/10	Wed 21/04/10			
6	Milestone						
7	- Management						
8	Work Pac						
9	Work Pac						
10	Planning Package 3	22 days	Mon 17/05/10	Tue 15/06/10			
11	Milestone 2	0 days	Tue 15/06/10	Tue 15/06/10			
12	- Management Stage 3	60 days	Wed 16/06/10	Wed 16/08/10			
13	Planning Package 1	60 days	Wed 16/06/10	Wed 16/08/10			
14	Planning Package 2	50 days	Wed 16/06/10	Tue 2/08/10			
15	Planning Package 3	44 days	Wed 16/06/10	Mon 16/08/10			
16	Milestone 2	0 days	Tue 07/09/10	Tue 07/09/10			

PRINCE2 next stage planned at, or close to, the end of the current stage

PRINCE2 planning stage-by stage



## Summary

- Earned Value and PRINCE2 are compatible
- EVM adds value to PRINCE2
- Challenges in implementing EVM with PRINCE2
  - Work Package – different meanings
  - Planning on stage-by-stage basis is a little different to rolling-wave planning within EVM
  - Confusion over Product Breakdown Structure (PBS) and Work Breakdown Structure (WBS)
- Work on EV with PRINCE2 and MSP to be published in a White Paper later this year
- Earned Value Implementation Guide – APM SIG

# Maturity Models

Publication	Publication Date
Earned Value Compass	Published – beta release Currently undergoing Peer Review
Scheduling Maturity Model	Release Date – Dec 2010 Published as APM White Paper
Introduction to Project Controls	Release Date – Jun 2010 For APM Peer Review

## Thank you to...

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... and members of the EVM SIG

The only function of economic forecasting is to make  
astrology look respectable

John Kenneth Galbraith (1908 – 2006)