EARNED VALUE MANAGEMENT

Is it worth the effort?

Session Objectives

- Examples of earned value in use.
- Why don't more Project Managers use EMV?
- Road Map to EVA Maturity?
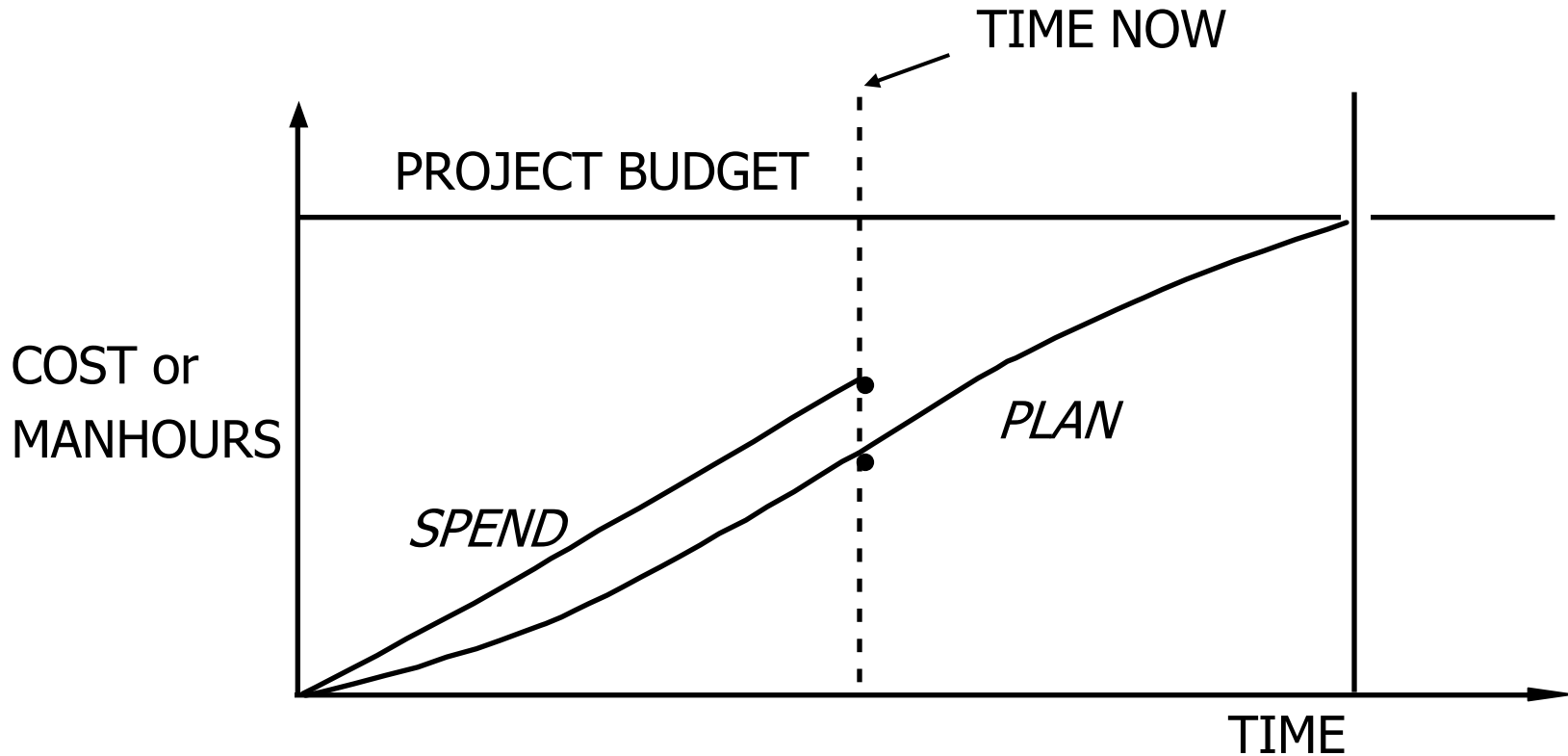
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What you need to know?

- How is our project progressing?
- What has been achieved for the budget spent?
- When is the project going to finish?
- What will be the cost at completion?
- How efficiently are resources being used?
- What areas of the project are ahead / behind plan?

Why Use Earned Value?

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'Earned value management is about establishing and managing goals throughout the life of a project'
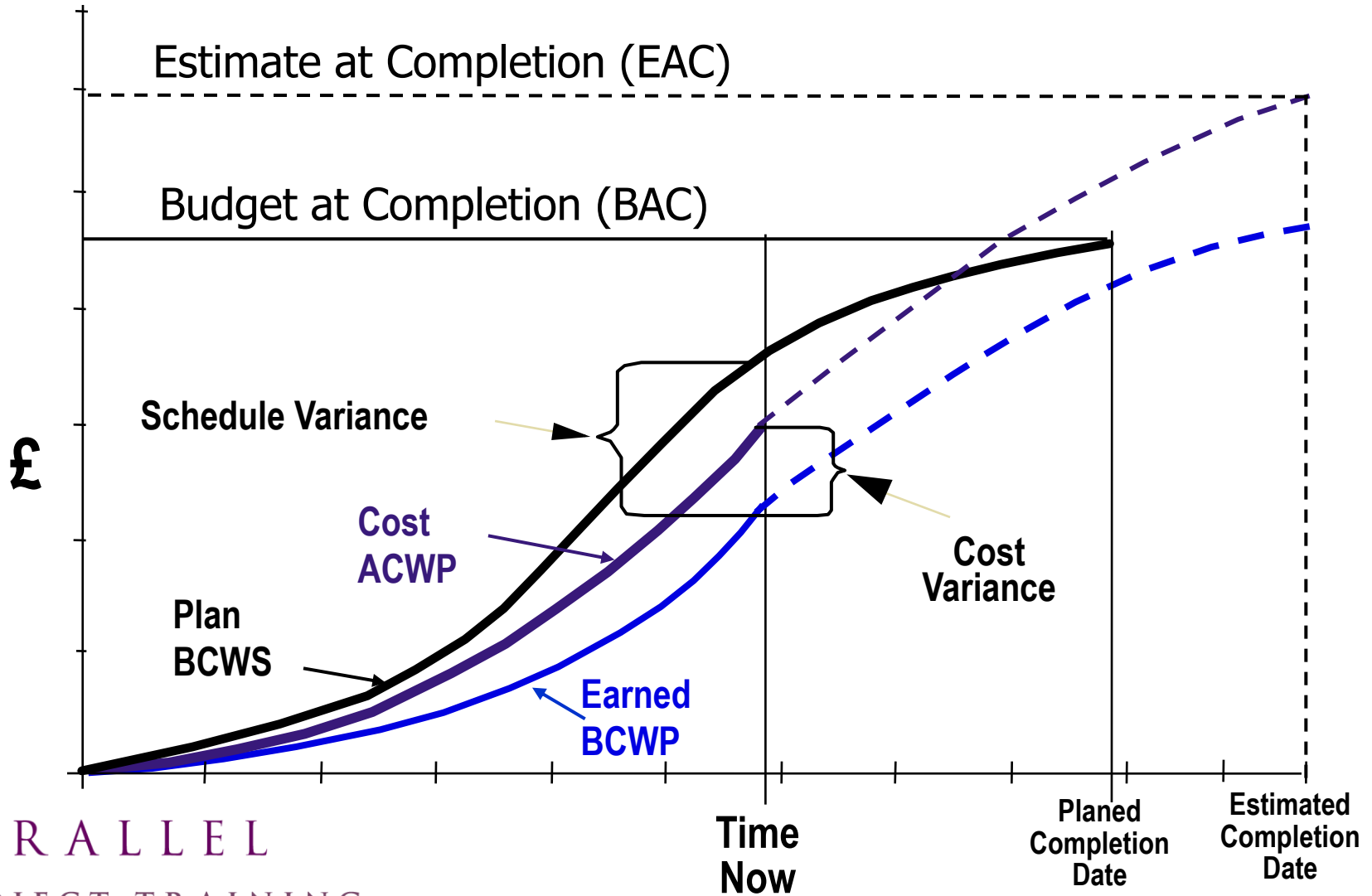
Measure three key elements of the project

1. Planned Value   =**B**udgeted **C**ost of **W**ork **S**cheduled

2. Earned Value   =**B**udgeted **C**ost **W**ork **P**erformed

3. Actual Cost   =**A**ctual **C**ost **W**ork **P**erformed

Using a **common currency**. (£ or Manhours)

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Earned Value Analysis

Estimate at Completion (EAC)

Budget at Completion (BAC)

£

Schedule Variance

Cost ACWP

Plan BCWS

Earned BCWP

Cost Variance

Time Now

Planed Completion Date

Estimated Completion Date

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Several Ways to Measure Progress

- Equivalent Units
  - Based on number of physical units completed
- Completed milestones
  - % value assigned to each milestone
  - Earned value as each milestone completed
  - Will not work if low number of milestones
- % Complete
  - Estimate of work to complete
  - Limit to 0-80% then 100% or 0/100% or 0/50%/100%
- Apportioned Effort
  - Earned proportional to the progress on other packages e.g. planning, contract mgt.
- Level of Effort
  - Earned (BCWP) set = Plan (BCWS) for ongoing activities e.g. site office and security. Actual cost can still exceed the plan.

Earned Value Analysis

Variances

Cost Variance (CV) = Earned Value – Actual Cost

Schedule Variance (SchV) = Earned Value – Planned Cost
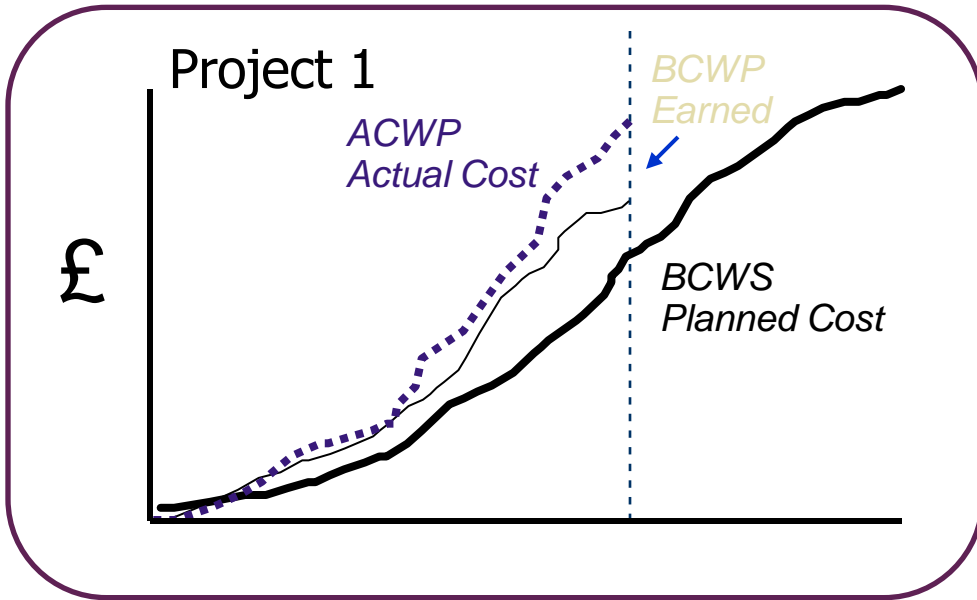
Positive is good news

Performance Indices

Cost Performance Index (CPI) = Earned Value / Actual Cost

Schedule Performance Index (SPI) = Earned Value / Planed Cost
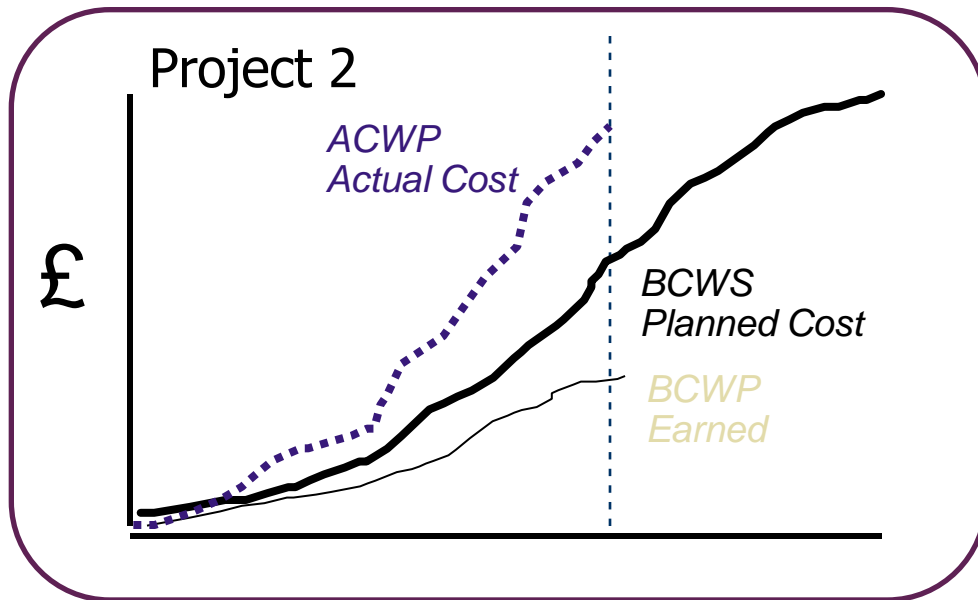
>1 is good news, < 1 bad news

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Good News or Bad News?

Project 1

£

ACWP
Actual Cost

BCWP
Earned

BCWS
Planned Cost

Are the SPI and CPI less than
(<1) or greater than (>1) 1
SPI?   >1   <1
CPI?   >1   <1
What action would you take?

Project 2

£

ACWP
Actual Cost

BCWS
Planned Cost

BCWP
Earned

Are the SPI and CPI less than
(<1) or greater than (>1) 1
SPI?   >1   <1
CPI?   >1   <1
What action would you take?

Good News or Bad News?
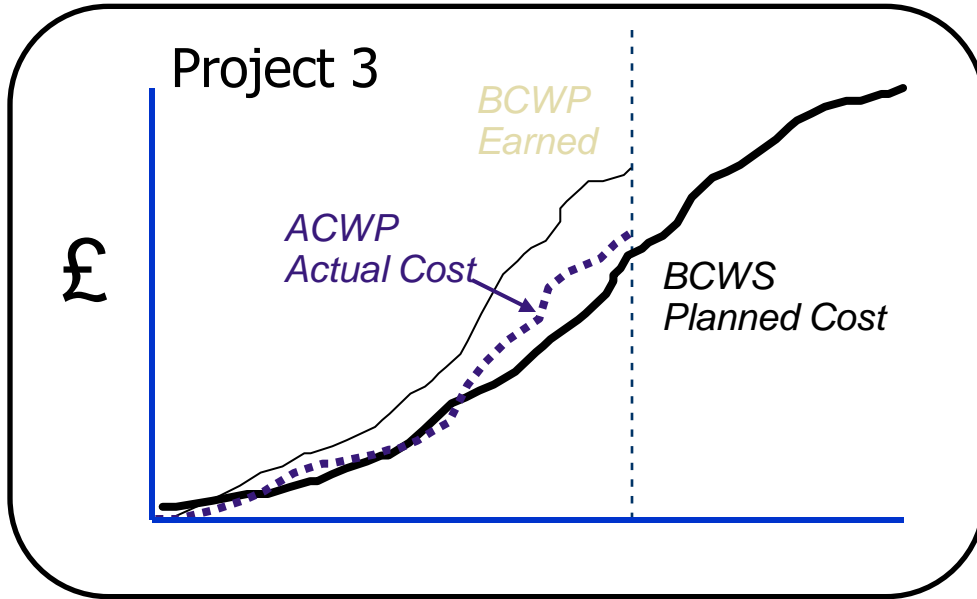
Project 3

£

BCWP
Earned

ACWP
Actual Cost

BCWS
Planned Cost

Are the SPI and CPI less than
(<1) or greater than (>1) 1
SPI?   >1   <1
CPI?   >1   <1
What action would you take?

_____

Project 4

£

BCWP
Earned

BCWS
Planned Cost

ACWP
Actual Cost
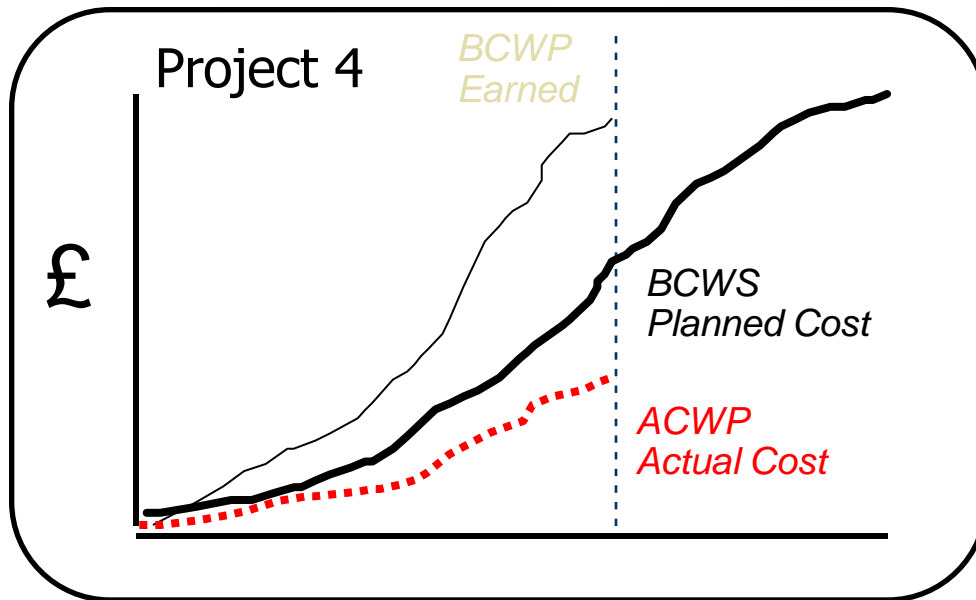
Are the SPI and CPI less than
(<1) or greater than (>1) 1
SPI?   >1   <1
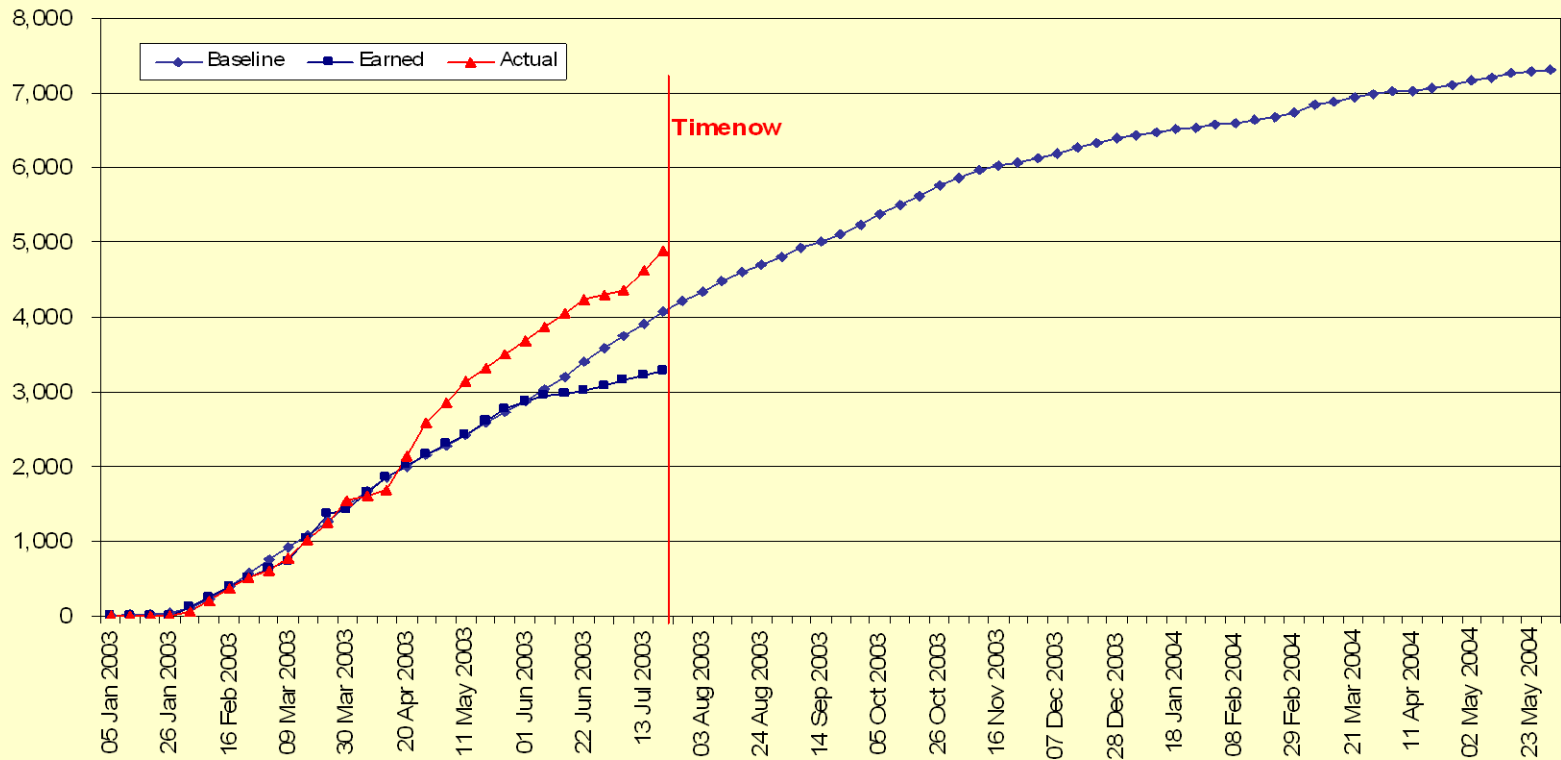CPI?   >1   <1
What action would you take?

_____

Forecast Metrics

Estimated Cost at Completion EAC $=$ $\dfrac{\text{Total Budget}}{\text{CPI}}$

Estimated Time at Completion $=$ $\dfrac{\text{Original Planned Duration}}{\text{SPI}}$

EVM in Action
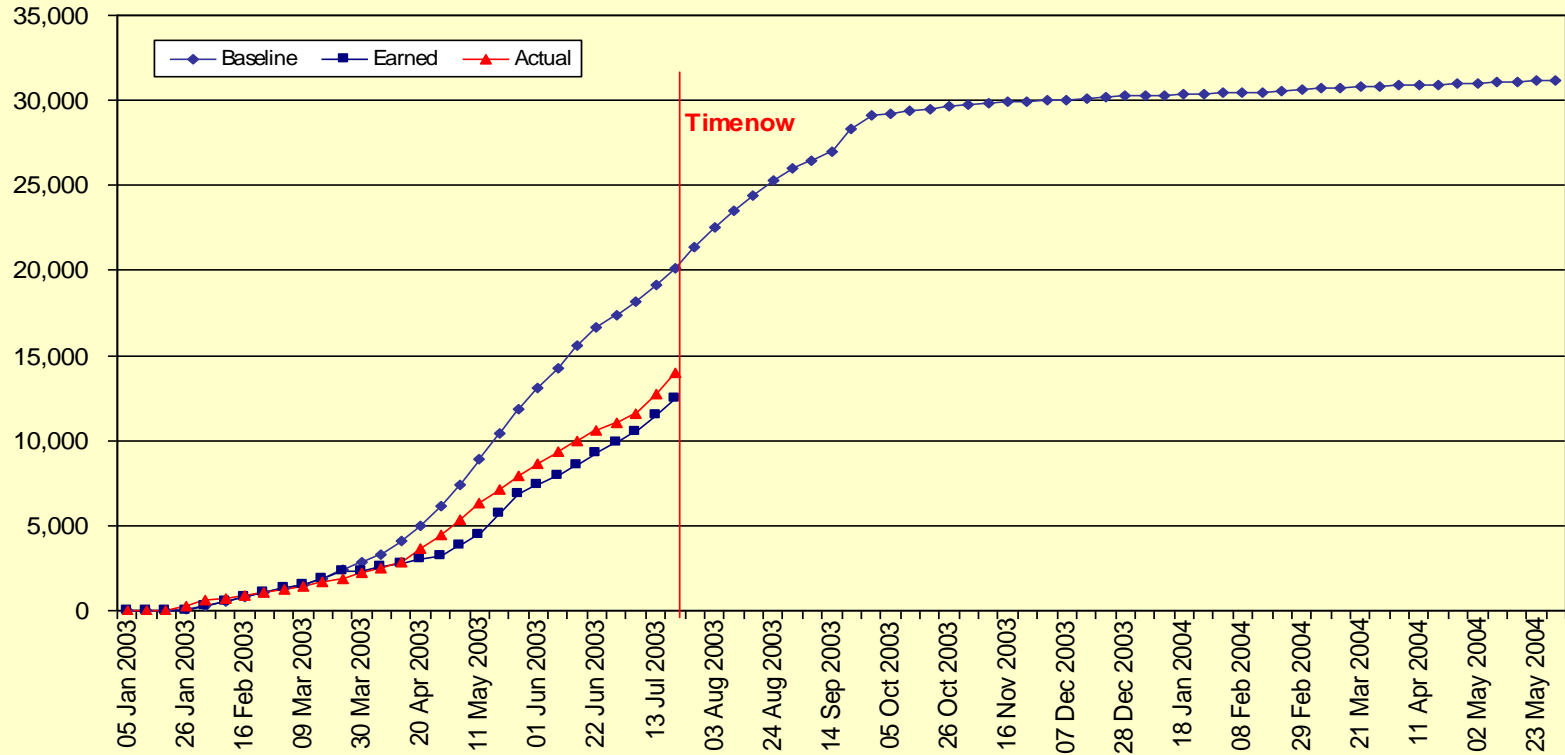

Renewal Project
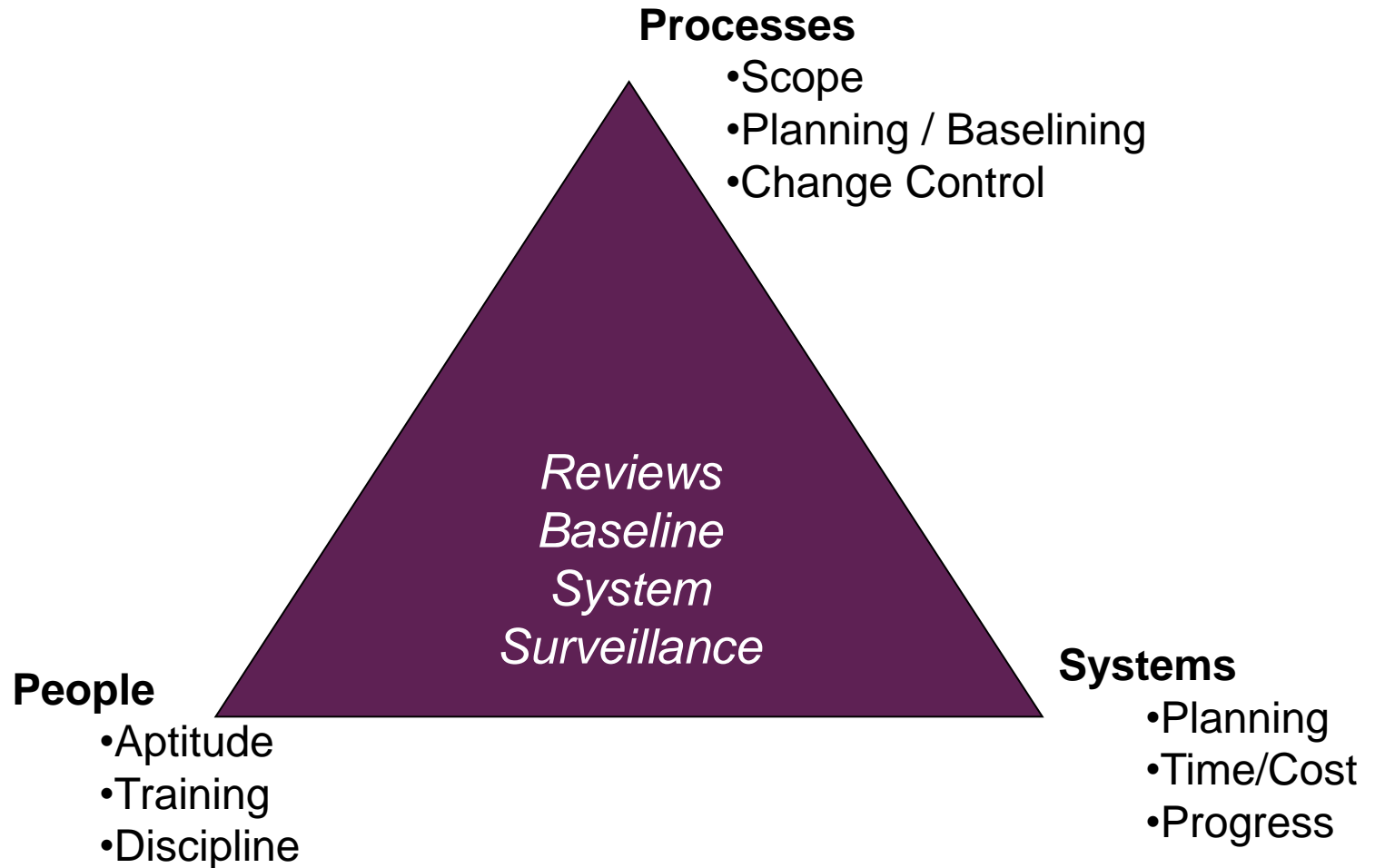Design Works - Earned Value (Hours) S-Curve Against Baseline Programme Version 0

Legend: Baseline, Earned, Actual

Timenow

More EVM in Action

Renewal Project
Overall Project - Earned Value (Hours) S-Curve Against Baseline Programme Version 0

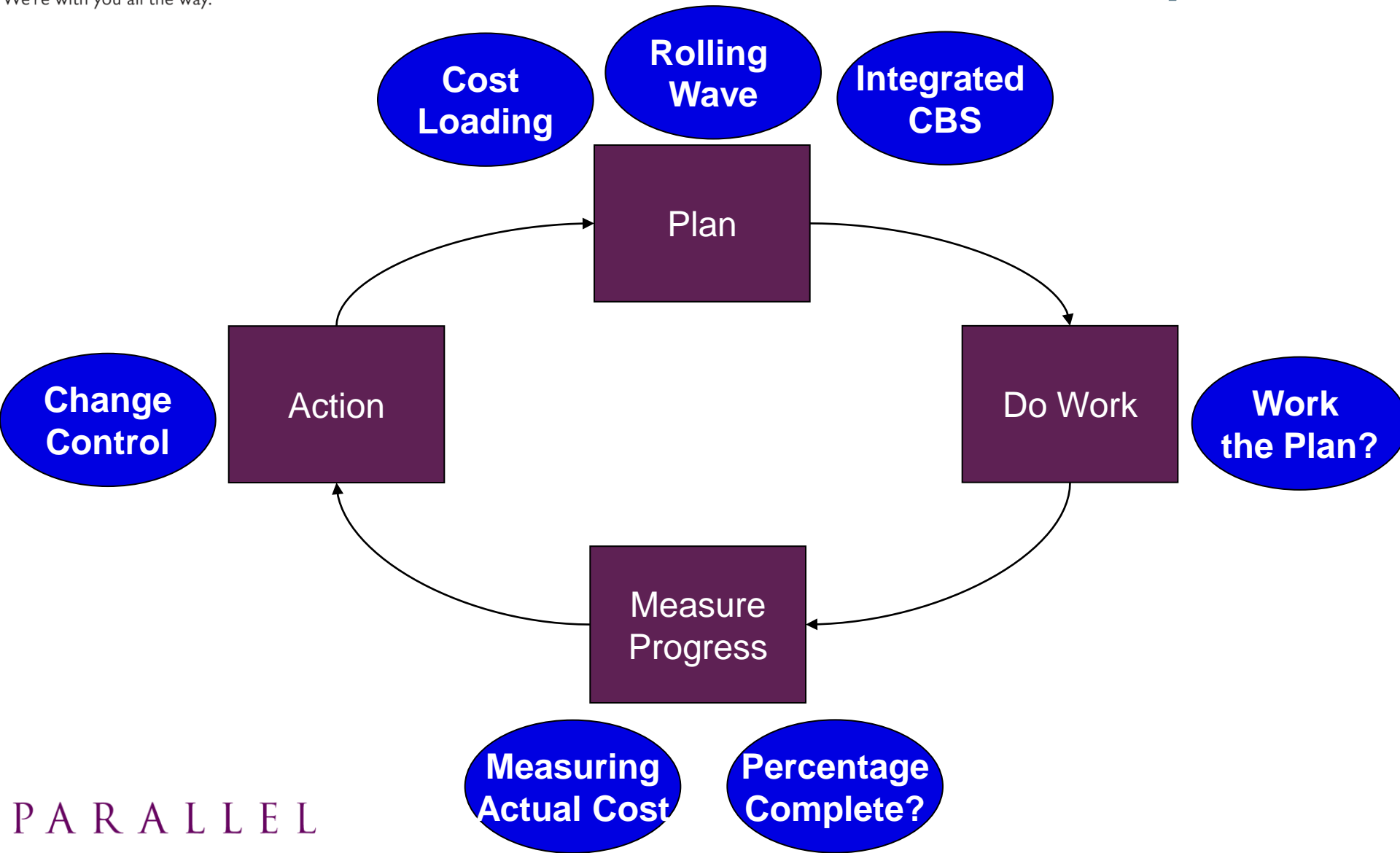# Road to EVM Maturity

Processes
- Scope
- Planning / Baselining
- Change Control

Reviews
Baseline
System
Surveillance

Systems
- Planning
- Time/Cost
- Progress

People
- Aptitude
- Training
- Discipline

Earned Value Maturity

Cost Loading

Rolling Wave

Integrated CBS

Plan

Change Control

Action

Do Work

Work the Plan?

Measure Progress

Measuring Actual Cost

Percentage Complete?

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Project Management Maturity (PROMMM)

Assessed on
- Culture
- Processes
- Experience
- Application

Level of Benefit

Maturity Level

Level 1
Naïve

Level 2
Novice

Level 3
Normalised

Level 4
Natural

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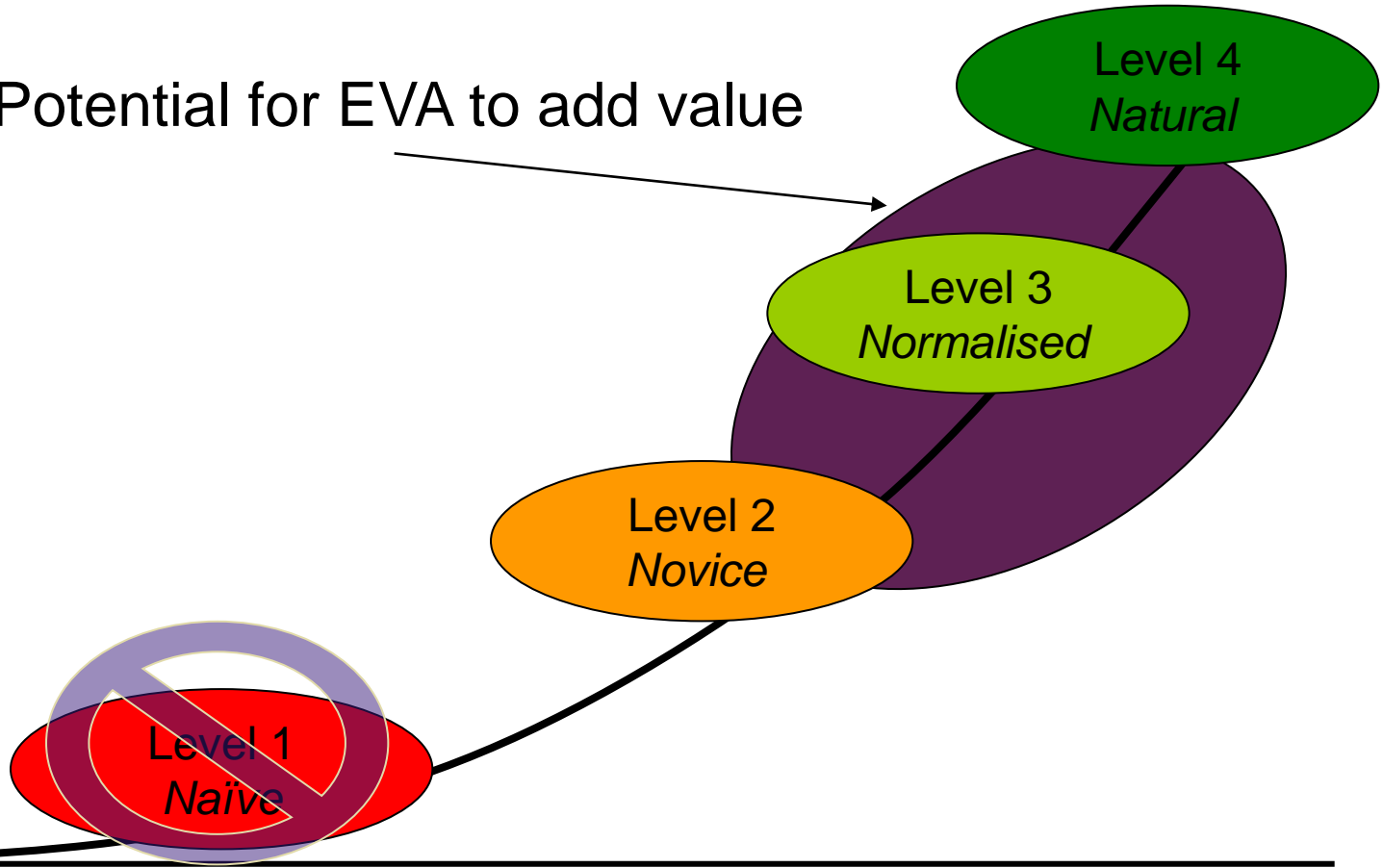PROJECT TRAINING
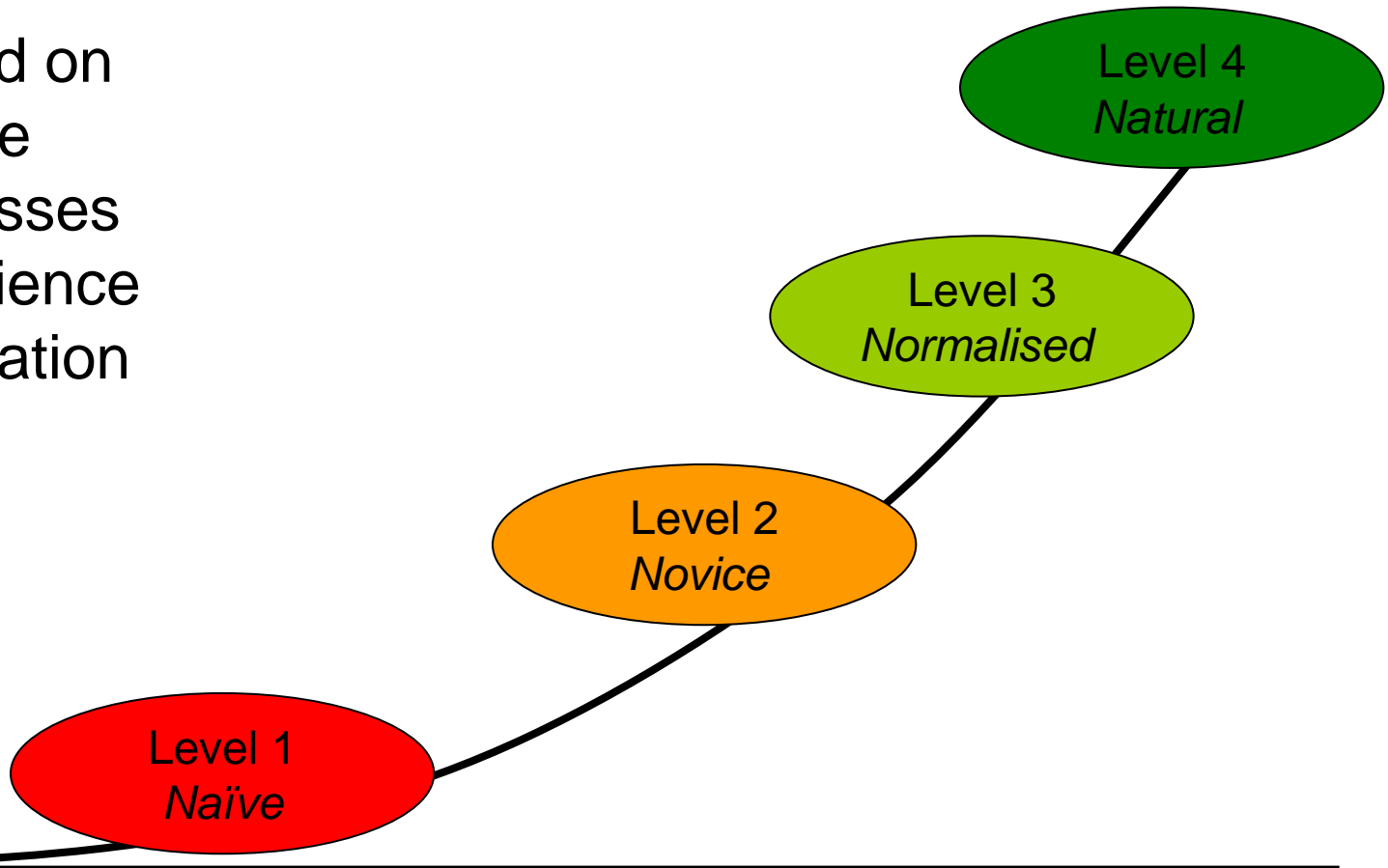
Maturity Levels

MATURITY LEVEL	CHARACTERISTICS
Natural	Fully project based culture in all aspects of the business
Normalised	Management of projects is built into routine business processes, and generic project management processes are implemented across all aspects of the business
Novice	Experimenting with project management, but no formal processes in place
Naïve	No structured approach to project management

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At What Maturity will EVM add Value?

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Level of Benefit

Potential for EVA to add value

Level 4
Natural

Level 3
Normalised

Level 2
Novice

Level 1
Naïve

Maturity Level

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Summary

- Earned Value Management brings significant benefits to project management.

- However may barriers exist to it's successful implementation.

- Organisations need to be sufficiently mature before implementing EVM.

- EMV can stimulate novice organisations move to higher levels of maturity.

Parallel Project Training

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on-line APM e-learning

Public & in-house training
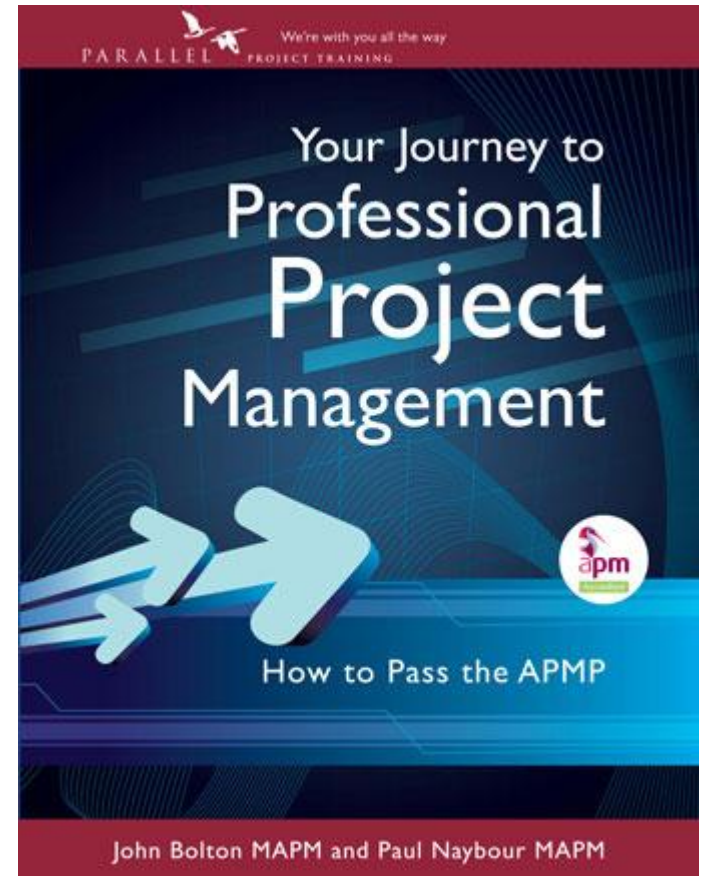
Slides at
http://blog.parallelprojecttraining.com/

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