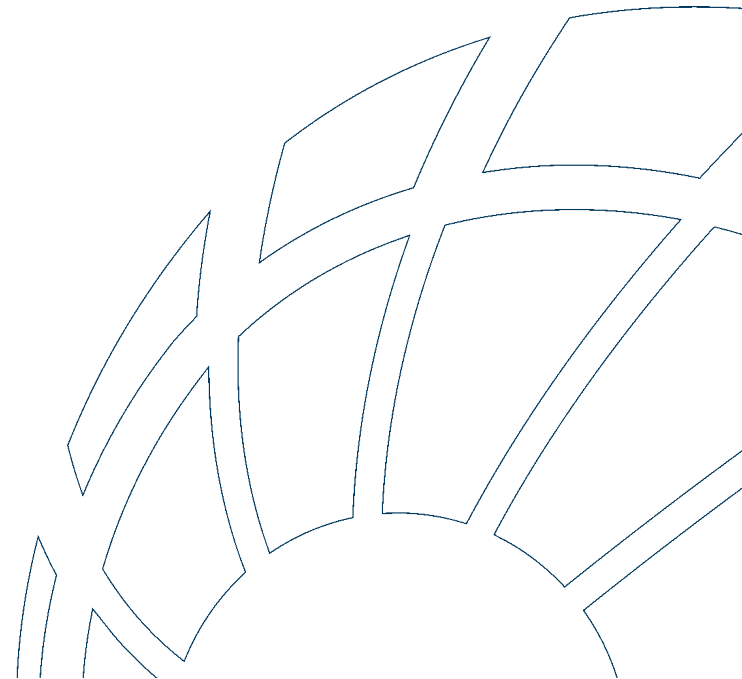




EVA18

Project Control

Armourers' Hall, London



Improving IBR outcomes through self-assessment



Presentation Agenda

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The Integrated Baseline Review (IBR)



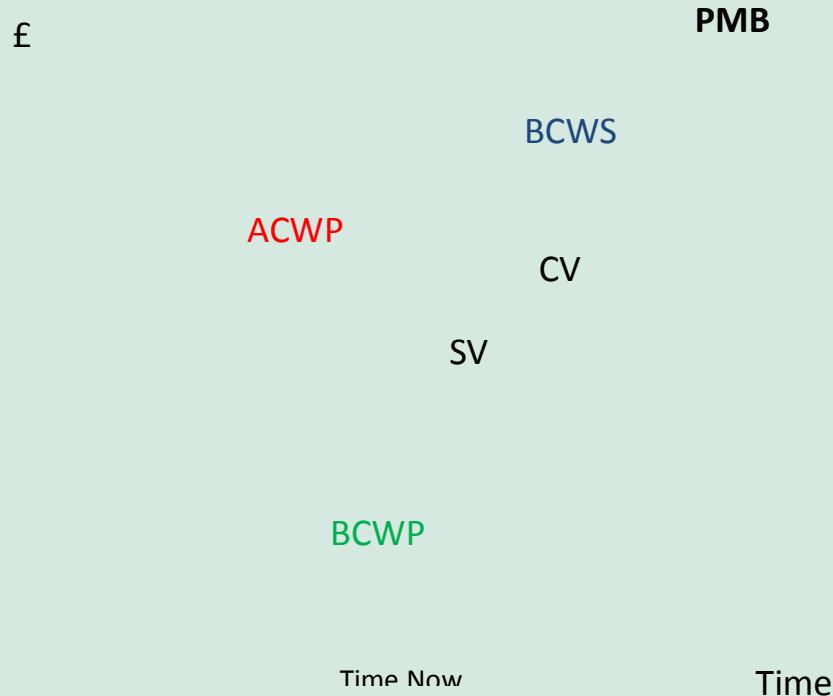
Integrated Baseline Review

Purpose

- The purpose of an Integrated Baseline Review is to achieve and/or maintain a project and customer **understanding** of the content of the Performance Measurement Baseline (PMB), the **risks** inherent in the PMB, and the management **control processes** that will operate during its execution.
- It should confirm that:
 - The PMB incorporates the entire scope of the project;
 - The work is scheduled to meet the projects objectives;
 - Risks are identified and are being managed;
 - An appropriate amount and mix of resources have been assigned to accomplish all requirements;
 - Suitable management control processes are being implemented.
- This should provide both the project and its customer the assurance that valid and timely performance data will be provided throughout the execution of the project.

Integrated Baseline Review

The Performance Measurement Baseline



Standard EVM Terminology

- BCWS (PV)** Budgeted Cost of Work Scheduled
(How much work should have been done)
- BCWP (EV)** Budgeted Cost of Work Performed
(How much work has actually been done)
- ACWP (AC)** Actual Cost of Work Performed
(How much the actual work done has cost)
- SV** Schedule Variance
= $BCWP - BCWS$
(A measure of project effectiveness)
- CV** Cost Variance
= $BCWP - ACWP$
(A measure of project efficiency)

Integrated Baseline Review

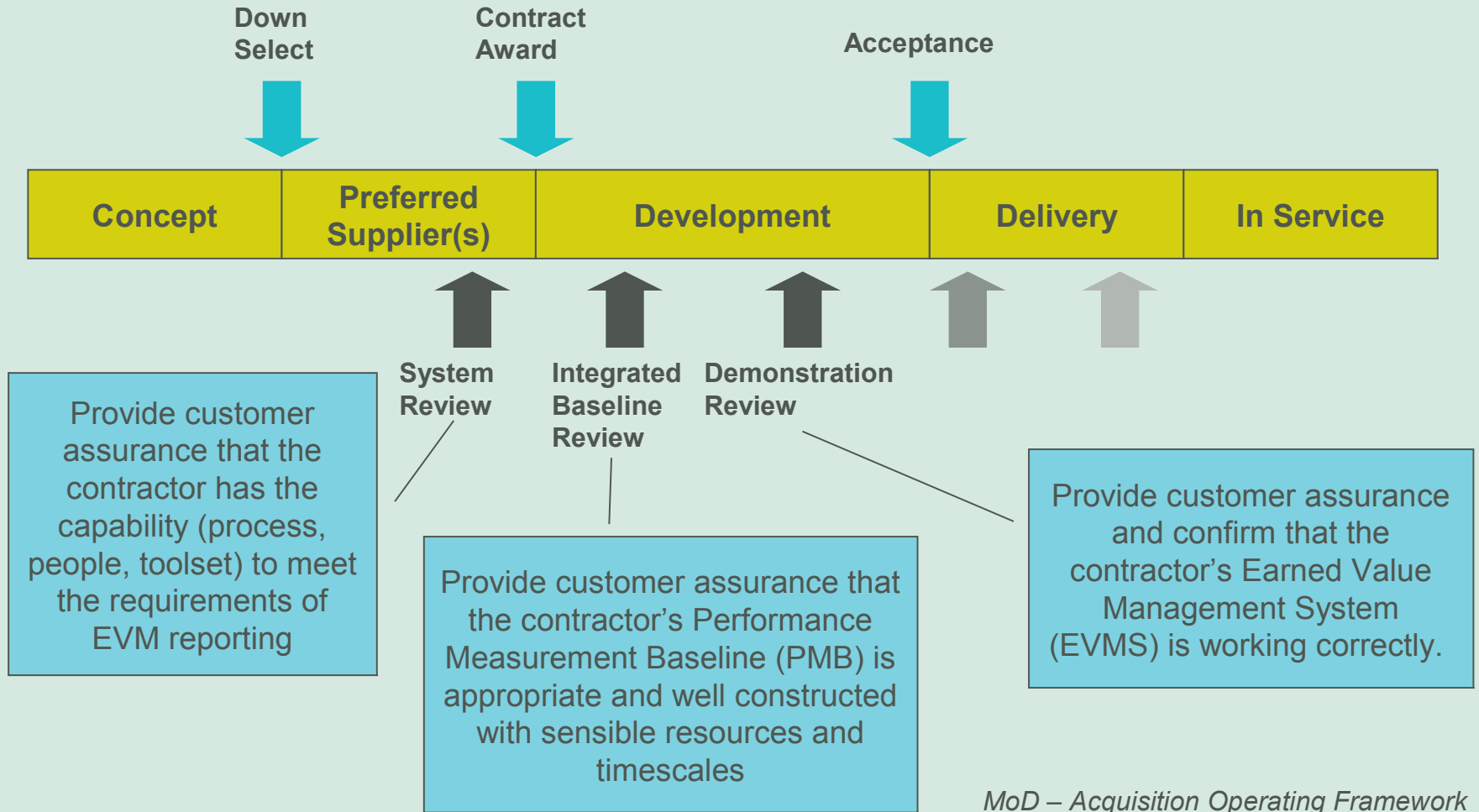
Objectives

- Assumptions underlying the plan are reasonable and documented.
- Project requirements have been translated into appropriate breakdown structures and authorised through documents such as work breakdown structure (WBS) and statement of work (e.g. SOW).
- Project schedule key milestones are identified and reflect a logical flow to accomplish technical work scope
- The project organisation is identified and a clear responsibility link to the WBS is shown e.g. Responsibility Assignment Matrix (RAM).
- The planned use of resources (budgets, facilities, personnel, skills, etc.) reflects availability and is sufficient to accomplish the technical scope of work within schedule constraints over the entire performance period.
- Sub-contract effort and performance reporting is integrated to the level that is effective for project control.
- Earned Value Measurement techniques applied are appropriate to the scope of work being undertaken in order that Project Performance data will reflect project achievement during the entire performance period.

DEVMIIG – A Guide to Conducting IBRs – Issue 2

Integrated Baseline Review

Project Control Reviews



Integrated Baseline Review

Standards & Guidance

IBR Standards

- ANSI/EIA 748A – Earned Value Management Systems
- AS 4817 – Project performance measurement using Earned Value
- Earned Value Management: APM Guide for the UK

IBR Guidance

- ANSI/EIA-748A – Earned Value Management Systems Intent Guide
- DCMA SSOM – DoD, Defense Contract Management Agency, EVMS Standard Surveillance Operating Manual
- DEVMIG – A Guide to Conducting Integrated Baseline Reviews

Integrated Baseline Review Process

Preparation

- Liaison with the project organisation
- IBR Handbook
- IBR Team training

Data Trace

- Desktop review of the project control information

Project In-brief

- Presentation on the project control system and PMB Story Board

Interview preps

- IBR interview schedule
- Further data trace if required

IBR Interviews

- Interviews with CAMs and key project control stakeholders

IBR Out-brief

- IBR Team presentation on the findings of the IBR
- IBR Report

Integrated Baseline Review

Process

IBR Team Responsibility

- Should start 1-2 months before the review
- Should be collaborative

IBR Team Responsibility

- Can be 1 week to ½ day activity

Project Team Responsibility

- The first element of the on-site review itself
- Should provide the IBR Team with a good understanding of

IBR Team Responsibility

- Interviewees selected based on data trace and In-brief findings

IBR Team Responsibility

- Can take 2 – 10 days

IBR Team Responsibility

- The final element of the on-site review
- Issues are consolidated against review groupings
- Issues are characterised into CARs or Observations
- Outputs: Out-brief presentation and final report/CARs

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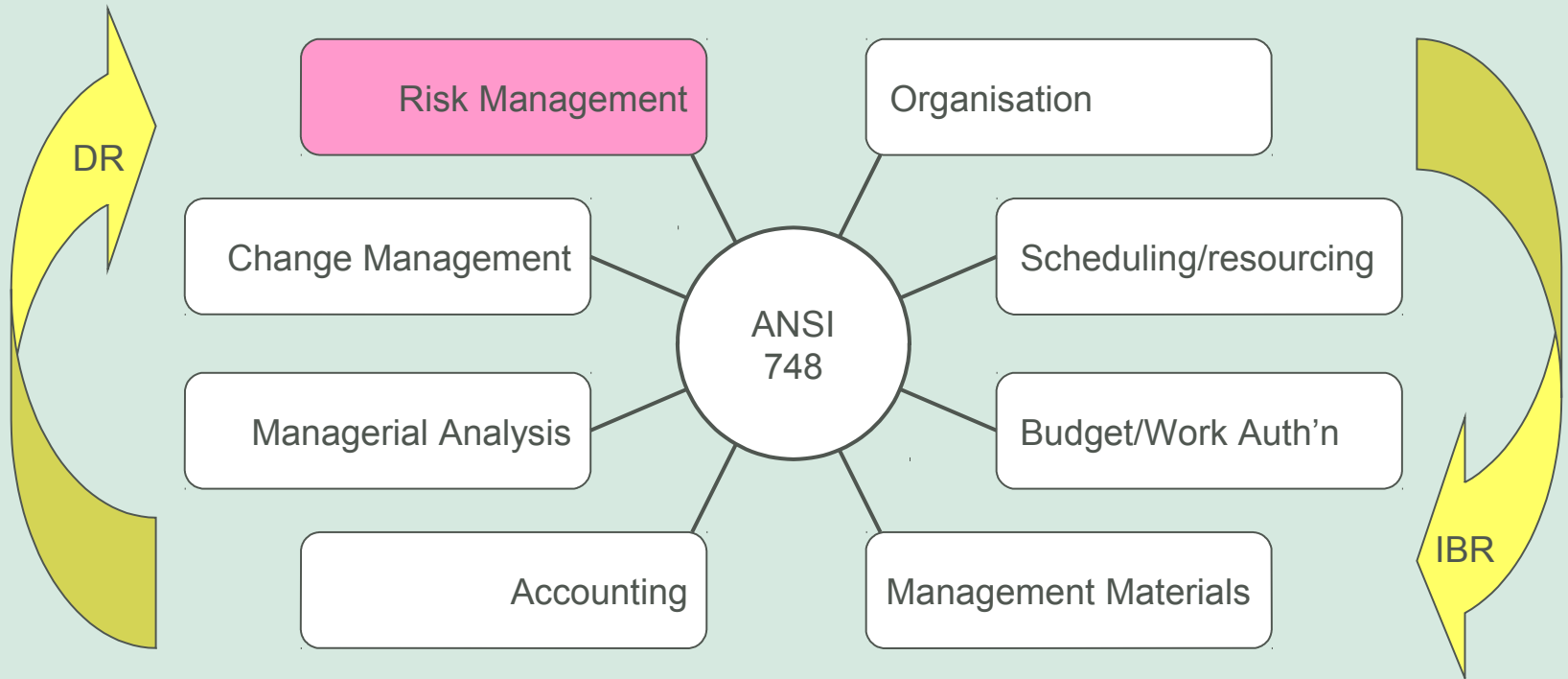
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Integrated Baseline Review

Scope

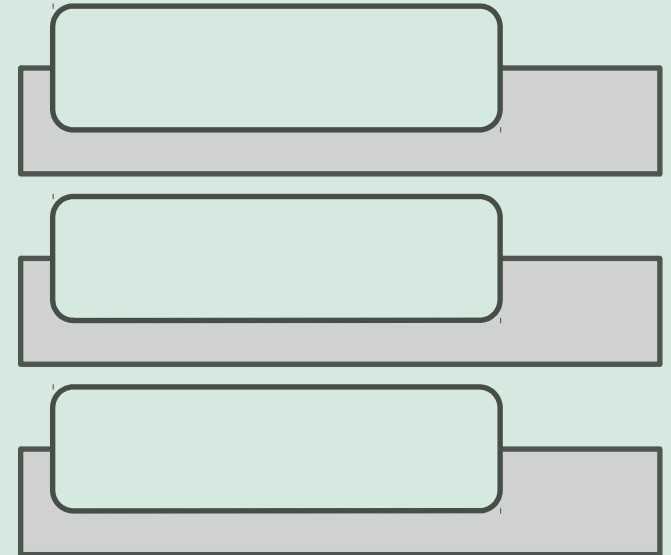
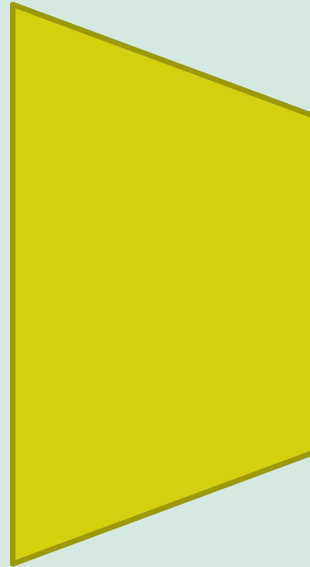
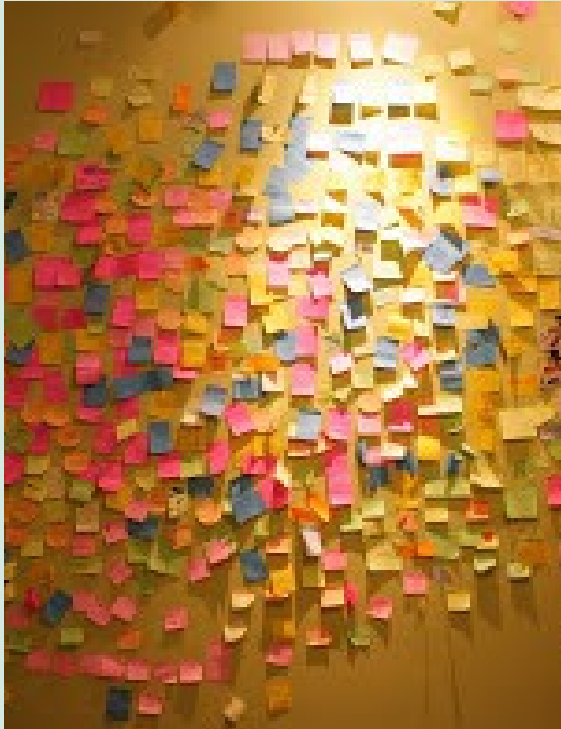
Against the ANSI 748 Standard

Reciprocity with APM EVM Guide



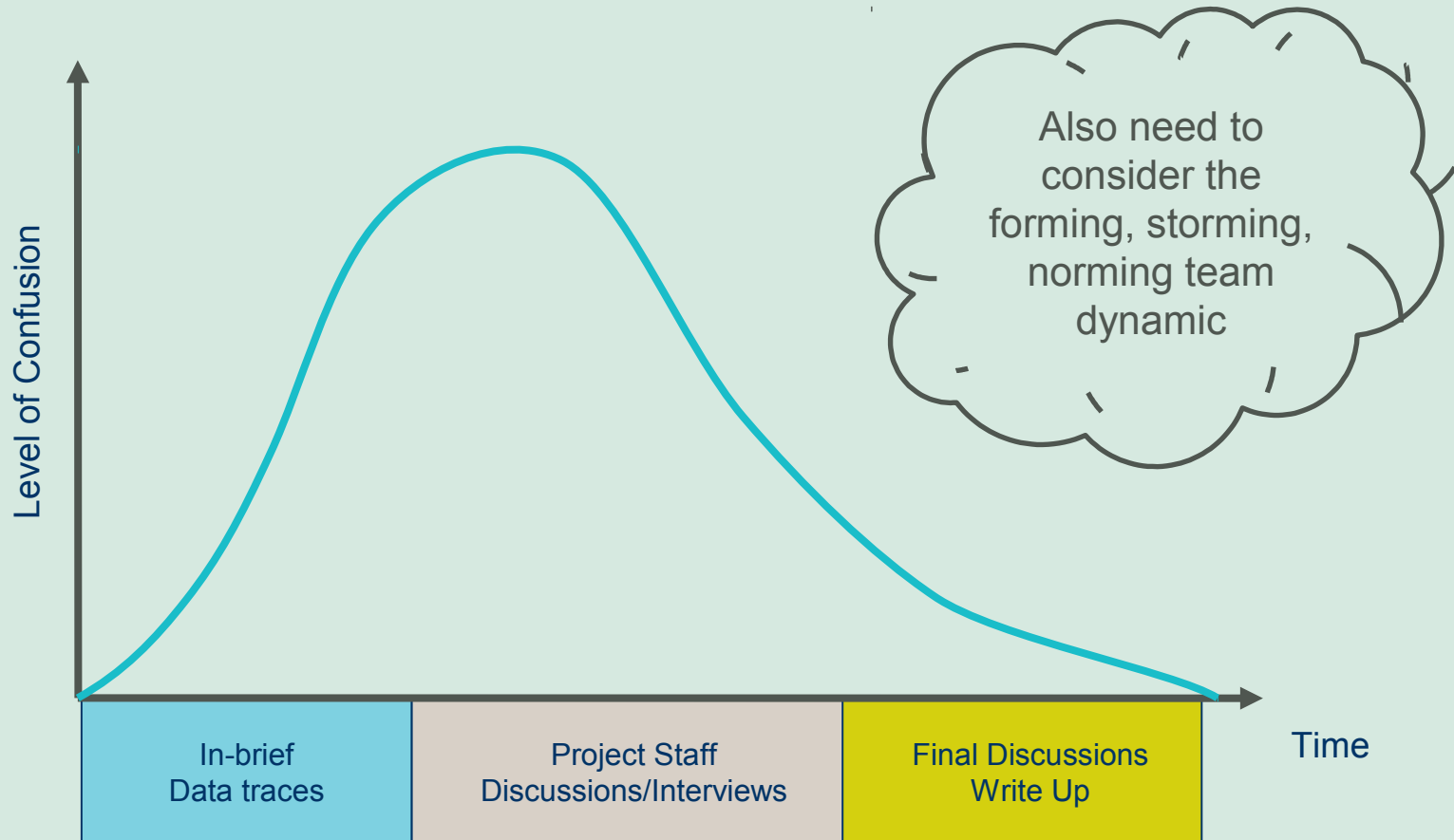
Integrated Baseline Review

Consolidation of Issues



Integrated Baseline Review

Level of Confusion



Jubilee & Northern Line Upgrade Programme (JNUP)



JNUP

What is the programme?



A vertical column of four empty circles, each connected to a horizontal rectangular box on the right, forming a list structure for notes or answers.

JNUP

SelTrac® CBTC, Communications-Based Train Control

SelTrac®

- SelTrac® CBTC offers the opportunity to enhance performance and safety and lower life-cycle costs:
 - SelTrac® systems are installed on transit networks around the world;
 - The methodology and technology has been proven in use for thirty years.

SelTrac® Programme Benefit

- Proven capacity increase:
 - San Francisco MUNI;
 - London Underground;
 - Jubilee; 35 km, 63 trains
 - Northern; 57 km, 106 trains
 - 20% capacity improvement due to
 - Minimum impact to ongoing revenue



JNUP

Programme Complexity

System software
being written in
Toronto, Canada

Involves additional
railway signalling
engineers in India

Programme being
managed from Canary
Wharf, London

Programme interventions scheduled during:

- Nightly non-operational hours;
- Scheduled weekend engineering shutdowns;
- Holiday shutdowns.



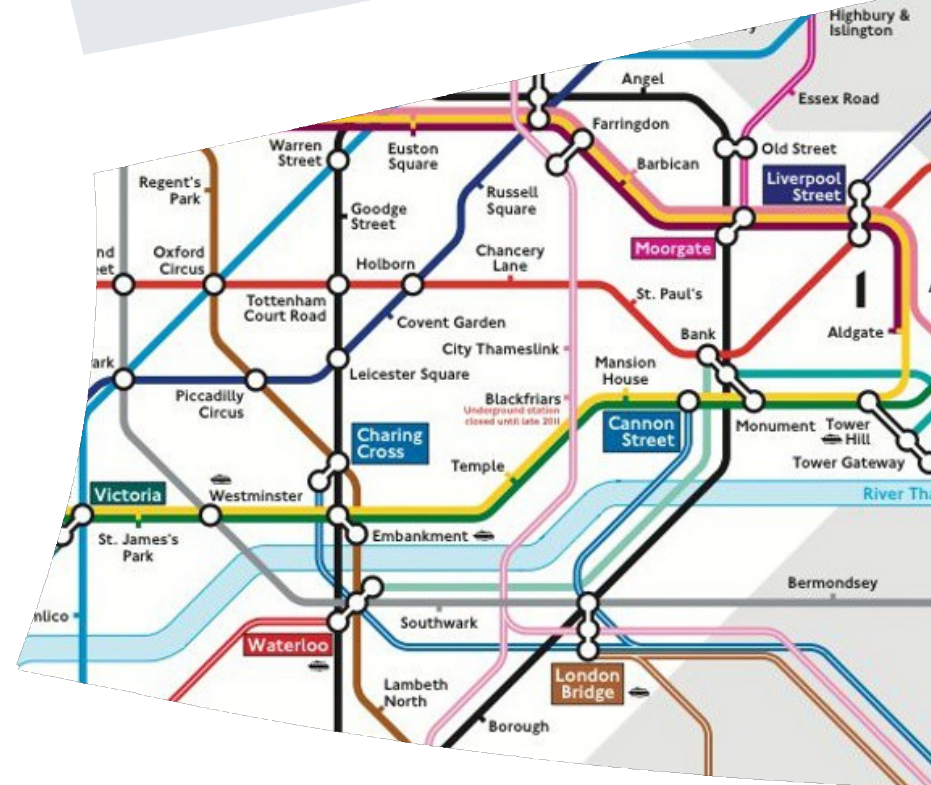
Also involves alignment
with other engineering
improvements; coordinated
through Tubelines

JNUP

Why the need for an IBR?

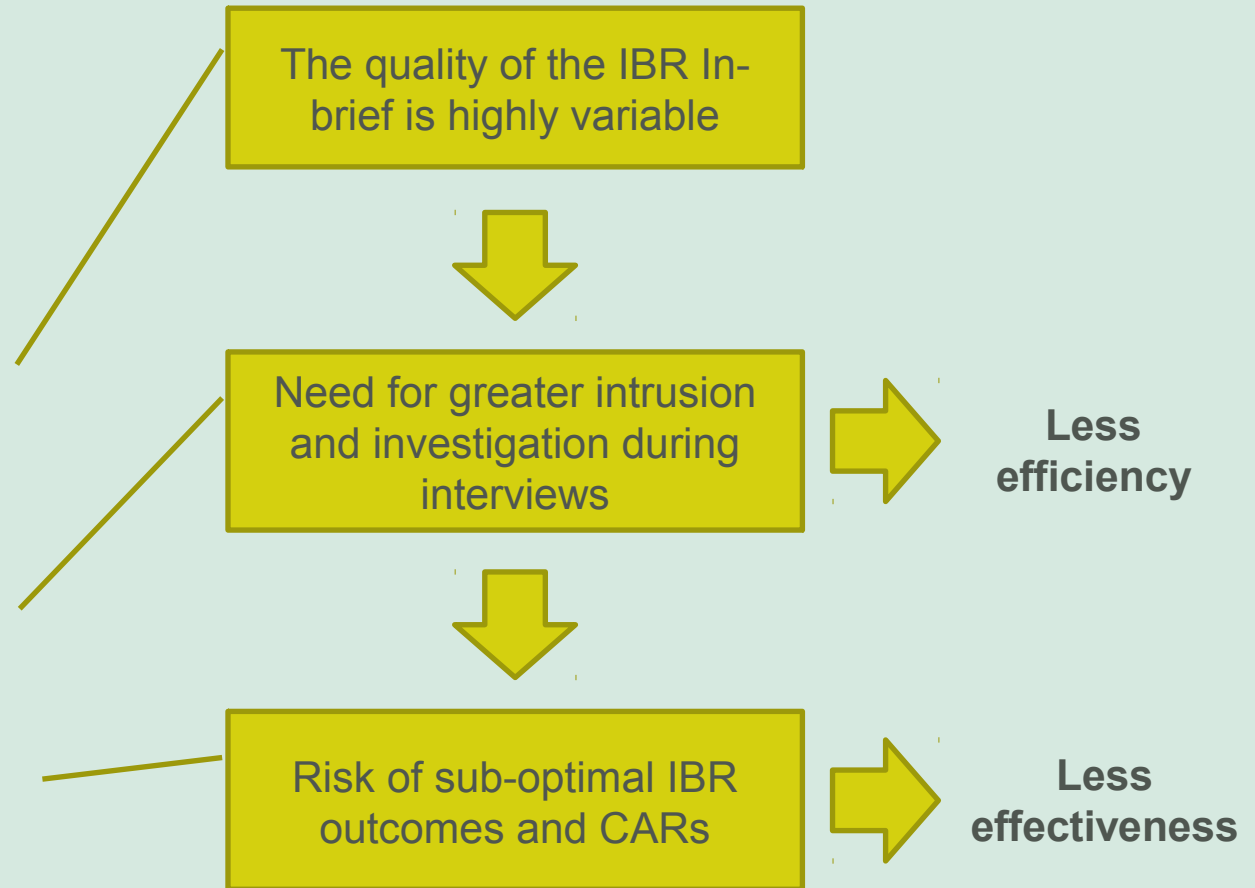


Self Assessment & the EVM Compass



Self Assessment

Why is it a good idea?



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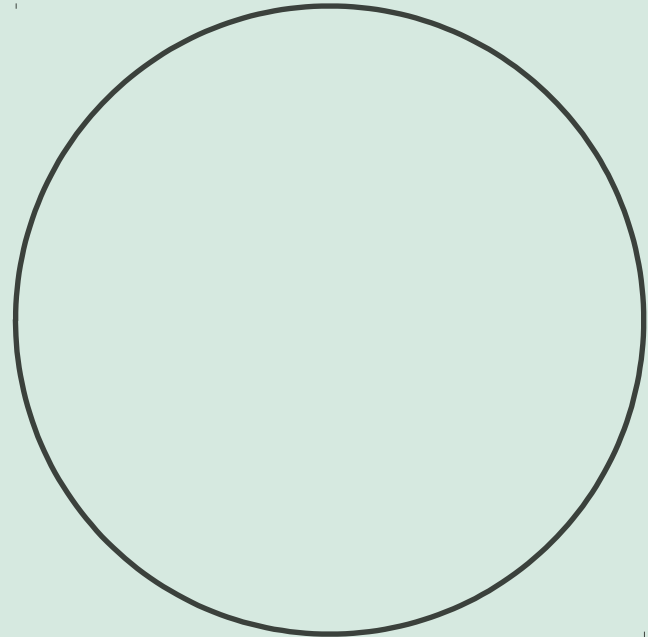
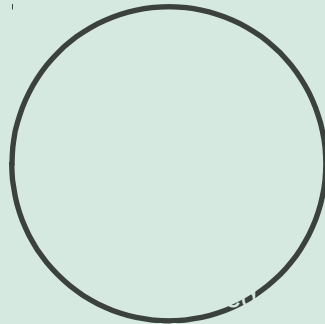
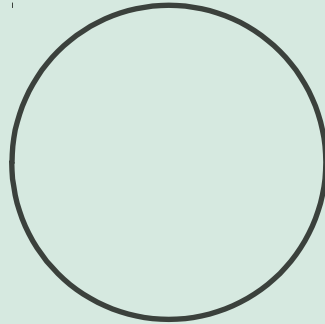
Self Assessment

The Requirement

Need a method to support a structured approach to the In-brief

..... a more collaborative approach ...

..... a shared assessment



The EVM Compass

What is it?

The EVM Compass provides a mechanism to:

- Assess the current level of operational maturity
 - Using a structured approach that is applicable across projects
 - Provides a reference point for future improvement
- Establish a target performance level
 - allowing the prioritisation of improvement actions to areas that will provide the greatest short term return



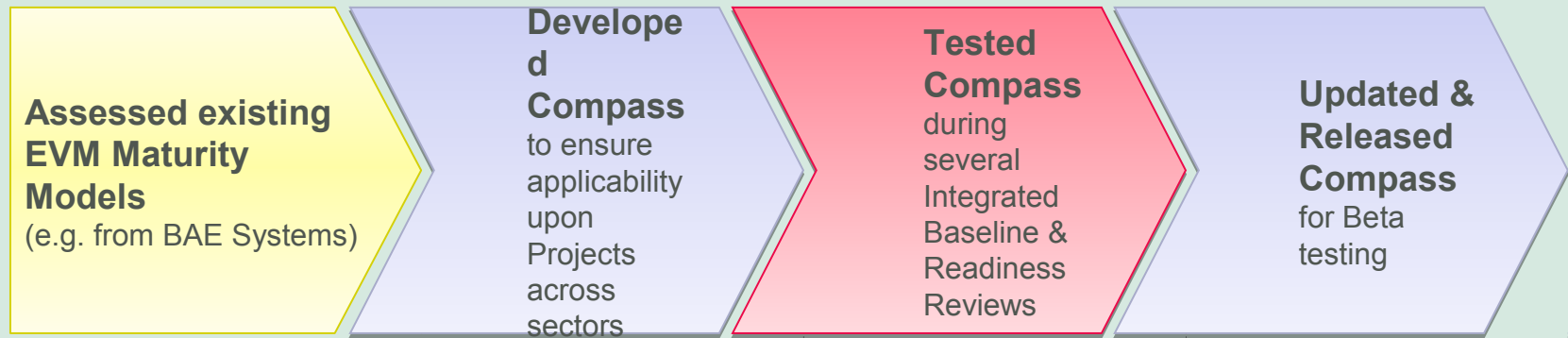
The EVM Compass aims to measure current performance with a view to **Improving Performance**

The EVM Compass

How was it created?

EVM Compass developed by the UK Association for Project Management EVM Specific Interest Group

- Sub-group formed to develop model, consisting of individuals from BAE Systems, BMT Hi-Q Sigma, UK Ministry of Defence, OTC Optima, Rolls Royce, Thales and Taylor Woodrow (now VINCI Construction)

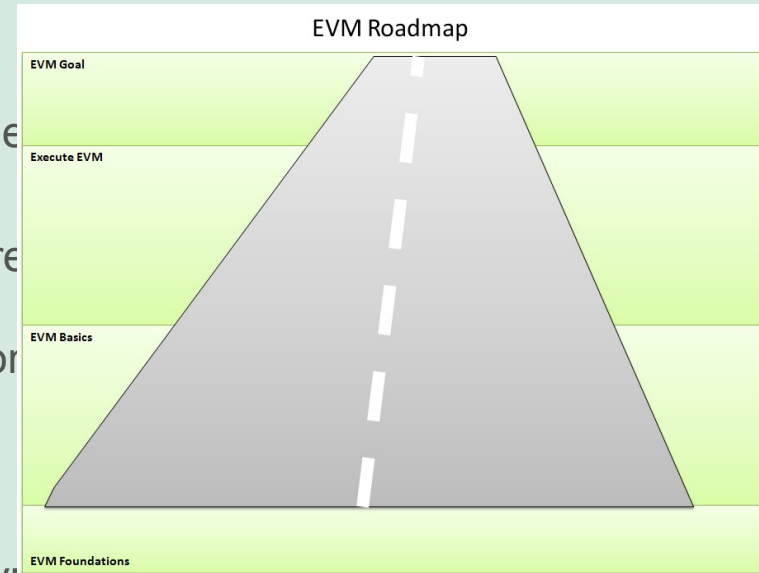


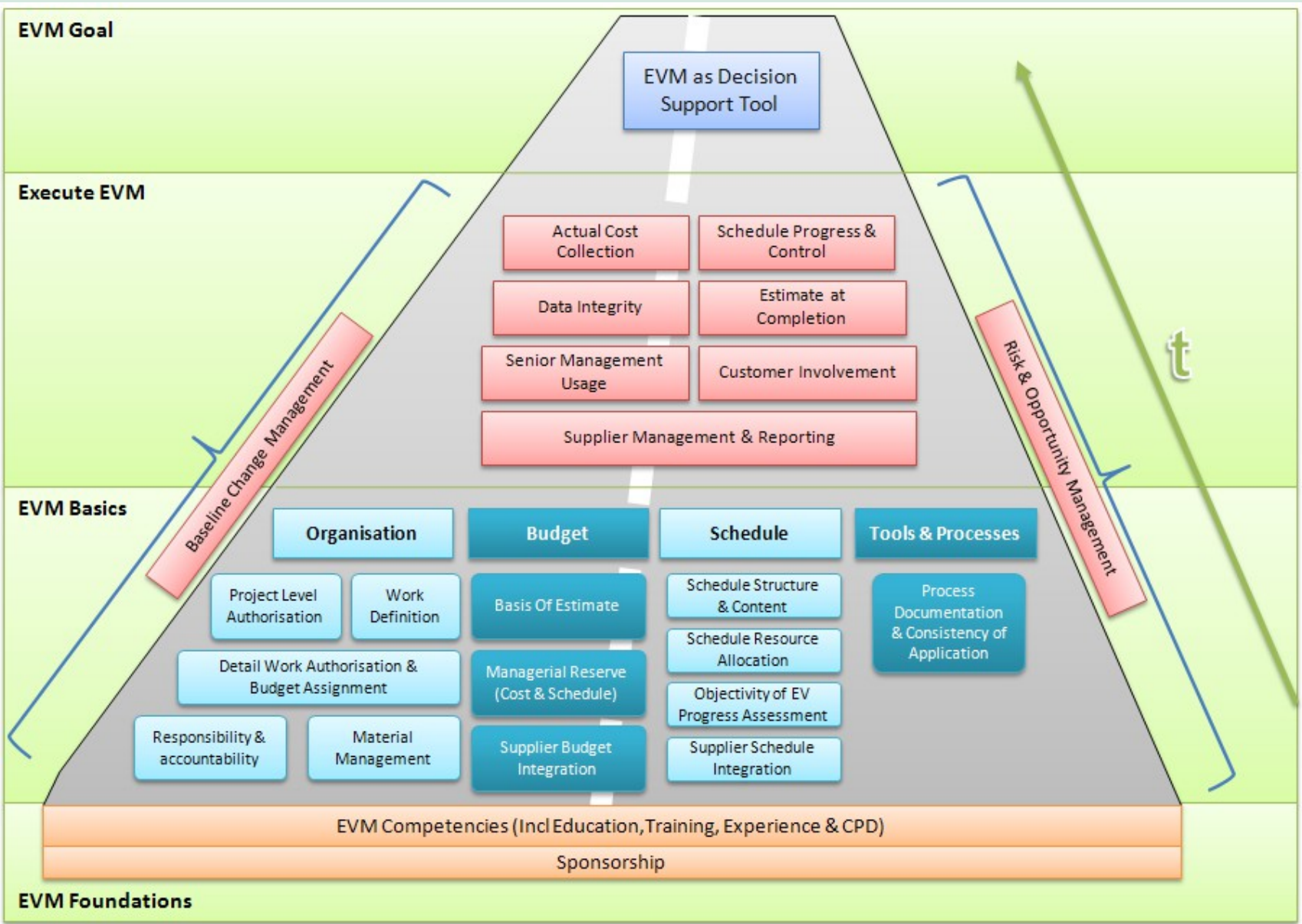
The EVM Compass

Components

Maturity Stages (from LFE)

- Introduced based upon experience during trials
- 4 Stages to achieving a mature EVM system
 - Establish EVM Foundations
 - Establish EVM Basics
 - Execute EVM
 - Achieve the EVM Goal
- Help provide a roadmap to EVM implementation and help ensure maturity assessment takes into account the stage of the implementation
 - E.g. Don't expect to be managing using EVM when foundations are not established
- 25 "Attributes" are split across the 4 Maturity Stages
 - Each attribute is scored on a maturity level of 1-5





The EVM Compass

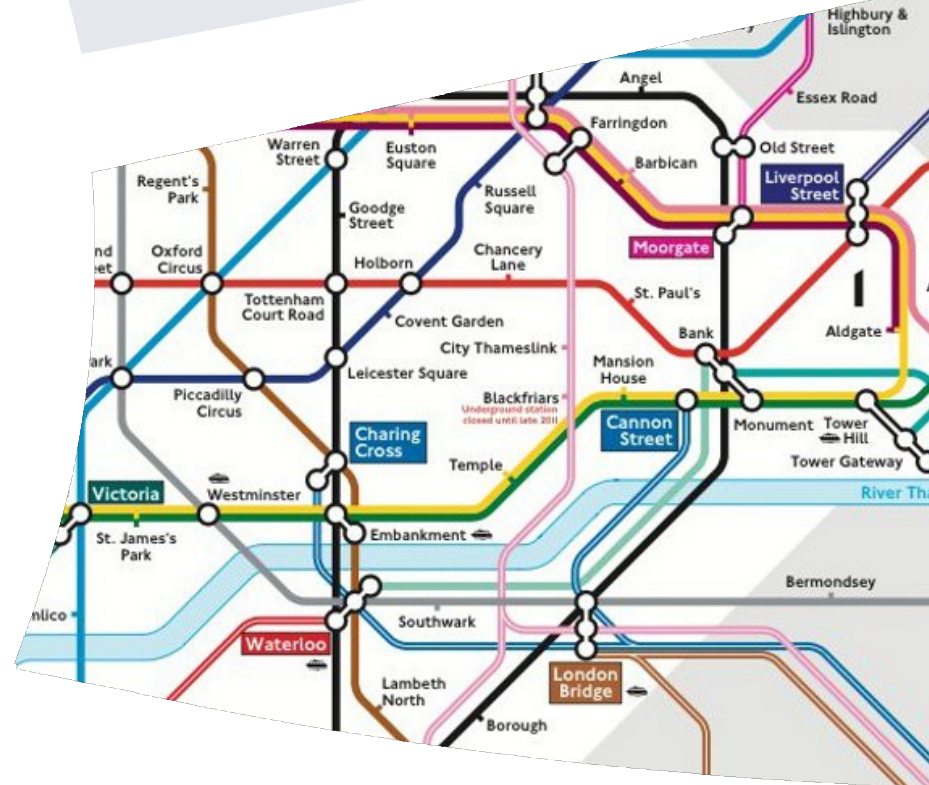
Physical Products – Maturity Grid

Maturity Model

- 25 Attributes, each of which is individually assessed
- 5 levels of performance against each of the Attributes

	1	2	3	4	5
EVM Foundations					
1. Earned Value Management Competencies					
Little or no training in the concepts of EVM is available and take-up is inconsistent.	Formal training and a budget to support its roll-out exists in the concepts of EVM for all key roles within the project organisation but take-up is inconsistent. There is little or no previous experience of EVM system implementation within the team.	Coordinated, funded training provides consistency in EVM approach and all team members have been sufficiently trained in EVM to fulfil their roles. Refresher and more advanced EVM training is provided to those that require it. The team is also able to draw upon the previous implementation experience of either team members or support personnel.	Training is linked into personnel development processes. Training and competency records are maintained. Previous experience of EVM system implementation is considered a crucial element when constructing project teams. Project teams are supported by staff with the knowledge to implement an appropriately scaled EVMS for the project and then support its use through initial months or data churn and review.	Training courses are tailored to meet specific project needs and the course material is periodically updated to reflect lessons learned from projects. These lessons are then directly fed into new projects when forming the teams.	
2. Sponsorship					
The EVM system is established without the support or commitment of a Senior Manager.	The EVM system is established with the passive support of a Senior Manager.	The EVM Sponsor provides proactive and visible support providing clear tactical direction.	The EVM Sponsor provides strategic direction on the use of EVM across the business and into the Customer and Supplier chains.	EVM sponsorship and adoption is actively supported by all appropriate senior management team members.	
EVM Basics					
3. Project Level Authorisation					
The project has commenced with no formal authorisation documentation from the Approval Authority.	The Approval Authority has sanctioned the project using a formal process. Responsibility, accountability, and authority for delivering the project work scope are held by an authorised individual.	The project organisational structure is defined and documented, including the major subcontractors responsible for accomplishing the authorised work. Responsibility, accountability, and authority for project work scope are held by the Senior Project Manager and delegated appropriately. Organisational responsibility is defined for all elements of work using an OBS. All activities are assigned to an element of the OBS. A documented correlation exists between the WBS and OBS, utilising the Responsibility Assignment Matrix (RAM).	Responsible Managers (RMs) have fully documented scope, deliverables, budget, assumptions, and exclusions for their elements of work. The OBS is subject to formal change control. OBS and RAM are maintained.	This level considered and left blank.	
4. Work Definition					
There is no formal WBS or only an outline WBS exists.	Scope is documented and decomposed into meaningful, manageable elements. A recognised Work Breakdown Structure and/or other appropriate structure eg. Product Breakdown Structure (PBS) is established.	All authorised work elements are defined for the project. A Work Breakdown Structure (WBS) is used in this process. WBS elements are appropriately documented. The project objectives are clearly defined and documented and related to the WBS. The scope of work is under configuration control. The scope is documented in an auditable and traceable way (eg. WBS Dictionary).	A systematic process, such as using standard WBS structures or enable standardised reporting, decomposes project requirements and identifies the scope of work necessary to deliver these requirements. The link between customer requirements and WBS elements is clearly defined. The impact of changes to scope, technical specification or requirement are assessed for their impact on the WBS structure and its documentation.	The structure of the WBS is reviewed to ensure that future projects benefit from any lessons learned, particularly relating to how far it facilitated good dissemination of work products, collection of performance data and resulting ability to control the project.	
5. Detail Work Authorisation & Budget Assignment					
There is no mechanism for formal authorisation of work and budgets.	There is a formal mechanism for work authorisation but it is inconsistently applied and budget is not always associated with work scope.	The Budget/Work/Schedule is formally authorised prior to work commencing. Task owners have formally agreed to complete the work as defined. Budgets are established (by Control Account or other authorised low-level account) for authorised work. Budgets are consistent with resources applied to schedules. Budget is distributed for duration of Control Accounts. Formal management procedures exist to open/close/suspend work but there is inconsistent application.	CAMs manage a total budget (E.5) and are responsible for material purchases as well as manhours. Formal closure processes and mechanisms exist once the work scope has been completed and are consistently applied.	Budgets and actual cost are used to inform future estimating.	
6. Responsibility & Accountability					
There are no personal Terms of Reference (TORs) issued that are appropriate to the Project.	The Senior Project Management Team have been issued with appropriate TORs that have been communicated to all management staff within the organisation.	The Project Management Team (inclusive of CAMs) have been issued with appropriate TORs that have been communicated to all management staff within the organisation. There are clear reporting lines to both the project Management Team and functional management where appropriate.	There is a change process / feedback in TORs and for the handover of scope and budget between CAMs, which are maintained over the project life to provide consistency.	The individuals TORs are integrated with their respective HR Personal Development Plans for personal objectives.	
7. Material Management					
Materials are excluded from the Earned Value Management System.	Material / consumables budgets are included in the EVMS and are separated into appropriate work and planning packages.	Material / consumables budgets are included in the EVMS with appropriate measures of progress and appropriate actual cost collection mechanisms are employed.	Materials / consumables can be traced from the Purchase Order requirement date through to the need date. Material costs within the EVMS can be traced to the purchase order.	Material / consumables budgets and actual cost are used to inform future estimating. Residual inventory has appropriate disposal controls within the EVMS.	

Benefits of the revised IBR approach



Benefits of the Approach

A more collaborative activity during IBR Preparation

- Project Team Self Assessment against the Compass in parallel with IBR Team preps
- Supporting the development of a more open In-brief discussion

A more focussed approach data trace and IBR interviews

- Data trace and interview activities are focussed on verification of Self-Assessment strengths and weaknesses

Less intrusive IBR Interviews

- A need for fewer and less time consuming IBR interviews to objectively verify Self Assessment strengths and weaknesses against review criteria

More focussed IBR Outputs

- Self-assessment has already created the consolidation of project control issues leading to more focussed and useful outputs

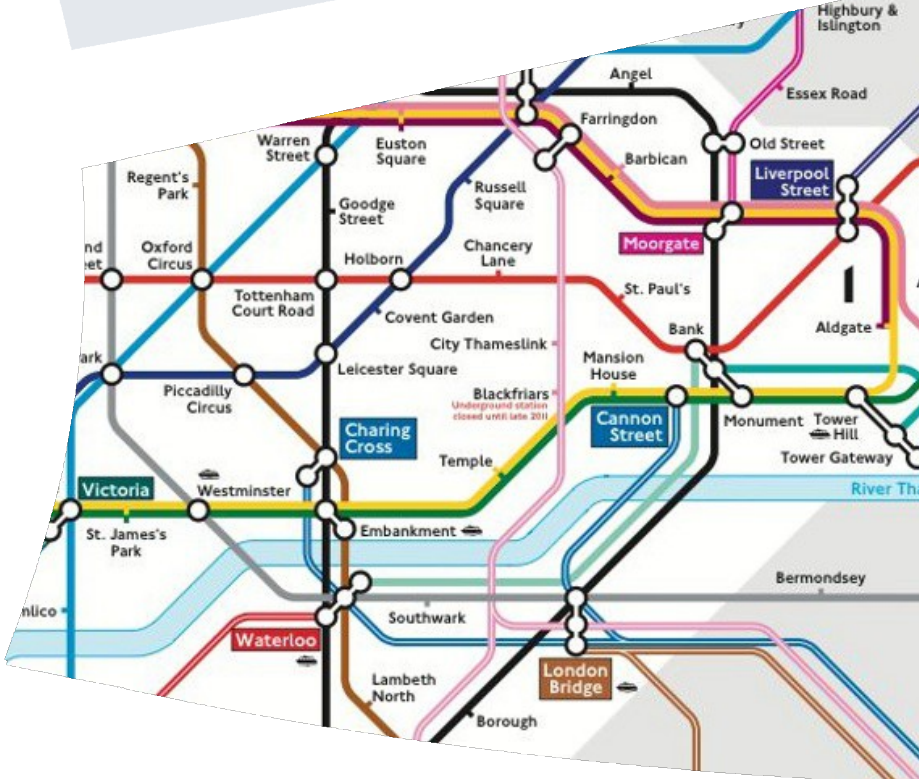
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Summary

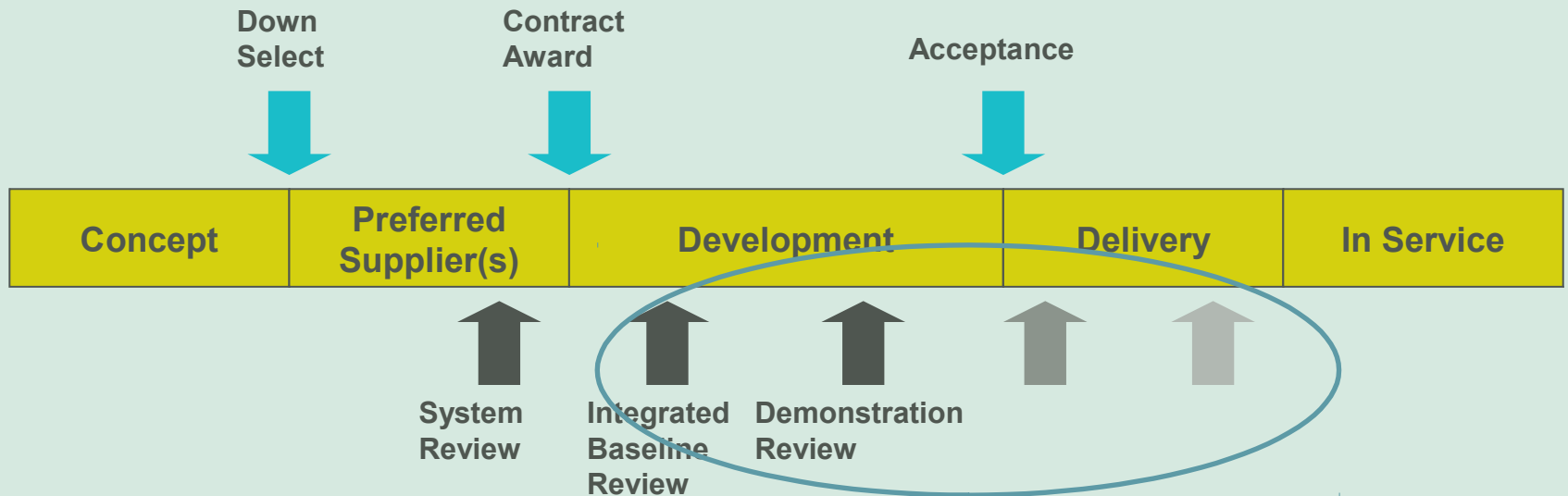


Summary

Described:

- The concept and process of Integrated Baseline Reviews;
- The scope of the JNUP programme;
- How self-assessment using the EVM Compass can improve IBR outcomes;
- The benefit of this approach on the JNUP IBR

A Broader Conclusion



Approach is possibly most applicable to:

- On-going projects that need to re-baseline
- Demonstration/Surveillance Reviews

Any Questions?

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