

PROGRAMME LIFECYCLE							
STRATEGIC PHASE				DELIVERY PHASE			
INITIATION STAGE	DEFINITION STAGE	ESTABLISHMENT STAGE	MANAGEMENT STAGE	DELIVERY STAGE			CLOSE
PROGRAMME OBJECTIVES	PROGRAMME SCOPING	PROGRAMME PRIORITISATION	PROGRAMME OPTIMISATION	FEASIBILITY	DESIGN	IMPLEMENTATION	CLOSEOUT STAGE
RUNWAYS							



Helping Asset Owners effectively optimise programmes of work.

By the Introduction of Project Prioritisation using Runways

Runways

In an effort to reduce management costs, Asset owners have been grouping packages of work together forming larger and more complex projects with a view of economies of scale driving savings.

In some cases this approach has the opposite effect and has essentially back loaded many capital programmes in the UK, and have therefore not shown the expected benefit of savings due to expected economies of scale. To maximise efficient delivery we can, in the right project conditions, shortcut the design process by using different delivery streams or Runways.

What are Runways?

In all capital programmes we need approaches that help us optimise the workload, and the use of runways is one of the techniques we can use. The overarching concept is, where possible, to remove the early stages of a project Design Phase, where there is enough definition to do so.

This means we save on overall time with associated savings on design costs and management prelims.

The use of Runways is most appropriate where the MoSCoW and NICR approaches have been used in the programme scoping phase. This helps allocate the resolutions into project tranches for optimum delivery.

Why are Runways useful in large scale programmes?

The use of Runways in a programme can provide 3 strategic benefits:

1. It allows the Asset Owners to implement small and simple projects early in the programme lifecycle, giving the company quick wins and maintaining the momentum for the larger projects in the later tranches of the programme.
2. Projects that have been identified as relatively simple in the runway process can have their overall delivery lifecycle reduced with financial savings around design and management in the early stages of the project.
3. When the runway is applied it can create total float within the project, and free float within the programme. This then allows the shorter less complex projects to be used in an overall optimisation (smoothing) exercise in the programme.



"The use of Runways is most appropriate where the MoSCoW and NICR approaches have been used in the programme scoping phase"



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How Does the Runway Process work?

The appropriate bundling of released scope onto appropriate delivery streams rightfully is the role of the delivery entities albeit supported by a programme management function.

A typical Runway system is predicated on the 'three stages of development' i.e. Concept; Definition; and Implementation, and depending on complexity and the 'state of knowledge,' a project may be able to avoid one or more of these stages. Within Stantec we have developed a three Runway approach to Projects as shown on the table opposite.

APM Stages	Phase	Runway 1 (R1)	Runway 2 (R2)	Runway 3 (R3)
Concept	Needs	✓	✓	✓
	Optioneering	✗	✗	✓
Definition	Outline Design	✗	✓	✓
	Procure	✓	✓	✓
Implement	Construct	✓	✓	✓
	Install	✓	✓	✓
	Commission	✓	✓	✓
Handover	Handover	✓	✓	✓

Runway 1: If all the Resolutions within a bundled solution are 'straightforward' (Single Solution Standard) then the project can be allocated to Runway 1 (R1) for Implementation (see diagram above), missing out on the Optioneering and Outline Design phases.

Runway 2: If any of the Resolutions comprising a bundled solution require tailoring to the situation, (Single Solution Customise), the project should be allocated to Runway 2 (R2) for Implementation, having first passed through solution development, and missing out the Optioneering phase only.

Runway 3: If any of the Resolutions comprising a solution are 'unknown' or have options (complex/ undecided) then then project is retained within the Definition stage. All Design and Delivery stages are followed.

The actual allocation of the projects is achieved through the application of the simple 'Eleven Key Question' diagnostic illustrated below. This is similar to a Project Complexity Evaluation process.

Generically Questions 1-4: Ensure a viable single solution for Implementation.

Questions 5-9: Ensure the key risks surrounding the solution are sufficiently understood to enable Implementation.

Questions 10 & 11: Confirm that the solution is sufficiently standardised for it to be allocated to R1.

Question No.	Eleven Key Question Diagnostic		Resolution Identification & Specification		Design Development and Construction	
Q1	Are the Business Issues and Outcomes fully understood?	Runway Selection	Business Case yet to be established	Outline Design	RUNWAY 3 Resolution of Options Required	Definition Stage Questioning
Q2	Are the Synergies / Dependences fully understood and clearly identified?					
Q3	Has it been confirmed there are no statutory planning implications / requirements?					
Q4	Has a Beneficial Use date agreed?		Outline Design	RUNWAY 2 Single Resolutions – "tailoring" Required.	Implementation Stage Questioning	
Q5	Have the Resolutions/ Solutions for the Business Case have been accepted?					
Q6	Have the Key Constraints been identified?					
Q7	Have the Discrete key risks been identified?					
Q8	Is it confirmed that the project does not contain any Long Lead item issues?		RUNWAY 1 Simple pass to Supply Chain.			
Q9	Have the Constructability issues been clearly addressed?					
Q10	Is there an "off the shelf" specification available?					
Q11	Is there an "off the shelf" price available?					
Will the Stakeholder accept residual risk?						

Are the following key agreements in place?			Answer / Yes / No	Date Agreed	Date Changed
Q1	Runway 3	Are the Business Issues and Outcomes fully understood?	Yes		
Q2		Are the Synergies / Dependences fully understood and clearly identified?	Yes		
Q3		Has it been confirmed there are no statutory planning implications / requirements?	Yes		
Q4		Has a Beneficial Use date been agreed?	Yes		
Q5	Runway 2	Have the Resolutions/ Solutions for the Business Case been accepted?	Yes		
Q6		Have the Key Constraints been identified?	Yes		
Q7		Have the Discrete key risks been identified?	No		
Q8		Is it confirmed that the project does not contain any Long Lead item issues?	Yes		
Q9		Have the Constructability issues been clearly addressed?	Yes		
Q10	Runway 1	Is there an "off the shelf" specification available?	Yes		
Q11		Is there an "off the shelf" price available?	Yes		
	All runways	Will the Stakeholder accepts residual risk?			

The same diagnostic can also help steer projects onto the appropriate delivery Route by highlighting key areas that may be able to be quickly addressed.

In the example illustrated above, only Question 7 is preventing the project from moving to Runway 1 and attracting a reduced Delivery schedule.

This multi-stream project delivery approach can secure savings in time and engineering design resource of up to 40% compared with conventional single stream linear project delivery. Further savings in time and resource are achieved by operating on a larger sub-programme or tranche 'view' of scope to establish synergies between Resolutions prior to bundling into projects optimised to the delivery Runways.

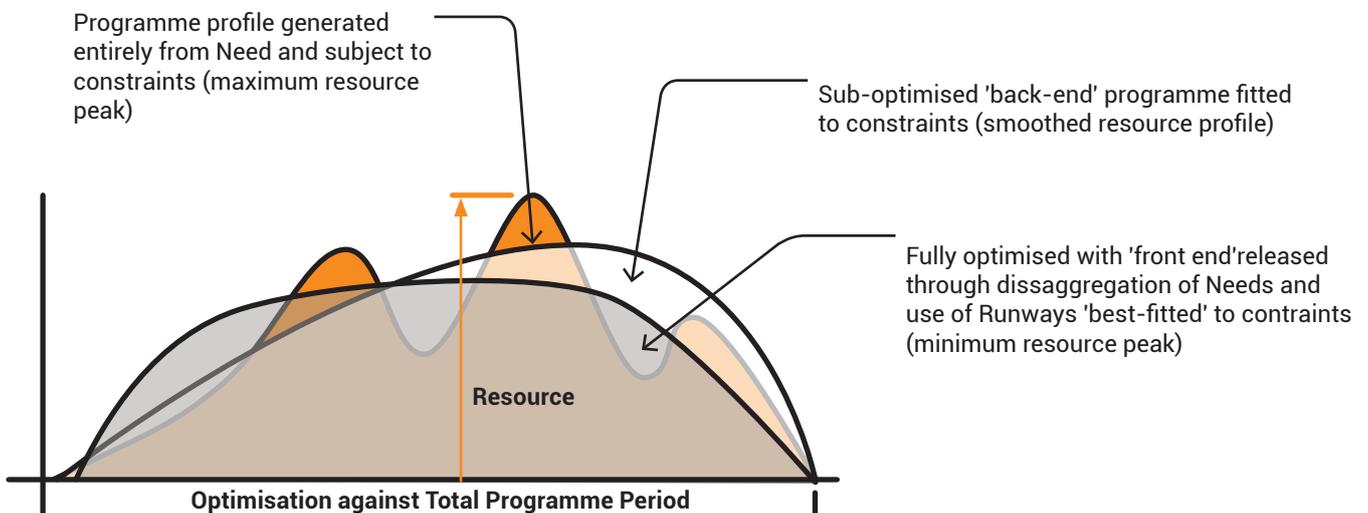
This has particular importance for large asset maintenance

or facilities management programmes where there is a much higher percentage of single resolution schemes within the business plan from the outset.

Linkage to Planning & Scheduling

The purpose of multiple delivery streams is to create 'pace' within the Implementation Stage, thereby enabling the overall programme resource profile to be minimised and 'cost to serve' to be reduced.

To achieve this it first requires the breaking-down of the Business Plan into sub-programmes or Tranches as part of a hierarchy within which the emerging scope. This can be first be bundled in terms of solutions and then compiled into projects and batched in terms of complexity.



One of the primary functions of programme management is to "smooth" the resource troughs by moving projects around to remove the resource peaks **"Optimising the programme"**.

Initially the large sub-programmes/ Tranches of work can be allocated in overall schedule, using resource & duration algorithms either based on conventional workflow or simply using the default programme period, and then 'smoothed' to provide a baseline for the programme delivery. The challenge for programme management is to now compile and deploy projects based on 'validated' scope along appropriate Runways within the sub-programmes / tranches.

The increase in 'pace' afforded by the Runways can then be better used to optimise the programme tranches by reducing the overall resource impact as well as allowing time for any linked "Needs" and interdependences to be resolved. Releasing validated scope with low synergies at least minimises the risk of visiting the same site twice within a sub-programme / tranche period.

This process also reduces the number of governance/approval checkpoints a project passes through in its lifecycle. This must be clearly indicated in the Business case submitted at the first approval gateway to ensure all stakeholders are in agreement with the Runway approach allocated to the project.

We have described the operation of an essentially 'basic' three Runway approach based on the three stages of design, however depending on the size, nature and the asset types involved, more Runway categories could be deployed, but care should be taken not to over-complicate the approach. The overall objective is always to reduce the programme resource profile thereby creating value and reducing risk.

Key Benefits

- Consistent benefit process
- Clearly highlights programme benefits
- Improves adoption of new operations
- Clearly identifies management problem areas
- Continuous monitoring ensuring delivery of benefits



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