

**WORKING DRAFT**

# Strategic Platform Modernisation (SPM): Programme Diagnostic

**Final Report**

13 October 2023



**POST  
OFFICE**

# Contents

Accenture conducted a diagnostic review of the Post Office SPM Programme in Autumn 2023.

This report contains the observations and recommendations of this diagnostic.

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**WORKING DRAFT**

# 01 | EXECUTIVE SUMMARY

# EXECUTIVE SUMMARY

Post Office Limited (POL) commissioned an independent diagnostic review of its **Strategic Platform Modernisation (SPM) Programme in Autumn 2023**, given significant delays and cost overruns.

## The diagnostic has found that:

- **The purpose of the SPM programme (to replace the Horizon platform) is sound**, removing functional and commercial dependence on an end-of-life core system whilst providing a flexible platform to enable future retail initiatives. There is some misalignment amongst stakeholders regarding the specific scope of the programme, which is being addressed
- **The technology architecture is fit for purpose**, based on modern technologies that will scale to support future products and services, however some critical remediation activities have been identified. **The technical build is well underway, with a live service (Drop & Collect) and an NBIT Pilot already delivered and well received by** both the business and Postmasters
- **However, SPM is suffering in delivery execution and, without a change in course, will fail:**
  - POL does not have the required internal experience to lead and deliver a large-scale IT transformation like SPM (despite assigning some capable colleagues to the programme)
  - The current delivery model is not channelling POL's capability in a way that will deliver the programme at pace
  - Delivery team morale is low – people don't feel equipped to deliver a programme of this importance

## Based on the findings of this diagnostic and Accenture's experience we recommend resetting the programme to:

- > **Clarify vision and revalidate current scope** – through scope guiding principles clearly linked back to the overall programme vision
- > **Engage an experienced IT and Change Transformation delivery partner** – define a delivery model enabled by external transformation expertise whilst building POL's internal capability
- > **Agree delivery method, organisation and governance** – with clear business sponsorship and streamlined forums
- > **Re-plan and re-cost the programme to next logical stage** – including a t-shirt sized estimate based on the chosen delivery model and method
- > **Embed data-driven management and decisioning** – from GE, through SteerCo and delegated to lower levels to allow the programme to move at pace
- > **Re-energise your teams and stakeholders** – cascade a consistent vision and plan, address ways of working, and maintain comms across and beyond the programme
- > **Implement tech remediation plan** – with consistent standards across environments, security and modern engineering approaches
- > **Embed business change and support into programme** – empower teams to identify, design and deliver the right interventions for stakeholders and BAU



# KEY OBSERVATIONS

THE PROGRAMME HAS SOME GOOD FOUNDATIONS BUT SIGNIFICANT CHALLENGES EXIST

✓ **Delivered a live service and pilot that have been well received**

✓ **Progressed Horizon replacement objectives further than any attempt prior to 2021**

✓ **Implemented remediation actions recognising that programme is challenged, and delivery is at risk**  
*e.g., by bringing in IT transformation skills & leadership, and by conducting this independent diagnostic review*

- A Robust scope guiding principles are not in place** leading to inconsistent scope translation from the vision
- B Post Office is playing the ‘integrator’ role internally despite limited complex IT delivery capability**
- C Delivery methodology is not fit-for-purpose** constraining ability to deliver solution and manage business change with confidence
- D Governance has been ineffective** given some unclear accountabilities and inconsistent adherence to RACI
- E Frequent amendments to timelines and cost forecasts** have led to concerns around delivery confidence
- F Limited data-driven reporting on programme progress** has prevented the ability to detect issues early
- G Culture has been a key blocker for overall success** impacting team morale and impeding collaboration
- H Tech solution has been built on a modern and stable architecture but requires some critical remediation** and consistent rollout
- I Change and deployment teams have been brought together** but it is not yet clear how they will be embedded into delivery

# KEY RECOMMENDATIONS

OUR KEY RECOMMENDATIONS DIRECTLY ADDRESS THE KEY OBSERVATIONS

## KEY OBSERVATIONS

- A** **Robust scope guiding principles are not in place** leading to inconsistent scope translation from the vision
- B** Post Office is playing the ‘integrator’ role internally despite **limited complex IT delivery capability**
- C** **Delivery methodology is not fit-for-purpose** constraining ability to deliver solution and manage business change with confidence
- D** **Governance has been ineffective** given some unclear accountabilities and inconsistent adherence to RACI
- E** **Frequent amendments to timelines and cost forecasts** have led to concerns around delivery confidence
- F** **Limited data-driven reporting on programme progress** has prevented the ability to detect issues early
- G** **Culture has been a key blocker for overall success** impacting team morale and impeding collaboration
- H** Tech solution has been **built on a modern and stable architecture but requires some critical remediation** and consistent rollout
- I** **Change and deployment teams have been brought together** but it is not yet clear how they will be embedded into delivery

## KEY RECOMMENDATIONS

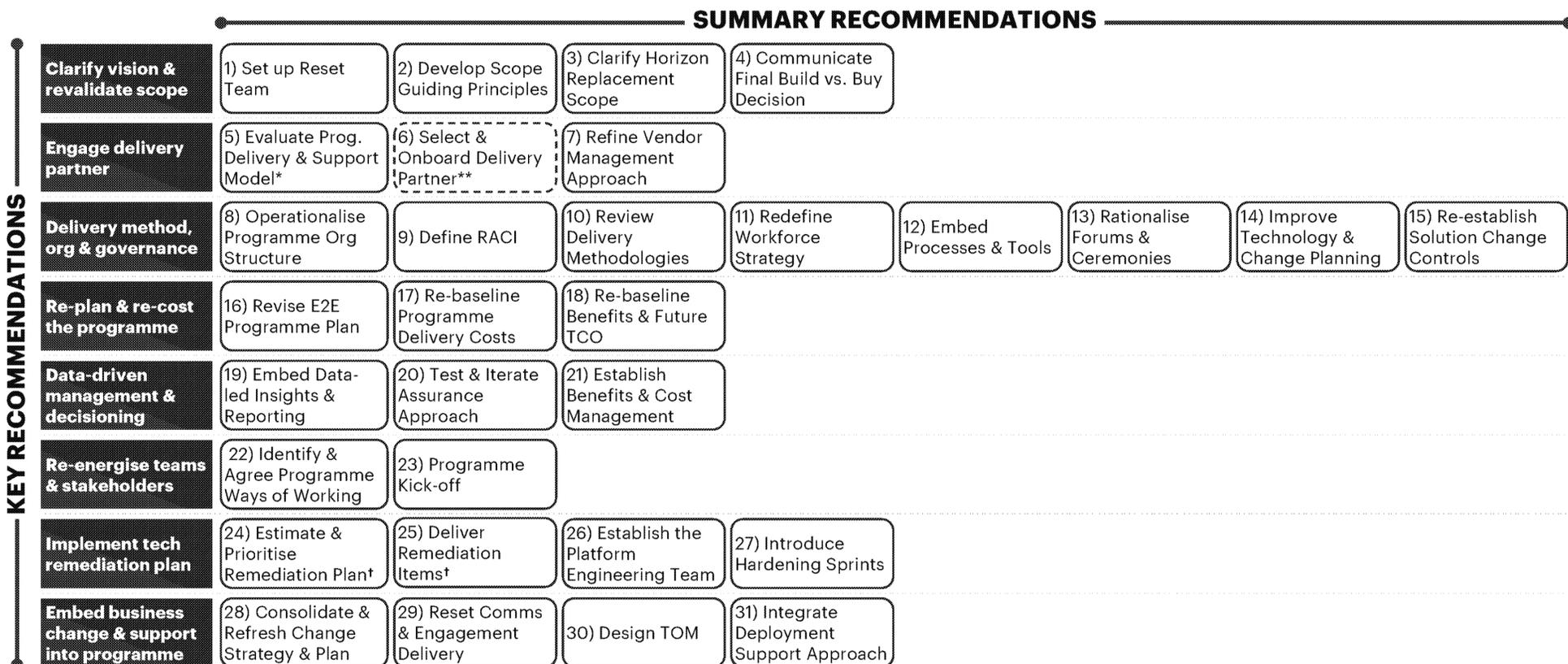
- >** **Clarify vision and revalidate current scope** – through scope guiding principles clearly linked back to the overall programme vision
- >** **Engage an experienced IT and Change Transformation delivery partner** – define a delivery model enabled by external transformation expertise whilst building POL’s internal capability
- >** **Agree delivery method, organisation and governance** – with clear business sponsorship and streamlined forums
- >** **Re-plan and re-cost the programme to next logical stage** – including a t-shirt sized estimate based on the chosen delivery model and method
- >** **Embed data-driven management and decisioning** – from GE, through SteerCo and delegated to lower levels to allow the programme to move at pace
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- >** **Implement tech remediation plan** – with consistent standards across environments, security and modern engineering approaches
- >** **Embed business change and support into programme** – empower teams to identify, design and deliver the right interventions for stakeholders and BAU



**EXECUTIVE SUMMARY**

# SUMMARY RECOMMENDATIONS

THE KEY RECOMMENDATIONS ARE AN AGGREGATION OF SPECIFIC ACTIVITIES



\*Delivery Model decision impacts subsequent recommendations. \*\*If applicable. †Some of these activities are currently progressing as part of 'Build Better' initiative.

# SUMMARY RECOMMENDATIONS

## EXECUTIVE SUMMARY

THE KEY RECOMMENDATIONS ARE AN AGGREGATION OF SPECIFIC ACTIVITIES

### SUMMARY RECOMMENDATIONS

KEY RECOMMENDATIONS	<b>Clarify vision &amp; revalidate scope</b>	1) Set up Reset Team: Formation of programme team to own and embed the programme reset	2) Develop Scope Guiding Principles: Re-establish strategic direction (incl. success metrics) and reset scope guiding principles	3) Clarify Horizon Replacement Scope: Identify and communicate 'like-for-like' vs. process improvement scope for horizon replacement, ensuring clear traceability from vision to implementation (e.g., HIJ/CIJ)	4) Communicate Final Build vs. Buy Decision: Agree path forward for Build vs. Buy decision and establish auditable documentation as necessary				
	<b>Engage delivery partner</b>	5) Evaluate Programme Delivery & Support Model*: Agree suitability and approach to onboarding a 3 <sup>rd</sup> party delivery partner to substitute and/or expand existing capabilities. Includes designing TOM principles		6) Select & Onboard Delivery Partner**: Complete partner selection process and onboard relevant delivery partner. Ensure that they inform overall delivery approach	7) Refine Vendor Management Approach: Re-establish clear vendor management process (e.g., include contract clauses to ensure knowledge transfer)				
	<b>Delivery method, org &amp; governance</b>	8) Operationalise Programme Org Structure: Complete on-going programme org structure discussions and set up roles	9) Define RACI: Agree RACI and ensure accountabilities are adhered to across the programme (e.g., structures of escalation)	10) Review Delivery Methodologies: Agree programme wide delivery methodology (e.g., version of Agile) and how it will be adapted for programme needs & POL (e.g., waterfall)	11) Redefine Workforce Strategy: Understand existing programme capability, map to programme requirements and define resource management plan	12) Embed Processes & Tools: Agree, adapt and embed appropriate processes and supporting tools to manage programme delivery and solution development consistently and effectively across delivery lifecycle	13) Rationalise Forums & Ceremonies: Refine forums and ceremonies in line with agreed delivery approach, programme processes, org structure and RACI	14) Improve Technology & Change Planning: Revise integrated tech and change planning approach (incl. clear estimation, forecasting and dependency mapping)	15) Re-establish Solution Change Controls: Re-establish programme change management processes (e.g., TDA, including refinement of low-level designs)
	<b>Re-plan &amp; re-cost the programme</b>	16) Revise E2E Programme Plan: Revise, estimate and integrate tech and change plans across scope, timeline, delivery stage gates etc.		17) Re-baseline Programme Delivery Costs: Re-baseline programme costs, based on scope, E2E programme plan and agreed delivery methodology	18) Re-baseline Benefits & Future TCO: Calculate holistic benefits (e.g., efficiency gains, CSAT etc.), link at high level to delivery stage gates and re-estimate future total cost ownership				
	<b>Data-driven management &amp; decisioning</b>	19) Embed Data-led Insights & Reporting: Agree and embed proposed programme Assurance approach (e.g., Assurance Universe). Iterate and refine as needed		20) Test & Iterate Assurance Approach: Review and update KPIs & processes to consistently track and report delivery progress in line with programme vision	21) Establish Benefits & Cost Management: Re-establish programme cost monitoring and extend/embed ongoing benefits management				
	<b>Re-energise teams &amp; stakeholders</b>	22) Identify & Agree Programme Ways of Working: Identify and agree desired top-line programme behaviours and ways of working to be embedded and enforced within teams e.g., to encourage transparency, collaboration and empowerment			23) Programme Kick-off: Kick-off programme (e.g., through an away day) with relevant stakeholders to energise and motivate for programme restart				
	<b>Implement tech remediation plan</b>	24) Estimate & Prioritise Remediation Plan*: Develop a prioritised plan to address identified issues by estimating required resources, costs, and timeframes	25) Deliver Remediation Items*: Deliver the Build Better remediation recommendations, plus newly identified recommendations, in a consistent, mandated way across all delivery squads		26) Establish the Platform Engineering Team: Setup a team that creates, standardises and maintains the underlying platform and tooling that supports engineering	27) Introduce Hardening Sprints: Include ongoing effort (& budget) to stabilise the code base at regular intervals			
	<b>Embed business change &amp; support into programme</b>	28) Consolidate & Refresh Change Strategy & Plan: Validate and update change strategy for the E2E programme and execute activities in line with revised tech delivery timelines incl. change impact, comms, learning		29) Reset Comms & Engagement Delivery: Re-define programme comms and engagement strategy for all impacted stakeholders (in and outside the programme)	30) Design TOM: Complete development of holistic and integrated BAU target operating model, including Horizon transition state planning	31) Integrate Deployment Support Approach: Integrate current business and tech related deployment support plans and teams e.g., ROC - Retail Operations Centre - previously defined in RTP			

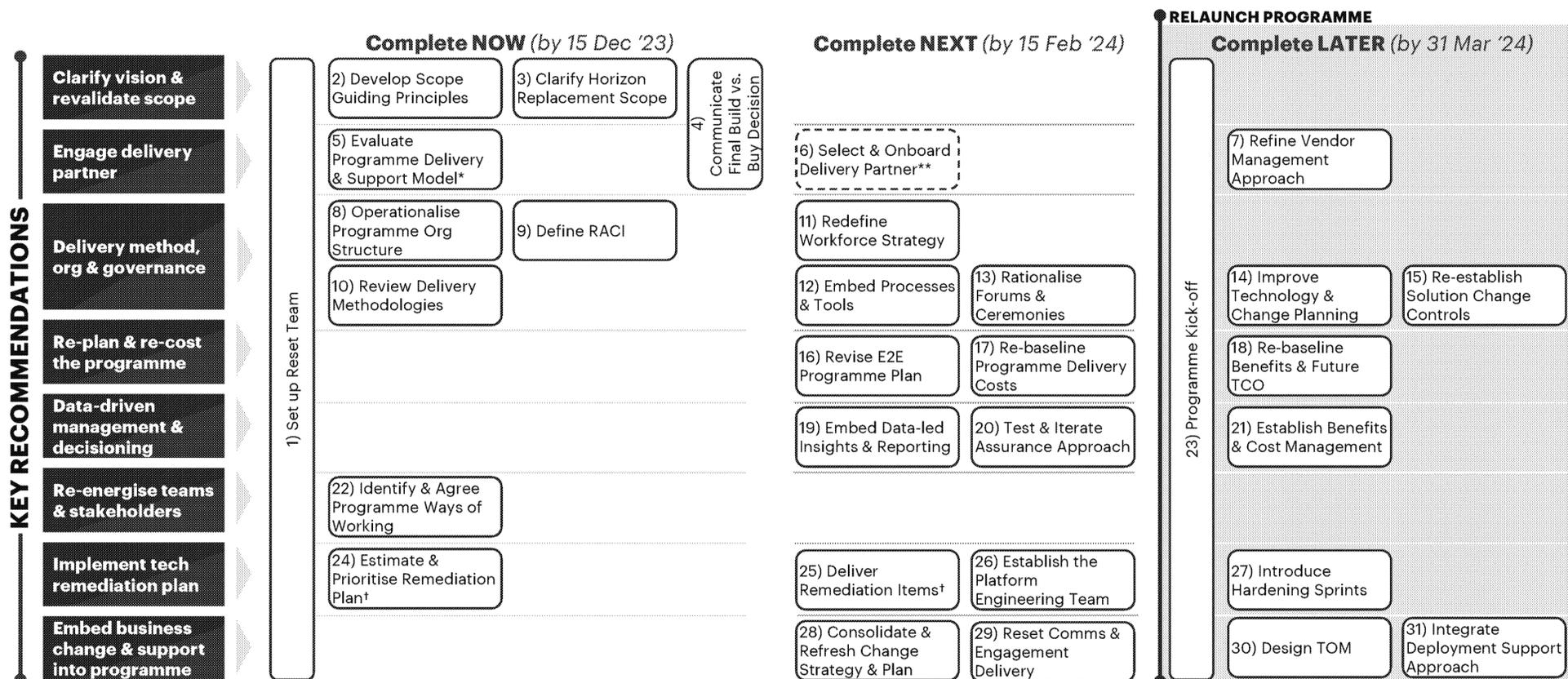
\*Delivery Model decision impacts subsequent recommendations. \*\*If applicable. †Some of these activities are currently progressing as part of 'Build Better' initiative.



**EXECUTIVE SUMMARY**

# ILLUSTRATIVE ROADMAP

ESTABLISH A DEDICATED "RESET TEAM" TO DRIVE THE RECOMMENDATIONS AND RELAUNCH BY MARCH '24



\*Delivery Model decision impacts subsequent recommendations. \*\*If applicable. †Some of these activities are currently progressing as part of 'Build Better' initiative.

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# 02 | CONTEXT

# INTRODUCTION

## BACKGROUND

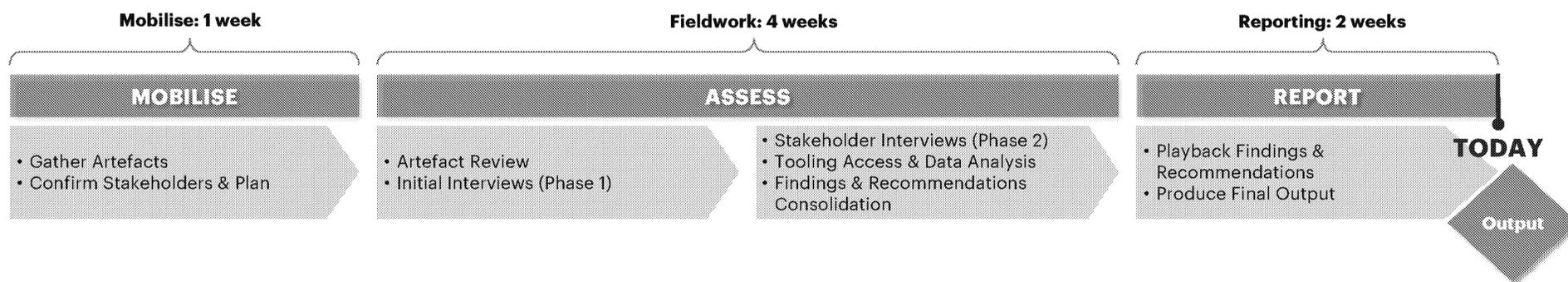
- Post Office Limited (POL) commissioned an independent diagnostic review of its Strategic Platform Modernisation (SPM) Programme, given significant delays and cost overruns, which have led to a recent ramp down across the Programme
- Accenture has conducted this programme diagnostic review over seven weeks, providing an end-to-end view of positive features and challenges, as well as tangible recommendations to set the programme back on track
- This report summarises the outputs of Accenture’s programme diagnostic findings and recommendations

## CONTEXT

- This diagnostic has been conducted by an Accenture review team that is independent to those Accenture resources engaged in the SPM programme delivery
- The diagnostic review has been completed over a relatively short time frame (seven weeks), with additional focus on the areas requiring significant intervention and recommendations that will best position the programme for success
- Five Level 1 capabilities or ‘Towers’ have been assessed to provide a holistic programme view: Strategy, Governance, People, Solution and Implementation. Against each Level 1, a set of Level 2 and Level 3 capabilities were defined to guide this diagnostic review based on Accenture or industry standard frameworks
- Observations and diagnostic RAGs – indicating the level of intervention required – have been derived through stakeholder interviews and artefact review, based on materials made available to the review team by POL
- Key decisions have been made in parallel to this diagnostic review (e.g., RTP brought back together with STP in week 5). Where possible the diagnostic team has accurately reflected the changing state of the programme
- Many of the recommendations outlined in this document require further decisions to be made by POL (e.g. delivery model, methodology) before they can be fully implemented within the programme

# SCOPE & APPROACH

OVER SEVEN WEEKS, WE HAVE INTERVIEWED A CROSS SECTION OF THE SPM POPULATION AND ASSESSED A WIDE RANGE OF ARTEFACTS TO INFORM THIS DIAGNOSTIC REVIEW



<b>STRATEGY</b> <b>GOVERNANCE</b> <b>PEOPLE</b> <b>SOLUTION</b> <b>IMPLEMENTATION</b>	<b>166</b>	<b>89</b>	<b>c.500</b>	<b>91</b>
	Interviews Conducted	Individuals Engaged*	Artefacts Reviewed**	Survey Responses

\*Across GE, STP/RTP leadership, business change, 3rd parties, and technical delivery. \*\*Includes artefacts provided by POL, additional interviewee material, and live content within programme tools, e.g., JIRA, Confluence and ServiceNow.

# SOURCE LIST

## DETAILED VIEW OF STAKEHOLDERS ENGAGED AND ARTEFACTS REVIEWED THROUGH THE DIAGNOSTIC REVIEW

**We have engaged a broad group of stakeholders of all levels working across the SPM Programme**

This includes:

- General Executive
- Programme Leadership
- Programme Management
- Technical Delivery
- Engineering
- Architecture
- Product Management
- Stakeholder Engagement
- Change Management
- Assurance
- Security
- Retail Operations

### 89 INTERVIEWEES\*

- |                        |                    |                        |                    |
|------------------------|--------------------|------------------------|--------------------|
| • Abigail McGeever     | • Emily Robinson   | • Martin Roberts       | • Ryan Jones       |
| • Ajay Patel           | • Emma Jones       | • Matt Walton          | • Richard James    |
| • Amit Dandekar        | • Fiona Burns      | • Mayuresh Sane        | • Rob Fry          |
| • Andrew Kingham       | • Gareth Clark     | • Mel Park             | • Sam Jeyakumar    |
| • Andy McAllister      | • George Cross     | • Melissa Gribben      | • Samantha Swann   |
| • Anne-Marie Hearne    | • Greg Lewis       | • Michelle Stainsby    | • Sarah Gray       |
| • Barry Johns          | • Hema Kanani      | • Mike Braithwaite     | • Shelley Genery   |
| • Ben Marsh            | • Ian Bilclough    | • Natalie Cross        | • Simon Pearson    |
| • Ben Owens            | • Jane Kidd        | • Natasha Gowardun     | • Sophie Drury     |
| • Brian Jones          | • Jeff Mak         | • Nick Ravenscroft     | • Steve Hepburn    |
| • Chris Darriet-Jones  | • Karen Cleary     | • Nicola Marriott      | • Steve McFarlane  |
| • Christo Caratossidis | • Kate Kay         | • Nik Gill             | • Steve Young      |
| • Claire Hurrell       | • Kathryn Sherratt | • Nikki Savekar        | • Stuart Banfield  |
| • Clare Mapes          | • Kathryn Wearne   | • Nirmal Radhakrishnan | • Sue Saikia       |
| • Colin Moore          | • Kelly Goodwin    | • Owen Woodley         | • Thomas Maddern   |
| • Dan Perrin           | • Kelly Metcalfe   | • Paul Minchell        | • Tim McInnes      |
| • Daniel Wood          | • Lauren Brogden   | • Pete Marsh           | • Vinay Swali      |
| • David Gemmell        | • Lee Hosford      | • Phil Newton          | • Will Jenkins     |
| • David Steed          | • Liam Carroll     | • Praveen Bhujade      | • Yogesha Ramanna  |
| • Davyd Nash           | • Luke Bailey      | • Reuan Williams       | • Zdravko Mladenov |
| • Dipesh Chandegra     | • Mark Elmslie     | • Rob Guest            |                    |
| • Ed Harris            | • Mark Nash        | • Rob Wilkins          |                    |
| • Ed Spencer           | • Marnus Marx      | • Ryan Allan           |                    |

### c.500 ARTEFACTS

Alongside interviews, an extensive list of artefacts were provided by Post Office for review as part of the engagement. The review has additionally included live content captured within programme tools such as Confluence, Jira, and Service Now

\*Interviewees based on a list provided by POL, following a role-based ask from the diagnostic team. Also includes additional interviewees identified during the diagnostic review. Every effort has been made to engage the appropriate subject-matter experts and gather insights from a representative group across all areas and levels but, due to timescales, it was not feasible to interview every stakeholder across STP/RTP within SPM.

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# **03 | SUMMARY OBSERVATIONS & RECOMMENDATIONS**

# DIAGNOSTIC METHODOLOGY

AN END-TO-END REVIEW ACROSS THE FIVE MAJOR CAPABILITIES REQUIRED FOR SUCCESSFUL DELIVERY

- Using a Level 1-3 framework, **detailed observations** have been captured following **quantitative** (artefact and data analysis) and **qualitative review** (interviews, surveys)
- Each Level 3 has received a diagnostic RAG from which an overall Level 2 **diagnostic RAG has been derived**
- Where a **capability requires intervention**, recommendations, have been captured (see appendix) and form the **basis for the summary recommendations** outlined

STRATEGY	GOVERNANCE	PEOPLE	SOLUTION	IMPLEMENTATION
<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>
1.1 Strategic Intent	2.1 Planning	3.1 Change Strategy	4.1 Operations Capability	5.1 Design
1.2 Business Case Economics	2.2 Reporting, KPIs & Metrics	3.2 Change Execution	4.2 Solution Architecture	5.2 Build
1.3 Stakeholder Alignment	2.3 Prog Organisation, Authorities & Forums	3.3 Stakeholder Engagement & Comms	4.3 DevSecOps & Environments	5.3 Testing
1.4 Scope & Requirements	2.4 Change Control	3.4 Culture & Behaviours	4.4 Non-Functional Requirements	5.4 Release Mgmt. & Deployment
1.5 Sequencing & Prioritisation	2.5 Commercial & Contract Management	3.5 Skills & Competencies	4.5 Data	5.5 Conversion
1.6 Delivery Model	2.6 Resource Management	3.6 Learning & Training	4.6 Code	5.6 Post Go Live Support
1.7 Target Operating Model	2.7 Vendor Management		4.7 Infrastructure	5.7 Service Introduction

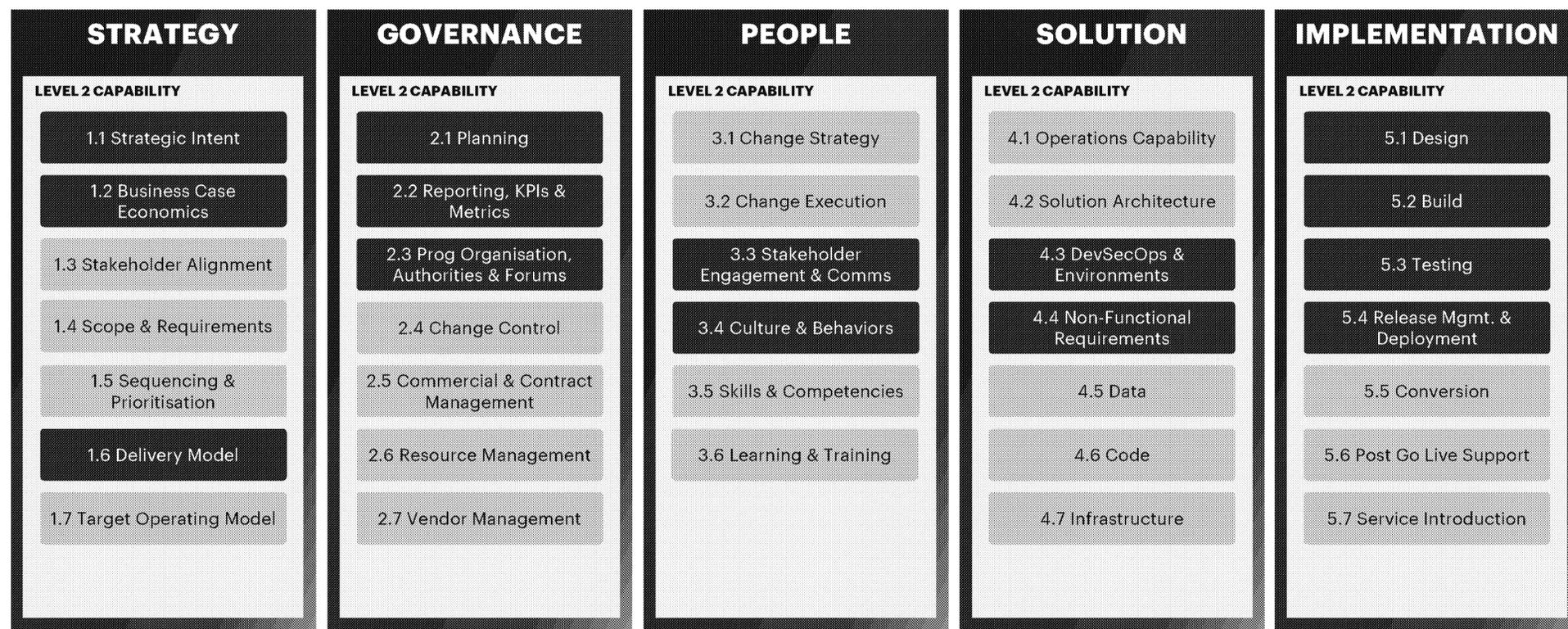
**NOTE:** See Appendix for further detail on the diagnostic methodology.



# SUMMARY OBSERVATIONS RAG RATING

14 “LEVEL 2” CAPABILITIES ASSESSED AS RED - WHERE SIGNIFICANT INTERVENTION IS RECOMMENDED

## LEVEL 2 CAPABILITY RAG RATING

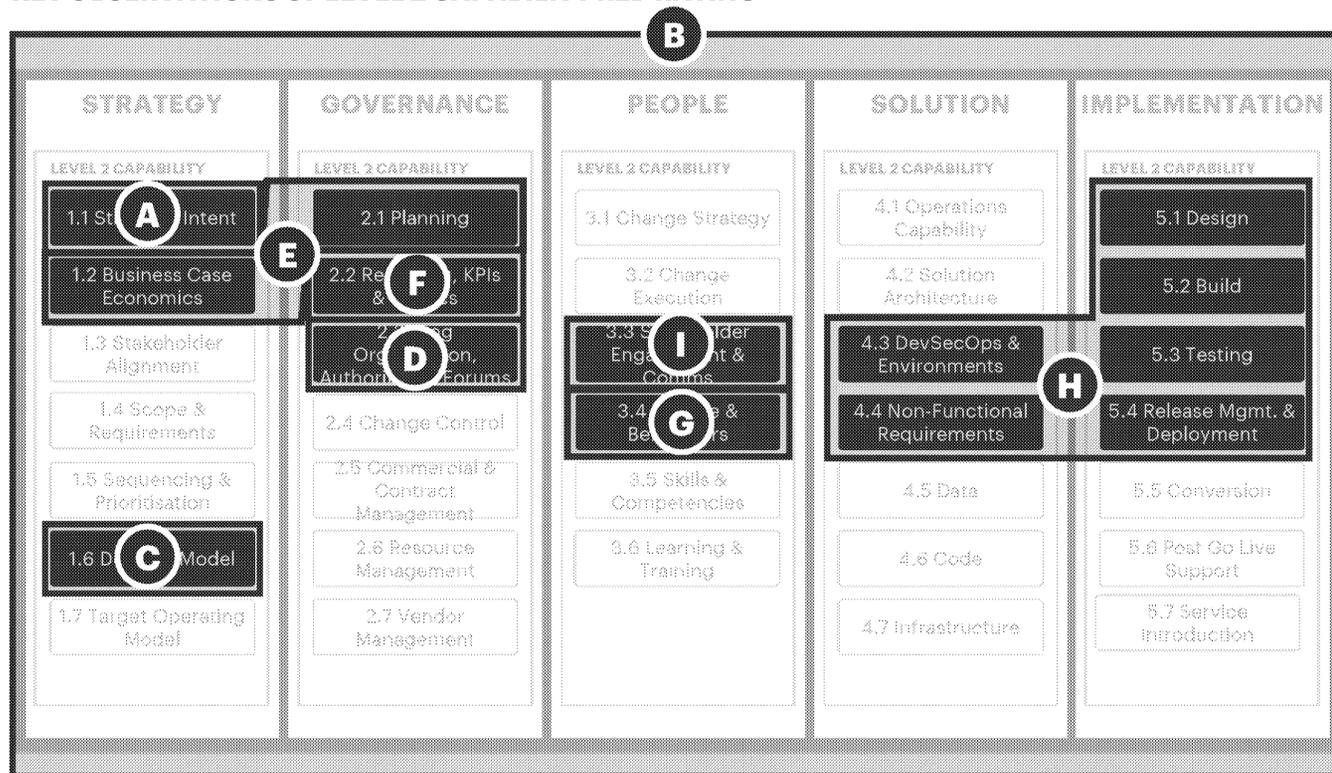


**NOTE:** See Appendix for observations per Level 1 capability and the diagnostic methodology.

# FROM SUMMARY TO KEY OBSERVATIONS

THESE LEVEL 2 CAPABILITY “RED” RATINGS ARE EXPLAINED THROUGH NINE KEY OBSERVATIONS

## KEY OBSERVATIONS OF LEVEL 2 CAPABILITY RED RATING



**A** Robust scope guiding principles are not in place leading to inconsistent scope translation from the vision

**B** Post Office is playing the ‘integrator’ role internally despite **limited complex IT delivery capability**

**C** Delivery methodology is not fit-for-purpose constraining ability to deliver solution and manage business change with confidence

**D** Governance has been ineffective given some unclear accountabilities and inconsistent adherence to RACI

**E** Frequent amendments to timelines and cost forecasts have led to concerns around delivery confidence

**F** Limited data-driven reporting on programme progress has prevented the ability to detect issues early

**G** Culture has been a key blocker for overall success impacting team morale and impeding collaboration

**H** Tech solution has been built on a modern and stable arch. but requires some critical remediation and consistent rollout

**I** Change and deployment teams have been brought together but it is not yet clear how they will be embedded into delivery

NOTE: See Appendix for observations per Level 1 capability and the diagnostic methodology.

POST OFFICE RAG & Observation Definition ■ Significant interventions recommended ■ Key observation

# KEY OBSERVATIONS & RECOMMENDATIONS

OUR KEY RECOMMENDATIONS DIRECTLY ADDRESS THE KEY OBSERVATIONS

## KEY OBSERVATIONS

- A** **Robust scope guiding principles are not in place** leading to inconsistent scope translation from the vision
- B** Post Office is playing the ‘integrator’ role internally despite **limited complex IT delivery capability**
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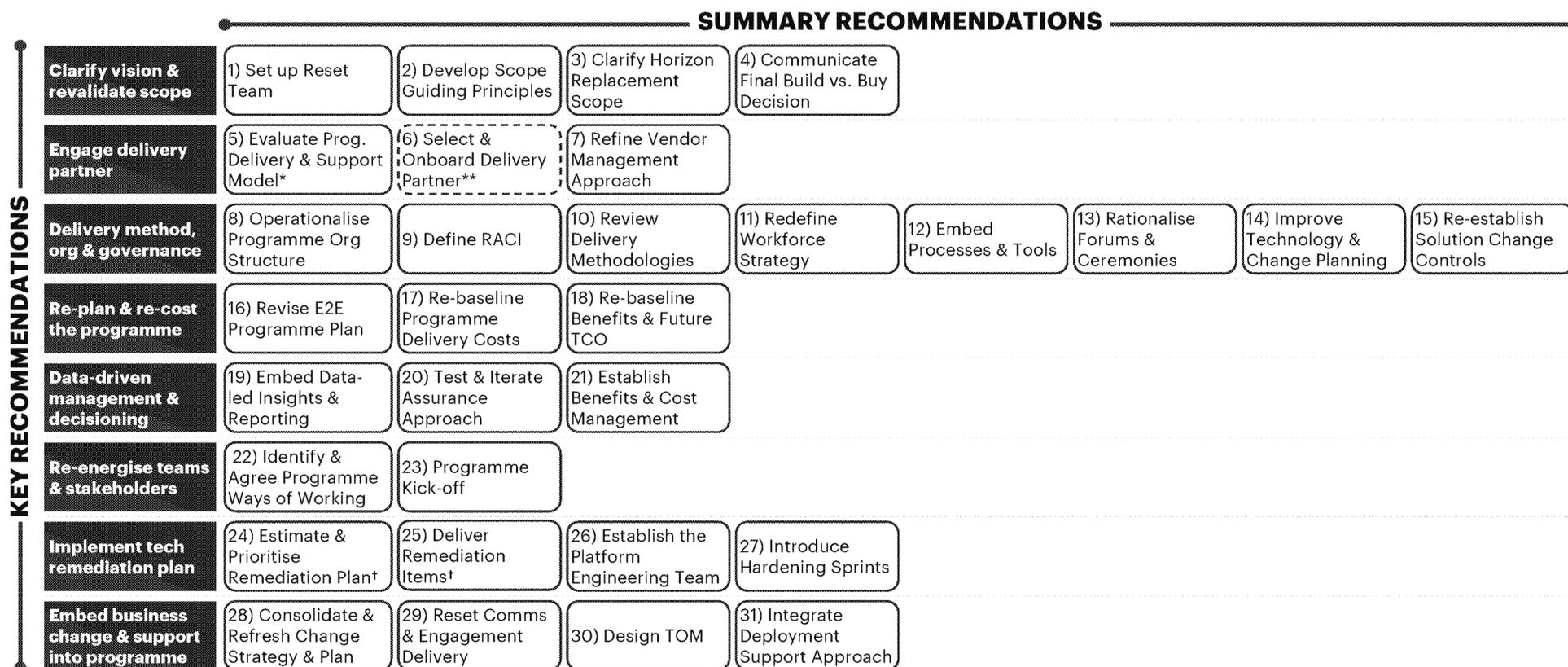
## KEY RECOMMENDATIONS

- >** **Clarify vision and revalidate current scope** – through scope guiding principles clearly linked back to the overall programme vision
- >** **Engage an experienced IT and Change Transformation delivery partner** – define a delivery model enabled by external transformation expertise whilst building POL’s internal capability
- >** **Agree delivery method, organisation and governance** – with clear business sponsorship and streamlined forums
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# RECOMMENDATIONS SUMMARY

THE KEY RECOMMENDATIONS ARE AN AGGREGATION OF SPECIFIC ACTIVITIES

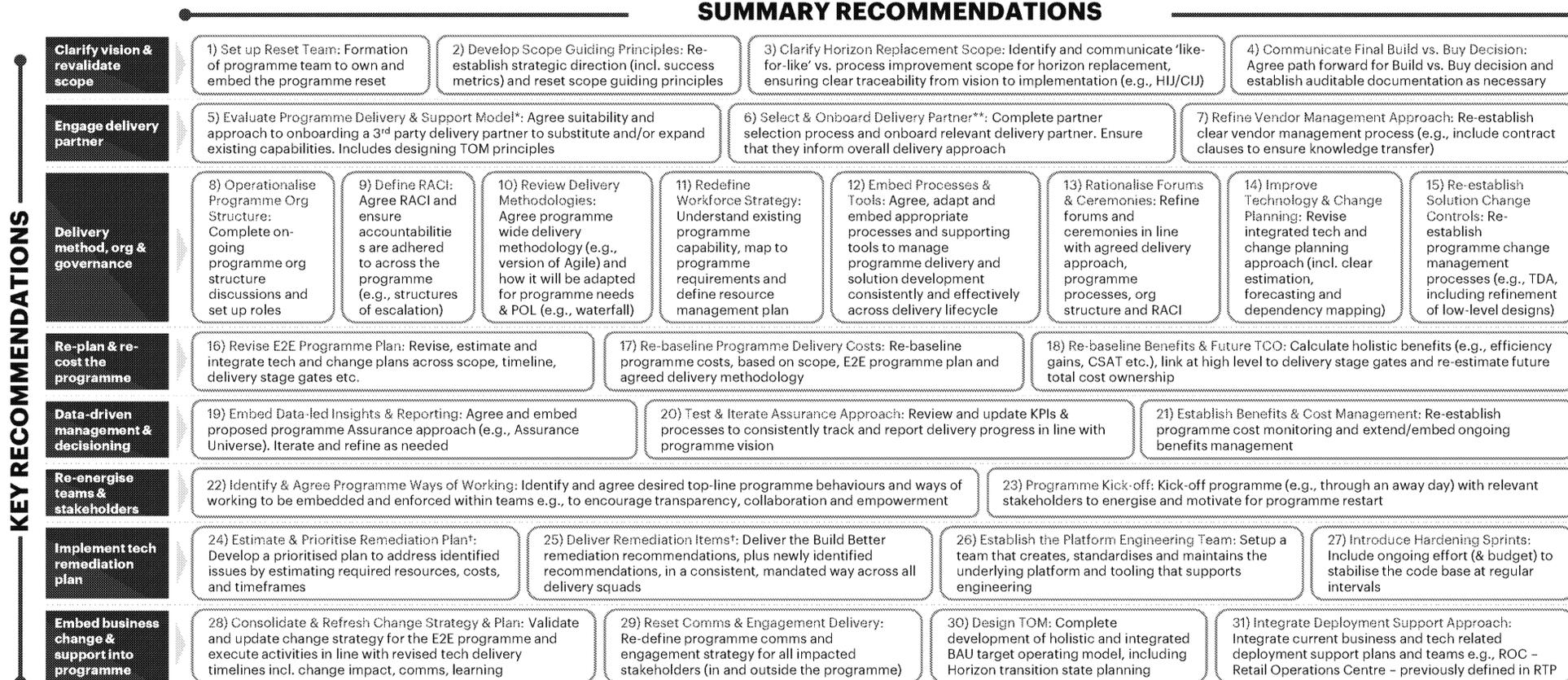


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# RECOMMENDATIONS SUMMARY DETAIL

THE KEY RECOMMENDATIONS ARE AN AGGREGATION OF SPECIFIC ACTIVITIES

## SUMMARY RECOMMENDATIONS



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# SUMMARY RECOMMENDATION (1/8)

## CLARIFY VISION & REVALIDATE SCOPE

### KEY OBSERVATION

**A** **Robust scope guiding principles are not in place** leading to inconsistent scope translation from the vision

### KEY RECOMMENDATION

**>** **Clarify vision and revalidate current scope** – through scope guiding principles clearly linked back to the overall programme vision

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
1) Set up Reset Team	Formation of programme team to own and embed the programme reset	Now	-	-	-	-	-
2) Develop Scope Guiding Principles	Re-establish strategic direction (incl. success metrics) and reset scope guiding principles	Now	X		X	X	X
3) Clarify Horizon Replacement Scope	Identify and communicate 'like-for-like' vs. process improvement scope for horizon replacement, ensuring clear traceability from vision to implementation (e.g., HIJ/CIJ)	Now	X			X	X
4) Communicate Final Build vs. Buy Decision	Agree path forward for Build vs. Buy decision and establish auditable documentation as necessary	Now	-	-	-	-	-

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations.

# SUMMARY RECOMMENDATION (2/8)

## ENGAGE DELIVERY PARTNER

### KEY OBSERVATION

**B** Post Office is playing the 'integrator' role internally despite **limited complex IT delivery capability**

### KEY RECOMMENDATION

**>** **Engage an experienced IT and Change Transformation delivery partner** – define a delivery model enabled by external transformation expertise whilst building POL's internal capability

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
5) Evaluate Programme Delivery & Support Model*	Agree suitability and approach to onboarding a 3 <sup>rd</sup> party delivery partner to substitute and/or expand existing capabilities. Includes designing TOM principles	Now	X				X
6) Select & Onboard Delivery Partner**	Complete partner selection process and onboard relevant delivery partner. Ensure that they inform overall delivery approach	Next		X			
7) Refine Vendor Management Approach	Re-establish clear vendor management process (e.g., include contract clauses to ensure knowledge transfer)	Later		X			

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations. \*Delivery Model decision impacts subsequent recommendations. \*\*If applicable.

# SUMMARY RECOMMENDATION (3/8)

## DELIVERY METHOD, ORGANISATION & GOVERNANCE

### KEY OBSERVATION

- C** **Delivery methodology is not fit-for-purpose** constraining ability to deliver solution and manage business change with confidence
- D** **Governance has been ineffective** given some unclear accountabilities and inconsistent adherence to RACI

### KEY RECOMMENDATION

**➤ Agree delivery method, organisation and governance** – with clear business sponsorship and streamlined forums

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
8) Operationalise Programme Org Structure	Complete on-going programme org structure discussions and set up roles	<b>Now</b>	X	X			
9) Define RACI	Agree RACI and ensure accountabilities are adhered to across the programme (e.g., structures of escalation)	<b>Now</b>	X	X	X		X
10) Review Delivery Methodologies	Agree programme wide delivery methodology (e.g., version of Agile) and how it will be adapted for programme needs & POL (e.g., waterfall)	<b>Now</b>	X	X		X	
11) Redefine Workforce Strategy	Understand existing programme capability, map to programme requirements and define resource management plan	<b>Next</b>		X	X		X
12) Embed Processes & Tools	Agree, adapt and embed appropriate processes and supporting tools to manage programme delivery and solution development consistently and effectively across delivery lifecycle	<b>Next</b>	X	X		X	X
13) Rationalise Forums & Ceremonies	Refine forums and ceremonies in line with agreed delivery approach, programme processes, org structure and RACI	<b>Next</b>	X	X			X
14) Improve Technology & Change Planning	Revise integrated tech and change planning approach (incl. clear estimation, forecasting and dependency mapping)	<b>Later</b>	X				X
15) Re-establish Solution Change Controls	Re-establish programme change management processes (e.g., TDA, including refinement of low-level designs)	<b>Later</b>		X			X

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations.

# SUMMARY RECOMMENDATION (4/8)

## RE-PLAN & RE-COST THE PROGRAMME

### KEY OBSERVATION

**E** Frequent amendments to timelines and cost forecasts have led to concerns around delivery confidence

### KEY RECOMMENDATION

**>** Re-plan and re-cost the programme to next logical stage – including a t-shirt sized estimate based on the chosen delivery model and method

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
16) Revise E2E Programme Plan	Revise, estimate and integrate tech and change plans across scope, timeline, delivery stage gates etc.	Next	X	X			X
17) Re-baseline Programme Delivery Costs	Re-baseline programme costs, based on scope, E2E programme plan and agreed delivery methodology	Next	X	X			
18) Re-baseline Benefits & Future TCO	Calculate holistic benefits (e.g., efficiency gains, CSAT etc.), link at high level to delivery stage gates and re-estimate future total cost ownership	Later	X	X		X	X

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations.

# SUMMARY RECOMMENDATION (5/8)

## DATA-DRIVEN MANAGEMENT & DECISIONING

### KEY OBSERVATION

**F** Limited data-driven reporting on programme progress has prevented the ability to detect issues early

### KEY RECOMMENDATION

**>** Embed data-driven management and decisioning – from GE, through SteerCo and delegated to lower levels to allow the programme to move at pace

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
19) Embed Data-led Insights & Reporting	Agree and embed proposed Assurance approach (e.g., Assurance Universe), within programme. Iterate and refine as needed	Next	X	X			X
20) Test & Iterate Assurance Approach	Review and update KPIs & processes to consistently track and report delivery progress in line with programme vision	Next		X			X
21) Establish Benefits & Cost Management	Re-establish programme cost monitoring and extend/embed ongoing benefits management	Later	X	X		X	X

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations.

# SUMMARY RECOMMENDATION (6/8)

## RE-ENERGISE TEAMS & STAKEHOLDERS

### KEY OBSERVATION

**G** **Culture has been a key blocker for overall success** impacting team morale and impeding collaboration

### KEY RECOMMENDATION

**>** **Re-energise your teams and stakeholders** – cascade a consistent vision and plan, address ways of working, and maintain comms across and beyond the programme

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
22) Identify & Agree Programme Ways of Working	Identify and agree desired top-line programme behaviours and ways of working to be embedded and enforced within teams e.g., to encourage transparency, collaboration and empowerment	Now	X	X	X		X
23) Programme Kick-off	Kick-off programme (e.g., through an away day) with relevant stakeholders to energise and motivate for programme restart	Later	X				

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations.

# SUMMARY RECOMMENDATION (7/8)

## IMPLEMENT TECH REMEDIATION PLAN

### KEY OBSERVATION

**H** Tech solution has been **built on a modern and stable architecture but requires some critical remediation** and consistent rollout

### KEY RECOMMENDATION

**>** **Implement tech remediation plan** – with consistent standards across environments, security and modern engineering approaches

Action	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
24) Estimate & Prioritise Remediation Plan*	Develop a prioritised plan to address identified issues by estimating required resources, costs, and timeframes	<b>Now</b>				<b>X</b>	<b>X</b>
25) Deliver Remediation Items*	Deliver the Build Better remediation recommendations, plus newly identified recommendations, in a consistent, mandated way across all delivery squads	<b>Next</b>				<b>X</b>	<b>X</b>
26) Establish the Platform Engineering Team	Setup a team that creates, standardises and maintains the underlying platform and tooling that supports engineering	<b>Next</b>					<b>X</b>
27) Introduce Hardening Sprints	Include ongoing effort (& budget) to stabilise the code base at regular intervals	<b>Later</b>					<b>X</b>

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to summary recommendations. \*Some of these activities are currently being progressed as part of 'Build Better' initiative.

# SUMMARY RECOMMENDATION (8/8)

## EMBED BUSINESS CHANGE & SUPPORT INTO PROGRAMME

### KEY OBSERVATION

**I** **Change and deployment teams have been brought together** but it is not yet clear how they will be embedded into delivery

### KEY RECOMMENDATION

**➤** **Embed business change and support into programme** – empower teams to identify, design and deliver the right interventions for stakeholders and BAU

Summary Recommendation	High-level Description	Complete	Strategy	Gov.	People	Solution	Impl.
28) Consolidate & Refresh Change Strategy & Plan	Validate and update change strategy for the E2E programme and execute activities in line with revised tech delivery timelines incl. change impact, comms, learning	Next			X		
29) Reset Comms & Engagement Delivery	Re-define programme comms and engagement strategy for all impacted stakeholders (in and outside the programme)	Next			X		
30) Design TOM	Complete development of holistic and integrated BAU target operating model, including Horizon transition state planning	Later	X				X
31) Integrate Deployment Support Approach	Integrate current business and tech related deployment support plans and teams e.g., ROC – Retail Operations Centre – previously defined in RTP	Later					X

**NOTE:** See Appendix for detailed recommendations per Level 1 capability and how these map back to actions.

# 04 | APPENDIX

- I Methodology
- II Survey Results
- III Review Detail (Per Tower)
- IV Additional Supporting Evidence

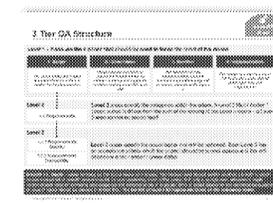
# I | METHODOLOGY

# DETAILED APPROACH

## METHODOLOGY, PROCESS, AND DELIVERABLES

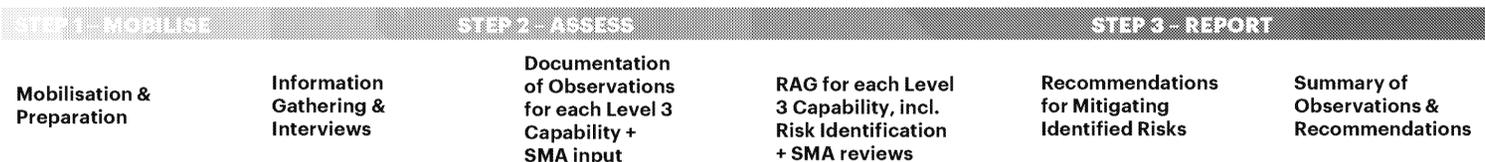
### METHODOLOGY

- We have leveraged Accenture’s Programme Diagnostic Accelerator to conduct the diagnostic review, supported by Accenture’s Delivery Methodology and informed by several tools, e.g., DevSecOps Maturity Framework, Agile Delivery Quality Assurance, as well as AWS Well-Architected Reviews
- The Accelerator structures the diagnostic review into Level 1, Level 2, and Level 3 capabilities that are required for successful programme delivery
- Detailed observations were identified through documentation review, data analysis, and qualitative data collection (e.g., interviews, surveys)
- Each Level 3 capability received a diagnostic RAG rating based on the observations. This included identification of key areas for intervention. An overall Level 2 diagnostic RAG has been derived based on the RAG and detailed observations within each of its Level 3 capabilities
- Recommendations have been highlighted, and prioritisation suggested, for any Level 2 or Level 3 requiring intervention



### PROCESS

We have followed these steps to gather information, complete analysis, capture insights, and identify recommendations:



### DELIVERABLES

- A **snapshot** of observations & recommendations
- **Detailed observations and recommendations** to reduce overall risk by tower
- An **executive summary**, outlining key cross-cutting themes and critical recommendations to bring the programme back on track



### RECOMMENDATIONS

- Where a Level 2 or Level 3 capability requires intervention, we have prioritised recommendations by anticipated impact
- Our recommendations bring industry expertise together with insights from the team on the ground to provide clear options that get to the heart of the challenges facing SPM

# DIAGNOSTIC METHODOLOGY

AN END-TO-END REVIEW ACROSS THE FIVE MAJOR CAPABILITIES REQUIRED FOR SUCCESSFUL DELIVERY

→ Using a Level 1-3 framework, **detailed observations** have been captured following **quantitative** (artefact and data analysis) and **qualitative review** (interviews, surveys)

→ Each Level 3 has received a diagnostic RAG from which an overall Level 2 **diagnostic RAG** has been derived

→ Where a **capability requires intervention**, recommendations, prioritised by anticipated impact, have been captured (see appendix) and form the **basis for the summary recommendations** outlined

STRATEGY	GOVERNANCE	PEOPLE	SOLUTION	IMPLEMENTATION
<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>	<b>LEVEL 2 CAPABILITY</b>
1.1 Strategic Intent	2.1 Planning	3.1 Change Strategy	4.1 Operations Capability	5.1 Design
1.2 Business Case Economics	2.2 Reporting, KPIs & Metrics	3.2 Change Execution	4.2 Solution Architecture	5.2 Build
1.3 Stakeholder Alignment	2.3 Prog Organisation, Authorities & Forums	3.3 Stakeholder Engagement & Comms	4.3 DevSecOps & Environments	5.3 Testing
1.4 Scope & Requirements	2.4 Change Control	3.4 Culture & Behaviours	4.4 Non-Functional Requirements	5.4 Release Mgmt. & Deployment
1.5 Sequencing & Prioritisation	2.5 Commercial & Contract Management	3.5 Skills & Competencies	4.5 Data	5.5 Conversion
1.6 Delivery Model	2.6 Resource Management	3.6 Learning & Training	4.6 Code	5.6 Post Go Live Support
1.7 Target Operating Model	2.7 Vendor Management		4.7 Infrastructure	5.7 Service Introduction

# II | SURVEY RESULTS

# SPM DIAGNOSTIC REVIEW SURVEY

## Background

As part of the independent diagnostic review of the Strategic Platform Modernisation (SPM) Programme, we conducted a survey to gather more information and data that would feed into the final report.

## Key information

- The survey was launched on Thursday 28 September 2023 and closed on 3 October 2023
- **91 participants** completed the survey after being issued to a sample size of 200
- The responses collected remained intentionally anonymous to ensure confidentiality and to enable people to share their thoughts and insights freely
- The survey enabled us to collect further **quantitative** as well as **qualitative** data from across all teams and levels within the Programme



**91**

Participants responded to the survey from a sample size of 200

WORKING DRAFT

**91**  
Survey  
Responses

# SURVEY RESULTS SUMMARY

## SECTION 1: OBJECTIVE, VISION & DELIVERY

**To what extent do you agree with the following statements?**

1 is completely disagree, 10 is completely agree

**6.2/10**

I am clear about what the programme objective is and what that means for my team

**4.5/10**

The programme is effective at translating its vision and scope into delivery

**6.8/10**

I am proud of what the programme has delivered so far

## KEY QUOTES

If you scored any of the questions in this section at 3 or below, please explain why...

*"The programme keeps changing its vision and scope on a whim so it would be disingenuous to say that it has translated any of that into proper delivery"*

*"Incredibly proud of what my team has achieved in the time we have had and the issues we have had to deal with. Can't comment on other teams as their activities are not shared across the programme"*

*"In recent months the vision, direction, communication and leadership of programme has been confused and completely opaque. We all understand there have been uncertainties, but leadership is about taking those uncertainties and still providing the team with a clarity on vision and direction together with clear communication"*

*"The vision is presented as to get rid of Horizon whilst not providing actual steps of how we are going to do that and when someone asks for that or tries to help with this then it is discarded"*

*"I'm faced with almost weekly changes to direction which do not feel like are roadmapped at all"*

\*Source: SPM Diagnostic Review Survey (28 September 2023)



WORKING DRAFT

**91**  
Survey  
Responses

# SURVEY RESULTS SUMMARY

## SECTION 2: CULTURE

**To what extent do you agree with the following statements?**

1 is completely disagree, 10 is completely agree

**6.2/10**

People across the programme go out of their way to help one another

### KEY QUOTES

**What do you like and what could be better about the culture of the SPM Programme?**

*"I think at an individual personal level, people in the Programme are nice and good to engage with. But I think so many pillar leads seem to be 'kings of their own kingdom' and are not really willing to align/collaborate well with other areas"*

*"Like - my workstream working as a team supporting each other to achieve milestones  
Could be better - Cross working across workstreams, less silo working"*

*"The culture within the programme is reflective of the culture within the Post Office, there is an air of cautiousness potentially driven by the enquiry which leads to colleagues not taking accountability or responsibility for tasks, decisions, sign offs etc."*

*"I'd love to see more joined up calls where teams are talking about how things can be delivered together, how certain decisions/activities impact other areas and need to be aligned for overall benefit (not just what's best for one pillar)"*

*"Across the programme, collaboration has been good. Between the business and the programme collaboration has been extremely poor. At times I have felt that the business has expected or wanted the programme to fail"*

\*Source: SPM Diagnostic Review Survey (28 September 2023)



WORKING DRAFT

**91**  
Survey  
Responses

# SURVEY RESULTS SUMMARY

## SECTION 3: LEADERSHIP AND COMMUNICATION

**To what extent do you agree with the following statements?**

1 is completely disagree, 10 is completely agree

**4.5/10**

I feel the programme is fully supported and sponsored by Post Office leadership

**4.5/10**

I have / my team has been informed about programme updates, timelines and status in a timely manner

### KEY QUOTES

If you scored any of the questions in this section at 3 or below, please explain why...

*"My team still do not know how the changes will impact us and how the team will look going forward. I feel like the business is not keeping colleagues or postmasters informed as to what is happening. As a business it has been promised to be open and transparent with us and Postmasters and I simply do not feel this is happening"*

*"Leadership is not visible above the pillar leads"*

*"POL SLT are not behind this project and this impacts on their teams supporting it"*

*"It does not seem like there is a comms and engagement plan for the programme, the timeliness and scheduling of programme wide communication often seems ad-hoc in nature"*

*"Poor comms around the downscaling, leaving my team feeling excluded and undervalued"*

\*Source: SPM Diagnostic Review Survey (28 September 2023)



# SURVEY RESULTS SUMMARY

## SECTION 4: GENERAL FEEDBACK

### KEY QUOTES

#### What works well and what could be better on the SPM Programme?

*"There are pockets of real knowledge being applied logically and for the good of the objective, but this is surrounded by vast resources that are not harnessed effectively and so wasting time and money"*

*"Things that could be better are culture, ways of working, messaging, collaboration, one team, one vision, one SPM"*

*"Postmasters need to be more included, and new opportunities to liaise with them need to be identified. Communications are becoming corporate replacing an approach based on strong trusting relationships"*

*"The programme would benefit from increased communications, clarity around responsibilities and less bureaucratic Post Office processes"*

*"Going forward I would suggest having away day / showcases / offsites to help build back the teams both business and Tech to bring the programme together"*

### KEY QUOTES

#### What tools would help you to achieve success on the programme and what impact would they have on your role?

*"Clear communication of release plans (including minor releases). Open and honest communications throughout. Programme org structure with clear ownership and accountability"*

*"Collaboration tools - Miro, Monday, Lucid Chart"*

*"We don't need more tools. Potentially within the engineering community specific software / licenses may help. What we do need is a change in the culture and WoW - empowerment and trust of people to deliver"*

*"Wellness or mental health tools would be of fantastic benefit during such an uncertain time. Having better management support too"*

*"I don't think tools are the problem, I think it's people, attitudes and communication issues that are the main blockers"*

\*Source: SPM Diagnostic Review Survey (28 September 2023)



**WORKING DRAFT**

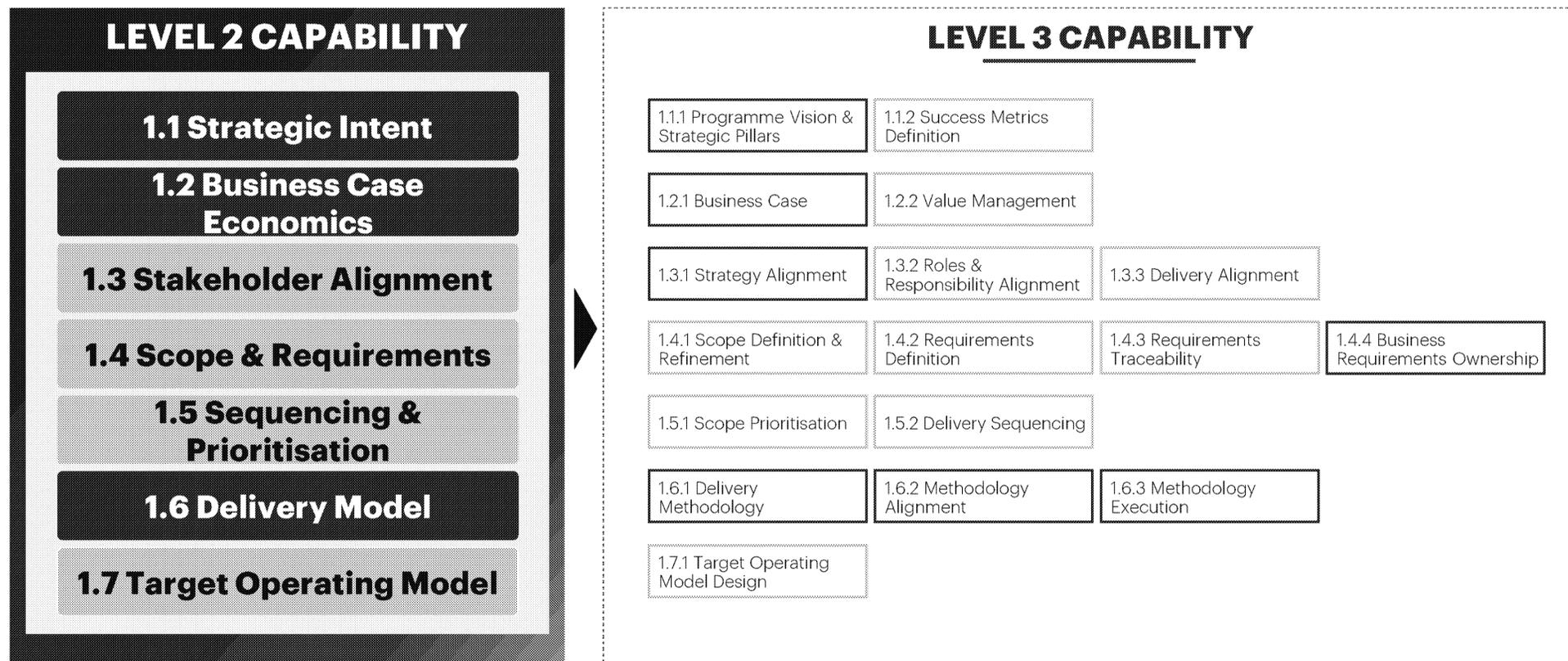
# **III | REVIEW DETAIL (PER TOWER)**

**WORKING DRAFT**

# **III.1 | STRATEGY REVIEW DETAIL**

# SUMMARY OF OBSERVATIONS

STRATEGY LEVEL 2 AND LEVEL 3 CAPABILITY RAG RATINGS.



# OBSERVATIONS (1/5)

## 1.1 STRATEGIC INTENT, 1.2 BUSINESS CASE ECONOMICS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>1.1 Strategic Intent</b>	<b>1.1.1 Programme Vision &amp; Strategic Pillars</b>	Differing interpretations of the SPM programme vision and lack of clear business sponsorship has led to confusion at all levels particularly around scope.	<ul style="list-style-type: none"> <li>Differing interpretations of the programme vision have developed across stakeholders within the STP &amp; RTP programmes, and across the POL exec team. These range from like-for-like Horizon replacement to full retail transformation.</li> <li>RTP's set up and naming (Retail "Transformation" Programme) has further propagated this confusion, as some stakeholders have at times seen RTP as a wider transformation vehicle.</li> <li>No single business sponsor across RTP &amp; STP programme (until very recently when the programmes have been brought together) hence no single source of truth and accountability when it comes to scope and vision clarification.</li> </ul>
	<b>1.1.2 Success Metrics Definition</b>	No clear articulation of success metrics tied to delivery stage gate, preventing early identification of issues and diagnosis of root causes.	<ul style="list-style-type: none"> <li>Primary success metrics of the programme are related to number of sites and timelines i.e., to transition all retail sites off Horizon by March 2025. No additional success metrics have been sized (e.g., efficiency improvement, post-master CSAT, customer CSAT, etc.).</li> <li>Missed opportunity to link releases (R1, R2...) to measurable outcomes through these success metrics, limiting ability to provide interim confidence that solution will deliver stated benefits.</li> </ul>
<b>1.2 Business Case Economics</b>	<b>1.2.2 Business Case</b>	Programme cost forecasts have increased significantly in the last 12 months (4.5x) raising concerns around cost estimation robustness.	<ul style="list-style-type: none"> <li>Cost forecasts have steeply increased from c.£180m (Sep'22) to c.£400m (Mar'23) and to c. £850m (Jun'23). This is driven by - Tech Delivery (resource, timeline, scope increase), Horizon Extension, &amp; RTP. In comparison Horizon was delivered for c.£800m in 1990s.</li> <li>Instances of ineffective resourcing assumptions exist (e.g., tech teams resource planning in R3 does not fully address periods of inactivity which would be expected as teams await dependencies). c.£53m in additional STP resource extension costs have been forecasted in latest Jun'23 cost forecasts.</li> <li>Some scope trade-off / re-prioritisation decisions have been made (e.g., in R2) however overall scope de-prioritisation has been limited (full Horizon capability required before roll-out).</li> </ul>
	<b>1.2.2 Value Management</b>	Benefits have not been tracked or managed regularly preventing ability to assess value delivery progress.	<ul style="list-style-type: none"> <li>Only IT-run and IT-change cost related benefits sized as part of the Sept'22 business case (up to c. £25m reduction). This can only be assessed once full-scale deployment commences.</li> <li>'Benefits Register' - which was defined as part of the programme and intended to track a broad range of benefits beyond just IT cost - has not been regularly maintained or prioritised.</li> </ul>

# OBSERVATIONS (2/5)

## 1.3 STAKEHOLDER ALIGNMENT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
1.3 Stakeholder Alignment	1.3.1 Strategy Alignment	Inconsistent strategy & scope cascaded to teams as a consequence of different stakeholder interpretations of the vision.	<ul style="list-style-type: none"> <li>Per 1.1, differing interpretations of the programme vision have developed across stakeholders – from like-for-like Horizon replacement to full retail transformation.</li> <li>The intent to merge RTP into STP had been originally stated within RTP’s vision documents, but not all stakeholders are aware of this intent (across both RTP &amp; STP), the timelines and the practicality of it merging the two*</li> <li>Multiple acronyms exists for the core platform (NBIT / SPM), and the programme /sub-programmes (SPMP, STP, RTP) – further confusing definition articulation.</li> <li>Updates provided to POL leadership teams (outside the programme) have not been able to consistently surface critical items (e.g., criticality of R2 delays only clear until H2’23).</li> </ul>
	1.3.2 Roles & Responsibility Alignment	Accountability, roles and responsibilities across STP and RTP unclear leading to inconsistent decision making and duplication of effort*	<ul style="list-style-type: none"> <li>Split accountability has created a lack of clarity on where decision-making authority sits.</li> <li>Limited collaboration between STP and RTP as teams have not had the opportunity to engage with their counterparts. Further, programme leadership comms have also fractured over recent months (e.g., only a limited number of steering meetings attended by all key stakeholders) leading to a degree of divergence.</li> <li>Lack of engagement and collaboration has also led to duplication of effort in some instances with no clear demarcation of roles and responsibilities between the two e.g., within training.</li> </ul>
	1.3.3 Delivery Team Alignment	Business and technology stakeholders not collaborating effectively within and between STP and RTP, leading to risk of delivery misalignment*	<ul style="list-style-type: none"> <li>Within STP, processes have been established for the Postmaster Engagement team and some business SMEs to provide input. However, processes for ongoing engagement have not been adequately adhered to leading to delivery outputs that are misaligned with business intent, e.g., additional journey step introduced on Postmasters stamps screen between R2 and R3.</li> <li>Across STP and RTP, a SteerCo was set up for leadership teams to attend, however this has been sparingly attended leading to limited collaboration and alignment (per 1.3.2).</li> <li>Limited collaboration with wider POL teams (e.g., limited resource and knowledge sharing between Horizon and NBIT teams).</li> </ul>

\*The consolidation of RTP/STP into a single programme was announced w/c 18 Sep 2023 which was in parallel to this review. Review timescales have not allowed for the assessment of this consolidation to be evaluated.

# OBSERVATIONS (3/5)

## 1.4 SCOPE & REQUIREMENTS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>1.4 Scope &amp; Requirements</b>	<b>1.4.1 Scope Definition &amp; Refinement</b>	No robust scope guiding principles are in place leading to inconsistent scope translation from the vision.	<ul style="list-style-type: none"> <li>STP's scope has been derived from the wider programme vision which remains unclear (as mentioned in 1.1). This has led to an inconsistency in understanding what needs to be delivered.</li> <li>Horizon complexities are not well understood; no central documentation of Horizon processes. Teams 'reverse engineer' these processes limiting their ability to define scope (i.e., what is like-for-like). As a result, strategic options (e.g., "Do Minimum" in Sep'22 biz case) are not representative of effort – evidenced by 4.5x cost increases from Sep'22 to Jun'23 (per 1.2.2).</li> <li>No guiding principles exist to enable teams to make decisions on what is in scope vs. what is out of scope specifically around degree of 'process definition' in instances where it is needed.</li> <li>RTP's scope has been derived from STP timelines. RTP team have revised scope when timelines shifted (e.g., 'no regrets' activities given R2 delays) but have had limited input into reprioritisation.</li> </ul>
	<b>1.4.2 Requirements Definition</b>	Business requirements not being effectively captured (quality and detail) and monitored through to technology delivery leading to misaligned outputs.	<ul style="list-style-type: none"> <li>Skills gap within teams as requirements are refined (e.g., lack of technical BAs) means the requirements are not sufficiently robust or meet the definition of ready for delivery.</li> <li>Within delivery teams, inconsistent adherence to best practices (e.g., Jira usage), driving lack of a clarity on scope at a lower-level.</li> </ul>
	<b>1.4.3 Requirements Traceability</b>	Inconsistent traceability of delivery outputs back to the business requirements.	<ul style="list-style-type: none"> <li>Technical requirements and low-level designs are not consistently produced, creating a level of uncertainty in how delivery teams should interpret or implement the requirements captured.</li> <li>Limited visibility of how HIJ/CIJ recommendations are reflected in the requirements.</li> <li>Poor hygiene (e.g., some high-level requirements stored outside Jira) makes it difficult to link what is delivered to signed off business ask, impeding traceability.</li> <li>For example, per 1.3.3 an additional journey step has been introduced on Postmaster Stamps screen between R2 and R3. No rationale or audit trail has been provided for this decision and Postmaster engagement team do not recognise this as a requirement stated by their team.</li> </ul>
	<b>1.4.4 Business Requirements Ownership</b>	Not all processes have single point accountability for business requirements.	<ul style="list-style-type: none"> <li>Not all business processes (e.g., branch back office) and impacted stakeholder groups (e.g., upstream clients like WHSmith) have accountable owners leading to missed considerations.</li> </ul>

# OBSERVATIONS (4/5)

## 1.5 SEQUENCING & PRIORITISATION, 1.6 DELIVERY MODEL

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>1.5 Sequencing &amp; Prioritisation</b>	<b>1.5.1 Scope Prioritisation</b>	Major increase in recent scope between R2 and R3 has introduced significant delivery and cost risk.	<ul style="list-style-type: none"> <li>Three primary releases stated (R1, R2, R3) which dictate the overall direction and prioritisation of scope delivery. These are well socialised and understood across the programme.</li> <li>Additional requirements have been provided by the business/retail teams recently for R3 which have contributed to significant scope impact and ultimately cost/effort impact.</li> <li>Although RTP is in the process of creating a wider deployment plan, it is unclear how this will be delivered in line with the release schedule i.e., alongside or after R3.</li> </ul>
	<b>1.5.2 Delivery Sequencing</b>	Agile delivery not sequenced based on value and/or dependencies limiting re-prioritisation ability in case of delays.	<ul style="list-style-type: none"> <li>No consistent scope prioritisation methodology is adopted or aligned across agile delivery teams e.g., no indication of feature prioritisation based on value.</li> <li>Dependencies across delivery teams are often not planned or managed effectively, at time only being identified weeks or months later, leading to risk of significant delivery delays.</li> </ul>
<b>1.6 Delivery Model</b>	<b>1.6.1 Delivery Methodology</b>	Friction in the combined agile and waterfall delivery model has caused delivery expectations to be missed e.g., preventing early identification of solution quality issues.	<ul style="list-style-type: none"> <li>'Change Excellence Framework' not adopted instead only used as blueprint and highly customised. Multiple delivery methods have emerged (by evolution, not by design) – started as small tech-led agile team but not consistently reset for scaled delivery.</li> </ul>
	<b>1.6.2 Methodology Alignment</b>		<ul style="list-style-type: none"> <li>Overarching programme governance is waterfall.</li> <li>Multiple tools (e.g., JIRA / agile / user stories and MSP / waterfall / milestone) which do not easily reconcile and makes it logistically difficult to have full visibility.</li> <li>Per 1.3 the siloed nature of STP and RTP means that although programme governance is managed using the same methodology the execution of these differs.</li> <li>A technology 'Buy' assessment has been conducted on multiple occasions, but there is limited documentation to suggest that this option was completely de-prioritised in favour of 'Build'.</li> </ul>
	<b>1.6.3 Methodology Execution</b>	Overarching waterfall model driving feature testing and limiting ability to realise interim benefits through agile.	<ul style="list-style-type: none"> <li>Even though features are delivered in an agile model, these all roll-up to a waterfall-based release model (R1, R2, R3). Within this set up, scope items delivered in an agile fashion are all staggered until a release is ready rendering prioritisation efforts within agile delivery to have limited purpose (per 1.5.2).</li> <li>This also contributes to a risk that technology features are not appropriately tested for prolonged periods of time (9-12 months), potentially compounding delays e.g., High number of defects noted in System Integration Testing (SIT) and E2E testing (per 5.4.1).</li> </ul>

# OBSERVATIONS (5/5)

## 1.7 TARGET OPERATING MODEL

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<p><b>1.7 Target Operating Model</b></p>	<p><b>1.7.1 Target Operating Model</b></p>	<p>Target operating model (TOM) definition has commenced and is expected to guide future direction.</p>	<ul style="list-style-type: none"> <li>• A TOM was not defined on the outset of the programme (typically expected as a business-led activity). This has now commenced as a separate business and IT activity. As STP and RTP are brought back together, there is a risk to delivery if business considerations are not prioritised appropriately.</li> <li>• No indication whether deployment teams (defined in both STP and RTP) will be transitioned to BAU once deployment is complete. However, these teams are exclusively comprised of independent contractors and if they are transitioned as is, there is a risk that no explicit POL business interlock / permanent employee exists within this structure.</li> </ul>

# RECOMMENDATIONS (1/3)

## 1.1 STRATEGIC INTENT, 1.2 BUSINESS CASE ECONOMICS

Level 2	Observation	Preliminary Recommendation (for discussion)	Tower Proposed Priority	Mapping to Summary Rec.
1.1 Strategic Intent <i>(Note – this has an impact on wider programme)</i>	<p><b>1.1.1</b> Differing interpretations of the SPM programme vision and lack of clear business sponsorship has led to confusion at all levels particularly around scope.</p> <p><b>1.1.2</b> No clear articulation of success metrics tied to delivery stage gate, preventing early identification of issues and diagnosis of root causes.</p>	<b>Rec1.1A)</b> Restate and align on the SPM Vision: e.g., To replace Horizon, deliver direct business benefits related to existing functionality and establish a flexible platform for future retail transformation (to be delivered by separate programmes).	✓	#2, #3
		<b>Rec1.1B)</b> Clarify long-term business sponsorship (e.g., one overarching business sponsor).	✓ (Underway)	#9
		<b>Rec1.1C)</b> Agree scope guiding principles to translate vision into scope decisions.	✓	#2
		<b>Rec1.1D)</b> Define a succinct set of high-level balance score-card KPIs (delivery and business deployment, financial, CSAT, team engagement etc.) and where possible link to delivery stage gates.		#19
		<b>Rec1.1E)</b> Establish targets for KPIs set and continuously track.		#19
		<b>Rec1.1F)</b> Embed data-driven decision making across all levels e.g., through a management information framework.		#19
1.2 Business Case Economics	<p><b>1.2.1</b> Programme cost forecasts have increased significantly in the last 12 months (4.5x) raising concerns around cost estimation robustness.</p> <p><b>1.2.2</b> Benefits have not been tracked or managed regularly preventing ability to assess value delivery progress.</p>	<b>Rec1.2A)</b> Reconfirm cost drivers across delivery, deployment and BAU/future-state.	✓	#17
		<b>Rec1.2B)</b> Re-baseline cost ranges (e.g., T-shirt sizes) against E2E cost drivers.	✓	#17
		<b>Rec1.2C)</b> Update and confirm costs and contingencies for the next logical programme phase (e.g., R3), to provide to relevant stakeholders (e.g., shareholders).	✓	#17
		<b>Rec1.2D)</b> Re-baseline the programme business case (include non-cost related benefits levers, link value outputs to delivery stage gates).		#18
		<b>Rec1.2E)</b> Embed process and discipline for monitoring and tracking business case delivery and cost.		#21
		<b>Rec1.2F)</b> Conduct ongoing value tracking and assurance through a Value Management capability (e.g., set up by strengthening PMO capability).		#21

\*Vision workshop planned on October 16<sup>th</sup>

# RECOMMENDATIONS (2/3)

## 1.3 STAKEHOLDER ALIGNMENT, 1.4 SCOPE & REQUIREMENTS

Level 2	Observation	Preliminary Recommendation (for discussion)	Tower Proposed Priority	Mapping to Summary Rec.
1.3 Stakeholder Alignment	<b>1.3.1)</b> Inconsistent strategy & scope cascaded to teams as a consequence of different stakeholder interpretations of the vision.	<b>Rec1.3A)</b> Combine STP / RTP under single SPM business sponsorship.	✓ (Underway)	#8
	<b>1.3.2)</b> Accountability, roles and responsibilities across STP and RTP unclear leading to inconsistent decision making and duplication of effort*.	<b>Rec1.3B)</b> Define, agree and embed roles and responsibilities under a single programme.	✓ (Underway)	#9
	<b>1.3.3)</b> Business and technology stakeholders not collaborating effectively within and between STP and RTP, leading to risk of delivery misalignment*.	<b>Rec1.3C)</b> Relaunch the programme to drive buy in and energise programme stakeholders e.g., workshops, away days, co-working sessions.		#23
		<b>Rec1.3D)</b> Reassess existing collaboration, communications and governance processes to ensure ongoing alignment.		#22
1.4 Scope & Requirements	<b>1.4.1)</b> No robust scope guiding principles are in place leading to inconsistent scope translation from the vision.	<b>Rec1.4A)</b> Translate and cascade revised vision to enable clear requirements and scope throughout delivery.	✓	#3
	<b>1.4.2)</b> Business requirements not being effectively captured (quality and detail) and monitored through to technology delivery leading to misaligned outputs.	<b>Rec1.4B)</b> Embed Postmaster Engagement team more closely in the overall delivery process.		#14
		<b>Rec1.4C)</b> Agree single tooling to provide traceability of scope and requirements across the programme and to all stakeholders.		#12
	<b>1.4.3)</b> Inconsistent traceability of delivery outputs back to the business requirements.	<b>Rec1.4D)</b> Identify and embed accountable business process owners to define and monitor delivery of all applicable business requirements.	✓	#9
	<b>1.4.4)</b> Not all processes have single point accountability for business requirements.	<b>Rec1.4E)</b> Identify and embed accountable owners for missing stakeholders if needed / where possible e.g., back office processes.		#9

\*The consolidation of RTP/STP into a single programme was announced w/c 18 Sep 2023 which was in parallel to this review. Review timescales have not allowed for the assessment of this consolidation to be evaluated.

# RECOMMENDATIONS (3/3)

## 1.5 SEQUENCING & PRIORITISATION, 1.6 DELIVERY MODEL, 1.7 TARGET OPERATING MODEL

Level 2	Observation	Preliminary Recommendation (for discussion)	Tower Proposed Priority	Mapping to Summary Rec.
1.5 Sequencing & Prioritisation	<b>1.5.1)</b> Major increase in recent scope between R2 and R3 has introduced significant delivery and cost risk.	<b>Rec1.5A)</b> Evaluate the opportunity to phase releases between current R2 and R3 based on prioritised scope to drive quick wins, earlier benefits and manage delivery risk.		#14
	<b>1.5.2)</b> Agile delivery not sequenced based on value and/or dependencies limiting re-prioritisation ability in case of delays.	<b>Rec1.5B)</b> Revise the integrated SPM roadmap (both tech and deployment), linking delivery stage gates to value.		#16
		<b>Rec1.5C)</b> Embed robust dependency management processes within delivery teams.	✓	#12
1.6 Delivery Model	<b>1.6.1/2)</b> Friction in the combined agile and waterfall delivery model has caused delivery expectations to be missed e.g., preventing early identification of solution quality issues.	<b>Rec1.6A)</b> Evaluate different agile methodologies and identify the most appropriate one for SPM context.	✓	#10
		<b>Rec1.6B)</b> Embed chosen agile approach consistently across SPM delivery teams.		#10
	<b>1.6.3)</b> Overarching waterfall model driving feature testing and limiting ability to realise interim benefits through agile.	<b>Rec1.6C)</b> Review programme governance model based on chosen agile approach.	✓	#13
		<b>Rec1.6D)</b> Establish and agree structures on reconciling agile methodology with wider POL portfolio requirements.		#10
1.7 Target Operating Model	<b>1.7.1)</b> Target operating model (TOM) definition has commenced and is expected to guide future direction.	<b>Rec1.7A)</b> Bring together existing TOM design work (across business and IT) ensuring a single and integrated approach to TOM definition.		#30
		<b>Rec1.7B)</b> Reflect TOM considerations into programme design; ensure a business-led approach.	✓	#5

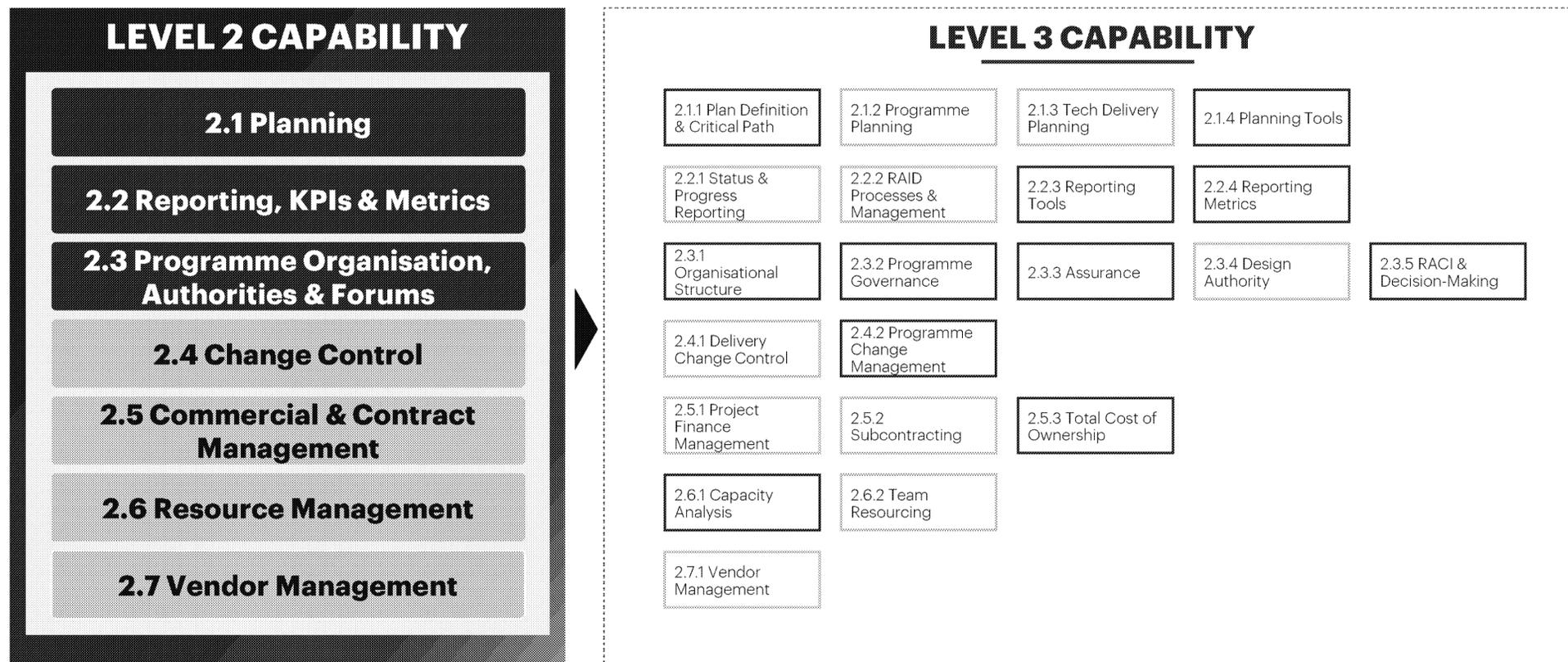


**WORKING DRAFT**

# **III.2 | GOVERNANCE REVIEW DETAIL**

# SUMMARY OF OBSERVATIONS

GOVERNANCE LEVEL 2 AND LEVEL 3 CAPABILITY RAG RATINGS.



# OBSERVATIONS (1/6)

## 2.1 PLANNING

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>2.1 Planning</b>	<b>2.1.1 Plan Definition &amp; Critical Path</b>	Overly-ambitious timeline that had not been sufficiently challenged led to plan and critical path that did not reflect the delivery reality.	<ul style="list-style-type: none"> <li>Plan slipped -6 months for R2; timeline driven by immovable delivery date rather than rigorous delivery estimates or detailed understanding of scope. Insufficient contingency to account for immaturity of POL delivery capability.</li> <li>Lack of a constructive challenge culture in response to leadership delivery commitment - teams avoid raising concerns, pushing back on timelines, or offering an alternate timeline.</li> <li>Programme volatility; lack of confidence at working level that direction will not change again, e.g. change in operating system, change(s) in delivery and UX partner, leadership rotation, split with RTP, and continued investigation of the Buy option.</li> </ul>
	<b>2.1.2 Programme Planning</b>	There is no overarching end-to-end plan, leading to cross-workstream dependencies not being well-understood or managed.	<ul style="list-style-type: none"> <li>Historic disconnect between STP and RTP - while there is a programme plan for each area, a single joined-up end-to-end plan for Horizon replacement has not yet been articulated.</li> <li>Programme-level planning approach does not allow for flexibility in time or scope to manage for uncertainty in delivery, creating friction between plans with cross-cutting dependencies.</li> <li>Duplicative programme planning processes create friction with delivery team ways of working.</li> </ul>
	<b>2.1.3 Tech Delivery Planning</b>	Inconsistent and disconnected planning across teams, leading to a lack of clarity on sequencing and accountability.	<ul style="list-style-type: none"> <li>There is no consistency in team methodologies for planning, estimating, and sequencing; limited cross-team ceremonies or forums at the working level to ensure alignment.</li> <li>Dependencies to unlock another stream delivered after work that is less critical - historically much worse; more recent joint planning exercises have been helpful (but are infrequent).</li> <li>Unclear if Product Owners or Delivery Leads are the final decision-makers on sequencing.</li> </ul>
	<b>2.1.4 Planning Tools</b>	Tools do not support effective planning across all SPM workstreams (business, operations/BAU, IT).	<ul style="list-style-type: none"> <li>Planning is labour intensive. Plans (LO, L1 milestones) are manually input into both SNOW and MSP, while delivery is managed through JIRA; there is no tooling to bridge the gap, e.g. there is no mechanism to leverage data from work management tools to feed programme plans.</li> <li>Tools (e.g. JIRA) are used inconsistently and conventions (e.g. workflow, labelling, ticket hierarchy) are not always enforced, creating poor quality data which limits credibility of plan.</li> </ul>

# OBSERVATIONS (2/6)

## 2.2 REPORTING, KPIS, AND METRICS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>2.2 Reporting, KPIs, &amp; Metrics</b>	<b>2.2.1 Status &amp; Progress Reporting</b>	Reporting is focused on information over insight which impairs swift decision-making.	<ul style="list-style-type: none"> <li>Governance processes drive report production; reports are primarily narrative-based, rather than leveraging data points and trends to derive insights and drive decision-making.</li> <li>Labour intensive (significant dedicated capacity to produce) e.g. Board (PDB) papers 60+ pgs.</li> <li>Siloed reporting lines (and content) expected to be addressed by activity currently underway to simplify programme structure, governance, and reporting processes.</li> </ul>
	<b>2.2.2 RAID Processes &amp; Management</b>	RAID management is not incorporated into the day-to-day management of the programme.	<ul style="list-style-type: none"> <li>Risks and issues are captured and escalated via reports, but resolution or decisions are slow.</li> <li>Range of tools (SNOW, Excel, Confluence) used; sub-set of programme RAIDs captured in SNOW, but management tools are not used at a working level to manage actions or mitigations.</li> <li>Dependency management within technical delivery has improved with use of JIRA 'gets' and 'gives' across teams to support cross-team coordination.</li> </ul>
	<b>2.2.3 Reporting Tools</b>	Tools do not support effective coordination or data-driven decision-making across SPM workstreams (business, operations/BAU, IT).	<ul style="list-style-type: none"> <li>Programme-level and working-level tools are not integrated; significant manual effort to transfer data between systems, detracting capacity from delivery and problem resolution.</li> <li>No investment in tools to extract programme-level data from management tools in an automated way, e.g. to produce dashboards, though activity now in progress to mitigate.</li> <li>Fragmentation in initial set-up has led to inconsistent use of JIRA fields. Furthermore, gaps in JIRA skills mean some could struggle to leverage metrics for actionable insight if data existed.</li> <li>Inconsistent tooling between SPM Programme, SPM Tech Delivery, and RTP. While RTP aligned their tooling and metrics (e.g. ERM) with CEF/SPO, SPM remains misaligned.</li> </ul>
	<b>2.2.4 Reporting Metrics</b>	Meaningful KPIs not consistently tracked over time preventing early identification of issues.	<ul style="list-style-type: none"> <li>Data quality within JIRA is unreliable, making it difficult to measure progress or identify trends (e.g. limited use of story points, inconsistent use of issue types, copying/cloning of tickets, linking of defects to epics). Some metrics exist, but are not consistent across teams and do not provide sufficient insight to consistently drive decision-making.</li> <li>Reports reflect a 'point in time' narrative as robust data to identify trends is lacking.</li> </ul>

# OBSERVATIONS (3/6)

## 2.3 PROGRAMME ORGANISATION, AUTHORITIES, AND FORUMS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>2.3 Programme Organisation, Authorities, &amp; Forums</b>  <i>(continues on next page)</i>	<b>2.3.1 Organisational Structure</b>	Structural issues with programme delivery organisation driving duplication of roles, high management vs delivery ratios and high costs.	<ul style="list-style-type: none"> <li>• Programme and tech delivery operated in parallel – rooted in technology-led history; siloes at the working level exacerbated gaps and duplication of roles across teams. A simplified programme structure is being developed to address many of the core challenges in this area.</li> <li>• Historic ‘invisible wall’ between RTP and STP; no / very limited visibility of each other’s work.</li> <li>• There is a lack of regular cross-team ceremonies (e.g. scrum of scrums or ‘delivery sync’) for working-level decisions; teams follow their own ways of working even within delivery.</li> </ul>
	<b>2.3.2 Programme Governance</b>	Swing from previous overly-heavy siloed governance to insufficient levels (while programme ramped down) which is still perceived to be opaque.	<ul style="list-style-type: none"> <li>• Historically, governance filled diaries (e.g. Programme Delivery Board 4+ hours) yet decision-making slow, issues escalated to highest level, and governance replicated siloes seen in ways of working, e.g. programme and technical delivery operating in parallel using different tooling.</li> <li>• Uncertainty during programme ramp down, but refreshed governance (e.g. reinstatement of SteerCo) is in the process of being established.</li> <li>• Limited transparency; environment where governance is relied on for information-cascade, blurring the objectives and purpose of the sessions and leading to over-attendance.</li> <li>• Cross-cutting forums (e.g. programme-level go/no go taking into account both technical readiness criteria and business readiness criteria) do not appear to be in place.</li> </ul>
	<b>2.3.3 Assurance</b>	Insufficient internal and external assurance in place to monitor delivery progress & quality.	<ul style="list-style-type: none"> <li>• Historically, internal assurance have had limited access to the programme. External reviews have been completed (e.g. Deloitte, KPMG, Credera), though the majority of recommendations have not been implemented into the programme.</li> <li>• This reflects wider gaps in group-level assurance; but a POL group-level integrated assurance approach is now being developed with immediate focus on SPM assurance universe.</li> <li>• Limited visibility of how HIJ/CIJ findings are considered as not centrally tracked, e.g. CIJ findings referenced ad hoc across supporting epic-level detail for Back Office.</li> <li>• While quality standards (e.g. engineering, architectural principles, requirements) are documented, enforcement is limited. Technical initiatives (e.g. Build Better) are in place, but gaps in metrics and data quality make it difficult to measure progress or confirm efficacy.</li> </ul>

# OBSERVATIONS (4/6)

## 2.3 PROGRAMME ORGANISATION, AUTHORITIES, AND FORUMS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>2.3 Programme Organisation, Authorities, &amp; Forums</b>  <i>(continued)</i>	<b>2.3.4 Design Authority</b>	BDA and TDA forums are in place, but decision-making is disjointed without sufficient buy-in.	<ul style="list-style-type: none"> <li>• A single owner is not accountable for the overall functional and technical solution creating a gap between BDA and TDA; forums to feed the design boards are ad hoc / vary across streams.</li> <li>• TDA attendance inconsistent; at times decisions based on expediency (e.g. achieve milestone) rather than best practice, leading to policy exception notes and a build-up of technical debt.</li> <li>• BDA is the only forum for product-level conversations making it the only route for wider business visibility of SPM which can create friction / detract from focus of this forum.</li> </ul>
	<b>2.3.5 RACI &amp; Decision-Making</b>	Unclear accountabilities and lack of top-down support impacting confidence and slowing decision-making and issue resolution.	<ul style="list-style-type: none"> <li>• Programme-level RACI not defined nor reinforced by RACI at working level to make it clear who must be consulted or engaged at each stage of the project lifecycle.</li> <li>• Limited empowerment pushes issues up management chain. Leads are confident resolving team-specific issues, but cross-cutting issues are pushed into programme governance where individuals lack the technical expertise to make key decisions.</li> <li>• Flat structure and 'decision by committee' made it difficult to reach consensus quickly.</li> <li>• If decisions made within delegated authority are reinforced by leadership, the right-sized programme structure (activity underway) should simplify and clarify accountabilities.</li> </ul>

# OBSERVATIONS (5/6)

## 2.4 CHANGE CONTROL, 2.5 COMMERCIAL & CONTRACT MANAGEMENT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>2.4 Change Control</b>	<b>2.4.1 Delivery Change Control</b>	Technical delivery change process has been clearly documented but is limited in its scope.	<ul style="list-style-type: none"> <li>Demand funnel used to manage change in tech delivery (based on June 2021 Horizon baseline).</li> <li>Change process incorporates delivery change impacting but tools for accurately and easily estimating impact on delivery capacity remain immature (see 2.6).</li> <li>Granular technical design / platform scope decisions are not overtly part of change process, which can lead to 'simple' changes being added directly to the backlog or made in flight, leading to breaking changes or delivery which is perceived to misalign to original business ask.</li> </ul>
	<b>2.4.2 Programme Change Management</b>	Change control processes are focused primarily on technical delivery meaning change is made without a full understanding of what it means for the business.	<ul style="list-style-type: none"> <li>Relationship between change control within tech delivery and wider business is unclear, e.g. the impacts of milestone shifts or changes in functionality on downstream business units.</li> <li>Change impact assessments conducted ad hoc and in fragmented way across STP and RTP; linked to limited integration between wider POL business units and programme delivery.</li> </ul>
<b>2.5 Commercial &amp; Contract Management</b>	<b>2.5.1 Project Finance Management</b>	Processes are in place, but rapid expansion of teams to hit timelines has led to significant overspend.	<ul style="list-style-type: none"> <li>Cost forecasts have steeply increased from c.£180m (Sep'22) to c.£400m (Mar'23) and to c. £850m (Jun'23). Driven by Tech Delivery (resource, timeline, scope increase) and RTP.</li> <li>Fixed milestones and reactive approach to resourcing has accelerated depletion of funds against the original business case.</li> </ul>
	<b>2.5.2 Subcontracting</b>	High proportion of contractor resource in key leadership roles introducing continuity risks.	<ul style="list-style-type: none"> <li>Resourcing strategy (10% permanent, 25% subcontractor, 65% third party). Timeline pressure has increased reliance on external resources in key roles; this risks decisions being made that are not in long-term interests of POL and creating future continuity challenges.</li> <li>Contractors not contractually incentivised to deliver successful programme outcomes despite availability of facility to contract on outcome-basis.</li> </ul>
	<b>2.5.3 Total Cost of Ownership</b>	Cost or effort required to run the future service in BAU are not prioritised as part of decision-making.	<ul style="list-style-type: none"> <li>Limited strategy for the future operation of the platform (approach to tooling, technical implementation, etc.); technical decisions have not always been made with consideration to impact on ongoing maintenance of system once programme is complete.</li> <li>No FinOps capability to manage the variable spend model of the cloud solution.</li> <li>Cost of future service is a secondary consideration in TDA decisions.</li> </ul>

# OBSERVATIONS (6/6)

## 2.6 RESOURCE MANAGEMENT, 2.7 VENDOR MANAGEMENT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>2.6 Resource Management</b>	<b>2.6.1 Capacity Analysis</b>	Limited mechanism for accurately estimating delivery effort or team capacity leading to inaccurate plans.	<ul style="list-style-type: none"> <li>Mechanism for accurately sizing effort against delivery team capacity does not exist; estimates are a best guess.</li> <li>Weekly reviews in place to understand capacity at the team-level, but these are manual and not rooted in data (e.g. lack of story points make it difficult to quantitatively measure velocity).</li> <li>Singular focus on achieving committed timeline has impacted capacity for improvements; retrospectives not consistently completed to refine and evolve estimating model (done ad hoc).</li> </ul>
	<b>2.6.2 Team Resourcing</b>	Historic rapid uncontrolled expansion strained team capacity by creating a reactive environment that was hard to manage.	<ul style="list-style-type: none"> <li>Reactive approach to resourcing in response to milestone pressure.</li> <li>Historically delivery leads have (relatively easily) secured additional resource, with insufficient focus on blend of teams or skill ratios (e.g. increasing developers without increasing QA) – created downstream issues and led to over-sized teams which have been difficult to manage.</li> <li>Programme has recently contracted; indicating a focus on controlling the resourcing position.</li> <li>Composition of teams is a challenge – concentration of skilled / experienced resource in certain teams; Leads are protective and made it difficult to repurpose resources to share knowledge and best practice in areas that are struggling.</li> <li>Inaccurate delivery estimates mean new teams previously stood up before key dependencies met (e.g. trying to produce training before a training environment available).</li> </ul>
<b>2.7 Vendor Management</b>	<b>2.7.1 Vendor Management</b>	Vendors not held to account for outcomes in line with programme objectives or metrics.	<ul style="list-style-type: none"> <li>Limited experience within POL of delivering large scale technology programmes. Yet POL playing the “integrator” role with various third parties which operate independently.</li> <li>Although there was a facility for outcome-based vendor contracts, the programme has primarily adopted time &amp; materials-based resource augmentation contracts. This could allow third party suppliers to passively accept poorly defined requirements into delivery without concern for commercial impacts.</li> <li>Concentrating suppliers in particular areas has reinforced siloes, particularly where there is an onshore/offshore split. However, this clear demarcation of responsibilities can also support risk management by holding suppliers to account for what is fully within their control.</li> </ul>

# RECOMMENDATIONS (1/5)

## 2.1 PLANNING

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
2.1 Planning	<p><b>2.1.1)</b> Overly-ambitious timeline that has not been sufficiently challenged led to plan and critical path that did not reflect the delivery reality.</p> <p><b>2.1.2)</b> There is no overarching end-to-end plan, leading to cross-workstream dependencies not being well-understood or managed.</p> <p><b>2.1.3)</b> Inconsistent and disconnected planning across teams, leading to a lack of clarity on sequencing and accountability.</p> <p><b>2.1.4)</b> Tools do not support effective planning across all SPM workstreams (business, operations/BAU, IT).</p>	<p><b>Rec2.1A)</b> Revise current plans to develop an integrated plan covering all activities for the next phase of programme delivery, e.g. <i>realistic delivery timelines, scope and dependencies</i> (per Rec1.2A, Rec1.5B).</p>	<p>✓ (Underway)</p>	#16
		<p><b>Rec2.1B)</b> Align &amp; embed processes and function for managing ongoing integrated planning to support the agreed delivery and governance model (including team-level planning), e.g., <i>cadence, value metrics, representation, iterations through lessons learned</i>.</p>	<p>✓</p>	#12
		<p><b>Rec2.1C)</b> Drive consistent adoption of refreshed planning processes by clearly documenting team expectations, enforcing ways of working, and ensuring consistent comms to drive awareness and adoption.</p>		#22
		<p><b>Rec2.1D)</b> Agree, adapt, and embed appropriate planning tooling into the programme that is consistent with the agreed delivery model (per Rec1.6D) and POL portfolio requirements.</p>		#12

# RECOMMENDATIONS (2/5)

## 2.2 REPORTING

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
2.2 Reporting, KPIs, & Metrics	<p><b>2.2.1)</b> Reporting is focused on information over insight which impairs swift decision-making.</p> <p><b>2.2.2)</b> RAID management is not incorporated into the day-to-day management of the programme.</p> <p><b>2.2.3)</b> Tools do not support effective coordination or data-driven decision-making across SPM workstreams (business, operations/BAU, IT).</p> <p><b>2.2.4)</b> Meaningful KPIs not consistently tracked over time preventing early identification of issues.</p>	<p><b>Rec2.2A)</b> Agree clear detailed KPIs and KRIs, aligned to the strategic vision, thresholds, and delivery model (per Rec1.1D, Rec1.1E, Rec1.6C), to track delivery and drive insights at all levels from leadership through to delivery teams.</p>	✓	#20
		<p><b>Rec2.2B)</b> Remediate existing data (e.g. within JIRA) to align with agreed metrics (per Rec2.2A) so that progress can be consistently measured against the thresholds and any issues escalated.</p>	✓	#20
		<p><b>Rec2.2C)</b> Embed measurement against agreed KPIs and KRIs into reporting processes and escalation routes in line with agreed governance model (per Rec2.3B, Rec2.3C).</p>		#20
		<p><b>Rec2.2D)</b> Agree, adapt, and embed appropriate reporting tooling into programme that is consistent with the agreed delivery model (per Rec1.6D) and POL portfolio requirements.</p>		#12
		<p><b>Rec2.2E)</b> Drive consistent adoption and a data-driven decision culture by clearly documenting team expectations, enforcing ways of working, e.g. RAID management, and ensuring consistent comms to drive awareness and adoption.</p>		#22

# RECOMMENDATIONS (3/5)

## 2.3 PROGRAMME ORGANISATION, AUTHORITIES, & FORUMS

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
2.3 Programme Organisation, Authorities, & Forums	<p><b>2.3.1)</b> Structural issues with programme delivery organisation driving duplication of roles, high management vs delivery ratios and high costs.</p> <p><b>2.3.2)</b> Swing from previous overly-heavy governance to insufficient levels today but remains siloed and perceived to be opaque.</p> <p><b>2.3.3)</b> Insufficient internal and external assurance in place to monitor delivery progress &amp; quality.</p> <p><b>2.3.4)</b> BDA and TDA forums are in place, but decision-making is disjointed without sufficient buy-in.</p> <p><b>2.3.5)</b> Unclear accountabilities and lack of top-down support impacting confidence and slowing decision-making and issue resolution.</p>	<b>Rec2.3A)</b> Review and right-size programme org structure to support revised delivery model.	✓ (Underway)	#8
		<b>Rec2.3B)</b> Review, rationalise, and embed E2E cross-programme governance forums (including within delivery teams), e.g., cadence, inputs, representation, number of attendees.		#13
		<b>Rec2.3C)</b> Review, rationalise, and embed cross-POL governance forums to support the programme delivery model.	✓	#13
		<b>Rec2.3D)</b> Re-establish and embed a clear programme RACI, including delegated decision-making structures and escalation routes, under new single SPM programme.	✓	#9
		<b>Rec2.3E)</b> Create an integrated assurance universe for the programme aligned to central POL assurance processes.	✓ (Underway)	#19
		<b>Rec2.3F)</b> Execute an integrated assurance plan, with outcomes reviewed by POL governance bodies as appropriate.		#19
		<b>Rec2.3G)</b> Drive consistent adoption and transparent culture by clearly documenting governance processes and accountabilities (e.g., decision and escalation routes), embedding a consistent leadership culture, and ensuring consistent comms to drive awareness and adoption.		#22

# RECOMMENDATIONS (4/5)

## 2.4 CHANGE CONTROL, 2.5 COMMERCIAL & CONTRACT MANAGEMENT

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
2.4 Change Control	<p><b>2.4.1)</b> Technical delivery change process has been clearly documented but is limited in its scope.</p> <p><b>2.4.2)</b> Change management is focused primarily on technical delivery leading to incomplete understanding of change.</p>	<b>Rec2.4A)</b> Agree and re-establish appropriate programme-level change management (e.g. <i>change impact assessments, change governance</i> ), which includes engagement with cross-POL stakeholders and appropriate assessment, consideration, and sign off of risk profiles.		#15
		<b>Rec2.4B)</b> Align programme-level change management with existing tech delivery change control processes.		#15
		<b>Rec2.4C)</b> Improve processes, e.g. <i>design authority by product area</i> for managing detailed technical changes within delivery, e.g. <i>alignment of low-level design (LLD) and implementation to high-level solution design (HLD)</i> (per Rec4.2D).		#12
		<b>Rec2.4D)</b> Agree, adapt, and embed consistent use of tooling (e.g. <i>JIRA &amp; Confluence</i> ) and ceremonies in line with agreed delivery methodology for traceability from requirements to lower-level design (per Rec1.4C).		#12
2.5 Commercial & Contract Management	<p><b>2.5.1)</b> Processes are in place, but rapid expansion of teams to hit timelines has led to significant overspend.</p> <p><b>2.5.2)</b> High proportion of contractor resource in key leadership roles introducing continuity risks.</p> <p><b>2.5.3)</b> Cost or effort required to run the future service in BAU are not prioritised as part of decision-making.</p>	<b>Rec2.5A)</b> Embed processes for ongoing cost tracking and financial assurance (Rec1.2C).	✓	#21
		<b>Rec2.5B)</b> Agree suitability of current delivery model and uplift resourcing strategy, e.g. <i>consideration of 3rd party delivery partner to substitute and/or expand existing capabilities</i> .		#11
		<b>Rec2.5C)</b> Establish clear processes and guardrails to guide key technical decisions that impact the total cost of ownership (TCO) for the future service.		#18
		<b>Rec2.5D)</b> Agree, adapt, and embed appropriate tooling or processes to capture data for management and estimation of total cost of ownership, e.g., <i>establishing FinOps, empowering PMO to engage in TCO management</i> .		#21

# RECOMMENDATIONS (5/5)

## 2.6 RESOURCE MANAGEMENT, 2.7 VENDOR MANAGEMENT

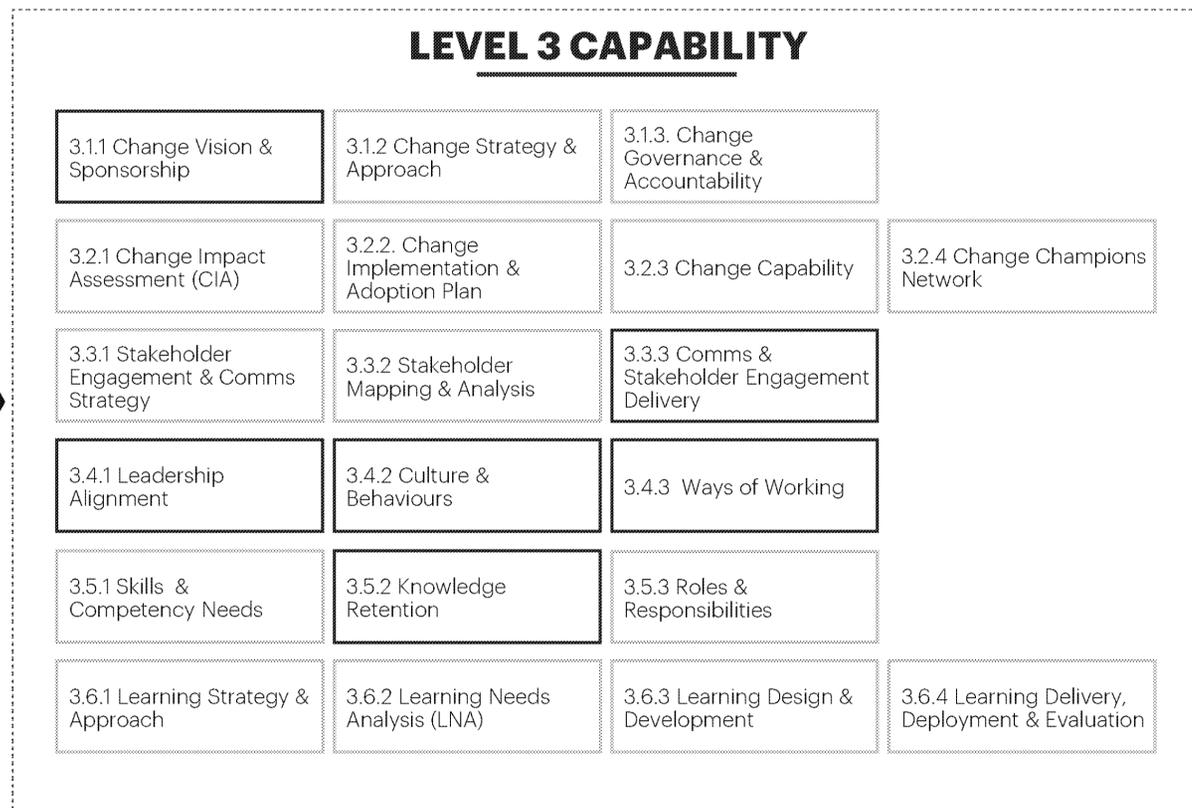
Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
2.6 Resource Management	<p><b>2.6.1)</b> Limited mechanism for accurately estimating delivery effort or team capacity leading to inaccurate plans.</p>	<p><b>Rec2.6A)</b> Agree and re-establish clear delivery estimation and forecasting mechanisms, e.g., based on time, skills, resource cost, capacity, dependencies.</p>	✓	#17
	<p><b>2.6.2)</b> Historic rapid uncontrolled expansion strained team capacity by creating a reactive environment that was hard to manage.</p>	<p><b>Rec2.6B)</b> Review, agree, and embed approach to effective cross-programme resource management to support delivery model.</p>		#10
2.7 Vendor Management	<p><b>2.7.1)</b> Vendors not held to account for outcomes in line with programme objectives or metrics.</p>	<p><b>Rec2.7A)</b> Use existing facility for outcome-based contracting with 3<sup>rd</sup> party vendors within agile construct, e.g. based on very clear requirements and deliverables within their control.</p>		#7

**WORKING DRAFT**

# **III.3 | PEOPLE REVIEW DETAIL**

# SUMMARY OF OBSERVATIONS

PEOPLE LEVEL 2 AND LEVEL 3 CAPABILITY RAG RATINGS.



# OBSERVATIONS (1/6)

## 3.1 CHANGE STRATEGY

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>3.1 Change Strategy</b>	<b>3.1.1 Change Vision &amp; Sponsorship</b>	Unclear programme-wide understanding or ownership of change vision across all impacted stakeholders despite formation of RTP*	<ul style="list-style-type: none"> <li>The programme has not established a consistent and compelling Change vision that can generate excitement and commitment among internal and external stakeholders</li> <li>Differing interpretations of the vision (e.g., business transformation or tech replacement) has led to inconsistent engagement with the wider business and inability to take people along on the journey effectively</li> <li>No single business or change sponsor (until very recently) hence no single source of truth and accountability when it comes to business change and vision clarification</li> </ul>
	<b>3.1.2 Change Strategy &amp; Approach</b>	No overarching change approach that includes considerations for all impacted stakeholders will lead to adoption risk	<ul style="list-style-type: none"> <li>A lot of work has gone into producing Business Change related artefacts and documents incl. a Change Strategy. However, there does not appear to be a consistent approach to the change journey for internal and external stakeholders across these documents, or enough detail around how the different business change activities (e.g., Comms, Training) will underpin the programme and help enable its objectives</li> <li>The above is not helped by the lack of alignment on the vision for the programme or lack of clarity on progress which make it difficult to identify the right interventions for stakeholders</li> <li>Any business change-related assets developed prior to the merging of STP and RTP would need to be revisited to ensure they incorporate the holistic view required for a programme of this size and impact with input from the appropriate stakeholders (e.g., tech delivery)</li> <li>In recent weeks, steps have been taken to bring Business Change under one roof which should help address some of the above issues</li> </ul>
	<b>3.1.3. Change Governance &amp; Accountability</b>	Change accountabilities unclear leading to inconsistent decision making and duplication of effort	<ul style="list-style-type: none"> <li>There is a lack of clear Change Governance and RACI for the programme overall which has led to confusion around who should be owning what for Business Change</li> <li>There is not a single point of accountability for the programme (e.g., Business Change Lead)</li> <li>Change-related roles and responsibilities have not been clearly defined or guided by a unified strategy and approach</li> <li>In recent weeks, steps have been taken to address this gap</li> </ul>

\*The consolidation of RTP and STP into a single programme was announced w/c 18 Sep 2023 which was in parallel to this review.

# OBSERVATIONS (2/6)

## 3.2 CHANGE EXECUTION

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>3.2 Change Execution</b>	<b>3.2.1 Change Impact Assessment (CIA)</b>	CIAs were previously not conducted in a holistic way given limited representation of all impacted stakeholders and missing business process owners*	<ul style="list-style-type: none"> <li>• CIAs have been halted due to delays to R3 and will be picked up once R3 materials are finalised, A high-level POL wide CIA has taken place to capture the level of impact across functions</li> <li>• Change Impact Assessments were previously conducted without sufficient access to the right stakeholders or information (e.g., what capabilities would be in place by when, tech roadmap) and therefore lack a complete and holistic view</li> <li>• Different teams (e.g., products, scope) had to produce their own CIAs to ensure they understand the change impact and the audiences affected (e.g., for changes to requirements) which led to duplication of effort and inconsistencies</li> <li>• There is a plan and an updated template to conduct CIAs once this activity resumes which should help address some of the above issues</li> </ul>
	<b>3.2.2. Change Implementation &amp; Adoption Plan</b>	Change plans and activities across the programme have been disjointed leading to inconsistencies and duplication	<ul style="list-style-type: none"> <li>• There are different versions of plans across teams capturing business change activities which has led to inconsistencies and duplication of effort. These plans have also been developed without sufficient input from all key stakeholders (e.g., products, tech delivery)</li> <li>• There has been an inconsistent approach to the wider journey people (internal and external) will need to be taken on (e.g., change related activities for postmasters or senior stakeholders)</li> <li>• Steps have been taken recently to ensure change execution is consolidated and consistent across the programme going forward</li> </ul>
	<b>3.2.3 Change Capability</b>	Lack of a Business Change Lead and the recent downsizing of the team will lead to adoption risk	<ul style="list-style-type: none"> <li>• There has not been one Business Change Lead for the overall programme to champion the importance of Business Change and provide clear steer</li> <li>• Business Change has historically not been embedded into the programme which has had an impact on the change journey for internal and external stakeholders</li> <li>• Following the downsizing of Business Change resources, there are concerns about the level of Change capability for the programme</li> </ul>
	<b>3.2.4 Change Champions Network</b>	No formalised change champions network that can ensure representation across all impacted stakeholder groups	<ul style="list-style-type: none"> <li>• Other than the postmaster working group, there isn't a Change Champions network that has been set up to support the programme from a Business Change perspective (e.g., to cascade comms, generate excitement, secure buy-in from teams)</li> </ul>

\*As per the Strategy tower finding 1.4.4.

# OBSERVATIONS (3/6)

## 3.3 STAKEHOLDER ENGAGEMENT & COMMS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>3.3 Stakeholder Engagement &amp; Comms</b>	<b>3.3.1 Stakeholder Engagement &amp; Comms Strategy</b>	The stakeholder engagement and comms strategy & plan require input from a wider group of key stakeholders to ensure a more holistic and consistent view	<ul style="list-style-type: none"> <li>A comprehensive comms &amp; engagement strategy &amp; plan have been produced by RTP with involvement from the POL Comms team and the SPM Engagement team</li> <li>However, to ensure a holistic and complete view, the team should aim to get input from all key stakeholders e.g., in tech delivery (tech roadmap), esp. since colleagues in what was previously STP were not aware that a comms &amp; stakeholder engagement strategy and plan existed</li> </ul>
	<b>3.3.2 Stakeholder Mapping &amp; Analysis</b>	The stakeholder map and analysis require input from a wider group of key stakeholders to ensure a more holistic and consistent view	<ul style="list-style-type: none"> <li>Comprehensive work has taken place to create a stakeholder map, matrix and grid to capture the stakeholder landscape for the programme from RTP. To ensure a more holistic and complete view, the programme will need to involve and get input from key stakeholders in tech delivery as well as leadership</li> <li>There still appears to be insufficient clarity on who should be contacted (e.g., teams are not sure who is the right contact for Compliance), when or how</li> <li>Different teams have had to develop their own stakeholder maps (e.g., technology delivery, RTP) duplicating effort</li> <li>Steps have recently been taken to address inconsistencies and duplications in this space</li> </ul>
	<b>3.3.3 Stakeholder Engagement &amp; Comms Delivery</b>	Fragmented, reactive and inconsistent internal and external stakeholder engagement and comms has led to limited transparency both within and beyond the programme	<ul style="list-style-type: none"> <li>There is lack of transparency and consistency when engaging with the various stakeholders (e.g., in relation to delays, defects). This has not helped build trust in the programme</li> <li>Comms were halted due to uncertainty around the direction of the programme and the delays which caused confusion and frustration among key stakeholders incl. postmasters</li> <li>Wider engagement with the postmaster community has been put on hold. However, a sub-set of the PM Working Group has been engaged as part of ongoing solution refinement within tech delivery (e.g., user testing to support R2) which has been positive</li> <li>There is not a single and easy way to reach out to all Postmasters (e.g., single contact database) which is further impeding the two-way engagement required</li> <li>Some updates have been provided to external stakeholders (e.g., postmasters, strategic partners) following complaints and escalations but they have mostly been informal</li> </ul>

# OBSERVATIONS (4/6)

## 3.4 CULTURE & BEHAVIOURS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>3.4 Culture &amp; Behaviours</b>	<b>3.4.1 Leadership Alignment</b>	Lack of vision and objectives alignment within programme and senior leadership cascading into misalignment within teams	<ul style="list-style-type: none"> <li>There is lack of alignment among leadership in terms of the vision, the strategic objectives and what “replacing Horizon” meant for the programme, the teams within it and POL</li> <li>This is also cascaded across teams who contribute to the programme with different goals in mind (e.g., like-for-like replacement of Horizon, full retail transformation)</li> </ul>
	<b>3.4.2 Culture &amp; Behaviours</b>	Wider programme and organisational factors have exacerbated programme team culture and morale challenges	<ul style="list-style-type: none"> <li>There are pockets of positive and collaborative culture but that is not ultimately underpinning the transformation as the “one team” mindset does not exist for the programme</li> <li>Interviews have surfaced several instances of unprofessional behaviours and friction between teams and individuals</li> <li>There is a fear to make decisions and take accountability (e.g., who should own certain risks) which people have attributed to the tight timelines and the nervousness around a potential future inquiry</li> <li>The high employee turnover esp. at leadership level, the splitting of the programme and the high number of contractors are seen as factors that have prevented the programme from establishing a stable culture and a consistent vision</li> <li>Participants spoke of generalised demotivation which can be attributed to recent uncertainty around the significant downsizing of teams, the negative attention the programme is receiving and the fact that the programme has stopped celebrating successes (e.g., recent releases)</li> </ul>
	<b>3.4.3 Ways of Working</b>	Fragmentation and silos exist at all levels leading to limited collaboration and suboptimal outcomes for the programme	<ul style="list-style-type: none"> <li>Lack of appetite to collaborate with certain teams (e.g., security, assurance) as a result of the pressing timelines. This could present the programme with bigger issues (incl. legal and security ones) in the future</li> <li>Following the merging of STP and RTP, participants have reported feeling like they still operate in an “awkward” environment</li> </ul>

# OBSERVATIONS (5/6)

## 3.5 SKILLS & COMPETENCIES

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>3.5 Skills &amp; Competencies</b>	<b>3.5.1 Skills &amp; Competency Needs</b>	Skills and competency needs of the programme are often not met which has had an impact on delivery	<ul style="list-style-type: none"> <li>Attracting the right people to the programme (externally and from POL) has been a challenge due to high costs, HR processes, the niche skills required and the stigma of the Horizon inquiry. As a result, there have been competency gaps in key areas (incl. large complex transformation, reporting, programme management, agile, deep technical expertise to challenge the direction of the programme). Those competency gaps have partially been addressed by third parties</li> <li>Insufficient knowledge and experience within POL in relation to Horizon, its processes, requirements and functionalities led to lack of clarity around skills &amp; competency needs</li> <li>Workforce planning for the programme has been insufficient and inconsistent. E.g., contractor resource count does not always align with work packages; more people were brought in in recent months despite there being indications the programme would slow down</li> <li>The recent downsizing of teams is likely to exacerbate skills and competency needs in certain areas</li> </ul>
	<b>3.5.2 Knowledge Retention</b>	High contractor ratio and transience within roles is presenting a knowledge retention challenge	<ul style="list-style-type: none"> <li>There are concerns around knowledge retention within POL considering the high proportion of contractors and the downsizing of the programme</li> <li>Handovers will be conducted over a limited period of time and to a small number of people</li> <li>Participants have indicated they feel demotivated and would be looking for opportunities elsewhere</li> </ul>
	<b>3.5.3 Roles &amp; Responsibilities</b>	Unclear roles and responsibilities slowing down decision making and issue resolution*	<ul style="list-style-type: none"> <li>There is not a RACI for the overall programme, which has made it harder for people to understand who should be involved in the various activities and initiatives (e.g., demos, CIAs) or who to contact to get input for certain activities (e.g., Compliance)</li> <li>A TOM is currently being developed which should help address these challenges</li> </ul>

\*As per the Governance tower finding 2.3.5.

# OBSERVATIONS (6/6)

## 3.6 LEARNING & TRAINING

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>3.6 Learning &amp; Training</b>	<b>3.6.1 Learning Strategy &amp; Approach</b>	More clarity is needed around the future direction of travel for learning for all impacted stakeholders considering funding and resourcing challenges	<ul style="list-style-type: none"> <li>The NBIT Training and Information Strategy hinges around a digital based approach to learning and is based on a number of assumptions (e.g., access to LMS) that cannot be fulfilled considering the current circumstances (e.g., budget and resource constraints)</li> <li>There is lack of clarity around the right direction of travel for learning, the learning interventions needed (e.g., for Postmasters – tech or soft skills) and who should be providing the training (e.g., postmasters, external providers)</li> <li>The budget constraints and the downsizing of the team are likely to have an adverse impact on the programme’s ability to use learning as a lever for adoption</li> <li>Work is underway to bring training under one roof which should address some of these issues</li> </ul>
	<b>3.6.2 Learning Needs Analysis (LNA)</b>	Learning needs of impacted stakeholders will not be met due to gaps in training scope	<ul style="list-style-type: none"> <li>Comprehensive LNAs were conducted by both RTP and STP. However, those were completed separately without representation or input from all impacted teams</li> <li>The LNA conducted by RTP identified a wide range of audiences that will need to be trained on the new solution (e.g., service support, BAU teams). These audiences are not covered in anyone’s scope and the relevant BAU teams do not have capacity to deliver training to them</li> </ul>
	<b>3.6.3 Learning Design &amp; Development</b>		<ul style="list-style-type: none"> <li>The scope for learning design and development mostly covers conversion training for specific audiences (e.g., postmasters). Therefore, there are gaps in terms of learning interventions that will be needed for various audiences (e.g., new joiners, Head Office, help desk people)</li> </ul>
	<b>3.6.4 Learning Delivery, Deployment &amp; Evaluation</b>	Lack of modern LMS tool and funding constraints will limit successful learning delivery	<ul style="list-style-type: none"> <li>A comprehensive end-to-end training deployment plan was produced by RTP which was validated by the POL Comms &amp; Engagement team. However, this was completed without sufficient input from all relevant stakeholders from STP (e.g., training material created, when it would be available)</li> <li>There are not enough licences for all postmasters to access the current LMS (~7500 licences for 55000 people). The current LMS is also not considered user friendly or engaging enough</li> <li>Due to funding constraints, a decision to introduce a new Learning Management System (LMS) has been put on hold. This is likely to impact the ability of the programme to upskill people and digitalise learning instead of relying on more costly and time-consuming methods of learning</li> </ul>

# RECOMMENDATIONS (1/5)

## 3.1 CHANGE STRATEGY

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
3.1 Change Strategy		<b>Rec3.1A)</b> Revisit and relaunch the Change vision to drive buy-in and energise stakeholders both internal and external to programme, e.g., <i>workshops, comms, away days</i>	✓	#2
	<b>3.1.1)</b> Unclear programme-wide understanding or ownership of change vision across all impacted stakeholders despite formation of RTP*	<b>Rec3.1B)</b> Define, agree, and embed change roles and responsibilities under a single Business Change workstream led by a single point of accountability (e.g., individual with deep expertise in delivering business change as part of a complex transformation programme)	✓	#9
	<b>3.1.2)</b> No overarching change strategy that includes considerations for all impacted stakeholders will lead to adoption risk	<b>Rec3.1C)</b> Revisit existing change strategies and consolidate those to have one integrated Business Change strategy for the overall programme that covers all related activities holistically for all impacted stakeholders based on a consistent methodology (e.g., ADKAR)	✓	#28
	<b>3.1.3)</b> Change accountabilities across STP and RTP unclear leading to inconsistent decision making and duplication of effort			
		<b>Rec3.1D)</b> Socialise the Business Change strategy with key stakeholders (incl. GE, retail). Engage them in shaping it to secure buy-in, and to act as advocates		#28

\*The consolidation of RTP and STP into a single programme was announced w/c 18 Sep 2023 which was in parallel to this review.

# RECOMMENDATIONS (2/5)

## 3.2 CHANGE EXECUTION

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
3.2 Change Execution	<p><b>3.2.1)</b> CIAs were previously not conducted in a holistic way given limited representation of all impacted stakeholders and missing business process owners*</p> <p><b>3.2.2)</b> Change plans and activities across the programme have been disjointed leading to inconsistencies and duplication</p> <p><b>3.2.3)</b> Lack of a Business Change Lead and the recent downsizing of the team will lead to adoption risk</p> <p><b>3.2.4)</b> No formalised change champions network that can ensure representation across all impacted stakeholder groups and issue resolution</p>	<p><b>Rec3.2A)</b> Embed consolidated business change capability into the programme to ensure the change journey is looked at holistically and consistently for all impacted stakeholders, with the business change team working closely with tech delivery</p>	<p>✓ (Underway)</p>	#28
		<p><b>Rec3.2B)</b> Empower the Business Change team to drive Business Change for the programme by identifying, designing and delivering the right interventions for internal and external stakeholders</p>	<p>✓</p>	#22
		<p><b>Rec3.2C)</b> Consolidate change impact assessments to ensure the impact of change on all stakeholders within and outside the programme is understood and considered as part of change management</p>	<p>✓</p>	#28
		<p><b>Rec3.2D)</b> Agree, adapt and embed one unified change implementation plan that captures all business change related activities needed for the programme with clear owners and one Business Change team executing this</p>		#28
		<p><b>Rec3.2E)</b> Map out the change journey for the key stakeholder groups impacted and explain how they will be taken along on the journey and the experience will be like (e.g., through personas)</p>		#28
		<p><b>Rec3.2F)</b> Introduce a change champions network for the programme to ensure representation and involvement from all impacted stakeholder groups</p>		#28

\*As per the Strategy tower finding 1.4.4

# RECOMMENDATIONS (3/5)

## 3.3 STAKEHOLDER ENGAGEMENT & COMMS

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
3.3 Stakeholder Engagement & Comms	<p><b>3.3.1</b> The stakeholder engagement and comms strategy &amp; plan require input from a wider group of key stakeholders to ensure a more holistic and consistent view</p> <p><b>3.3.2</b> The stakeholder map and analysis require input from a wider group of key stakeholders to ensure a more holistic and consistent view</p> <p><b>3.3.3</b> Fragmented, reactive and inconsistent internal and external stakeholder engagement and comms has led to limited transparency both within and beyond the programme</p>	<p><b>Rec3.3A)</b> Revisit and refine the comms and engagement strategy and plan for all audiences (internal and external) in collaboration with representatives from all teams within the programme</p>	<p>✓ (Underway)</p>	#28
		<p><b>Rec3.3B)</b> Socialise the comms &amp; engagement strategy and plan with the programme and key stakeholders to raise awareness and secure buy-in</p>	<p>✓</p>	#29
		<p><b>Rec3.3C)</b> Consolidate and refine stakeholder map &amp; analysis to ensure all impacted stakeholders and their needs are captured</p>	<p>✓ (Underway)</p>	#28
		<p><b>Rec3.3D)</b> Reset and restart comms &amp; engagement in collaboration with Leadership and make a point of providing frequent and transparent updates to internal and external stakeholders to rebuild trust in the Programme</p>	<p>✓</p>	#29
		<p><b>Rec3.3E)</b> Revisit and refresh or establish mechanisms for engagement with key stakeholders (incl. GE, postmasters)</p>		#29

# RECOMMENDATIONS (4/5)

## 3.4 CULTURE & BEHAVIOURS

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
3.4 Culture & Behaviours	<p><b>3.4.1)</b> Lack of vision and objectives alignment within programme and senior leadership cascading into misalignment within teams</p> <p><b>3.4.2)</b> Wider programme and organisational factors have exacerbated programme team culture and morale challenges</p> <p><b>3.4.3)</b> Fragmentation and silos exist at all levels leading to limited collaboration and suboptimal outcomes for the programme</p>	<b>Rec3.4A)</b> Run a leadership alignment session to revisit and revalidate the vision to make it compelling and inspiring as well as provide clarity and specific objectives for each team	✓	#2
		<b>Rec3.4B)</b> Socialise the vision with all teams within the programme as well as external stakeholders to raise awareness, gain commitment and mobilise advocates	✓	#29
		<b>Rec3.4C)</b> Identify desired behaviours and ways of working, with involvement from leadership as well as input from people within the programme	✓	#22
		<b>Rec3.4D)</b> Introduce initiatives that will foster and embed a collaborative environment across the programme (e.g., F2F or virtual events)		#22
		<b>Rec3.4E)</b> Leadership to make a point of celebrating successes and rewarding / recognising outstanding contributions		#22

**WORKING DRAFT**

**PEOPLE**

# RECOMMENDATIONS (5/5)

## 3.5 SKILLS & COMPETENCIES, 3.6 LEARNING & TRAINING

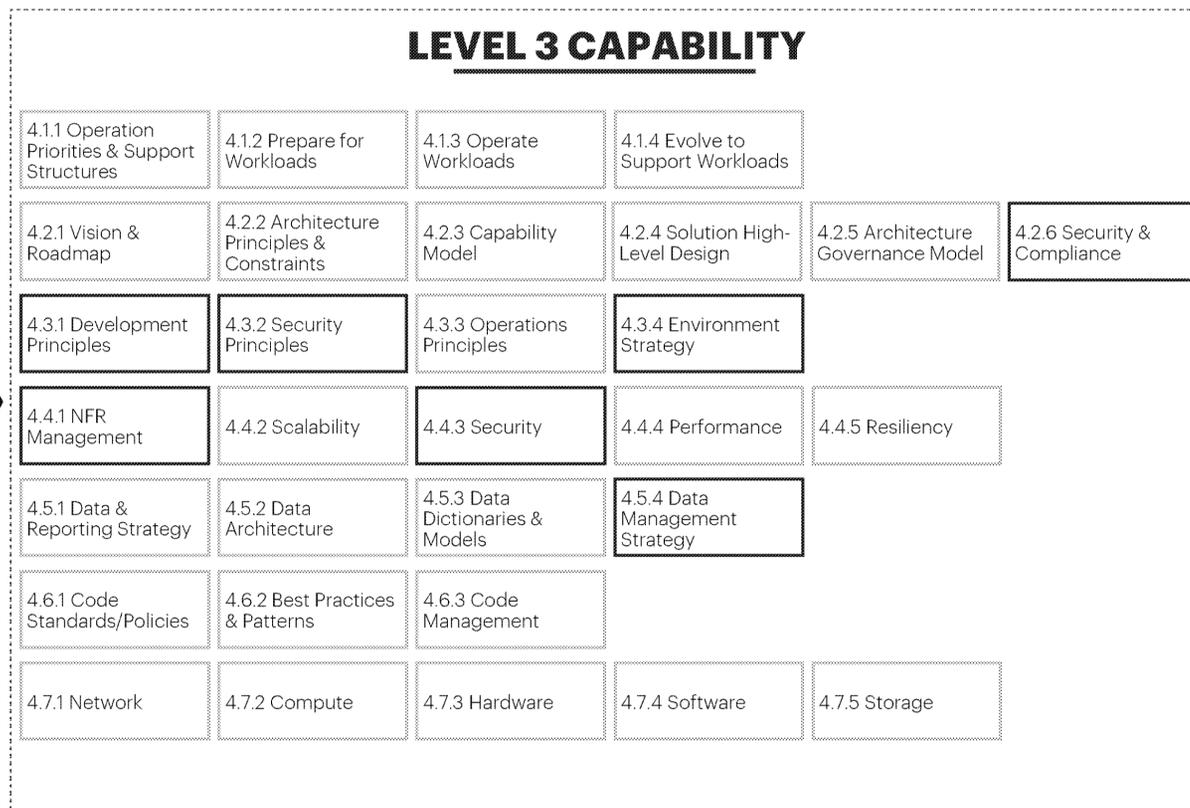
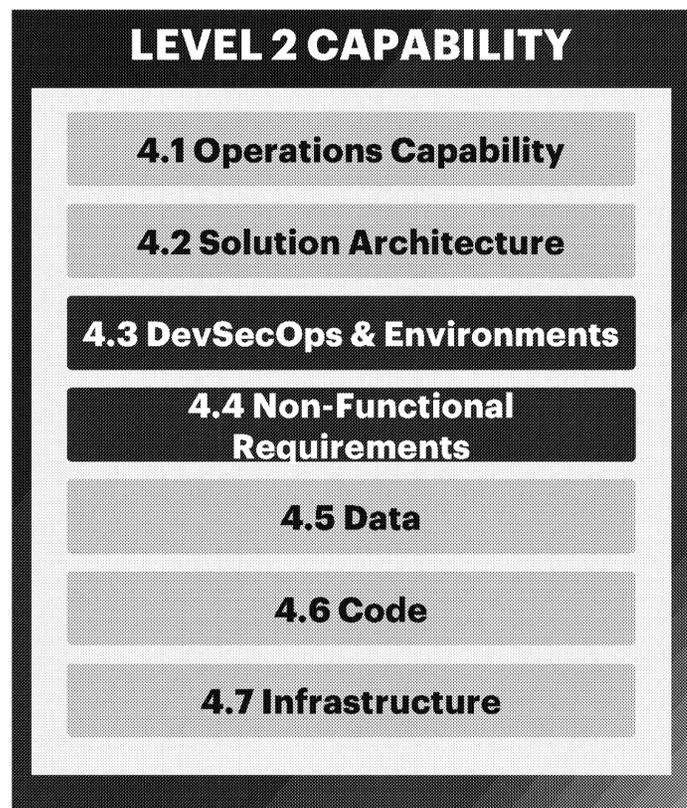
Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
3.5 Skills & Competencies	<b>3.5.1)</b> Skills and competency needs of the programme are often not met which has had an impact on delivery	<b>Rec3.5A)</b> Establish clear RACI, roles & responsibilities for the consolidated programme incl. the business change-related workstreams	✓ (Underway)	#9
	<b>3.5.2)</b> High contractor ratio and transience within roles is presenting a knowledge retention challenge	<b>Rec3.5B)</b> Identify competency and skills gaps across key areas of the programme in collaboration with Leadership and recruit against those	✓	#11
	<b>3.5.3)</b> Unclear roles and responsibilities slowing down decision making and issue resolution*	<b>Rec3.5C)</b> Where possible, bring in more POL employees to work on the project to enable knowledge retention or introduce ways of upskilling POL staff through working with consultants or contractors	✓	#11
3.6 Learning & Training	<b>3.6.1)</b> More clarity is needed around the future direction of travel for learning considering funding and resourcing challenges	<b>Rec3.6A)</b> Establish one learning team for the programme that looks at the learning journey of all impacted stakeholders holistically	✓ (Underway)	#28
		<b>Rec3.6B)</b> Revisit and confirm objectives and scope of the consolidated Learning team	✓	#28
	<b>3.6.2)</b> Learning needs of impacted stakeholders will not be met due to gaps in training scope	<b>Rec3.6C)</b> Identify gaps (e.g., where training of some stakeholders may not be covered) and produce a plan to address those in collaboration with the BAU Learning team	✓	#28
	<b>3.6.3)</b> Lack of modern LMS tool and funding constraints will limit successful learning delivery	<b>Rec3.6D)</b> Consolidate and refresh the Learning Strategy and related deliverables (incl. training deployment plan) for the programme with input from key stakeholders, taking into account the budget and resource constraints	✓	#28
		<b>Rec3.6E)</b> Invest in digitalising learning for the programme to reduce reliance on more costly and time-consuming face-to-face interventions		#28

\*As per the Governance tower finding 2.3.5

# **III.4 | SOLUTION REVIEW DETAIL**

# SUMMARY OF OBSERVATIONS

SOLUTION LEVEL 2 AND LEVEL 3 CAPABILITY RAG RATINGS.



# OBSERVATIONS (1/14)

## 4.1 OPERATIONS CAPABILITY

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.1 Operations Capability</b>  <i>(continues on next page)</i>	<b>4.1.1 Operation Priorities &amp; Support Structures</b>	Operation priorities, frameworks and runbook follow a standardised template and are stored centrally in a well-maintained repository	<ul style="list-style-type: none"> <li>• There is a well-documented central repository of NBIT IT service operations collateral, e.g. service operations manuals, in-service &amp; transitioning service catalogue, support documentation, policies/procedures, job aids, roles/responsibilities, etc.</li> <li>• NBIT Service Runbooks follow a defined standard, while many are still in Draft or Review status this is expected at this stage in the programme deliver</li> <li>• Service SLA's follow standard service levels within POL but are not NBIT specific</li> <li>• ServiceNow IT Ops Dashboard is set up to share status of incident tasks, change records, problem investigations and known errors</li> <li>• Lessons are being identified after releases, but no systematic approach to evolve and incorporate feedback into service.</li> <li>• Defined scalability and observability approach is currently tactical (e.g. Data Dog) to support R2, therefore will need to be updated in line with the long-term support requirements</li> </ul>
	<b>4.1.2 Prepare for Workloads</b>	The "Build Better" improvement plan project is addressing the historical complex, error-prone and manually intensive development and implementation processes however effort is required to accelerate the execution and adoption across the programme.	<ul style="list-style-type: none"> <li>• A number of systematic problems were captured in April '23, detailed in the Build Better (BB) improvement plan: "NBIT is difficult to develop and deploy – Every time NBIT has a need to deploy software there is a complex, high risk, manual process (1) Integrate 144 technology stacks (2) Follow a 28 step release process. This is repeated 6 times across 6 out of sync environments."</li> <li>• NBIT release management and supporting documentation is well-defined, however the deployment process that underpins the release process has historically been complex, manually intensive and error-prone. Continuous improvements taking place as part of the Build Better project</li> <li>• There is an incomplete set of automation testing and standardisation across the product domain teams. Furthermore, incomplete non-functional testing resultant from a lack of non-functional requirements has led to the inability to fully prove applications are performing as expected as captured in the improvement plan</li> <li>• Other systematic problems captured in the Build Better improvement plan: incomplete set of integration tests (Stubs/API Unit), minimal observability, lack of clarity around feature requirements and incomplete security requirements defined</li> <li>• The BB improvement plan is presently in Wave 1 of 3 and tackling engineering improvements in such areas as: requirements capture process, developer experience, test automation, API test standardisation, observability PoV/implementation, security issue resolution and reducing new security issues</li> <li>• Future continuous improvement planned includes improvement to DEV throughput, integration across workstreams, throughput to LIVE and feature toggles</li> <li>• The Service Ops process of AWS access management is manually intensive and time consuming at present with 15-30 access requests to manage per week, involving overseeing automated requests to make sure that all participants in the workflow are actioning their steps in the process. Furthermore, manually creating Jira tickets for requests that are not automated</li> <li>• Decoupling the deployment from release processes has been considered but not fully designed or implemented</li> </ul>

# OBSERVATIONS (2/14)

## 4.1 OPERATIONS CAPABILITY

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.1 Operations Capability</b>  <i>(continued)</i>	<b>4.1.3 Operate Workloads</b>	Limited standardisation of performance and cost metrics coupled with an inconsistent alerting approach reduces the transparency of the solution and the ability to detect anomalies.	<ul style="list-style-type: none"> <li>• A strategic observability/monitoring service has been selected but has not been fully implemented by service teams limiting the observability of the E2E solution</li> <li>• Guidelines for Tagging and Alerting are not defined consistently adopted by service teams resulting in a lack of standardisation and traceability across services, while this is not a concern for the limited rollout it should be remediated for scaled rollout to 11.5k sites</li> <li>• Cost is not properly tracked at a workload level, as a result there are little to no optimisation measures in place. However, it is noted that there are cost tracking policies and processes in place for individual accounts at OU level, but these are not implemented</li> </ul>
	<b>4.1.4 Evolve to support Workloads</b>	Historical challenge to dedicate time to address technical debt and support continuous improvement opportunities, however the ongoing Build Better initiative has started making a difference in some areas with some work to go in the proposed plan.	<ul style="list-style-type: none"> <li>• Initial approach to continuous improvement was to allocate 20% of work items in engineering sprint capacity to addressing technical debt and improvements however this was never fully realised due to time pressures and a focus on delivering business functionality</li> <li>• A dedicated Continuous Improvement team (Build Better) are currently addressing 8 systemic issues with the development processes/practices, but this initiative has yet to roll out these new practices across the various development teams</li> <li>• The programme has explicitly prioritised tech debt remediation in R2.1 and R2.2 which are currently in flight</li> </ul>

# OBSERVATIONS (3/14)

## 4.2 SOLUTION ARCHITECTURE

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.2 Solution Architecture</b>  <i>(continues on next page)</i>	<b>4.2.1 Vision &amp; Roadmap</b>	<p>There is no explicit technical vision and roadmap defined for the NBIT solution, instead the SPM Programme Vision and High-Level Release plans are driving the evolution of the technical capabilities</p>	<ul style="list-style-type: none"> <li>• There is no formal roadmap for the NBIT architecture however the components of the major releases have been overlaid onto the target state architecture diagram</li> <li>• A vision has been defined for the programme but there is no specific technical vision for the NBIT Service</li> </ul>
	<b>4.2.2 Architecture Principles &amp; Constraints</b>	<p>Architecture principles, standards and constraints/guardrails have been newly defined for NBIT in some areas, whilst also adopted from existing POL Enterprise Architecture and Cloud Security Principles</p>	<ul style="list-style-type: none"> <li>• There is a placeholder for NBIT specific architecture principles and policies in confluence, however no content at present which solution high-level designs are presently referencing, for example: Mails Solution Design</li> <li>• Architecture patterns have been created and captured in confluence for a subset of solutions</li> <li>• AWS standards &amp; guardrails captured in confluence were produced in late 2021/early 2022 and therefore may require updating in areas to align with any later changes in standards</li> <li>• NBIT architecture guiding design principles are only in draft format and captured in confluence as NBIT is adopting existing EA and cloud design principles which is not explicitly stated</li> <li>• Cloud security design principles are suggested for the National Cyber Security Centre (NCSC) and AWS Well-Architected Security Principles to provide Architects and Developers with guidance to support good application security design decisions</li> </ul>

# OBSERVATIONS (4/14)

## 4.2 SOLUTION ARCHITECTURE

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.2 Solution Architecture</b> <i>(continued)</i>	<b>4.2.3 Capability Model</b>	<p>The NBIT architecture capability has been built up over time with the establishment of resources, processes, and roles to support the programme. There is further opportunity to assess and develop the capability to make improvements in areas that require attention, such as architecture compliance and governance through the delivery phase</p>	<ul style="list-style-type: none"> <li>• The programme has established an architecture capability which includes defining the scope of the architecture practice, identifying stakeholders and their roles, and establishing the necessary governance mechanisms</li> <li>• Once a solution design HLD is produced for a small subset of product/solution domains there is limited visibility and collaboration from architects with delivery teams to ensure alignment of high-level to low-level design and implementation – addressing potential design flaws and challenges in the design phases reduces the likelihood of errors and defects in the final implementation, saving time and resources in the long run</li> </ul>
	<b>4.2.4 Solution High-Level Design</b>	<p>Architecture solution design (HLD) exist across various NBIT products/services and domain lead architects are embedded within product delivery teams; however, alignment of low-level design (LLD) and implementation is not guaranteed nor traceable due to missing implementation artefacts and non-continual collaboration</p>	<ul style="list-style-type: none"> <li>• Architects work with various business and technical team(s), business owner(s), product owner(s) to produce high-level design documents which evolve over time as existing or new requirements are captured and design decisions approved</li> <li>• There is a standardised high-level solution design template used as a baseline to produce a consistent set of high-level design documents across the various product domains</li> <li>• HLDs do not currently capture the current-state architecture which would be useful for current/future-state analysis e.g. mapping out the current-state of business process, identifying strengths and weaknesses, and then designing a future-state that addresses those weaknesses and optimises the process for better results</li> <li>• The HLD provides stakeholders with a high-level understanding of the system, facilitating clear communication and alignment to goals, whereas associated LLDs would ensure that developers have a detailed roadmap to follow and minimise ambiguity and misinterpretation</li> <li>• The architecture solution designs do follow a standardised template; however, the HLD file naming convention is not consistent, some include version numbers in naming while others do not. Furthermore, there is no logical structure separating them by product area in the centralised repository which makes it difficult to navigate or search for a particular HLD</li> </ul>

# OBSERVATIONS (5/14)

## 4.2 SOLUTION ARCHITECTURE

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.2 Solution Architecture</b>  <i>(continued)</i>	<b>4.2.5 Architecture Governance Model</b>	An architecture & design governance process has been established with controls in place that produce architectural artefacts, however stricter management and controls are required at the implementation phase to ensure compliance and traceability back to high-level design to avoid misalignment	<ul style="list-style-type: none"> <li>The architecture practice has established a governance model with associated processes and standards/policies</li> <li>A TDA (Technical Design Authority) has been established to oversee the development and implementation of the programmes architecture, however attendance is not consistent with key stakeholders and at times final decisions are made to minimise impact to delivery rather than selecting the more compliant technical decision, leading to policy exception notes being raised and a build-up of technical debt</li> <li>Due to missing low-level design artefacts there is a lack of HLD-LLD collaboration among architects, developers, and stakeholders, to ensure that everyone is on the same page regarding the solution architecture, design and implementation</li> <li>Previous architecture diagnostic/assurance/audit reports produced with improvement recommendations are being tracked and prioritised in a centralised issues log in Jira e.g. AWS/ACN Well-Architected Reviews (WAR) and Credera Integrity Assurance</li> </ul>
	<b>4.2.6 Security &amp; Compliance</b>	Compliance with security regulatory and best practice requirements are not in line with modern practices and frameworks, resulting in misconfigurations, solutions that are not fit for purpose and increased implementation timelines.	<ul style="list-style-type: none"> <li>Whilst POL Security Compliance teams have a baseline of frameworks and controls, they are outdated and are not integrated with the delivery teams. Team integration is key to delivering on business, functional and regulatory obligations</li> <li>Roles and responsibilities of team members are not clear and has resulted in duplicated effort with non-optimal output</li> <li>No role-based security training or awareness programmes exist to update skills, modern practices or frameworks e.g.:                             <ul style="list-style-type: none"> <li>Current compliance scans do not scan for the same metrics as defined in frameworks at TDA . Indicating that compliance metrics, processes and policies between HLD and engineering environments are not the same</li> <li>WAF was identified as a required control from the initiation of the programme and has yet to be delivered</li> </ul> </li> </ul>

# OBSERVATIONS (6/14)

## 4.3 DEVSECOPS & ENVIRONMENTS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.3 DevSecOps &amp; Environments</b>  <i>(continues on next page)</i>	<b>4.3.1 Development Principles, Standards &amp; Guidelines</b>	Development principles and processes have historically not been standardised across the various product/platform service teams which introduced both dependencies between teams, increased defects, and reduced delivery velocity, however the ongoing 'Build Better' continuous improvement initiative is working to address these systematic problems	<ul style="list-style-type: none"> <li>Development principles and patterns (e.g. API contracts, Stub Modules) that support decoupling are being adopted but do not provide full coverage at present, creating hard dependencies across teams and introducing breaking changes</li> <li>Strategic DevSecOps Tooling that delivers CI/CD capabilities has been selected</li> <li>Standards and guidelines have been defined as part of the Build Better Initiative however these standards have not been fully implemented by across product/platform service teams</li> </ul>
	<b>4.3.2 Security Principles</b>	Security principles, whilst defined, are not integrated or recognised as critical within the solutioning phases of the programme, impacting the overall health of the solution with an increased attack surface and decreased traceability or observability	<ul style="list-style-type: none"> <li>Security principles have been defined at the TDA level however compliance to these principles are not consistently integrated into delivered environments, monitored and/or enforced</li> <li>The programme security team make decisions with little justification or broader solution consideration. This has had a direct impact on the time to solution</li> <li>There is a gap between what is being designed, as LLDs are not consistently created to guide engineering efforts. This has resulted in Security having to perform post-delivery scans to understand how secure deployments are, resulting in little traceability, observability and reactive security assurance (i.e. what is being solutioned is being delivered). POL Security have discovered security weaknesses by means of pen tests and T&amp;VM scans.                      For Example:                     <ul style="list-style-type: none"> <li>NBIT InfoSec Executive Summary report has identified inconsistent identifiers between design and risk assessments, Requirements not directly translated to engineering stories, multiple inconsistent NFR pages.</li> <li>Vulnerability scans are complete highlighted to engineering teams and remediations remain incomplete.</li> </ul> </li> </ul>

# OBSERVATIONS (7/14)

## 4.3 DEVSECOPS & ENVIRONMENTS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.3 DevSecOps &amp; Environments</b>  (continued)	<b>4.3.3 Operations Principles</b>	Standard operations metrics have not been defined and implemented consistently across the NBIT solution impacting the ability to operate the service in line with defined SLAs	<ul style="list-style-type: none"> <li>• Focus on the programme has been on the development of the functional capabilities of the NBIT solution and there is limited operational metrics and principles defined</li> <li>• Management and enduring maintenance processes for the NBIT service have not been fully defined</li> <li>• B&amp;DE Service Ops KPI/Metrics not defined and still WIP</li> </ul>
	<b>4.3.4 Environment Strategy</b>	The environment strategy has not been fully operationalised and does not readily support a multi-speed/multi-team model, impacting the ability to deliver stable and secure products and services	<ul style="list-style-type: none"> <li>• A high-level Environment Strategy has been defined however the implementation of this strategy has resulted in brittle environments underpinned by manual processes. Therefore, difficult to maintain the goal of delivering stable and secure products and services</li> <li>• Higher environments have more rigorous controls and standards in place preventing critical errors getting through, whereas lower environments are sub-standard and teams could be more productive</li> </ul>

# OBSERVATIONS (8/14)

## 4.4 NON-FUNCTIONAL REQUIREMENTS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<p><b>4.4 Non-Functional Requirements</b> <i>(continues on next page)</i></p>	<p><b>4.4.1 NFR Management</b></p>	<p>Non-functional requirements are captured inconsistently across the programme, along with no individual or team accountable to manage nor a centralised traceability tool, resulting in limited controls to ensure NFRs are incorporated in end-to-end</p>	<ul style="list-style-type: none"> <li>• NFRs have been documented at an overarching platform level with reasonable coverage, however there are requirements defined separately at the component or product level which could cause confusion as to which should be aligned to solution design and lead to further issues in non-functional areas such as performance, data retention and so on</li> <li>• The 63 overarching NBIT platform NFR's captured in Confluence which are separated into the following: Core Architecture [13], Security Architecture [17], Reliability [2], Data Architecture [15], Monitoring &amp; Alerting [7], Backup &amp; Recovery [3] and Maintainability [6]. However, there are limited product level NFRs, and neither is there a consolidated view of all NBIT NFRs captured in a single view, artefact or tool at present</li> <li>• Overarching NFR metrics are not reflected in the technical services test cases i.e., user or transaction volumes. As a result, key metrics are not validated ahead of implementation. Limited automation of NFR Metrics across NBIT introduces risk of late identification of performance issues</li> <li>• Missing low-level design artefacts, along with no NFR requirements traceability tool means that there is no effective way to keep track of how the project is doing at each phase of the development life-cycle. Furthermore, it does not provide assurance to relevant stakeholders that requirements are meeting expectations</li> <li>• An NFR requirements traceability tool is lacking as an essential project management tool which would provide a methodical way to track and monitor requirements from initiation to delivery</li> </ul>

# OBSERVATIONS (9/14)

## 4.4 NON-FUNCTIONAL REQUIREMENTS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.4 Non-Functional Requirements</b>  <i>(continued)</i>	<b>4.4.2 Scalability</b>	An integrity assurance assessment for the NBIT platform has highlighted a set of recommendations to improve the platform scalability which should be considered before the solution scales	<ul style="list-style-type: none"> <li>NBIT transaction engine integrity assurance assessment in May '23 consisted of a scalability analysis, test output and recommendations of which a suggestion from AWS was to leverage multiple AWS accounts per environment as best practice to avoid hitting single account hard limits causing a future blocker to scalability</li> <li>While the multi-account recommendation has been accepted it has not been actioned thus far and has a ROM estimate cost (1Mn) and effort (6-9 months) associated to remediate with support from AWS professional services (Pro Serve) which includes a detailed AWS platform assessment &amp; target design (2 months) and resident advisory team to assist with implementation (4 months)</li> </ul>
	<b>4.4.3 Security</b>	Security governance mechanisms and frameworks are ineffective as security has not been prioritised at the Low-Level Design, Delivery and Operation stages. Resulting in spontaneous technology procurement and security exemptions by default. This approach may lead to re-engineering elements of the solution to adequately integrate security processes, technologies and skills	<ul style="list-style-type: none"> <li>Security requirements are not standardised across the NBIT Architecture, impacting programme health and increased attack surface</li> <li>No clear security technology strategy for NBIT</li> <li>Security currently operates in an advisory and reactionary way due to limited capacity, skills and North-Star</li> <li>No defined Journey to Cloud strategy and aligned security vision (i.e. North-Star)</li> <li>Security staffing shortage, (Example: three POL Security personnel assigned to SPM programme), forcing multiple engineering, architectural, governance and advisory disciplines for a single resource, this compromises quality of output and time to solution</li> <li>Security resources are not always engaged at the start of the engineering process</li> <li>Security tooling decisions are not controlled by Security Domain, e.g. moving from Snyk to GitHub Actions for Static Code Scanning</li> <li>CTO/TDA function owns security technology stack, resulting in non-security trained resources managing and operating security technologies</li> </ul>

# OBSERVATIONS (10/14)

## 4.4 NON-FUNCTIONAL REQUIREMENTS

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.4 Non-Functional Requirements</b>  <i>(continued)</i>	<b>4.4.4 Performance</b>	NBIT Release 2 Non-Functional Testing (NFT) passed within the agreed SLAs demonstrating performance in line with expectations without any major issues however performance testing should be executed before moving to scaled roll-out	<ul style="list-style-type: none"> <li>• In Release 2 NFT the expectation is to have 2 branches operational, however performance testing has been conducted and validated for 50 branches</li> <li>• All defects reviewed relating to performance and agreed none are critical for R2.0</li> <li>• A recommendation from the NBIT Release 2 non-functional testing requests specific client-side performance monitoring analysis be undertaken and later defined as business NFRs for upcoming releases to get full holistic view</li> <li>• NFRs for full scale branch rollout has been defined as 11500 branches, this will be used as a basis for performance testing when the programme moves to a full-scale roll out</li> </ul>
	<b>4.4.5 Resiliency</b>	A resiliency non-functional test strategy is captured, along with a test approach, however the native serverless architecture presents challenges for testing technical KPIs around availability and resilience as the systems are managed by AWS and are elastic to load and stress conditions	<ul style="list-style-type: none"> <li>• NBIT NFT Component Test Approach has been defined and includes Resilience/Chaos testing however this has not been executed or rolled out across the programme</li> <li>• A recent AWS well-architected review (WAR) of the NBIT account resulted in multiple recommendations towards maturity of workload – out of the 6 pillars in the WAR framework, Reliability pillar scored the lowest with high risks</li> <li>• No NFT resiliency/reliability in R2 test scope</li> </ul>

# OBSERVATIONS (11/14)

## 4.5 DATA

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.5 Data</b>	<b>4.5.1 Data &amp; Reporting Strategy</b>	Data and Reporting Strategy is very limited, it focuses on shipping data flows from NBIT into the legacy reporting service. There are no specific capabilities within the NBIT architecture that derive insights and value from NBIT data	<ul style="list-style-type: none"> <li>Data Strategy and associated data commandments have been defined but not all NBIT services/solution adhere to these commandments</li> <li>Advanced MI/BI and Analytics use-cases have been excluded from NBIT scope, instead focus is on canned operational reports from Legacy Systems. This approach may limit the continuous monitoring and identification of process/data anomalies and improvement opportunities</li> </ul>
	<b>4.5.2 Data Architecture</b>	Data Lifecycle management policies are not fully implemented across the solution which introduces risk of increased cost and potential for performance issues	<ul style="list-style-type: none"> <li>NBIT Data architecture is physicalised over object storage, nosql and RDS</li> <li>Documentation on data schemas/tables across the NBIT Solution does not follow a consistent structure</li> <li>Data retention principles have been defined but product/service level policies have not been defined or implemented</li> <li>Data lifecycle management have been defined at an S3 bucket level but there are no similar policies for DynamoDB and RDS</li> </ul>
	<b>4.5.3 Data Dictionaries &amp; Models</b>	Data Dictionaries and Models are not fully defined, this introduces the risk of data inconsistencies, and increases the effort/reliance on product teams to support impact assessment of data changes	<ul style="list-style-type: none"> <li>Data models and entity level dictionaries have been documented for each subject/functional domain however these models are not connected and do not readily support impact assessment of changes to data structures</li> <li>There is no central data dictionary or catalogue that provides attribute level definitions of data utilised by the NBIT solution. This increases the risk of data inconsistency /duplication of attributes across the solution while also increasing the dependency on functional/development teams to support data discovery and downstream data analysis</li> </ul>
	<b>4.5.4 Data Management</b>	Limited Data Management Processes across the environments introduces risk of variability and increases the brittleness of environments	<ul style="list-style-type: none"> <li>Management of Data across environments and domains has not been standardised introducing variability across the software delivery lifecycle. This variability makes it difficult to reproduce known errors and introduces new data related errors</li> <li>While a NFR framework has been centralised for more complex testing, it is the Individual teams that are responsible for defining and loading synthetic data</li> </ul>

# OBSERVATIONS (12/14)

## 4.6 CODE

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
4.6 Code	4.6.1 Code Standards & Policies	Compliance to code standards/policies is not monitored or enforced resulting in reduced code quality	<ul style="list-style-type: none"> <li>Best Practice/Standards and Guidelines have been documented for all programming languages and specific cloud services utilised by the solution</li> <li>Code analysis services (Sonarcube etc.) are not implemented consistently within the CI/CD pipelines which increases the risk of security and quality issues being introduced into the codeset</li> </ul>
	4.6.2 Best Practices & Patterns	Dependency management across products/services is improving due to the creation of stub modules and API contracts however there are gaps that need to be addressed and contract testing needs to be established across the teams	<ul style="list-style-type: none"> <li>The NBIT Engineering teams and Build Better Initiative have produced guidelines and made significant progress in creating both API contracts and Stub Modules across the NBIT solution. These are key enablers to rapidly and consistently test the integration between NBIT services and between the NBIT application and NBIT Core services</li> <li>Contract Testing solution (PACT Broker) is currently in the PoC stage and has yet to be established across all development teams</li> </ul>
	4.6.3 Code Management	Limited standardisation across the development and management of code increases the onboarding effort for new resources and reduces the ability to dynamically allocate resources across teams	<ul style="list-style-type: none"> <li>Development teams have moved from a MonoRepo approach to multiple repos for each functional area</li> <li>Inconsistent Code Management and branching strategies reduces ability to standardise and automate build/test pipelines</li> </ul>

# OBSERVATIONS (13/14)

## 4.7 INFRASTRUCTURE

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.7 Infrastructure</b>  <i>(continues on next page)</i>	<b>4.7.1 Network</b>	No major concerns or issues captured related to network overall, however it is worth noting, that the branch wide area network service has a reliance on expensive MPLS circuits which is not in-line to achieving a future-proof roadmap	<ul style="list-style-type: none"> <li>• Network solution preparation and readiness for NBIT release delivery has been well planned with close collaboration with security advisory with threat models being developed to help drive out any service specific requirements</li> <li>• NBIT network monitoring and remediation activities ongoing to resolve low bandwidth/high latency branch connectivity in readiness for future release deployments</li> <li>• IP address management is currently managed in-house by POL utilising NetBox software tool, however there is limited governance in place which could result in ad-hoc IP address allocation and duplicate IP conflicts as an example</li> <li>• No current network strategy, vision or roadmap (Enterprise or NBIT) - The branch WAN has a 99% MPLS based transport solution which has more than cost drawbacks associated for such a large distributed wide area network e.g., 11k+ sites</li> </ul>
	<b>4.7.2 Compute</b>	Previous solution architecture diagnostic/assurance study findings have provided recommendations in various areas for NBIT platform improvement which is underway or future planned	<ul style="list-style-type: none"> <li>• NBIT scalability improvements have been recommended to move workloads to an AWS multi-account strategy to support account segregation and to avoid hitting single account hard limits causing a future blocker to scalability</li> <li>• Recent AWS well-architected review of NBIT account resulted in multiple recommendations towards maturity of the workloads which are being managed through Jira tickets by the Architecture team</li> <li>• The recent Credera Transaction Integrity report highlighted 17 recommendations: 5 Red risk findings (prioritised remediations) and 12 Amber risk recommendations. All findings and recommendations have management responses, alongside fixes for classified as short and long-term fixes which are also managed through Jira tickets</li> </ul>
	<b>4.7.3 Hardware</b>	No major observations, concerns or issues captured related to hardware	<ul style="list-style-type: none"> <li>• Hardware in scope of NBIT consists of in-branch devices such as EPOS counter terminal, printers, scanners, card reader and so on that allow the services offered to be fulfilled</li> <li>• The existing branch router/device are proposed for R2 network connectivity without replacement; however, the target state solution is not confirmed</li> </ul>

# OBSERVATIONS (14/14)

## 4.7 INFRASTRUCTURE

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>4.7 Infrastructure</b>  <b>(continued)</b>	<b>4.7.4 Software</b>	<p>There is currently a tactical observability solution in place whilst live production services are in run state which limits the extent of performance monitoring and effectiveness of troubleshooting/ debugging – A full observability strategy should be in place prior to a complete branch roll-out</p>	<ul style="list-style-type: none"> <li>• The NBIT Transaction Engine is currently supporting more than 300 branches in a live production state for Drop &amp; Collect and Release 1. Furthermore, release 2 will be rolling-out to a maximum of 50 counters across a maximum of 50 branches which increases the demand for observability monitoring</li> <li>• The latest transaction integrity assurance actions resulted in 11 amber status observations actions of which 6 relate to logging and monitoring, an area of the programme that is currently behind schedule</li> <li>• The observability capabilities available within AWS (CloudWatch, etc.) as well as some bespoke development will be deployed as a tactical solution to ensure customer journey completion can be logged</li> <li>• There is a strategic observability solution selected to help achieve NBIT observability as 'DataDog' currently undergoing a POV and has not been rolled out fully across the NBIT service. DataDog has financial constraints for mass scale branch deployment (licensing cost) as well as network bandwidth considerations to consider for branches with low bandwidth WAN connectivity e.g., collecting and sending logs outside of standard retails working hours to reduce impact to connectivity</li> </ul>
	<b>4.7.5 Storage</b>	<p>Limited visibility or design on data lifecycle, archiving and data retention across the solution</p>	<ul style="list-style-type: none"> <li>• NBIT data retention policies are captured in a variety of forms and locations in Confluence by different teams such as Service Operations, Tech Platforms, Architecture and Cloud Office</li> <li>• At a solution level the NBIT Reconciliation Service has DB Data Retention and Archival process and policy captured, whereas other solution designs do not have this captured at a product level</li> </ul>

# RECOMMENDATIONS (1/10)

## 4.1 OPERATIONS ARCHITECTURE

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.1 Operations Capability (continues on next page)	<b>4.1.1)</b> Operation priorities, frameworks and runbook follow a standardised template and are stored centrally in a well-maintained repository	<b>Rec4.1A) Operation Priorities &amp; Support Structures</b> – Apply automation to processes by developing an Infrastructure as Code (IaC) approach and establish processes to keep system operations people-independent. Document all aspects and keep operational runbooks updated		#12
	<b>4.1.2)</b> The “Build Better” improvement plan project is addressing the historical complex, error-prone and manually intensive development and implementation processes however effort is required to accelerate the execution and adoption across the programme	<b>Rec4.1B) Prepare for Workloads</b> – Automate the review process by introducing code scan tools into the CI/CD process. These tools should be configured to look for coding standards, security policies, and audit controls, and fail the build process if a certain threshold of security, quality, and compliance is not achieved. The build process should also be configured to automatically update any enterprise asset management system or configuration management database (CMDB)	✓ (Underway)	#24, #25
	<b>4.1.3)</b> Limited standardisation of performance and cost metrics coupled with an inconsistent alerting approach reduce the transparency of the solution and the ability to detect anomalies	<b>Rec4.1C) Operate Workloads</b> – Establish an operations baseline and setup alerting when operations outcomes are at risk or when anomalies are detected: <ul style="list-style-type: none"> <li>Identify KPIs and define workload metrics to measure the achievement of KPIs</li> <li>Establish baselines for metrics to compare and identify under and over performing components</li> <li>Establish expected patterns of workload activity to determine and alert when workload outcomes are at risk</li> </ul>	✓	#24, #25
	<b>4.1.4)</b> Historical challenge to dedicate time to address technical debt and support continuous improvement opportunities, however the ongoing Build Better initiative has started making a difference in some areas with some work to go in the proposed plan	<b>Rec4.1D) Evolve to Support Workloads</b> – Perform regular retrospective analysis of operations metrics to later use the insights to identify opportunities for improvement and potential courses of action. Allocate time to make the improvements as part of a continuous improvement ethos		#24, #25
	<b>4.1.5)</b> No Cost Management strategy or processes to support variable Cloud Costing model			

# RECOMMENDATIONS (2/10)

## 4.1 OPERATIONS ARCHITECTURE

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
<b>4.1 Operations Capability</b> (continued)	<p><b>4.1.1)</b> Operation priorities, frameworks and runbook follow a standardised template and are stored centrally in a well-maintained repository</p> <p><b>4.1.2)</b> The “Build Better” improvement plan project is addressing the historical complex, error-prone and manually intensive development and implementation processes however effort is required to accelerate the execution and adoption across the programme</p> <p><b>4.1.3)</b> Limited standardisation of performance and cost metrics coupled with an inconsistent alerting approach reduce the transparency of the solution and the ability to detect anomalies</p> <p><b>4.1.4)</b> Historical challenge to dedicate time to address technical debt and support continuous improvement opportunities, however the ongoing Build Better initiative has started making a difference in some areas with some work to go in the proposed plan</p> <p><b>4.1.5)</b> No Cost Management strategy or processes to support variable Cloud Costing model</p>	<p><b>Rec4.1E) Cost Management</b> – Define a FinOps approach which constitutes four major practices: identify what POL owns, optimise resources that you need, plan and track spending, and execute policies that align with POL’s financial goals.</p> <ol style="list-style-type: none"> <li>1. Implement Cloud Financial Management             <ul style="list-style-type: none"> <li>• Create a team that is responsible for establishing and maintaining cost awareness</li> <li>• Establish cloud budgets and forecasts for workload</li> <li>• Monitor cost proactively</li> </ul> </li> <li>2. Govern Usage             <ul style="list-style-type: none"> <li>• Track project lifecycle</li> <li>• Implement cost controls based on organisation policies and defined groups and roles</li> </ul> </li> <li>3. Monitor Usage and Cost             <ul style="list-style-type: none"> <li>• Configure billing and cost management tools</li> <li>• Configure Cost and Usage report to provide detailed cost and usage information</li> <li>• Configure your workload to log entries for every business outcome</li> <li>• Implement billing/cost tagging across all resources to group costs and usage according to organisation attributes</li> </ul> </li> </ol>	✓	#18,#21

# RECOMMENDATIONS (3/10)

## 4.2 SOLUTION ARCHITECTURE

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.2 Solution Architecture (continues on next page)	<p><b>4.2.1)</b> There is no explicit technical vision and roadmap defined for the NBIT solution, instead the SPM Programme vision and High-Level Release plans are driving the evolution of the technical capabilities</p>	<p><b>Rec4.2A) Vision &amp; Roadmap</b> - Document solution vision and roadmap which describes the desired future state and the steps to achieve, alongside the wider SPM programme vision definition</p>	✓	#2, #3
	<p><b>4.2.2)</b> Architecture principles, standards and constraints/guardrails have been newly defined for NBIT in some areas, whilst also adopted from existing POL Enterprise Architecture and Cloud Security Principles</p>	<p><b>Rec4.2B) Architecture Principles &amp; Constraints</b> - Identify, review and document applicable architecture principles and policies. Continually review and update existing architecture standards and guardrails through the Architecture Review Board (ARB)</p>	✓	#10, #12
	<p><b>4.2.3)</b> The NBIT architecture capability has been built up over time with the establishment of resources, processes, and roles to support the programme with further opportunity to assess and develop the capability further to make improvements in areas that require attention, such as architecture compliance and governance at the delivery phase</p>	<p><b>Rec4.2C) Technical Architecture Governance</b> - Reevaluate TDA membership to reduce attendance to 10 voting members, ensuring representation across the key stakeholder groups. Input materials to the TDA Board meeting should be made available for members to read at least two days in advance</p>		#10

# RECOMMENDATIONS (4/10)

## 4.2 SOLUTIONS ARCHITECTURE

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.2 Solutions Architecture (continued)	<p><b>4.2.4)</b> Architecture solution design (HLD) exist across various NBIT products/services and domain lead architects are embedded within product delivery teams; however alignment of low-level design (LLD) and implementation is not guaranteed nor traceable due to missing implementation artefacts and non-continual collaboration</p>	<p><b>Rec4.2D) Technical Architecture Governance</b> - Create an additional technical architecture governance layer below TDA, namely a Design Authority (DA) in each product workstream led by domain lead architects for improved architecture alignment and compliance with engineering teams</p>		#10
	<p><b>4.2.5)</b> An architecture &amp; design governance process has been established with controls in place that produce architectural artefacts, however stricter management and controls are required at the implementation phase to ensure compliance and traceability back to high-level design to avoid misalignment</p> <p><b>4.2.6)</b> Compliance with security regulatory and best practice requirements are not in line with modern practices and frameworks, resulting in misconfigurations, solutions that are not fit for purpose and increased implementation timelines</p>	<p><b>Rec4.2E) Security &amp; Compliance</b> - Identify regulatory and industry best practices to comply with e.g. NCSC – Cyber Assessment Framework. Develop a baseline set of control frameworks and matrixes that can be leveraged in a bespoke manner dependent on use-case, landscape and delivery team</p>	✓	#12

# RECOMMENDATIONS (5/10)

## 4.3 DEVSECOPS & ENVIRONMENTS

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.3 DevSecOps & Environments	<b>4.3.1)</b> Development principles and processes have not been standardised across the various product/platform service teams this introduces both dependencies between teams, increases defects, and reducing delivery velocity	<b>Rec4.3A)</b> CI/CD Pipelines – Accelerate adoption of standardised CI/CD pipelines that utilise agreed strategic tooling (GitHub Actions, Advanced Security etc.) across NBIT teams	✓ (Underway)	#24, #25
	<b>4.3.2)</b> Security principles, whilst defined, they are not integrated or recognised as critical within the solutioning phases of the programme, impacting the overall health of the solution with an increased attack surface and decreased traceability or observability	<b>Rec4.3B)</b> Resource Tagging – Implement consistent Resource Tagging Strategy across NBIT covering Functional, Operational and Cost Hierarchies	✓	#24, #25
	<b>4.3.3)</b> Standard operations metrics have not been defined and implemented consistently across the NBIT solution impacting the ability to operate the service in line with defined SLAs	<b>Rec4.3C)</b> NBIT Alerting Service – Define Alerting Standards and Framework. Document rules, scenarios, thresholds and recipients for key services and rollout across product/service teams		#12
	<b>4.3.5)</b> The environment strategy has not been fully operationalised and does not readily support a multi-speed/multi-team model and is impacting the ability to deliver stable and secure products and services	<b>Rec4.3D)</b> Establish new Environments – Define Environment templates and associated refresh processes. Integrated with CI/CD pipelines and rebuild Environments to agreed states in alignment with a signed off environment strategy	✓	#24, #25
		<b>Rec4.3E)</b> Security Principles – Define and integrate a set of principles that are enforced at the Enterprise Architecture level, ensuring secure by design and a security first approach by default	✓	#24, #25

# RECOMMENDATIONS (6/10)

## 4.4 NON-FUNCTIONAL REQUIREMENTS

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
<b>4.4 Non-Functional Requirements</b> <i>(continues on next page)</i>	<p><b>4.4.1)</b> Non-functional requirements are captured inconsistently across the programme, along with no individual or team accountable to manage nor a centralised traceability tool, resulting in limited controls to ensure NFRs are incorporated in end-to-end</p>	<p><b>Rec4.4A) NFR Management</b> – Appoint individual/team accountability to manage NFRs. Implement NFR traceability via linkage to associated tickets in Jira to track the relationship between requirements and associated deliverables such as HLDs, LLDs, test cases, and code</p>	✓	#12, #24, #25
	<p><b>4.4.2)</b> An integrity assurance assessment for the NBIT platform has highlighted a set of recommendations to improve the platform scalability which should be considered before the solution scales</p>	<p><b>Rec4.4B) Scalability</b> – Create a detailed plan of action and execute next steps to remediate NBIT platform scalability improvements as highlighted in the Transaction Integrity Assurance Report</p>	✓	#24, #25
	<p><b>4.4.3)</b> Security governance mechanisms and frameworks are ineffective as the need for on time delivery outweighs a security first and secure by design approach. Resulting in spontaneous technology procurement and security exemptions by default. This approach may lead to re-engineering elements of the solution to adequately integrate security processes, technologies and skills</p>	<p><b>Rec4.4C) Security</b> – Create a governance model, operating model, defined RACI and integrational model that establishes a set of front door processes and ways of working with POL internal and external stakeholders. Thus, standardising output, expectations and ways of working</p>	✓	#24, #25

# RECOMMENDATIONS (7/10)

## 4.4 NON-FUNCTIONAL REQUIREMENTS

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.4 Non-Functional Requirements (continued)	<p><b>4.4.4)</b> NBIT Release 2 Non-Functional Testing (NFT) passed within the agreed SLAs demonstrating performance in line with expectations without any major issues</p>	<p><b>Rec4.4D) Performance</b> – Identify and prioritise business use scenarios and applicable performance scenarios, which should then be mapped to each of the business-critical processes. The scenarios should be compiled based on interviews with the business and by analysing historical data. The scenarios should be prioritised based upon their importance and occurrence probabilities. Finally, each of these scenarios should be mapped to a design principle that should be implemented</p>		#24, #25
	<p><b>4.4.5)</b> A resiliency non-functional test strategy is captured, along with a test approach, however the native serverless architecture presents challenges for testing technical KPIs around availability and resilience as the systems are managed by AWS and are elastic to load and stress conditions</p>	<p><b>Rec4.4E) Resiliency</b> – Execute modern-day software engineering practices such as chaos engineering to proactively identify and resolve platform issues in production before they impact the end-users in branch. Use playbooks to investigate failures. Perform load testing to validate that the workload meets scaling and performance requirements and conduct regular game days.</p> <p>At a workload level RTO and RPO of the workload should be defined along with a DR strategy and application architecture updated accordingly. Test failover to DR to ensure that RTO and RPO are met</p>		#24, #25

# RECOMMENDATIONS (8/10)

## 4.5 DATA

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.5 Data	<p><b>4.5.1)</b> Data and Reporting Strategy is very limited, it focuses on shipping data flows from NBIT into the legacy reporting service. There are no specific capabilities within the NBIT architecture that derive insights and value from NBIT data</p>	<p><b>Rec4.5A) Data Strategy</b> – Review Data Strategy, Define and Build Data Assets. Define and Build DataOps pipeline. Review scope decision regarding advanced MI/BI reporting as could deliver significant insight and value to POL</p>		#2
	<p><b>4.5.2)</b> Data Lifecycle management policies are not fully implemented across the solution which introduces risk of increased cost and potential for performance issues</p>			
	<p><b>4.5.3)</b> Data Dictionaries and Models are not fully defined, this introduces the risk of data inconsistencies, and increases the effort/reliance on product teams to support impact assessment of data changes</p>	<p><b>Rec4.5B) Enhanced Data Dictionaries</b> – Define Data Dictionaries covering the Physical Data Schemas/Tables (inc. Acceptable Data Values) across the NBIT Solution</p>	✓	#24, #25
	<p><b>4.5.4)</b> Limited Data Management Processes across the environments introduces risk of variability and increases the brittleness of environments</p>	<p><b>Rec4.5C) Synthetic Data Management</b> – Develop Synthetic Dataset and deployment processes to support Environment provisioning (Data Preparation) and Test Automation</p>	✓	#24, #25

# RECOMMENDATIONS (9/10)

## 4.6 CODE

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.6 Code	<p><b>4.6.1)</b> Compliance to code standards/policies is not monitored or enforced resulting in reduced code quality</p> <p><b>4.6.2)</b> Dependency management across products/services is improving due to the creation of Stub modules and API contracts however there are gaps that need to be addressed and contract testing needs to be established across the teams</p> <p><b>4.6.3)</b> Limited standardisation across the development and management of code increases the onboarding effort for new resources and reduces the ability to dynamically allocate resources across teams</p>	<p><b>Rec4.6A) Code Quality</b> – Establish consistent static code analysis and code quality reporting by integrating Strategic Code Analysis tooling (SonarQube/GitHub Advanced Security) within the CI/CD pipeline. Maintain code quality by mandating that all findings must be addressed as part of a pull request</p>		#24, #25
		<p><b>Rec4.6B) Stub Modules/Framework</b> – Define Stub Framework and associated Stub Modules across code sets. Ensure adoption of stubbing across all engineering product/ platform services team by mandating the use of stubs within automated CI/CD pipelines</p>	✓	#24, #25
		<p><b>Rec4.6C) API Contracts</b> – Continue with the creation of API contracts for all APIs, updating central documentation in line with template</p>	✓ (Underway)	#24, #25
		<p><b>Rec4.5D) Contract Testing</b> – Establish contract testing using PACT Broker across development teams to improve management of dependences across development teams</p>	✓	#24, #25

# RECOMMENDATIONS (10/10)

## 4.7 INFRASTRUCTURE

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
4.7 Infrastructure	<b>4.7.1)</b> No major concerns or issues captured related to network overall, however it is worth noting, that the branch wide area network service has a reliance on expensive MPLS circuits which is not in-line to achieving a future-proof roadmap	<b>Rec4.7A) Network Vision, Strategy &amp; Roadmap</b> - Review network strategy and roadmap for branch WAN and evaluate SD-WAN & SASE solutions to achieve an agile, scalable and reliable infrastructure with cost savings		#24, #25
	<b>4.7.2)</b> Previous solution architecture diagnostic/assurance study findings have provided recommendations in various areas for NBIT platform improvement which is underway or future planned	<b>Rec4.7B) Integrity Assurance</b> - Create a detailed plan of action and execute next steps to remediate transaction engine platform serverless architecture scalability and performance issues	✓	#24
	<b>4.7.3)</b> No major observations, concerns or issues captured related to hardware			
	<b>4.7.4)</b> There is currently a tactical observability solution in place whilst live production services are in run state which limits the extent of performance monitoring and effectiveness of troubleshooting/ debugging – A full observability strategy should be in place prior to a complete branch roll-out	<b>Rec4.7C) Observability Software</b> - Define Datadog CDK construct templates. Update NBIT stacks to include new constructs	✓ (Underway)	#24, #25
	<b>4.7.5)</b> Limited visibility or design on data lifecycle, archiving and data retention across the solution	<b>Rec4.7D) DLM Processes</b> – Define and Implement data lifecycle management processes (DLM) across all data storage services (S3, RDS, DynamoDB) in NBIT		#24, #25

**WORKING DRAFT**

# **III.5 | IMPLEMENTATION REVIEW DETAIL**

# SUMMARY OF OBSERVATIONS

IMPLEMENTATION LEVEL 2 AND LEVEL 3 CAPABILITY RAG RATINGS.



**LEVEL 3 CAPABILITY**

5.1.1 Low-Level Design & Component Arch	5.1.2 Design principles	5.1.3 Design change control	5.1.4 Platform Design			
5.2.1 Demand planning	5.2.2 WoW (JIRA guide & quality, perf tracking)	5.2.3 DevSecOps pipeline/IaC. SAST	5.2.4 Dev principles	5.2.5 Backlog & dependency management	5.2.6 Environments	5.2.7 Coding standards & control
5.3.1 Test strategy/approach	5.3.2 Test coverage	5.3.3 Test automation	5.3.4 Test planning execution & reporting	5.3.5 Test data management	5.3.6 Defect Management	5.3.7 UAT (BVT)
5.4.1 Env control & Release strategy	5.4.2 Deployment approach	5.4.3 Go Live Criteria	5.4.4 Release & deployment plan	5.4.5 Live service Entry criteria		
5.5.1 Data & legacy systems strategy/approach	5.5.2 Data conversion, tooling, format & config	5.5.3 Data storage & security	5.5.4 Connectivity to legacy & 3 <sup>rd</sup> party systems	5.5.5 Interdependency approach/ to assure stability		
5.6.1 Post Go Live support approach	5.6.2 Knowledge transfer	5.6.3 Go, No-Go Criteria	5.6.4 Comms, Contingency, Roll back Plans	5.6.5 Monitoring/ Alerting / Observability		
5.7.1 Live service transition strategy /approach	5.7.2 Live Service readiness	5.7.3 Knowledge transfer	5.7.4 User communications & training	5.7.5 ITSM	5.7.6 Performance & value tracking	

# OBSERVATIONS (1/15)

## 5.1 DESIGN

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.1 Design</b>  <i>(continues on next page)</i>	<b>5.1.1 Low-Level Design &amp; Component Arch</b>	Architecture high-level designs exist, and there are embedded architects in some delivery squads, however, there is a disconnect in detailed technical design for some squads due to a lack of suitably qualified technical business analysts and involvement from key data and security contributors	<ul style="list-style-type: none"> <li>• Gaps in Low-Level Design exist (completely missing and/or poor quality as identified in the Slalom report). Work is in progress to remediate through the Build Better initiative</li> <li>• Engineering capacity is diverted to remediate the design gaps as well as technical debt</li> <li>• Ability to estimate the scale of remediation required is hampered by the inability to trace defects and technical debt back to Low Level designs and associated artefacts</li> <li>• The historic pressure to deliver releases to set dates has resulted in additional changes being added mid-sprint without Low Level designs reflecting these changes. The lack of updates has further inhibited the understanding of build and low-level design impact on High level designs</li> <li>• Gaps identified include lack of NFRs, Security and data requirements, BI metrics etc</li> </ul>
	<b>5.1.2 Design principles</b>	Design Principles have been created and captured in Confluence, however adherence to these principles has been inconsistent across engineering teams which leads to fragmentation and inconsistencies in delivery	<ul style="list-style-type: none"> <li>• Inconsistency in quality of Low-Level Designs seen in Branch Management indicating that some designs follow a templated approach that aligns to design principles, but with varied review approval evident; Some cannot be linked to clear requirements, and some were retrospectively created or have already been deployed, other work items in JIRA cannot be traced back to a low-level design</li> <li>• For example, 80% bugs in Branch Management, 36% bugs in mails (source JIRA 20230928) are a result of inconsistent application of design principles</li> <li>• Evidence of non-adherence to design principles was observed for example, out of 100 UX/UI components, only 70% can be used and 30% cannot, resulting in sub-optimal experience for end users. An initial threat analysis/impact assessment could have prevented this scale of tech debt</li> </ul>

# OBSERVATIONS (2/15)

## 5.1 DESIGN

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.1 Design</b> <i>(continued)</i>	<b>5.1.3 Design change control</b>	<p>The TDA process exists and most follow the process for re-assessment, as and when these have been delivered without return for approval, this results in quality control issues and negatively impacts the overall delivery due to non-alignment to high-level architectural designs. There are initiatives in place to help remediate some of these areas</p>	<ul style="list-style-type: none"> <li>A standardised TDA process exists and is mandated for the Programme and is used, however the following issues were observed:                             <ul style="list-style-type: none"> <li>Formal standardised impact analysis is not traceable to critical SME decision makers in the TDA, this is replicated for Low-Level Designs and impacts the wider solution. Experienced Architects embedded in teams has mitigated some of these challenges for some squads</li> <li>Outputs of the TDA do not consistently drive Low-Level Designs across all engineering teams. Lack of collaboration between certain engineering teams and architecture, which results in some teams not producing Low-Level Designs or generating designs that diverge from the architect's vision</li> <li>Example: Basket tender low-level designs are out of sync with the LLD template. In addition, it does not show any evidence of reviewed by the embedded architect as the process mandates. Evidence in Confluence</li> </ul> </li> </ul>
	<b>5.1.4 Platform Design</b>	<p>Divergence between high-level platform architecture design and low-level engineering designs have caused an increase in technical debt, quality issues resulting in slower delivery</p>	<ul style="list-style-type: none"> <li>Platform designed to enable Developers/Engineers to use the DevSecOps tools, but they are not used in a consistent way resulting in mixed code quality during and at the end of build, e.g., the use of SonarQube in CI</li> <li>Lack of clear vision regarding transformation or modernisation results in Low Level Designers pursuing individual interpretation of the wider scope</li> <li>From interviews with delivery teams and the Build Better team, there is a lack of alignment and traceability re changes made to low-level designs that impact the wider platform components which results in inability to perform adequate root cause analysis. This is being remediated and we see an upward trend in the reports for this area</li> </ul>

# OBSERVATIONS (3/15)

## 5.2 BUILD

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.2 Build</b>  <i>(continues on next page)</i>	<b>5.2.1 Demand planning</b>	Engineering demand is not effectively captured, estimated, planned, prioritized or managed across teams, leading to a lack of alignment on business priorities, inefficient allocation of resources, and delays in delivering capabilities. There is a business demand process that Engineering do not engage with	<ul style="list-style-type: none"> <li>Requirements sit in backlogs outside of JIRA, reducing ability for clear prioritisation and traceability into build</li> <li>A demand approach at the squad level does not adhere to agile principles; key areas missed include:                             <ul style="list-style-type: none"> <li>Requirements in the delivery backlogs do not provide consistent clarity, e.g., include a definition of done and NFRs</li> <li>Sprint planning includes stories to be worked on, but changes are added mid sprint and squads are unable to maintain velocity</li> <li>Limited T-shirt sizing or use of story points to enable measurement of performance vs. capacity of team</li> <li>Standard agile approach of demand pull does not exist impacting ability to clear a sprint backlog</li> <li>Refer to 2.1 (Governance) challenges e.g., heavy up front right to left planning</li> </ul> </li> <li>Historically engineering team resource numbers were increased in the expectation that an increased head count would enable teams to deliver faster, the lack of estimation and velocity measurement meant the effectiveness was unquantifiable</li> </ul>
	<b>5.2.2 WoW (JIRA guide &amp; quality, perf tracking)</b>	There is no Programme methodology/approach that ties all squads together to work in a mature Agile way. Inconsistent capture of key data points, results in a lack of clear status across the programme, hindering data driven decision making	<ul style="list-style-type: none"> <li>A cross-programme maturity and understanding of Agile ways of working including leveraging the tools and processes does not exist. There are pockets of best practice but no alignment to a programme framework</li> <li>Incentives for delivery to a set date have negatively disrupted the focus on consistent quality that assure the future scalability of the platform</li> <li>The initial setup of JIRA allowed squads to interpret how to use it, leading to inconsistent use of data fields and items within the tool, e.g.:                             <ul style="list-style-type: none"> <li>Two squads using one project in Jira,</li> <li>Incorrect use of Epics, i.e., used to deliver functionality as opposed to a logical grouping of related stories</li> <li>NFRs initially not captured by all, or centralised, and teams use the cloning feature to create NFR as items in JIRA</li> <li>Some Epics/user stories/issues and defects not linked to releases in JIRA</li> <li>Story points not used so there is no effective way to measure velocity burndown charts and other widgets in JIRA</li> <li>Defects and dependencies have been created from cloning, resulting in some duplication.</li> </ul> </li> <li>Not all delivery managers are trained on the tool and are unable to leverage metrics for actionable insight</li> <li>The JIRA instance purchased includes additional functionality for reporting that is not currently used</li> <li>Additional manual effort required to supplement the limited JIRA generated reports. e.g., performance metrics, dependency and planning</li> </ul>

# OBSERVATIONS (4/15)

## 5.2 BUILD

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.2 Build</b>  <i>(continued)</i>	<b>5.2.3 DevSecOps pipeline/ IaC. SAST</b>	This area is red trending amber; while remediation is in place, capacity is not prioritised for this. Inconsistent use, by squads of CD pipeline and tools is evident through poor code quality and is reflected by the number of defects raised	<ul style="list-style-type: none"> <li>The Build Better initiative is in progress to address issues, gaps and problems identified in DevSecOps and engineering space and is not prioritised</li> <li>Improved SAST and DAST automation are in process of being delivered</li> <li>781 defects raised in E2E testing across releases indicates a high level of defects (feedback from E2E test; it has estimated that around 10% of these defects are change requests ( i.e., they could not be traced to requirements), impacting Root Cause Analysis and solutioning timelines)</li> <li>Automated regression test pack are available for squads to use, but ongoing indications in E2E testing is that these are not being used</li> <li>As part of the Continuous Improvement (CI) process the R3 teams were trained up on tools, ways of working, etc, however teams now disbanded removing the benefits of this effort</li> <li>The current R2.1 teams are not yet fully onboard into the CI process – at the time of interviews 6 /16 squads had been trained. This is a work in progress</li> </ul>
	<b>5.2.4 Dev principles</b>	Development principles exist but are not consistently applied, including; secure by design (see 5.1.4) definition of ready/done, following code quality standards etc result in scope creep and increased number of defects once code is promoted to higher environments	<ul style="list-style-type: none"> <li>Software Engineering Principles exist including testing standards for Go, React and AWS best practices and CDK (Cloud Dev Kit)</li> <li>Historical prioritisation of meeting deadlines has resulted in a reduction in quality, with increased risk exceptions approved</li> <li>Dev principles state that “a thorough understanding of the requirements to be built is required”. However clear requirements/user stories are lacking in many areas. Therefore, additional Engineering capacity is used to generate “definitions of done” and “ready” to mitigate this. This is part of the Build Better initiative</li> <li>Pressure on Engineering teams has resulted in shortcuts being taken to achieve deadlines, this is evident in the high level of tech debt and remediation identified in E2E testing. The root cause for these challenges relates to code quality assurance through the pipeline</li> <li>Some levels of automation are applied throughout the pipelines. There are still manual steps that resulting in errors, defects and delays</li> </ul>
	<b>5.2.5 Backlog &amp; dependency management</b>	Delivery backlogs are not prioritised or linked to higher level requirements or high-level designs therefore it is difficult to trace backlogs back to source or manage dependencies	<ul style="list-style-type: none"> <li>JIRA epics and user stories exist but are not consistently generated or prioritised (see 5.2.2). Requirements sit outside of the tool making traceability harder. Prioritisation of delivery work is not clear nor aligned across workstreams</li> <li>Significant effort put in to collate dependencies, however evidence that non-delivery of dependencies are resulting in schedule shifts. Dependencies are not effectively tracked in JIRA</li> <li>Dependencies across projects works well in some engineering teams and is personality led</li> </ul>

# OBSERVATIONS (5/15)

## 5.2 BUILD

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
5.2 Build (continued)	5.2.6 Environments	Environment management is immature as a capability, issues caused by poor environment hygiene have led to suboptimal code and security issues have increased delivery timelines	<ul style="list-style-type: none"> <li>Development, testing, and production environments are not configured for maximised automated deployment and integration Evidence shared; 80% of regression testing is now automated, but back office is only 30% automated; mails and banking are fully automated</li> <li>291 Security vulnerabilities have been promoted into higher environments</li> <li>The number of defects seen in SIT indicates poor environment management as developers have highlighted that deployments have been over-written in this environment</li> <li>Approach and documentation is not up to date, Confluence has multiple pages at varying levels of completeness</li> </ul>
	5.2.7 Coding standards & control	Coding standards and controls are insufficient to assure the quality of code in Production, placing POL at financial risk due to lack of effectiveness of the platform and reputational risk due to data and security risks	<ul style="list-style-type: none"> <li>Improvements to coding standards have been made in some areas and the Build Better initiative is leveraging best practice such as 4 eyes assurance behaviours become routine and can prove the efficacy of good practice</li> <li>Across the Programme, lack of streamlined GIT workflow and effective CI/CD pipeline combined with poor coding behaviours (e.g., too many repos created in an unstructured way, lack of code coverage insight) has resulted in the following:</li> <li>Code merges in the past have introduced defects and slowed down release velocity</li> <li>An incomplete picture of the risk being carried forward (20230926 IRAM 2 revised framework being stood up to mitigate)</li> <li>Quality issues with deployments, increasing time and cost to remediate (In production currently there are 300+ critical, over 2000+ high vulnerabilities (Source 20230926 Security assurance); not always clear who accountable owners are for remediation</li> <li>Security, data and tech debt remediation is not holistic, this has resulted in:                             <ul style="list-style-type: none"> <li>Immediate hot fix remediation that generates additional tech debt</li> <li>Security and data siloed fixes increasing risk</li> </ul> </li> </ul>

# OBSERVATIONS (6/15)

## 5.3 TESTING

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.3 Testing</b>  <i>(continues on next page)</i>	<b>5.3.1 Test strategy/approach</b>	Test strategy and approach exist. The principles that the test strategy refer to are not always followed	<ul style="list-style-type: none"> <li>• Good quality “living” documentation approved through TDA</li> <li>• There is a continuous improvement initiative in place to address already identified issues</li> <li>• While not all teams apply the guidance provided, the strategy provides a clear approach to test and expectations, the key gap is behaviours and policing compliance with mandated activities</li> </ul>
	<b>5.3.2 Test coverage</b>	Test coverage metrics are not consistently available nor traceable to requirements in JIRA and therefore there is no ability to assess coverage across the programme with confidence. There is work in progress to remediate this	<ul style="list-style-type: none"> <li>• Improvements to testing are in progress however yet to have a tangible impact on E2E testing. E.g. lack of use of automated regressions packs by squads (defect remediation in E2E has exceeded 6 months)</li> <li>• Behaviours were impacted due to the drive to hit timeline, if momentum in this area is lost, the teams will slip back into these behaviours</li> <li>• Focus on unit test coverage and baselining has been initiated (Source QE report Oct 2023)</li> <li>• Coverage of NFTs (identified as a significant gap across the programme) has moved from 0% to 27%</li> <li>• Evidence of varied shift left testing is reflected in backlog insights (examples PUDO 84% completion with 9% bugs, mails 57% completion, 36% bugs (source JIRA 2230928))</li> <li>• Delays to the dev lifecycle; at System Integration Test (E2E), the number of defects, identified reflects inconsistent test coverage in lower environments. (e.g., BM E2E testing has 196 code identified issues)</li> <li>• The first integration of major code occurs in System Integration Tests (SIT) environments, a significant number of issues are then identified indicating less than 80% code coverage</li> </ul>
	<b>5.3.3 Test automation</b>	Limited test automation in CI/CD pipeline used consistently; although tools are available, resulting in sub-optimal code quality	<ul style="list-style-type: none"> <li>• Maximised automation from E2E through Pre-Prod to Prod is missing, CI/CD tools exist to support Engineers to test E2E</li> <li>• Inconsistent use of automated tools in lower environments and several issues in SIT reflect systemic test challenges in lower environments</li> <li>• Continuous Improvement initiative to address the gaps; first quarterly report draft indicates some gradual progress</li> </ul>

# OBSERVATIONS (7/15)

## 5.3 TESTING

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.3 Testing</b> <i>(continued)</i>	<b>5.3.4 Test planning execution &amp; reporting</b>	Test planning for code releases into higher environments are gated which provides a level of assurance and insight, with reports available in JIRA. Lower environment testing and reporting has not been rigorously applied	<ul style="list-style-type: none"> <li>• Availability of device simulators impacts the ability to test teams to test at pace</li> <li>• Test planning for entry into E2E is the first higher environment that integrated code is tested. High levels of defects reflect lack of rigour in testing in the lower-level environments. In addition, E2E testing has also experienced high levels of defects indicating defects move between environments without remediation</li> <li>• In higher environments, release leads advise that hard code fixes and work arounds have been implemented to remediate bugs found in E2E, increasing tech debt and longer-term risk to the platform</li> <li>• NFRs were not consistently captured across the programme, which resulted in a lack of insight for the generation of NFTs, creating delays as additional effort was required to remediate these gaps</li> <li>• Historically, challenges to poor code entry has not been enforceable due to a focus on delivering against milestones. To remediate this, regression testing packs have been shared with squads, evidence of this uptake has yet to be proven</li> </ul>
	<b>5.3.5 Test data management</b>	Test data is generated by each project, resulting in duplication of effort and multiple test data sets being used	<ul style="list-style-type: none"> <li>• Some squads were unclear about who the data controllers are and whom to approach for test data, some generated their own test data, others spent additional time identifying who to contact, adding time to development stream</li> </ul>

# OBSERVATIONS (8/15)

## 5.3 TESTING

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.3 Testing</b> <i>(continued)</i>	<b>5.3.6 Defect Management</b>	Defect reporting is captured inconsistently, remediation takes a long time due to immature processes and a lack of automation	<ul style="list-style-type: none"> <li>• Currently 90+ people attend defect management calls</li> <li>• Duplicated defects have been generated through cloning rather than linking in JIRA therefore hard to track actual status</li> <li>• Root cause analysis is not consistently performed (latest QA data indicates a reduction from 92% lack RCA to 72%)</li> <li>• Defects and test management in JIRA is inconsistent (some teams reporting defects as bugs, and issues)</li> <li>• Closure of defects using hard code/workarounds, compounding tech debt</li> <li>• Clear and consistent defect terminology and management is not enforced. Severity 1 issues are raised with loosely based criteria often from BVT</li> <li>• Evidence of deployments into Prod with defects, and security risk exceptions that are documented</li> </ul>
	<b>5.3.7 UAT (BVT)</b>	BVT runs in parallel with E2E Testing. Current UAT approach is in draft. Changes in UAT are not driven by data insights	<ul style="list-style-type: none"> <li>• Business Verification Testing has been conducted in parallel with End-to-end testing. Discussions are in progress to understand what the future UAT approach will be</li> <li>• Training feedback indicates that the system differences from a user perspective are limited at branch level</li> <li>• Unhappy paths are not covered in UAT</li> <li>• Accessibility testing is currently out of scope for testing due to component and build issues in UI/UX</li> <li>• Feedback from those engaged in BVT indicated that work packages are driven by committee not quantifiable evidence</li> </ul>

# OBSERVATIONS (9/15)

## 5.4 RELEASE MANAGEMENT AND DEPLOYMENT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.4 Release Management &amp; Deployment</b>  <i>(continues on next page)</i>	<b>5.4.1 Env control &amp; Release strategy</b>	There is no standard release strategy, it is currently manual and repeatable but carries the risk of poor code quality. While automation tools and controls are being implemented through to higher environments, lower environments lack consistency in using and leveraging these tools to maintain code quality and developer productivity	<ul style="list-style-type: none"> <li>Environment Management strategy incomplete and not following best practice thus project faces risk of defects, delay and failed deployments into Environments. Release managers and developers have advised that rollbacks in environments are difficult and hot fixes applied to mitigate</li> <li>Environments prior to E2E test are not effectively controlled evidenced by the high number of defects seen in E2E testing</li> <li>Lack of an automated CI/CD pipeline increases the risk of deployment with human errors for manual configurations. WIP to onboard DataDog to track dependencies in deployment</li> <li>The current approach to release management is cumbersome and difficult to roll back partially due to the significant size of the release and environment challenges</li> <li>Release details are captured in Confluence with a good level of detail including links to designs, where available, through to open issues in JIRA where projects</li> </ul>
	<b>5.4.2 Deployment approach</b>	Repeatable deployment approach exists, it involves manual interventions that delay deployment cycles and limit continuous delivery capabilities	<ul style="list-style-type: none"> <li>Each release has a deployment approach that is repeatable for specific project requirements</li> <li>There are technical release schedules and evidence of releases completed with supporting documentation</li> </ul>
	<b>5.4.3 Go Live Criteria</b>	Go Live criteria are standardised in CAB for release, however while the process is secure, effective challenge is not present in the current decision-making forums. This may have major repercussions when a release is deployed to several branches	<ul style="list-style-type: none"> <li>See 5.1.4 – the varied interpretation of scope impacts the potential for non-alignment at Go, No-Go calls for releases</li> <li>Go, No-Go decisions have been based on a desire to meet a predetermined date, which resulted in significant Tech Debt that then has to be remediated rather than incentivising the delivery of a high-quality product</li> <li>The quality of Go Live is tied back to systemic challenges in the Development lifecycle, i.e., lack of “definition of done” for requirements and technology standards not being consistently met</li> <li>The current deployment plan is recognised by POL as immature but has been sufficient for 2 branches. Lessons identified in the Pilot will inform decisions for the future deployment to other branches</li> </ul>

# OBSERVATIONS (10/15)

## 5.4 RELEASE MANAGEMENT AND DEPLOYMENT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.4 Release Management &amp; Deployment</b>  <i>(continued)</i>	<b>5.4.4 Release &amp; deployment plan</b>	Releases into Production have been completed and include a high number of issues and vulnerabilities that have been called out. The plans and schedule are available, the confidence that scope is achievable is an open question	<ul style="list-style-type: none"> <li>• Release plans for previous releases have included detailed cutover plans</li> <li>• Release schedules exist but are not built on estimated effort required; they are built on right to left planning</li> <li>• The next release will pilot into 2 Post Offices and then ramp up to 50. The key question is how this would scale up to 50, and in turn 11,500 Post Offices. That has not yet been answered</li> </ul>
	<b>5.4.5 Live service Entry criteria</b>	Releases into live have followed POL guidance with the project providing Hypercare and POL service support shadowing initiated, while this area is immature, steps to remediate are in progress and including a TOM that draws the NBIT and POL teams together to achieve an enduring process	<ul style="list-style-type: none"> <li>• Confluence Route to Live checklist and release management documents indicate they are WIP and/or out of date. It is assumed that these were initially generated for previous releases but not used as NBIT aligned to POL policy for Live entry</li> <li>• POL provides Live Service entry criteria for all releases and SPM aligns with this, however NBIT success criteria are poorly defined</li> <li>• The first Pilot and subsequent deployments are planned to be used to inform future scaling across all branches</li> <li>• Hypercare will need to transition to POL service support, there is a recognised risk that without this transition the Project team's capacity will be impacted with the increase in branches that the platform serves</li> <li>• Training plans for postmasters and other end users has been prepared</li> </ul>

# OBSERVATIONS (11/15)

## 5.5 CONVERSION

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.5 Conversion</b>	<b>5.5.1 Data &amp; legacy systems strategy/ approach</b>	Lack of a data strategy has been accepted as a gap across the programme. Most data requirements are maintained through individual business workstream areas. Duplication of work is not considered extensive. Gaps in data requirements are not consistently managed	<ul style="list-style-type: none"> <li>No overarching data strategy for the programme exists, resulting in duplication of effort for some programme areas and lack of guidance for wider data/information management for the future. This has been accepted by the Programme Leadership as there is a wider POL stream of work in progress</li> <li>High level arch includes data management requirements. Ad hoc low-level design includes data management rigour however this is inconsistent, and it is not clear how this is assured (high level designs are approved by data manager at TDA), limited evidence that this is replicated at low-level design, and assurance provided</li> <li>The high-level architecture reflects the touch points with the main legacy system (including key data repositories)</li> <li>Other third-party systems are considered on a case-by-case basis</li> </ul>
	<b>5.5.2 Data conversion, tooling, format and config</b>	Data requirements have been captured, but most data is handled by 3 <sup>rd</sup> party systems	<ul style="list-style-type: none"> <li>Most data is handled by 3<sup>rd</sup> party systems and no requirement therefore to convert, format or configure data</li> <li>POL data requirements were completed at the start of the Programme</li> <li>Currently areas such as “test data use” have already seen duplication of effort and is accepted by the programme</li> </ul>
	<b>5.5.3 Data storage and security</b>	Limited evidence of a joined-up understanding of data and security requirements driving risks to POL and 3 <sup>rd</sup> party stakeholders	<ul style="list-style-type: none"> <li>Architecture high-level designs include information about data storage</li> <li>In R2, due to gaps in logging and monitoring there is no proactive use of data captured through monitoring (e.g., zombie services running in AWS/rogue security groups etc.)</li> <li>Assurance of data in transit and at rest validation is required</li> </ul>
	<b>5.5.4 Connectivity to legacy and 3<sup>rd</sup> party systems</b>	3 <sup>rd</sup> party connectivity is currently managed on a case-by-case basis with development teams.	<ul style="list-style-type: none"> <li>High level design for arch reflects the connectivity required to 3<sup>rd</sup> party systems and LLDs have been generated to support connectivity</li> <li>To date, connectivity has been tested with stubs as most 3<sup>rd</sup> parties do not have lower test environments. This drives integrated test activities to the right where defects may be identified, increasing delivery risk</li> </ul>
	<b>5.5.5 Interdependency approach/ to assure stability</b>	The programme approach is to use the dual running phase with the legacy system to assure and remediate any residual interdependencies. No data is shared.	<ul style="list-style-type: none"> <li>During the Pilots and until all branches go live, the legacy system will continue to run. This provides POL with the opportunity to rigorously assess the effectiveness of data use, storage and accuracy through the pilot branches prior to full roll out</li> <li>Demand is currently coordinated through the central demand management funnel and this needs to be maintained to ensure features from Horizon are effectively mapped into NBIT</li> </ul>

# OBSERVATIONS (12/15)

## 5.6 POST GO LIVE SUPPORT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.6 Post Go Live Support</b>  <i>(continues on next page)</i>	<b>5.6.1 Post Go Live support approach</b>	The post-go-live support plan has limitations, but work is underway to establish a sustainable model. Dedicated engineering resources time for initial technical support and knowledge transfer have been identified. However, this current level of support is not viable long-term as NBIT is rolled out to all branches	<ul style="list-style-type: none"> <li>• Current planning indicates an aspiration by POL to be more engaged in-service support including a technical first line capability. A wider POL decision is pending to drive the required outcomes and further planning</li> <li>• Planning for post go live support has been initiated with placeholders generated for user group training, ITSM and KT transfer. Not all areas are populated or proven, however wider POL Enterprise approaches exist, and the intent is that the approach will be matured in due course</li> <li>• A period of hypercare from the project teams has been anticipated, but it is unclear when this starts and ends and when activity transfers to BAU, a plan is being progressed for this</li> <li>• There are a high number of technical workarounds that training has identified that have been requested to be remediated prior to Go-Live to assure the operational manual guidance</li> <li>• Collaborating cross-functionally on an enduring solution for operational support aligned with the product roadmap</li> </ul>
	<b>5.6.2 Knowledge transfer</b>	Knowledge transfer was initiated following Release 1 and POL operations teams have been identified for the interim transition. A larger programme of KT is being considered for the target state	<ul style="list-style-type: none"> <li>• POL Operational support teams have been identified and WIP to ensure that tools used are aligned to track IT service management</li> <li>• As per 5.6.1 there are a high number of workaround areas that should be remediated prior to Go Live to improve the experience once in Live. Workarounds that remain must be updated and remediation steps shared</li> <li>• KT for Postmasters has been developed and training (including current workarounds and operations manuals) have been generated</li> </ul>
	<b>5.6.3 Go, No-Go Criteria</b>	Both POL and the SPM Programme have criteria for Go Live that need to be aligned. While the process is secure, effective challenge is not present in the current GNG decision-making forums	<ul style="list-style-type: none"> <li>• The Go,No-Go criteria is in place and has been used for previous releases</li> <li>• Previous releases include defects and issues which at scale will be untenable. Exception notes have been raised by security</li> <li>• Challenge for Go, No-Go is limited</li> <li>• Technical Go,No-Go criteria (5.4.3) remediation will assure future Go,No-Go decisions</li> </ul>

# OBSERVATIONS (13/15)

## 5.6 POST GO LIVE SUPPORT

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.6 Post Go Live Support</b>  <i>(continued)</i>	<b>5.6.4 Comms, Contingency, Roll back Plans</b>	Contingency planning for roll backs are immature and require additional testing and assurance	<ul style="list-style-type: none"> <li>• POL standardised guidance is provided for contingency planning for Horizon (BAU) and NBIT</li> <li>• Centralised process for backup and restore NBIT and NFR capture on the Programme has been suboptimal with Pre-Prod testing on R2 generating 10-12 defects to be remediated prior to entry to Live</li> <li>• Roll back plans are light and are under review with service operations</li> <li>• Chaos testing has not been conducted but planned for R2</li> <li>• Ability to recover full system is unknown; chaos testing is to be conducted in the Pilots</li> <li>• It is recognised that interventions are required to build robust contingency and roll back capability. This is iterative work in progress, alongside the 2 branch pilot</li> </ul>
	<b>5.6.5 Monitoring/ Alerting / Observability</b>	There are monitoring, alerting and observability tools across the programme. Integration with POL ITSM tool, Service Now is in progress	<ul style="list-style-type: none"> <li>• Monitoring approach plan evolving, time available to remediate and POV in progress. POL and NBIT decision is required</li> <li>• Monitoring currently in use includes instances as indicated below, a single pane of glass view is the target state                             <ul style="list-style-type: none"> <li>• AWS monitoring and alerting in place and in use</li> <li>• Defender logs in place and in use</li> <li>• Monitoring conducted by 3<sup>rd</sup> party on devices</li> </ul> </li> <li>• Limited to no BI considered</li> <li>• The Delivery status of Datadog is Work in Progress; it is an off the shelf version and does not include the full tool functionality</li> </ul>

# OBSERVATIONS (14/15)

## 5.7 SERVICE INTRODUCTION

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.7 Service Introduction</b>  <i>(continues on next page)</i>	<b>5.7.1 Live service transition strategy/approach</b>	Evolving strategy and transition approach in progress and handed over to a new owner with support from existing POL standard practices in Live service support	<ul style="list-style-type: none"> <li>POL Enterprise service operations engaged recently, identified need for TOM and interlock between NBIT and wider organisation to facilitate transition</li> <li>TOM interlock between POL and NBIT is a WIP, aspiration to leverage existing POL capability and where gaps exist, identify novel ways to remediate that the Enterprise can benefit from (e.g., DataDog)</li> <li>During interviews, it was recognised that the move from a vendor led approach will include a change in upskilling technical knowledge and expertise. This will be included in the strategy</li> <li>Alignment on monitoring alerting and reporting is being worked on at the operational level</li> </ul>
	<b>5.7.2 Live Service readiness</b>	There is work in progress to prepare the ground for Live Service readiness once the platform is rolled out at scale, however there is currently limited engagement and coherence between remediations (in JIRA) and its automated updates into the Enterprise ITSM tool (ServiceNow)	<ul style="list-style-type: none"> <li>Service readiness criteria are defined for POL, and it remains a WIP to understand how this will be implemented in Live.</li> <li>Current live service support for R1 is provided through the project engineering team and POL Ops team (performance metrics are tracked in JIRA), and some issues are tracked by e-mail</li> <li>Project team advise that most issues are resolved by them and POL are mainly responding to business queries, maturity is developing. Ongoing support from the project team on its current scale will become untenable with deployment to target state branches</li> <li>Incident management environment in place however not tested</li> <li>Risk challenge at Service Readiness Boards is not rigorous</li> </ul>
	<b>5.7.3 Knowledge transfer</b>	Tech KT limited (Project teams remain 1 <sup>st</sup> line support for incidents/issues raised in Prod). However operational guidance has been generated and integration is planned	<ul style="list-style-type: none"> <li>Significant analysis of training requirements for Postmaster end users has been conducted.</li> <li>Indications from BVT lessons identified and initial Postmaster engagement indicates limited training is required due to the similarity of the interface for them (i.e., like for like has been generated as UX)</li> <li>Gap in current training requirement for backend POL users has been identified, however BVT reflects that E2E processes are not compromised additional training may be required if identified in pilots</li> <li>Operational manuals exist, not clear how much knowledge of this has been transferred</li> <li>Remediation of workarounds required to mitigate time spent on routine operations</li> </ul>
	<b>5.7.4 User communications and training</b>	User communications strategy in progress but recognised training gaps exist across user groups, additional work in progress	<ul style="list-style-type: none"> <li>Communications strategy focussed on Postmasters in branches, limited evidence of communications required by others impacted once in Live</li> <li>Communications on Programme exist for patching/version updates, but not clear how this will be promulgated in Live</li> </ul>



# OBSERVATIONS (15/15)

## 5.7 SERVICE INTRODUCTION

Level 2	Level 3	Observation	Evidence (what we have seen and heard)
<b>5.7 Service Introduction</b>  <i>(continued)</i>	<b>5.7.5 ITSM</b>	Enterprise-wide ITSM is established, and work is in progress to align software engineering teams to the POL tools and processes that govern this. The level of technical knowledge required to support transfer into the new system, this remains a work in progress	<ul style="list-style-type: none"> <li>• Enterprise Service Now in place, but not integrated with JIRA. Work is underway to remediate this, currently only tracked in JIRA</li> <li>• POL service management teams are in the process of being stood up, issues currently sent to project team, shadow POL service management team in KT</li> <li>• Service Management recognise that ownership of L1 and L2 for platform requires a behavioural shift to move into a different way of managing/owning the platform compared to full delegation (as experienced with the previous platform)</li> <li>• No clear understanding of the level of training required and ability to move with evolving technology to maintain platform relevance - POL have recognised this risk</li> <li>• Workarounds from R2 require service management level interventions, this is not sustainable in the longer term</li> </ul>
	<b>5.7.6 Performance and value tracking</b>	Value definition during requirements generation is not captured and products are not prioritised within releases, Metrics for KPIs and value not defined	<ul style="list-style-type: none"> <li>• Lack of data strategy impacts the ability to baseline and capture MI (Management Information) and BI (Business Intelligence)</li> <li>• Lack of understanding of POL "value", no evidence of this in product journey requirements therefore KPIs are not clearly articulated. Tools are available to support the generation of actionable insights</li> <li>• Observability toolsets are identified coordination of analytics into POL BI and MI dashboards is a WIP (Data Dog in process of being onboarded)</li> <li>• Device Management is monitored through 3<sup>rd</sup> party. A target state solution owned by POL is in WIP</li> <li>• Evidence of security responsiveness to performance issues remains a work in progress and needs to be matured and aligned to ITSM</li> </ul>

# RECOMMENDATIONS (1/12)

## 5.1 DESIGN

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.1 Design (continues on next page)	<p><b>5.1.1)</b> Architecture high-level designs exist, and there are embedded architects in some delivery squads, however, there is a disconnect in detailed technical design for some squads due to a lack of suitably qualified technical business analysts and involvement from key data and security contributors</p> <p><b>5.1.2)</b> Design Principles have been created and captured in Confluence, however adherence to these principles has been inconsistent across engineering teams which leads to fragmentation and inconsistencies in delivery</p> <p><b>5.1.3)</b> The TDA process exists and most follow the process for re-assessment, as and when these have been delivered without return for approval, this results in quality control issues and negatively impacts the overall delivery due to non-alignment to high-level architectural designs. There are initiatives in place to help remediate some of these areas</p> <p><b>5.1.4)</b> Divergence between high-level platform architecture design and low-level engineering designs have caused an increase in technical debt, quality issues resulting in slower delivery</p>	<p><b>Rec5.1A)</b> Low level design remediation work has been completed as side of desk by technical BAs, architects and Engineers . With the scale of remaining work, it is recommended to add skilled technical BA resources to remediate this as a priority</p>	<p>✓ (Underway)</p>	#2, #3, #9
		<p><b>Rec5.1B)</b> Remediate the gap between high level and low-level designs through mandating a standardised template for low-level designs, formalising alignment and approval by subject matter experts</p>	<p>✓</p>	#2, #3, #12, #25
		<p><b>Rec5.1C)</b> To assure design principles are consistently adhered to, TDAs and low-level designs should include an effective initial threat analysis</p>	<p>✓</p>	#2, #3, #12
		<p><b>Rec5.1D)</b> Mandate Developer/Engineer compliance with the CI/CD Pipeline through the capture of metrics from the pipelines</p>	<p>✓</p>	#25, #12
		<p><b>Rec5.1E)</b> In order to align and assure the linkage between high-level and low-level designs, workflows in confluence and JIRA should mandate linkage between them; leveraging assurance metrics generated to police compliance</p>	<p>✓ (Underway)</p>	#25, #12

# RECOMMENDATIONS (2/12)

## 5.1 DESIGN

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">5.1 Design (continued)</p>	<p><b>5.1.1)</b> Architecture high-level designs exist, and there are embedded architects in some delivery squads, however, there is a disconnect in detailed technical design for some squads due to a lack of suitably qualified technical business analysts and involvement from key data and security contributors</p>	<p><b>Rec5.1F)</b> Configure the CI/CD pipeline to assure development releases are all tested and are fully immutable, build once deploy many</p>		<p>#25, #12</p>
	<p><b>5.1.2)</b> Design Principles have been created and captured in Confluence, however adherence to these principles has been inconsistent across engineering teams which leads to fragmentation and inconsistencies in delivery</p> <p><b>5.1.3)</b> The TDA process exists and most follow the process for re-assessment, as and when these have been delivered without return for approval, this results in quality control issues and negatively impacts the overall delivery due to non-alignment to high-level architectural designs. There are initiatives in place to help remediate some of these areas</p> <p><b>5.1.4)</b> Divergence between high-level platform architecture design and low-level engineering designs have caused an increase in technical debt, quality issues resulting in slower delivery</p>	<p><b>Rec5.1G)</b> Amend the Platform design to enable developers to create, use and destroy environments for experiments and to test spikes</p>		<p>#25, #12</p>

# RECOMMENDATIONS (3/12)

## 5.2 BUILD

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
<b>5.2 Build</b> <i>(continues on next page)</i>	<p><b>5.2.1)</b> Engineering demand is not effectively captured, estimated, planned, prioritized or managed across teams, leading to a lack of alignment on business priorities, inefficient allocation of resources, and delays in delivering capabilities. There is a business demand process that Engineering do not engage with</p> <p><b>5.2.2)</b> There is no Programme methodology/approach that ties all squads together to work in a mature Agile way. Inconsistent capture of key data points, results in a lack of clear status across the programme, hindering data driven decision making</p> <p><b>5.2.3)</b> This area is red trending amber; while remediation is in place, capacity is not prioritised for this. Inconsistent use, by squads of CD pipeline and tools is evident through poor code quality and is reflected by the number of defects raised</p> <p><b>5.2.4)</b> Development Principles exist but are not consistently applied, including definition of ready/done, ultimately resulting in scope creep and increased number of defects once code is promoted to higher environments</p>	<p><b>Rec5.2A)</b> Adopt agile principles to support effective demand management on the basis an agile methodology is selected, to then enforce Story Point estimation</p>		#30, #31, #12
		<p><b>Rec5.2B)</b> Standardise JIRA processes across all squads by defining and enforcing an approach and rolling out to different teams</p>	<p>✓ (Underway)</p>	#24, #25, #12
		<p><b>Rec5.2C)</b> Staff and contractors must attain or be recruited with the appropriate skill levels</p>	<p>✓</p>	#30, #31, #11, #5, #8
		<p><b>Rec5.2D)</b> Pivot to a DevSecOps-centric culture that follows defined agile practices by the introduction of a maturity assessment in the DevSecOps space</p>	<p>✓</p>	#30, #31, #22
		<p><b>Rec5.2E)</b> Implement standardised ways of working, aligned to the agile approaches in development, to ensure effective insights are captured and provide data driven results</p>	<p>✓</p>	#30, #31, #12

# RECOMMENDATIONS (4/12)

## 5.2 BUILD

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.2 Build (continued)	<p><b>5.2.5)</b> Delivery backlogs are not prioritised or linked to higher level requirements or high-level designs therefore it is difficult to trace backlogs back to source or manage dependencies</p>	<p><b>Rec5.2F)</b> Improve environment controls to assure code quality and the security of the deployment and the platform, including least privileged access between environments, hardened security practices between pre-prod and prod and standardisation of automated code release into environments</p>	✓	#30, #31, #12
	<p><b>5.2.6)</b> Environment management is immature as a capability, issues caused by poor environment hygiene have led to suboptimal code and security issues have increased delivery timelines</p>	<p><b>Rec5.2G)</b> Improve knowledge management and traceability to reduce confusion and increase pace by configuring and using Confluence, SharePoint and JIRA in a consistent and standard way</p>		#30, #31
	<p><b>5.2.7)</b> Coding standards and controls are insufficient to assure the quality of code in Production, placing POL at financial risk due to lack of effectiveness of the platform and reputational risk due to data and security risks</p>	<p><b>Rec5.2H)</b> Embrace a modern engineering approach, including but not limited to CICD, Monitoring, Automation, data-driven decisions, re-usable components etc. to leverage the best outcomes from the resources and tools available to engineering teams to increase code quality and velocity. This is in progress</p>		#30, #31

# RECOMMENDATIONS (5/12)

## 5.3 TESTING

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.3 Testing (continues on next page)	<b>5.3.1)</b> Test strategy and approach exist. The principles that the test strategy refer to are not always followed	<b>Rec5.3A)</b> Assure adherence to Programme compliance from Day 1 by providing clear engineering onboarding runbook and ways of working	✓	#24, #31, #28
	<b>5.3.2)</b> Test coverage metrics are not consistently available nor traceable to requirements in JIRA and therefore there is no ability to assess coverage across the programme with confidence. There is work in progress to remediate this	<b>Rec5.3B)</b> Ensure test coverage by applying DevSecOps principles and following the test strategy and approach to assure code quality and reduce effort required in E2E testing through monitoring of data from pipelines and JIRA	✓ (Underway)	#24, #25, #12
	<b>5.3.3)</b> Limited test automation in CICD pipeline used consistently; although tools are available, resulting in sub-optimal code quality	<b>Rec5.3C)</b> Mandate a level of test automation to increase code quality and reduce threats and vulnerabilities	✓	#24, #25
	<b>5.3.4)</b> Test planning for code releases into higher environments are gated which provides a level of assurance and insight, with reports available in JIRA. Lower environment testing and reporting has not been rigorously applied	<b>Rec5.3D)</b> Capture NFT requirements in JIRA during solutioning and prepare for associated testing early in test cycles	✓ (Underway)	#24, #25
	<b>5.3.5)</b> Test data management is generated by each project, resulting in duplication of effort and multiple test data sets being used	<b>Rec5.3E)</b> Centralise test data and enable re-use and more effective validation for expected testing results	✓	#24, #31
	<b>5.3.6)</b> Defect reporting is captured inconsistently, remediation takes a long time due to immature processes and a lack of automation			
<b>5.3.7)</b> BVT runs in parallel with E2E Testing. Current UAT approach is in draft. Changes in UAT are not driven by data insights				

# RECOMMENDATIONS (6/12)

## 5.3 TESTING

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.3 Testing (continued)	<p><b>5.3.1)</b> Test strategy and approach exist. The principles that the test strategy refer to are not always followed</p> <p><b>5.3.2)</b> Test coverage metrics are not consistently available nor traceable to requirements in JIRA and therefore there is no ability to assess coverage across the programme with confidence. There is work in progress to remediate this</p> <p><b>5.3.3)</b> Limited test automation in CICD pipeline used consistently; although tools are available, resulting in sub-optimal code quality</p>	<p><b>Rec5.3F)</b> Improve defect management to enable effective actionable insight to be captured and implemented, reducing the burden on the resolver teams</p>	<p>✓</p>	<p>#24, #31</p>
	<p><b>5.3.4)</b> Test planning for code releases into higher environments are gated which provides a level of assurance and insight, with reports available in JIRA. Lower environment testing and reporting has not been rigorously applied</p>	<p><b>Rec5.3G)</b> Remediate existing tech debt to enable future velocity and code quality. By prioritising and allocating capacity within teams to focus on remediation delivered to modern engineering standards. This enables secure and accelerated development. A DORA metrics approach is currently used to measure and report on this through the CI and Build Better initiative</p>	<p>✓ (Underway)</p>	<p>#24, #25</p>
	<p><b>5.3.5)</b> Test data management is generated by each project, resulting in duplication of effort and multiple test data sets being used</p> <p><b>5.3.6)</b> Defect reporting is captured inconsistently, remediation takes a long time due to immature processes and a lack of automation</p>	<p><b>Rec5.3H)</b> Make improvements to support accelerated UAT by introducing testing of unhappy paths, capturing lessons identified and allocating to accountable owners</p>		<p>#24, #25</p>
	<p><b>5.3.7)</b> BVT runs in parallel with E2E Testing. Current UAT approach is in draft. Changes in UAT are not driven by data insights</p>			

# RECOMMENDATIONS (7/12)

## 5.4 RELEASE MANAGEMENT AND DEPLOYMENT

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.4 Release Management and Deployment (continues on next page)	<b>5.4.1)</b> There is no standard release strategy, it is currently manual and repeatable but carries the risk of poor code quality. While automation tools and controls are being implemented through to higher environments, lower environments lack consistency in using and leveraging these tools to maintain code quality and developer productivity	<b>Rec5.4A)</b> Revise the Environment Strategy to include mandated compliance and automation of deployments to improve release quality	✓	#24
	<b>5.4.2)</b> Repeatable deployment approach exists, it involves manual interventions that delay deployment cycles and limit continuous delivery capabilities	<b>Rec5.4B)</b> Remediate areas known to impact the release schedule such as technical debt, continuous deployment blockers and manual interventions by actively allocating engineering time to resolve	✓ (Underway)	#24
	<b>5.4.3)</b> Go Live criteria are standardised in CAB for release, however while the process is secure, effective challenge is not present in the current decision-making forums. This may have major repercussions when a release is deployed to several branches	<b>Rec5.4C)</b> Through use of effective workflows, facilitate challenge earlier in the development lifecycle to remove potential blockages at the end of the lifecycle	✓	#24, #12
	<b>5.4.4a)</b> Releases into Production have been completed and include a high number of issues and vulnerabilities called out. The plans and schedule are available, the confidence that scope is achievable is open to question	<b>Rec5.4D)</b> Use empirical evidence obtained from DevSecOps tooling to support faster and safer Go Live decisions (i.e., insight data from SonarQube, Git, JIRA, Snyk etc.) - This is work in progress as part of the CI and Build Better initiatives	✓ (Underway)	#24, #19
	<b>5.4.5a)</b> Releases into live have followed POL guidance with the project providing Hypercare and POL service support shadowing initiated. While this area is immature, steps to remediate are in progress, including a TOM that draws NBIT and POL teams together to achieve an enduring process	<b>Rec5.4E)</b> Create increased confidence to release at scale by initially reducing the size and scale of releases by using automated deployments that secure quality code. Post Office should aim to continuously deploy releases at pace into non-prod environments as frequently as possible. Small changes	✓	#24, #25

# RECOMMENDATIONS (8/12)

## 5.4 RELEASE MANAGEMENT AND DEPLOYMENT

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.4 Release Management and Deployment (continued)	<b>5.4.1)</b> There is no standard release strategy, it is currently manual and repeatable but carries the risk of poor code quality. While automation tools and controls are being implemented through to higher environments, lower environments lack consistency in using and leveraging these tools to maintain code quality and developer productivity	<b>Rec5.4F)</b> Remove conflicting/out of date guidance/documentation from Confluence to ensure clarity of criteria and expectations for release management and deployment		#24, #31
	<b>5.4.2)</b> Repeatable deployment approach exists, it involves manual interventions that delay deployment cycles and limit continuous delivery capabilities	<b>Rec5.4G)</b> Provide feedback to wider stakeholders and assure ownership and accountability of lessons identified from each release and deployment		#24, #31
	<b>5.4.3)</b> Go Live criteria are standardised in CAB for release, however while the process is secure, effective challenge is not present in the current decision-making forums. This may have major repercussions when a release is deployed to several branches	<b>Rec5.4H)</b> Train and engage post hypercare support to enable effective Subject Matter Experts from POL during the Pilot		#24, #31
	<b>5.4.4a)</b> Releases into Production have been completed and include a high number of issues and vulnerabilities called out. The plans and schedule are available, the confidence that scope is achievable is open to question	<b>Rec5.4I)</b> Validate current and future training needs for POL support teams through lessons identified during knowledge transfer		#24, #31
	<b>5.4.5a)</b> Releases into live have followed POL guidance with the project providing Hypercare and POL service support shadowing initiated. While this area is immature, steps to remediate are in progress, including a TOM that draws NBIT and POL teams together to achieve an enduring process	<b>Rec5.4J)</b> Align technical deployments to the hardware roll out and support remediation of the current known challenges. Greater alignment between the NBIT and POL		#24, #31

# RECOMMENDATIONS (9/12)

## 5.5 DATA CONVERSION

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.5 Data Conversion (continued on next page)	<p><b>5.5.1)</b> Lack of a data strategy has been accepted as a gap across the programme. Most data requirements are maintained through individual business workstream areas. Duplication of work is not considered extensive. Gaps in data requirements are not consistently managed</p> <p><b>5.5.2)</b> Data requirements have been captured, but most data is handled by 3<sup>rd</sup> party systems</p> <p><b>5.5.3)</b> Limited evidence of a joined-up understanding of data and security requirements driving risks to POL and 3<sup>rd</sup> party stakeholders</p> <p><b>5.5.4)</b> 3rd party connectivity is currently managed on a case-by-case basis with development teams</p> <p><b>5.5.5)</b> The programme approach is to use the dual running phase with the legacy system to assure and remediate any residual interdependencies</p>	<b>Rec5.5A)</b> Generate a data strategy to align the data requirements for the programme	✓	#2, #3
		<b>Rec5.5B)</b> Review data requirements and align data management approach to workstreams	✓	#5, #30, #31
		<b>Rec5.5C)</b> Provide access to standardised synthetic data to enable re-use and automated testing	✓	#5, #30, #31
		<b>Rec5.5D)</b> Review low-level designs and requirements to assure data requirements have been captured by including a mandated section in the low-level design template	✓	#5, #30, #31
		<b>Rec5.5E)</b> Conduct security review of low-level data designs and remediate areas of concern through collaboration across Architecture, Security and Engineering teams	✓ (Underway)	#24, #25



# RECOMMENDATIONS (10/12)

## 5.5 DATA CONVERSION

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.5 Data Conversion (continued)	<p><b>5.5.1)</b> Lack of a data strategy has been accepted as a gap across the programme. Most data requirements are maintained through individual business workstream areas. Duplication of work is not considered extensive. Gaps in data requirements are not consistently managed</p>	<p><b>Rec5.5F)</b> Remediate current gaps in data observability and security vulnerabilities</p>	✓	#5, #30, #31
	<p><b>5.5.2)</b> Data requirements have been captured, but most data is handled by 3<sup>rd</sup> party systems</p> <p><b>5.5.3)</b> Limited evidence of a joined-up understanding of data and security requirements driving risks to POL and 3<sup>rd</sup> party stakeholders</p>	<p><b>Rec5.5G)</b> During the Pilot, rigorously assess the effectiveness of data use, storage and accuracy prior to full roll out by and include chaos testing</p>		#30, #31
	<p><b>5.5.4)</b> 3rd party connectivity is currently managed on a case-by-case basis with development teams</p> <p><b>5.5.5)</b> The programme approach is to use the dual running phase with the legacy system to assure and remediate any residual interdependencies</p>	<p><b>Rec5.5H)</b> Identify additional opportunities to create and or improve the quality of 3<sup>rd</sup> Party stubs for testing. This mitigates late-stage testing of these activities in the E2E test environment</p>		#30, #31

# RECOMMENDATIONS (11/12)

## 5.6 POST GO LIVE SUPPORT

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.6 Post Go Live Support	<b>5.6.1)</b> The post-go-live support plan has limitations, but work is underway to establish a sustainable model. Dedicated engineering resources for initial technical support and knowledge transfer have been identified. However, this current level of support is not viable long-term as NBIT is rolled out to all branches	<b>Rec5.6A)</b> Remediate existing technical debt introduced by hot fixes prior to building additional releases that compound them	✓ (Underway)	#24, #25
	<b>5.6.2)</b> Knowledge transfer was initiated following Release 1 and POL operations teams have been identified for the interim transition. A larger programme of KT is being considered for the target state	<b>Rec5.6B)</b> Clearly define the transition timeline and accountability for service support	✓	#5, #30, #31
	<b>5.6.3)</b> POL has a process and criteria for Go Live, and NBIT has and will continue to align with this. While the process is secure, effective challenge is not present in the current decision-making forums	<b>Rec5.6C)</b> Rapidly incorporate lessons learned from the pilot into future ways of working by discussing and incorporating into plans and assigning ownership	✓	#5, #30, #31
	<b>5.6.4)</b> Contingency planning for roll backs are immature and require additional testing and assurance	<b>Rec5.6D)</b> Integrate JIRA and Service Now to capture Live Incidents	✓	#5, #30, #31, #12
	<b>5.6.5)</b> There are monitoring, alerting and observability tools across the programme. Integration with POL ITSM tool, Service Now is in progress	<b>Rec5.6E)</b> Define and align the product roadmap with solution and operational support in programme increment planning (if introduced as part of an Agile methodology)		#24, #25
		<b>Rec5.6F)</b> Establish TOM for support. The current setup of a L1 support desk and then straight to delivery squads for every area of the solution is neither sustainable nor economic		#30, #31

# RECOMMENDATIONS (12/12)

## 5.7 SERVICE INTRODUCTION

Level 2	Observation	Recommendation	Tower Proposed Priority	Mapping to Summary Rec.
5.7 Service Introduction	<b>5.7.1)</b> Evolving strategy and transition approach in progress and handed over to a new owner with support from existing POL standard practices in Live service support	<b>Rec5.7A)</b> Maintain closer working relationships between POL and NBIT with a clear TOM		#5, #30, #31
	<b>5.7.2)</b> There is work in progress to prepare the ground for Live Service readiness once the platform is rolled out at scale, however there is currently limited engagement and coherence between remediations (in JIRA) and its automated updates into the Enterprise ITSM tool (ServiceNow)	<b>Rec5.7B)</b> Leverage the opportunity offered by NBIT to enable modern technology approaches that support exploitation of novel areas. By allocating time for the team to conduct POC and Experiment as part of the hardening sprints		#5, #30, #31, #14
	<b>5.7.3)</b> Tech KT limited (Project teams remain 1 <sup>st</sup> line support for incidents/issues raised in Prod). However operational guidance has been generated, and is planned to be iterated and KT has been conducted	<b>Rec5.7C)</b> Align management of POL resource to a non-vendor led approach at Levels 1 and 2 based on the current strategy prior to R2 Go Live	✓	#30, #31
	<b>5.7.4)</b> User communications strategy in progress but recognised training gaps exist across user groups, additional work in progress	<b>Rec5.7D)</b> Remediate workarounds that prevent handover of R1 to POL service support by allocating time throughout the proposed hardening sprints	✓	#30, #31
	<b>5.7.5)</b> Enterprise-wide ITSM is established, and work is in progress to align software engineering teams to the POL tools and processes that govern this. The level of technical knowledge required to support transfer into the new system, this remains a work in progress	<b>Rec5.7E)</b> Fully transition ITSM to Service Now and POL Service Management Team	✓ (Underway)	#5, #30, #31, #12, #9
	<b>5.7.6)</b> Value definition during requirements generation is not captured and products are not prioritised within releases, Metrics for KPIs and value not defined	<b>Rec5.7F)</b> Communicate the interim change and defect process required during transition, and track all inputs and changes in Confluence, linked to items in JIRA for work to be completed	✓	#30, #31
		<b>Rec5.7G)</b> Use the Incident management environment to validate that the environment works as expected to resolve incidents in Live ahead of release launches		#30, #31
		<b>Rec5.7H)</b> Align dashboards that capture data from monitoring and observability tools, including performance metrics and tooling approach	✓	#30, #31

# **IV | ADDITIONAL SUPPORTING EVIDENCE**

**BUILD BETTER / CI INITIATIVE AND JIRA DEFECT  
TRENDS**

# BUILD BETTER QE PROGRESS SUMMARY (1/3)

## DEFINITION OF METRICS BASED ON DORA THAT ARE BEING TRACKED BY THE BUILD BETTER INITIATIVE

Post Office Limited - Document Classification: INTERNAL

### Definition of Metrics

Topic	Metric Definition	Timeframe	Metric Method
DoR	Average number of stories with Acceptance Criteria populated per quarter. Data extracted using Jira Hygiene board.	Baseline – start of Q2 2022 to end of Q2 2023 Latest – current quarter	Populated AC (per quarter)
Unit Tests	Average number of days stories are held within a testing/QA status. Data extracted from Jira via queries. [note – quality & consistency of Jira story data is currently insufficient to use]	Baseline – start of Q2 2022 to end of Q2 2023 Latest – current quarter	Agility – Cycle Time
Automation	Of the total number of tests executed, what percentage were automated. Data extracted from Zephyr folders using queries.	Baseline – start of Q2 2022 to end of Q2 2023 Latest – current quarter	Efficiency – Total
P2P	Of the total number of defects raised, what percentage were found within the Squad team. Data extracted from Jira queries. [note – until we start E2E testing, we cannot calculate for a release]	Baseline – Release 2.0 Latest – Current Release (e.g. R2.1)	Quality - Defect Capture
Early NFR	Percentage of expected NFRs documented in Jira. Based on tracker maintained by NFR team.	Baseline – start of Q2 2022 to end of Q2 2023 Latest – current quarter	NFR coverage
RCA	Average number of defects with Root Cause Analysis populated per quarter. Data extracted using Jira Hygiene board.	Baseline – start of Q2 2022 to end of Q2 2023 Latest – current quarter	Populated RCA (per month)
DoD	Percentage of stories that meet QE elements of the DoD criteria: <ul style="list-style-type: none"> <li>All stories have associated test cases linked that cover the AC</li> <li>All associated test cases executed</li> <li>All associated test cases passed with evidence attached</li> <li>All defects linked to story have been closed or formally deferred with commentary.</li> </ul> Data based on extract from Zephyr using tool.	Baseline – start of Q2 2022 to end of Q2 2023 Latest – current quarter	DoD Compliance Check

**As of Oct 2023**

Build better and CI initiative are underway. The metrics shown are being gathered and reported on by the QA team.



**WORKING DRAFT**

# BUILD BETTER QE PROGRESS SUMMARY (2/3)

REPORT FROM QE REFLECTS EMPIRICAL PROGRESS AGAINST BASELINE DATA ENABLING ASSURANCE

## Overall

Head of QE	Date
Dan Perrin	Sept 2023

Summary	Status
<ul style="list-style-type: none"> <li>This quarter we completed the CI Wave 1 engagement with teams, focused on the below topics.</li> <li>We are now beginning CI Wave 2, which will include expanding/refining the use of the test automation framework, implementing the PACT tool to support integration, implementing common Jira configuration and formalising the handover from Squad to E2E teams.</li> </ul>	▲

Topic	CI Actions	Status	Metric Method	Baseline	Latest	Trend
DoR	Defined and measured DoR. 3 Amigos added for complex stories.	Open	Populated AC (per qtr.)	85%	95%	▲
Unit Tests	Unit Test evidence captured and shared with QA.	Done	Agility – Cycle Time	N/a	N/a	-
Automation	Automated Smoke Tests in CICD pipe (standalone pipe or live pipe, depending on GitHub Actions migration status)	Done	Efficiency – Total	11%	31%	▲
P2P	Documented planned P2P cycles.	Done	Quality - Defect Capture	81%	N/a	-
Early NFT	Product NFR approach presented by NFT team.	Open	NFR coverage	0%	26%	▲
RCA	Added RCA to Jira. Cover defect RCA in Retro.	Open	Populated RCA (per qtr.)	8%	28%	▲
DoD	Defined and measured DoD. Demos to E2E team.	Done	DoD Compliance Check	39%	50%	▲

### As of Oct 2023

The focus is on implementing a common configuration in Jira and rolling it out across the squads.

DoR, RCA are the main metrics tracked from Jira Data

Automation, Unit Tests and DoD pull from data from Zephyr (test management) integrated in Jira.



**WORKING DRAFT**

# BUILD BETTER QE PROGRESS SUMMARY (3/3)

## EXAMPLE REPORT FOR ONE AREA INDICATING PROGRESS AGAINST METRICS

Post Office Limited - Document Classification: INTERNAL

### Banking and Payments

QA Lead	Date
Ankita Saoji	Sept 2023

Summary						
<ul style="list-style-type: none"> <li>Current effort is focused on test execution for Sprint 16 for Release v2.1. <a href="#">CI Wave 1 Actions</a> were progressed from April to June.</li> <li>Challenges - Assistance requested to reduce execution time for Smoke Tests. Concerns raised on NFR approach.</li> </ul>						

Topic	CI Actions	Status	Metric Method	Baseline	Latest	Trend
DoR	3 Amigos added for complex stories	Done	Populated AC (per qtr.)	93%	97%	∧
Unit Tests	Test scope shared with QA	Done	Agility – Cycle Time	N/a	N/a	-
Automation	Automated API Smoke Tests in CI/CD pipe	Done	Efficiency – Total	31%	79%	∧
P2P	Documented planned P2P cycle	Done	Quality - Defect Capture	84%	N/a	-
Early NFT	Approach presented by NFT team	Open	NFR coverage	0%	20%	∧
RCA	Added RCA to Jira & Cover defect RCA in Retro	Done	Populated RCA (per qtr.)	1%	17%	∧
DoD	Provide Demo to E2E team	Done	DoD Compliance Check	54%	75%	∧

### As of Oct 2023

A view of the trends from the Banking and Payment area.

A useful statistic would be to get a squad-by-squad view.

This would start to give an indication of adoption across the program and give a view of the adoption and results across the squads.



**WORKING DRAFT**

# DEFECT TRENDS

## HISTORICAL DATA AND ANALYSIS

Count of Issue key	Column Labels												
Row Labels	BVT	E2E	In Sprint	OAT	Performance Testing (E2E)	Pre-Prod Deployment Validation	Production	Security Testing	Tech Proving	UAT	UAT (R1)	(blank)	Grand Total
<29/03/2022													
2022	6	19						79			8		112
Qtr1		1											1
Qtr2		1											1
Qtr3		7									7		14
Qtr4	6	10						79			1		96
2023	369	420	95	19	10	10	4	212	10	40	2		1191
Qtr1	114	226	52	15		2		82					491
Qtr2	191	135	37	2	8		2	87					462
Qtr3	63	57	6	2	1	7	2	43		40	2		223
Qtr4	1	2			1	1			10				15
Grand Total	375	439	95	19	10	10	4	291	10	40	10		1303

**Note – The data from Jira and:**

1. This table provides a list of all the defects raised on the Test & Assurance Dashboard.
2. this tables does include tickets which have been cloned by product teams to the TA board, but it is known that only a small subset of defects were cloned for E2E/BVT test visibility.
3. This table excludes duplicate, invalid, defects which do not have assignees and defects that are not tagged to a test phase: ~700. The caveats above highlight the findings, observations and recommendations made around JIRA re-configuration.

**A view of the historical defect trends**

- This aligns with findings about releases promoted from in-sprint into E2E resulting in a high level of defects found in the environment. Defects in the main that should have been captured in prior environments and or the CI/CD pipelines.
- BVT issues were also historically high as some raised differing feature issues were seen and tagged as defects.
- Also, note the spike in Security issues from those carried over from 2022 to the trend in 2023.
- There is a downward trend quarter by quarter. This is can be attributed to the current period of relative stillness on the project, the Build better and CI initiatives being rolled out to squads and from E2E environment, the introduction of a regression test pack. More analysis and stronger data is required to validate these assumptions.

