

NEM Reform Foundational & Strategic Initiatives - Transition Roadmap and Business Case Input



- Identity Access Management (IDAM)
- Portal Consolidation (PC)
- Industry Data Exchange (IDX)

Current as of 18 Aug 2023



Introduction

- This pack is intended to provide support for participant cost estimation for the foundational and strategic initiatives as input for the purpose of preparing a business case:
 - Identity & Access Management (IDAM)
 - Portal Consolidation
 - Industry Data Exchange (IDX)
- This document outlines the proposed transition roadmap, investment phasing and costing assumptions. The transition roadmap reflects the direction established with industry participants and associated polling results captured through the Foundational & Strategic Focus Group
- Results outlined were captured through discussions with participants over three transition strategy workshops in Q3 of 2023; 26 July, 2 August, 17 August.
- Note on voting:
 - Polls results reflect in-session voting by participants and any additional feedback or voting provided out of session.
 - Each poll indicates number of voting individuals as well as organisations.
 - As a benchmark, between 66-73 individuals and 36-46 participant organisations attended each of the transition strategy workshops.
- Organisations who have not voted in polls are welcome to provide their preferences to AEMO after which the pack will be updated and reissued
- Participant feedback is welcomed to further develop the costing assumptions and risks put forward in this pack
- For more information visit the focus group webpage: <https://aemo.com.au/en/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/nem-reform-foundational-and-strategic-initiatives-focus-group>

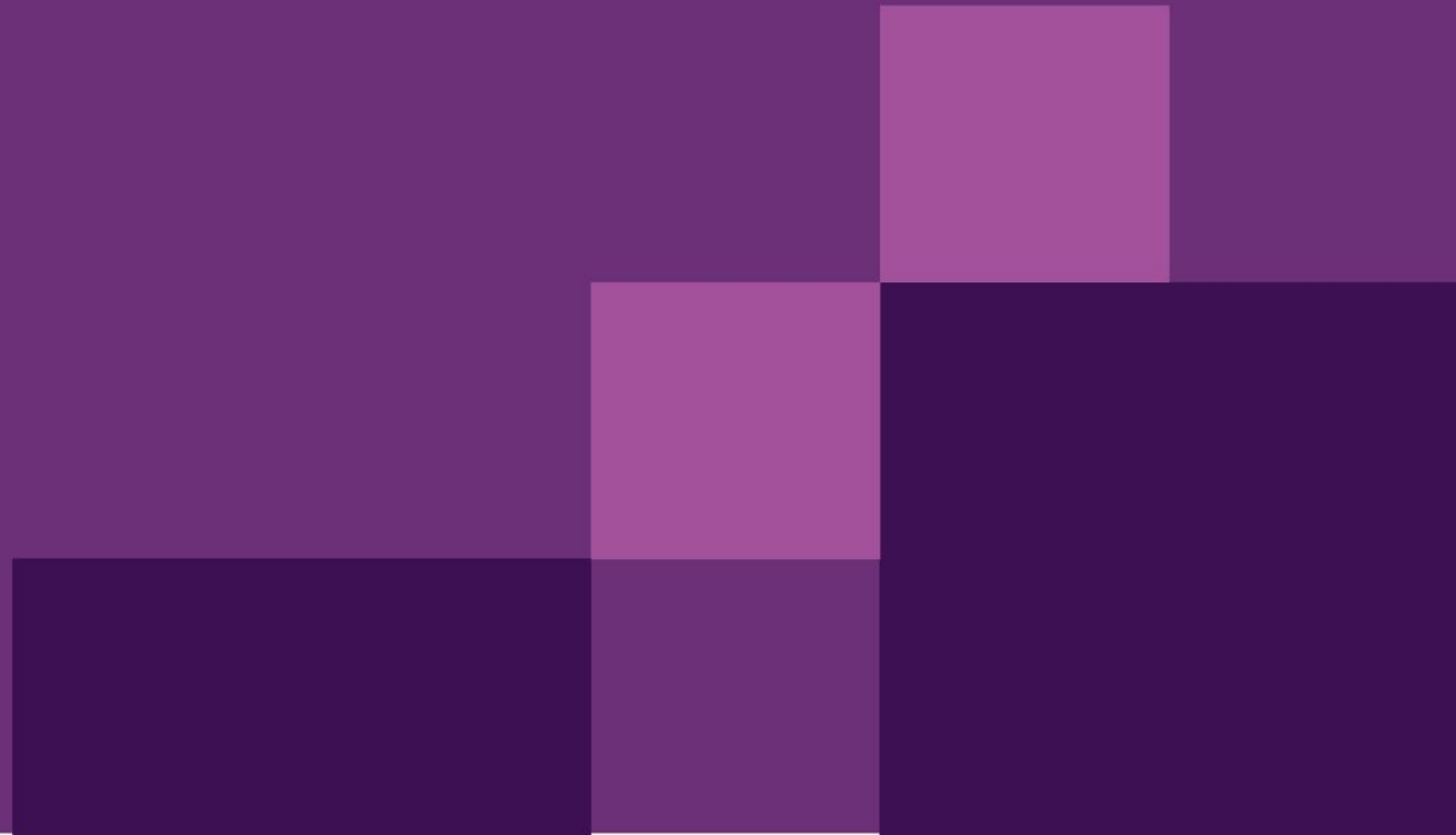
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5. Portal Consolidation (PC) Transition Roadmap
6. Industry Data Exchange (IDX) Transition Roadmap
7. Risks
8. Update on Business Case Timelines

Appendices

A: IDX reference material on AEMO
Gateway Software

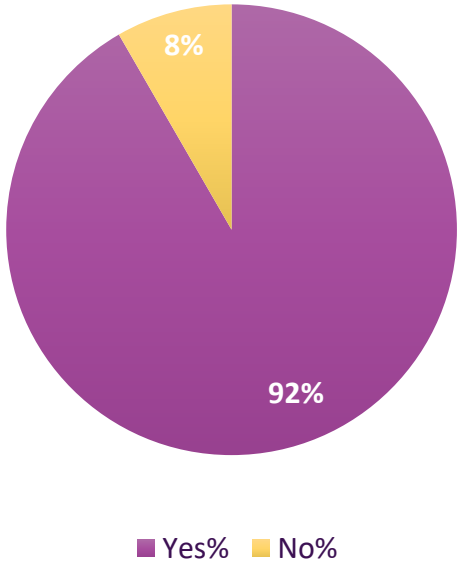
Poll Results



Poll Results – IDAM Alignment Check-in



Participant alignment check-in: reflecting on the objectives for this workshop, are you aligned with the key principles and Transition tranches and sequencing for IDAM?



Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	42	24
Yes	30	22
No	12	2

**AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses and also incorporates updated responses received from the organisations' post workshop.*

Raw Data Extract from tool Slido

IDAM Slide 14: Participant alignment check-in: reflecting on the objectives for this workshop, are you aligned with the key principles and Transition tranches and sequencing for IDAM?

Multiple Choice Poll 42 votes 42 participants

YES - 30 votes

71%

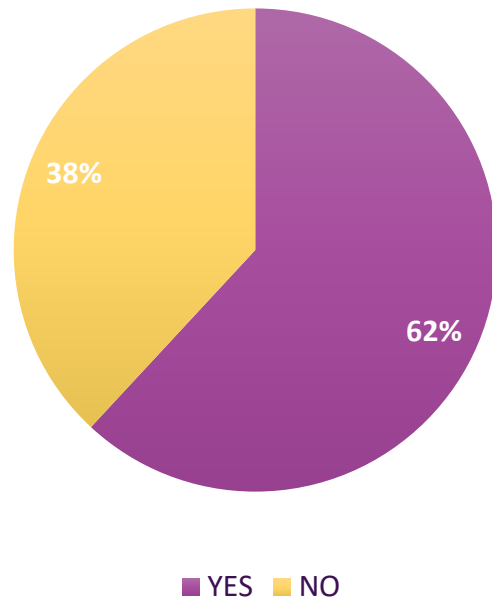
NO, I will provide additional information afterwards. - 12 votes

29%

slido

Poll Results – Portal Alignment Check-in

Participant alignment check-in: reflecting on the objectives for this workshop, are you aligned with the key principles, Transition strategy and Sequencing for Portal Consolidation initiative?



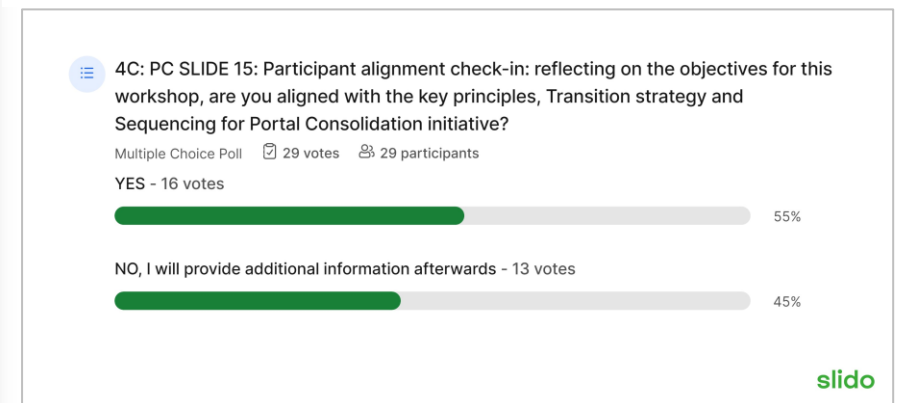
**There's conflicting response from an organisation, so they have been added to both 'Yes' and 'No' for the time being. AEMO will reach out to them to clarify their position.

Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total Responses	29	20**
Yes	16	13
No	13	8

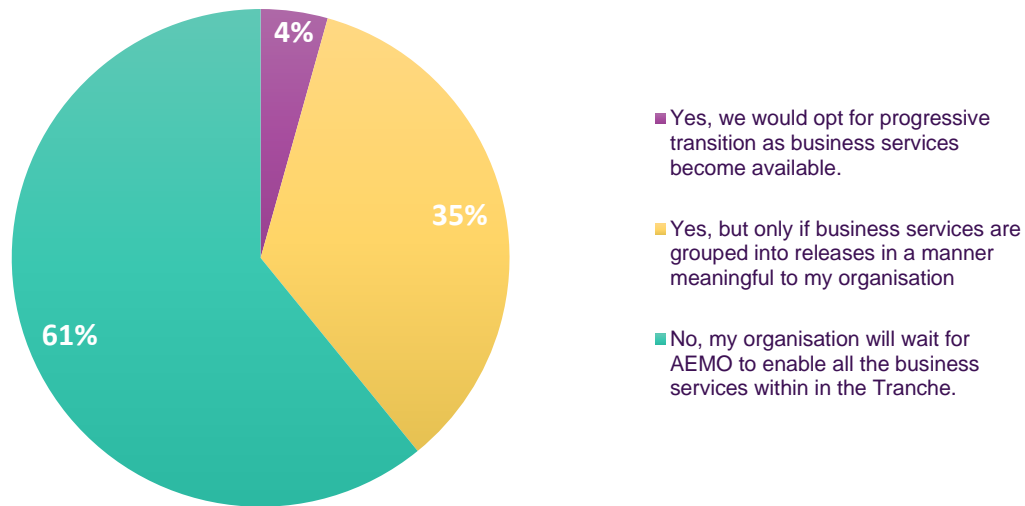
*AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.

Raw Data Extract from tool Slido



Poll Results – IDX Sequencing

If business services were progressively enabled by AEMO within a tranche, would your organisation transition these enabled business services as they become available OR would you wait for all associated business services within the tranche to be enabled?



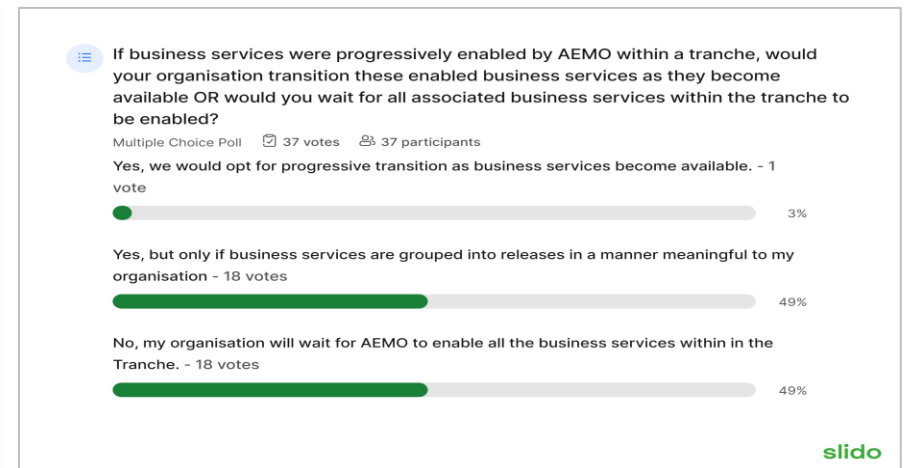
***There's conflicting response from an organisation, so they have been added to both 'Yes' and 'No' for the time being. AEMO will reach out to them to clarify their position.*

Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	37	23**
Yes, we would opt for progressive transition as business services become available.	1	1
Yes, but only if business services are grouped into releases in a manner meaningful to my organisation	18	8
No, my organisation will wait for AEMO to enable all the business services within in the Tranche.	18	14

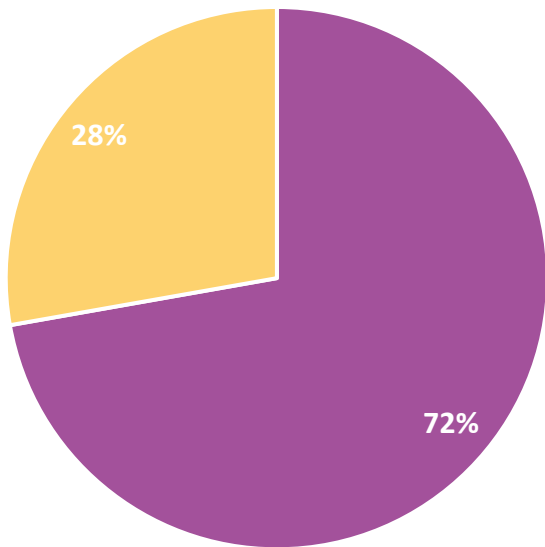
**AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.*

Raw Data Extract from tool Slido



Poll Results – IDX aseXML option

If an IDX- aseXML transitional option available, would your organisation leverage this along with subsequent transition to IDX-JSON pattern within the Tranche Sunset timeframe?



- Yes, my organisation would prefer an additional stage transition to IDX-JSON pattern within the Tranche sunset timeframe (as illustrated by the use case)
- No, my organisation would prefer a single stage transition to IDX-JSON within the Tranche sunset timeframe.

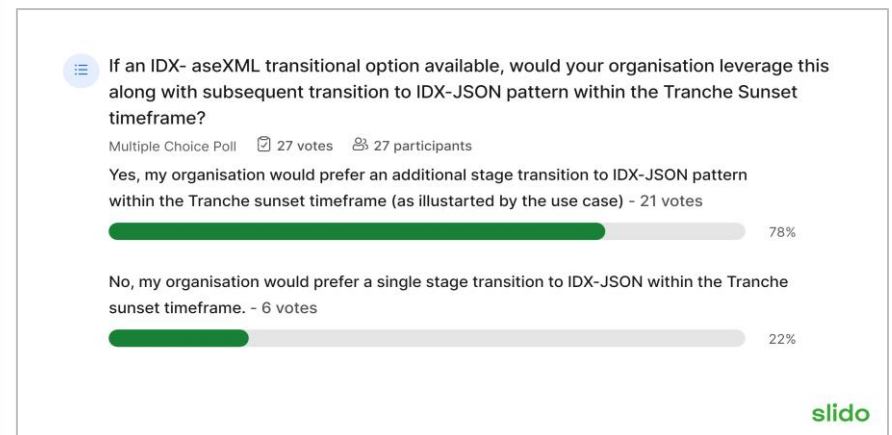
On the basis of this Poll result, AEMO will support IDX channel protocols carrying aseXML payload during the sunset timeframes.

Number of Responses

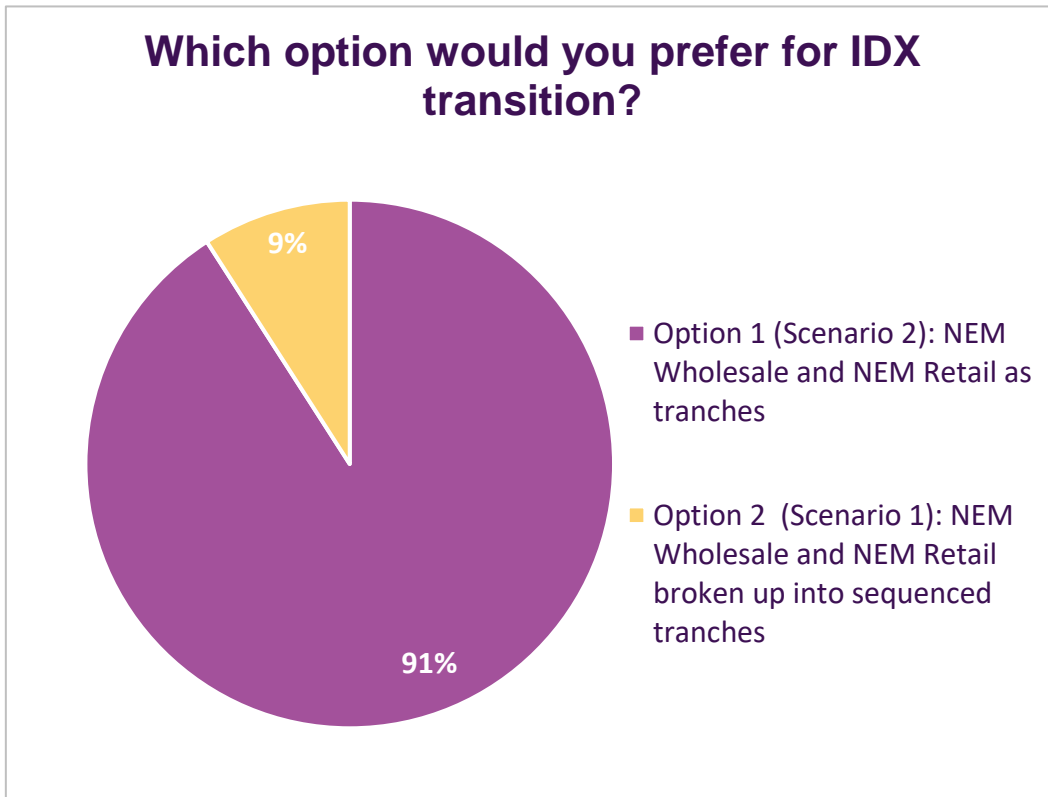
	Slido Extract @ Individual votes	Consolidated @Org. level*
Total Responses	27	18
Yes, my organisation would prefer an additional stage transition to IDX-JSON pattern within the Tranche sunset timeframe (as illustrated by the use case)	21	13
No, my organisation would prefer a single stage transition to IDX-JSON within the Tranche sunset timeframe.	6	5

*AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.

Raw Data Extract from tool Slido



Poll Results – IDX tranche approach



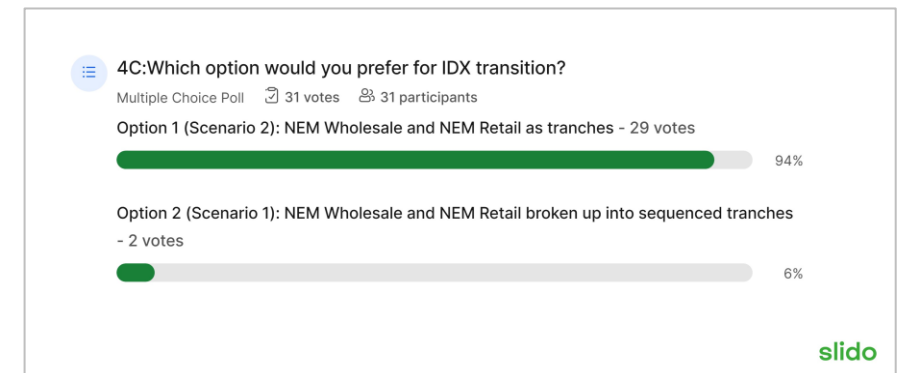
***There's conflicting response from an organisation, so they have been added to both 'Yes' and 'No' for the time being. AEMO will reach out to them to clarify their position.*

Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	31	20**
Option 1 (Scenario 2): NEM Wholesale and NEM Retail as tranches	29	20
Option 2 (Scenario 1): NEM Wholesale and NEM Retail broken up into sequenced tranches	2	2

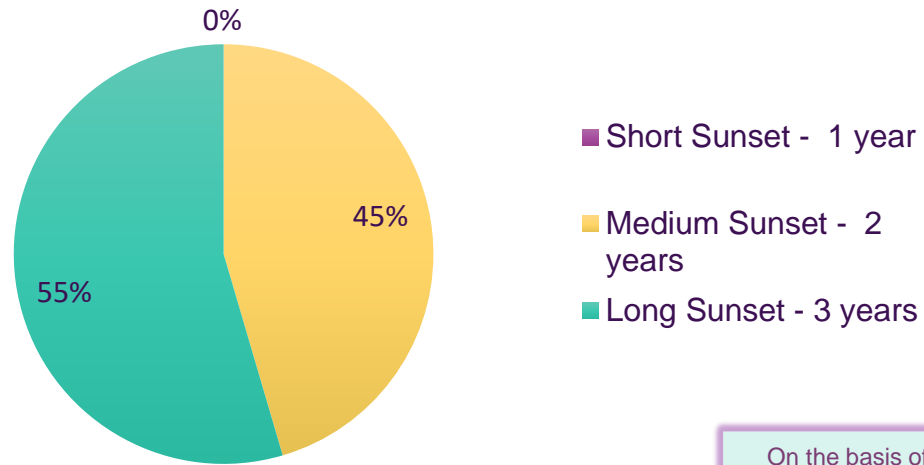
**AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.*

Raw Data Extract from tool Slido



Poll Results – IDX Wholesale Sunset

What is an ideal sunset timeframe for NEM Wholesale Tranche?



On the basis of this Poll result, AEMO has updated the roadmap to capture 3 years for Wholesale sunset

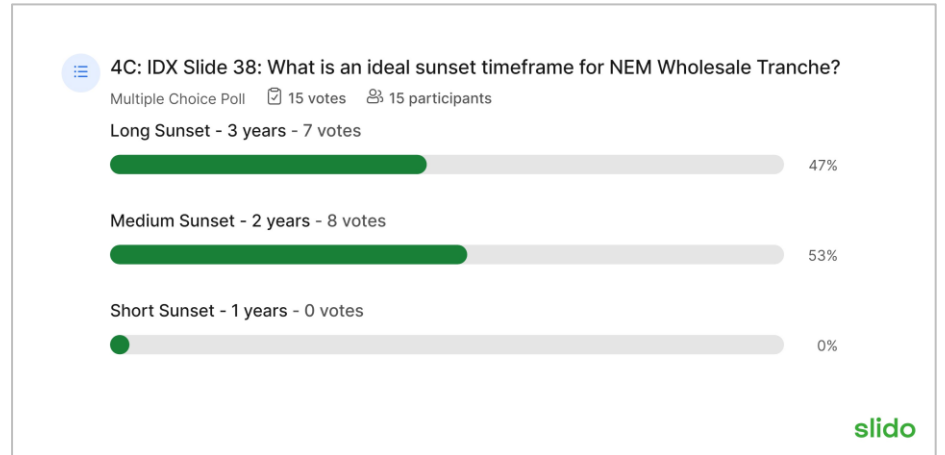
Participant Category	Short Sunset - 1 year	Medium Sunset - 2 years	Long Sunset - 3 years
Gentailer	-	2	2
Generator	-	-	1
Retailer	-	1	-
Network Service Provider	-	2	2
Transmission	-	-	1

Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	15	11
Short Sunset - 1 year	0	0
Medium Sunset - 2 years	8	5
Long Sunset - 3 years	7	6

*AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.

Raw Data Extract from tool Slido

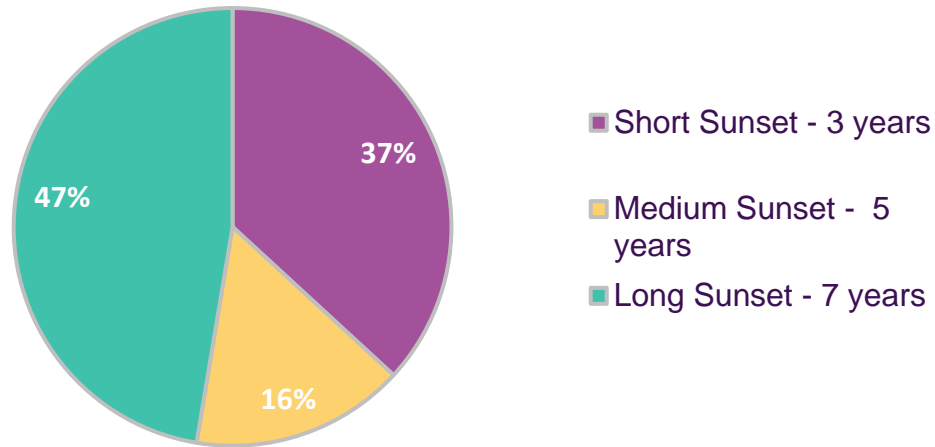


Poll Results – IDX Retail Sunset

WIP



What is an ideal sunset timeframe for NEM Retail Tranche?

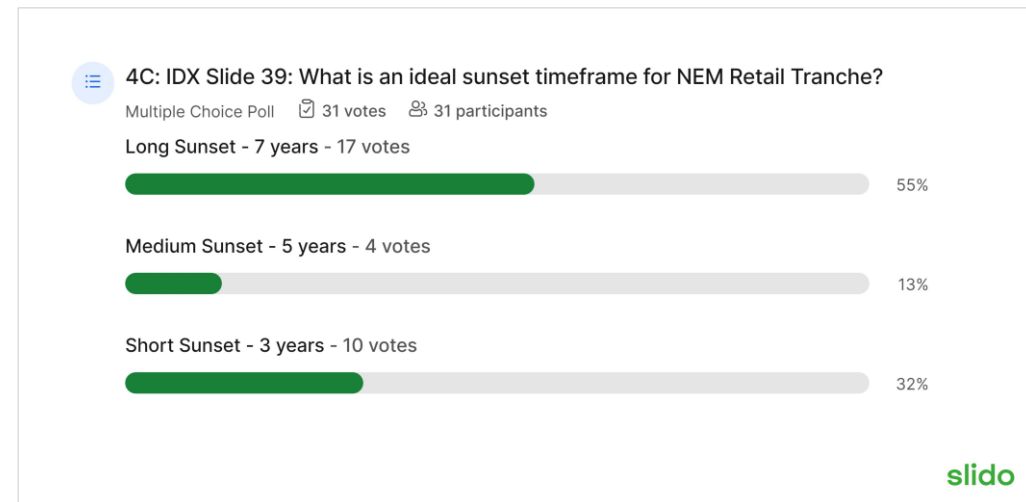


Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	31	19
Short Sunset - 1 year	10	7
Medium Sunset - 2 years	4	3
Long Sunset - 3 years	17	9

*AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.

Raw Data Extract from tool Slido



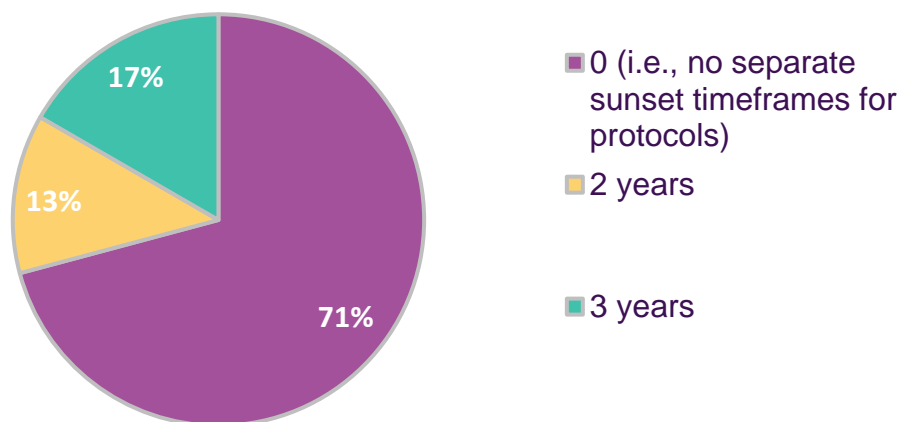
Participant Category	Short Sunset - 3 years	Medium Sunset - 5 years	Long Sunset -7 years
Gentailer	1	1	2
Generator	-	1	-
Retailer	1	-	1
Network Service Provider	1	1	5
Metering Services	1	-	-
Solution Provider	2	-	-
Unknown	1	-	1

Poll Results – IDX Protocol Sunset

WIP



Should the protocol sunset end earlier and if yes, how many years earlier should it end?



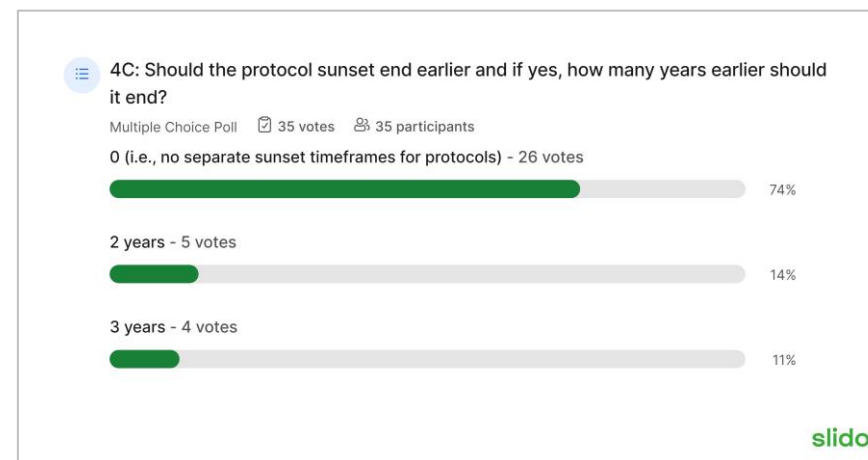
**There's conflicting response from two organisations, so they have been added to both 'Yes' and 'No' for the time being. AEMO will reach out to them to clarify their position

Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	35	22**
0 (i.e., no separate sunset timeframes for protocols)	26	17
2 years	5	3
3 years	4	4

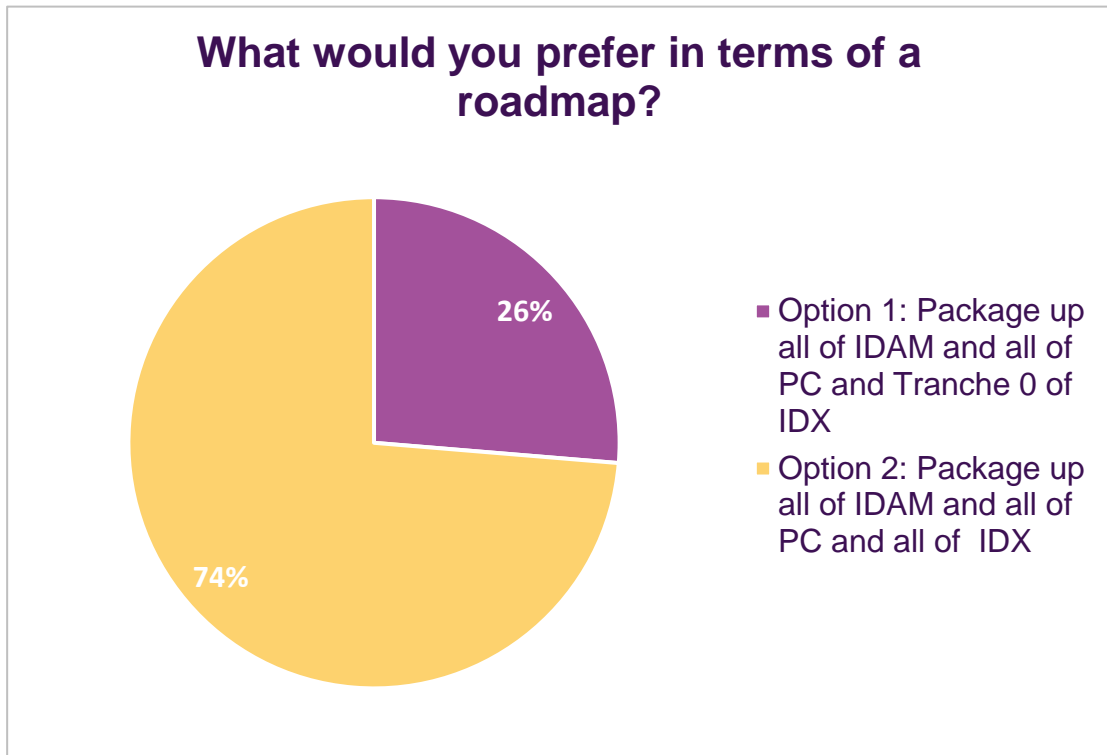
*AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.

Raw Data Extract from tool Slido



Participant Category	No separate sunset	2 years	3 years
Gentailer	2	1	-
Generator	1	-	-
Retailer	2	1	-
Network Service Provider	7	-	2
Metering Services	1	-	1
Solution Provider	2	1	-
Unknown	2	-	1

Poll Results – IDX investment phasing



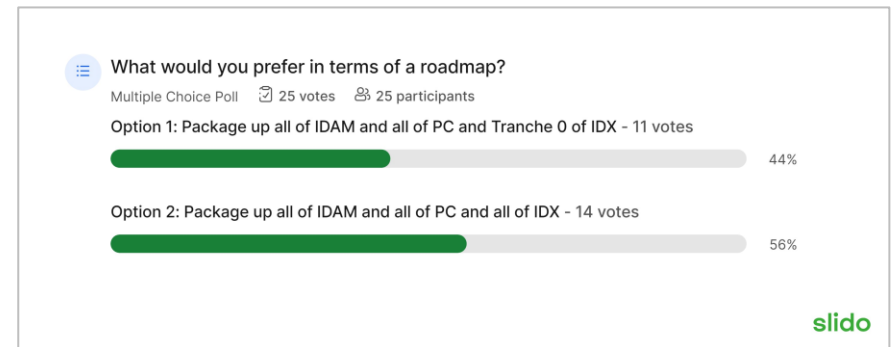
***There's conflicting response from an organisation, so they have been added to both "Option1" and "Option2" for the time being. AEMO will reach out to them to clarify their position.*

Number of Responses

	Slido Extract @ Individual votes	Consolidated @Org. level*
Total responses	25	18**
Option 1: Package up all of IDAM and all of PC and Tranche 0 of IDX	11	5
Option 2: Package up all of IDAM and all of PC and all of IDX	14	14

**AEMO consolidated the responses received from different organisations, considering one vote per organisation. The graph represents the consolidated responses.*

Raw Data Extract from tool Slido



Costing assumptions



Costing Assumptions (part 1)

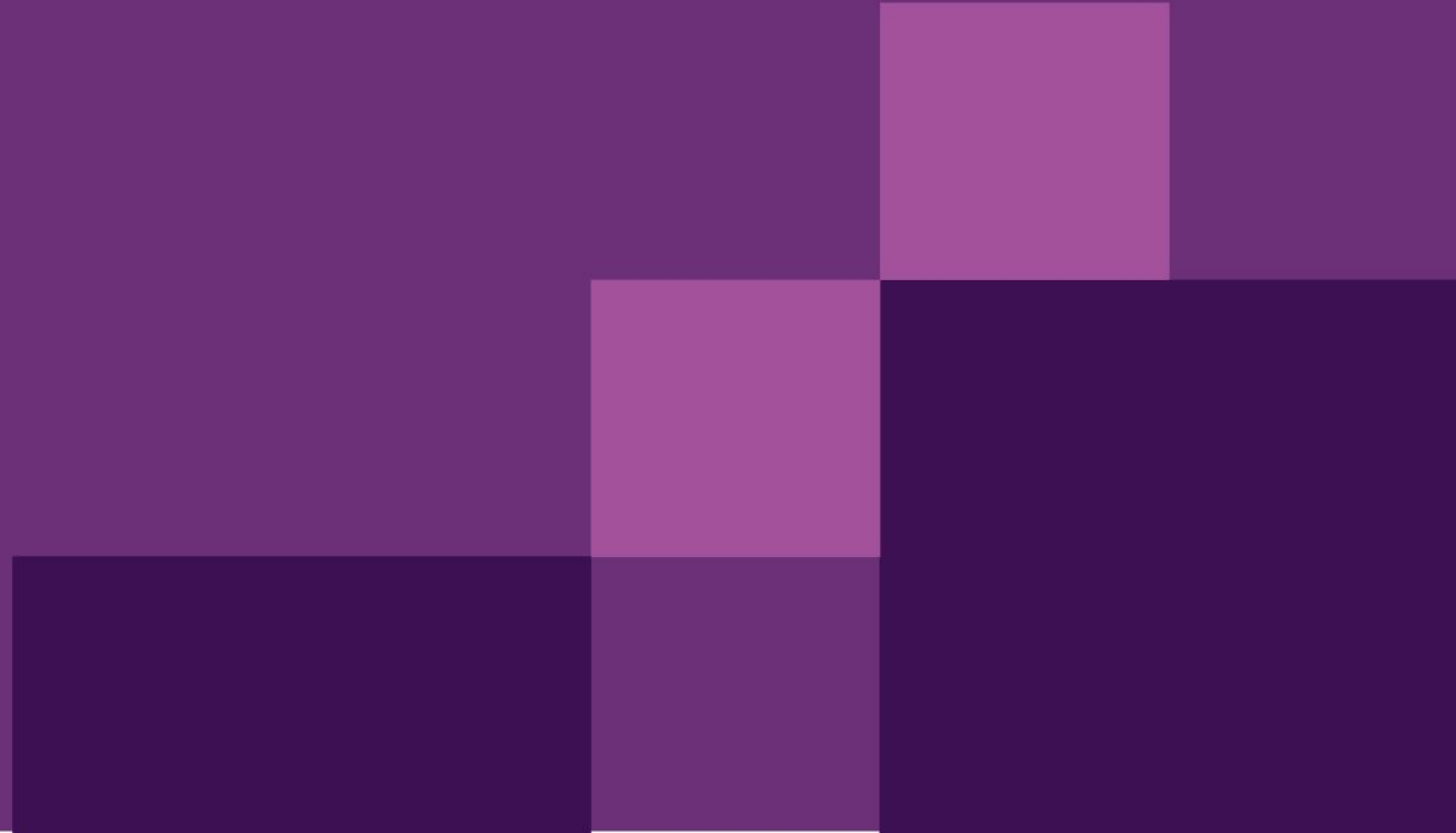
- The operating model of markets will retain centrally managed identity and data hub services.
- A High-level conceptual design is sufficient detail to inform the business case, detailed design will be factored into tranche delivery plans
- Foundational tranches will make target state capabilities available for up-coming NEM reforms initiatives to leverage these capabilities.
- New NEM services delivered post the completion of the IDX foundation will leverage the new protocols, patterns and payloads. Services in this context are the equivalent of introducing a new transaction group (such as DER). Change within a transaction or addition of a transaction to an existing transaction group would be enabled on legacy protocols within the sunset period as well as on the new protocols once the associated tranche is delivered.
- NEM reform initiatives may change their timeline, could be removed or new reforms could be added. Where this occurs, an assessment will be made for impact to the roadmap for these 3 initiatives
- Governance process for procedures and protocols will remain with their existing governing bodies with regard oversight and coordination of updates to enable the transition

Costing Assumptions (part 2)

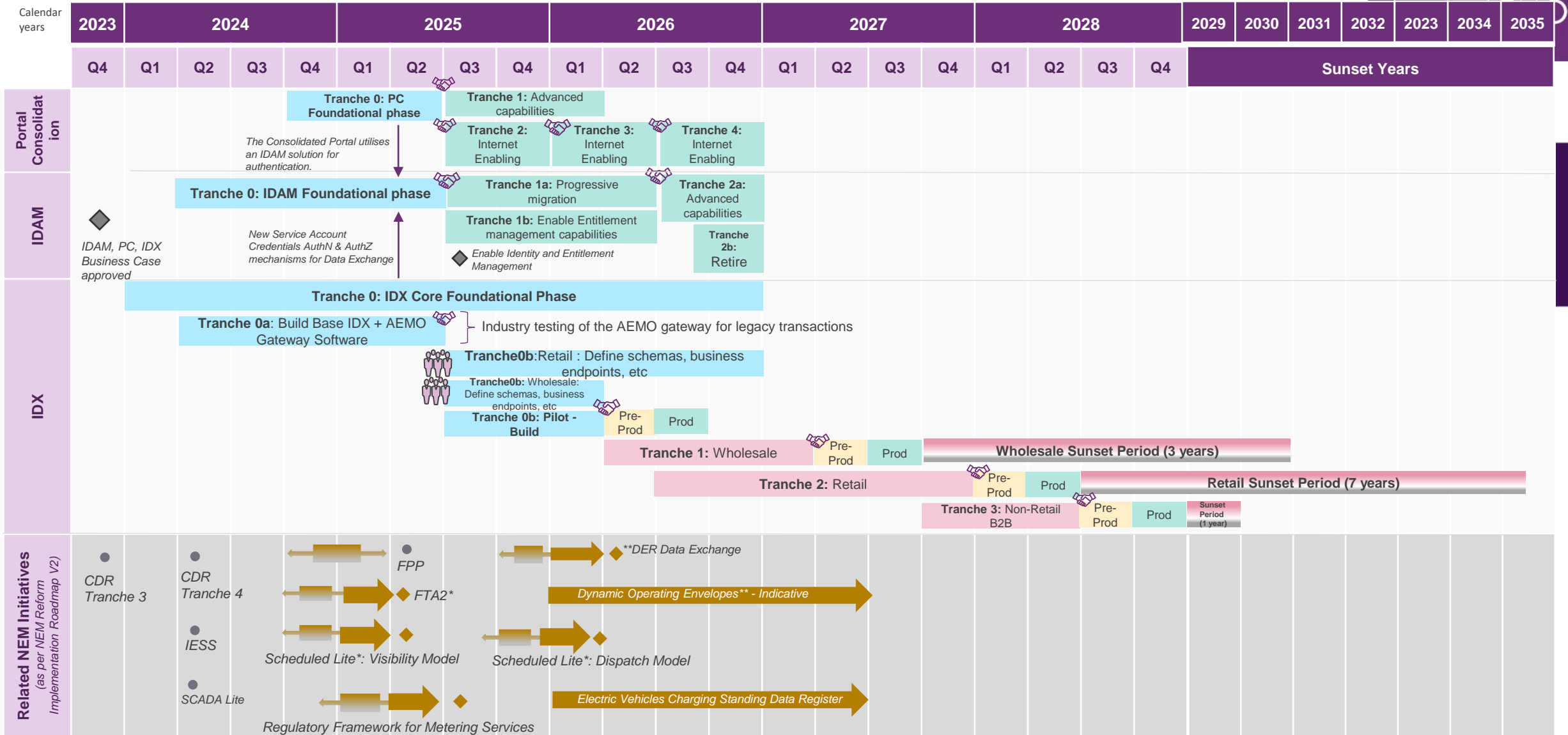
- JSON will leverage strong types to provide transactional validation. AEMO will continue to provide validation extensions (as currently available in EVM) to capture procedural level transactional compliance (not involving data look up). The combination of these validations will be equivalent to the current aseXML schema validation and EVM validation capabilities provided to participants.
- All non csv based B2B and B2M transactions will move from aseXML to JSON involving definition of new JSON schema on a broadly 'like for like' basis to simplify support for backwards compatibility across the sunset timeframe.
- NEM13 CSV will be maintained however delivered using the IDX protocols and patterns (not embedded in aseXML) given the die on the vine approach in the market to basic metering. All other CSV payloads will move to the new AEMO CSV to be defined within the detailed design phase. Note the AEMO supplied gateway will provide conversion capability for all NEM Retail and Wholesale transactions within the sunset period and the conversion routines as at the end of the sunset period will be available should a participant wish to continue to maintain these if there was a subsequent timepoint. Changes are assumed to be confined to aligning to the new payload format on a 'like for like' basis to simplify support for backwards compatibility across the sunset timeframe. Opportunities for improvement beyond this would be assessed in detailed design however not accounted for at this time.
- Opportunities for further procedural improvement and / or transactional enhancement in NEM Retail would be assessed in detailed design, the business case will remain conservative and not assume these outcomes.



Integrated Transition Roadmap



Consolidated Strawman Roadmap (in collaboration with the Industry)

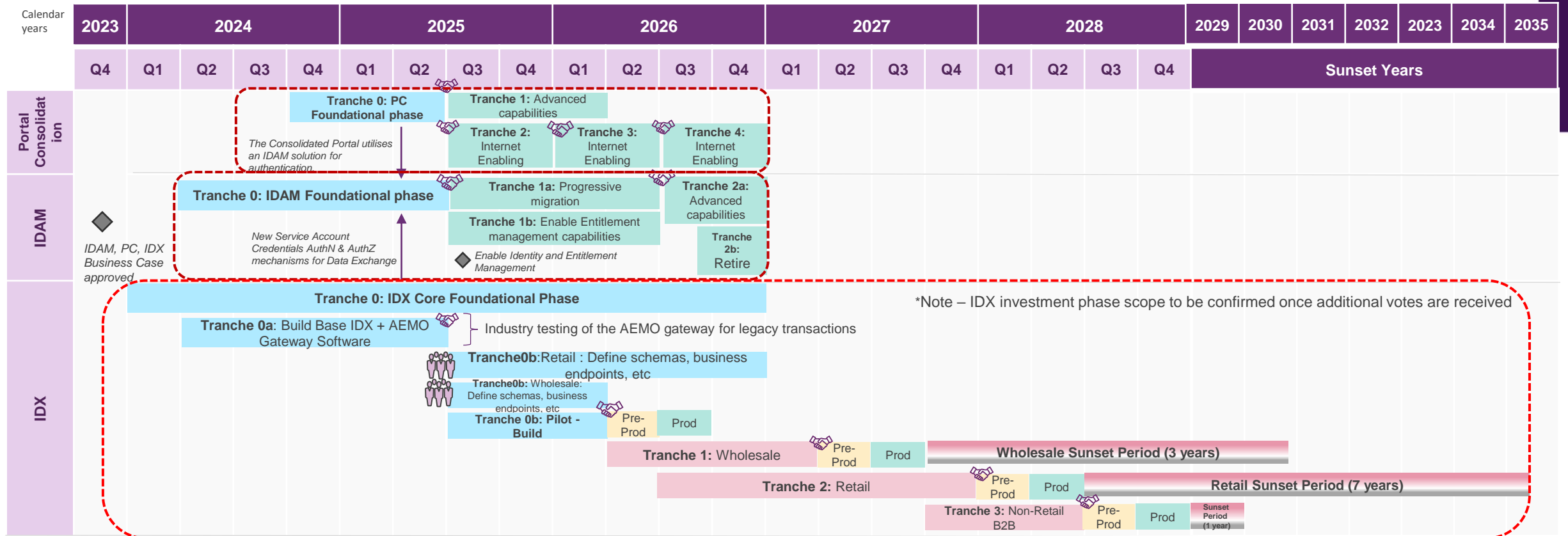


Foundational Tranches - based on the assumed timeline
IDX Tranche Build
🤝 Industry Testing
 ⬢ T3A Milestone
 ♦ New Service
 👥 Working group
 ● Committed effective date
 ◆ Estimated effective date
 ➡ Industry testing and trials

* Indicative timeline likely to be pushed out from what is assumed within V2 NEM Reform Roadmap

Timelines for the related NEM Reforms have been taken from V2 of NEM Reform Implementation Roadmap

Investment Phase 1: Consideration

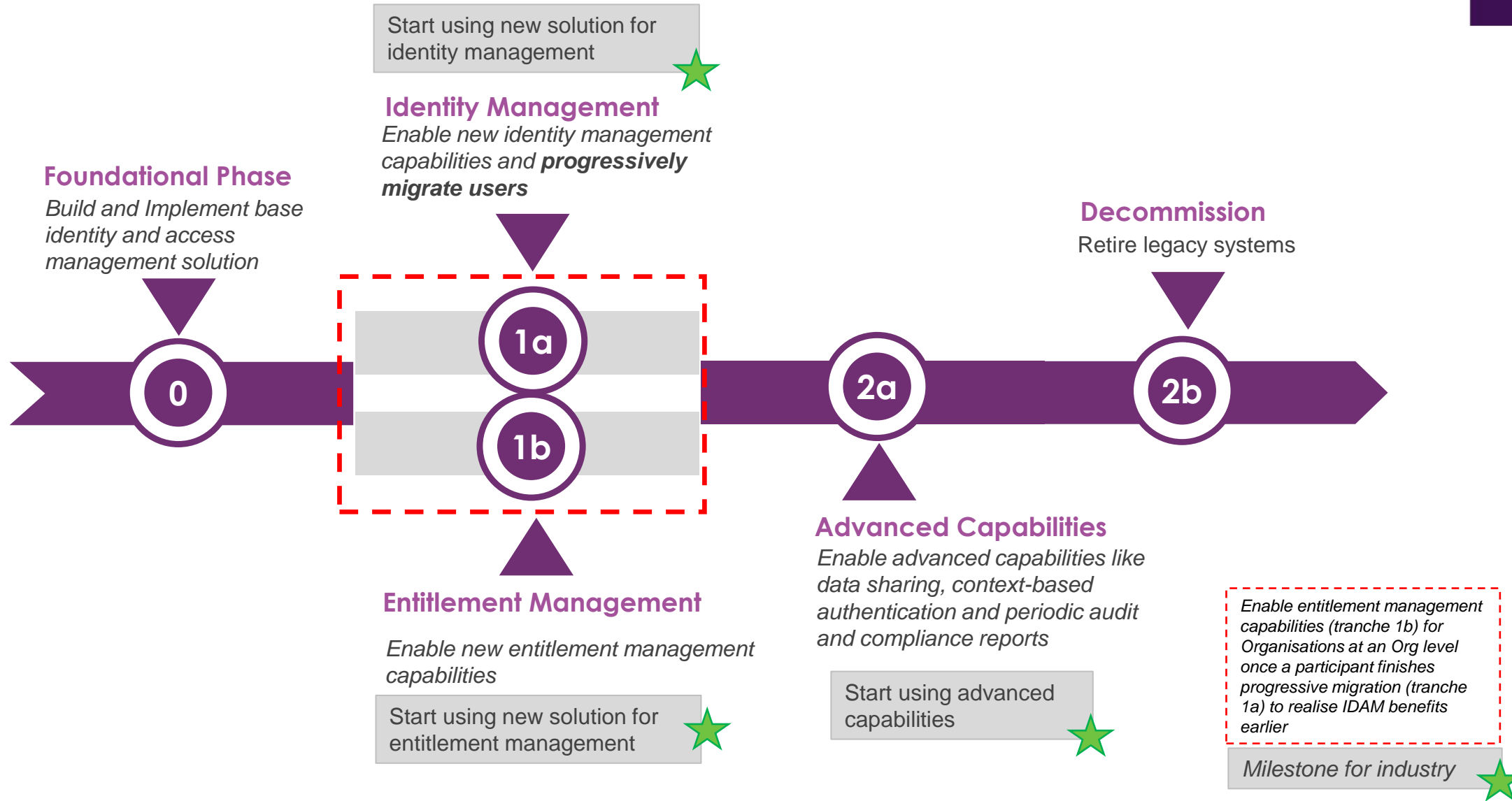


Foundational Tranches - based on the assumed timeline
IDX Tranche Build
🤝 Industry Testing
⬢ T3A Milestone
👥 Working group
Investment Phase 1 scope

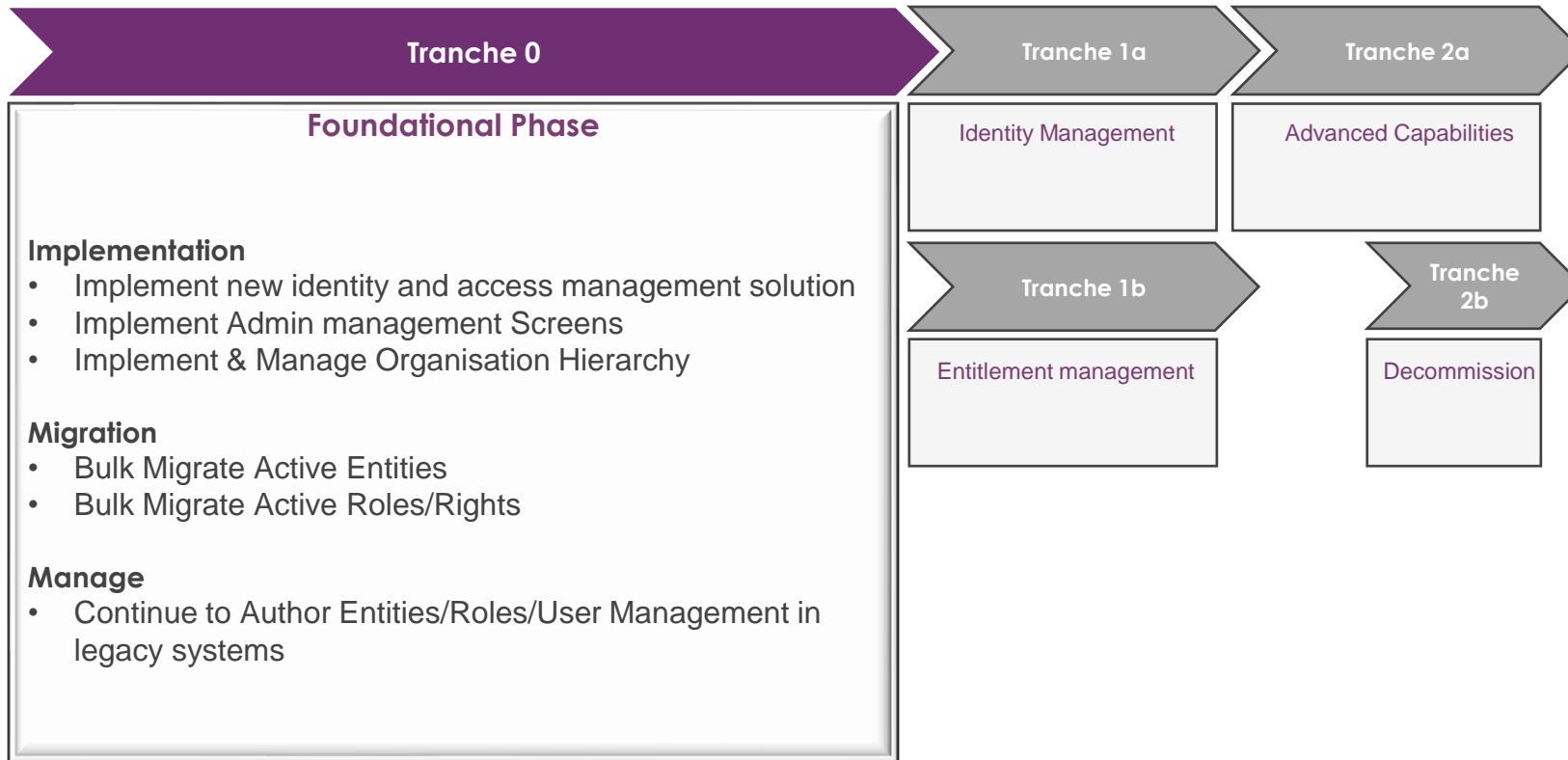
Transition Roadmap - IDAM

Transition Tranches
Strawman Roadmap

IDAM Transition Tranches Overview



IDAM Transition – Tranche 0 : Foundational Phase



Capabilities introduced

- Base IDAM platform built
- Organisation hierarchy established

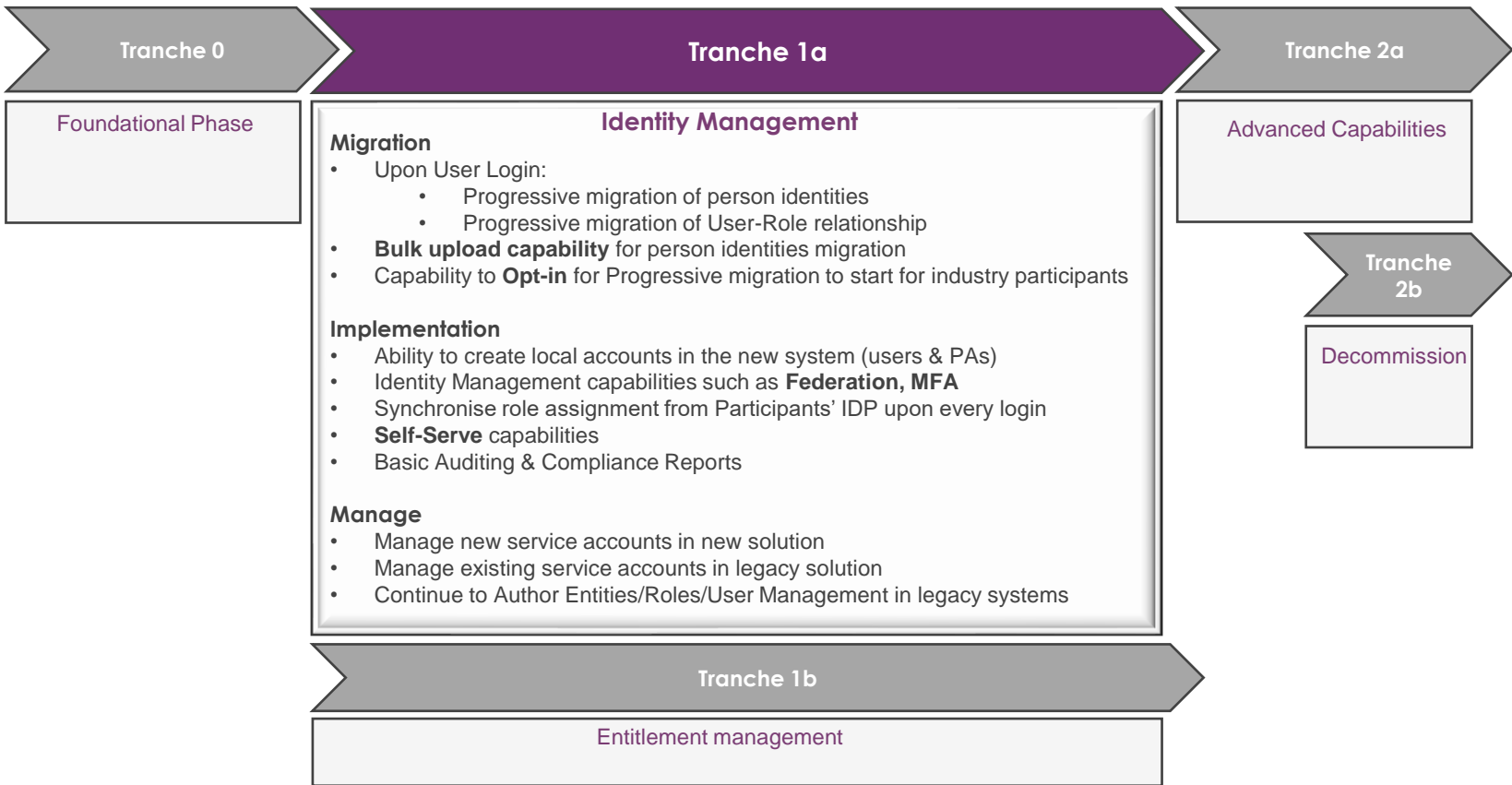
What does the Industry need to do?

- Collaborative approach to establish a framework for managing the organisation hierarchy
- Submit application for establishing organisation hierarchy
- Industry Testing and Readiness for new capabilities

Management	Person Accounts	New Service Accounts	Current Service Accounts
Identities	URM/B2C	URM/B2C	URM
Entitlement	URM/SAM	URM/SAM	URM

Runtime	Person Accounts	New Service Accounts	Current Service Accounts
AuthN	URM/B2C	URM/B2C	URM
AuthZ	URM/SAM	URM/SAM	URM

IDAM Transition – Tranche 1a : Identity Management



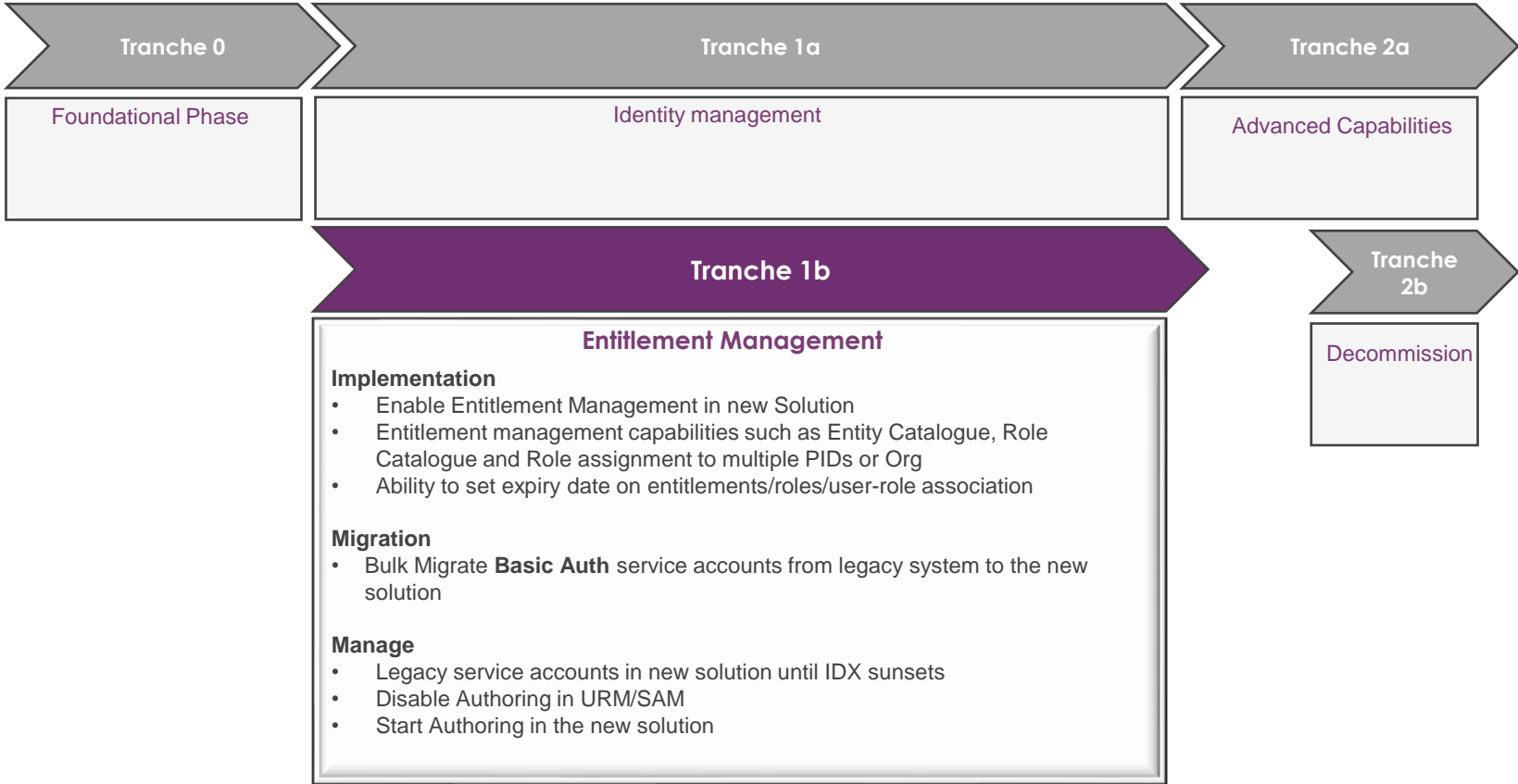
Capabilities introduced	
•	Centralised identity management
•	Single credential for accessing NEM browser services
•	Enhanced security with MFA
•	User Self-service capabilities
•	Support for Identity Federation
•	Support for Basic Audit and Compliance Reports

What does the Industry need to do?	
•	Nominate Progressive migration timeline window
•	Establish Federation Trust If required <i>[optional]</i>
•	Assign group names in sync with URM role names <i>[optional – if the participant chooses to use Federation capability and group sync up]</i>
•	Monitor migration progress and follow-up accordingly
•	Opt-in for bulk upload migration and provide required information <i>[optional]</i>
•	Update training materials and guides

Management	Person Accounts	New Service Accounts	Current Service Accounts
Identities	New solution	New solution	URM
Entitlement	URM/SAM	URM/SAM	URM

Runtime	Person Accounts	New Service Accounts	Current Service Accounts
AuthN	New solution	New solution	URM
AuthZ	New solution	New solution	URM

IDAM Transition – Tranche 1b : Entitlement Management



Capabilities introduced

- Centralised Access Management
- Predefined Role catalogue & Entity catalogue
- Improved Security posture

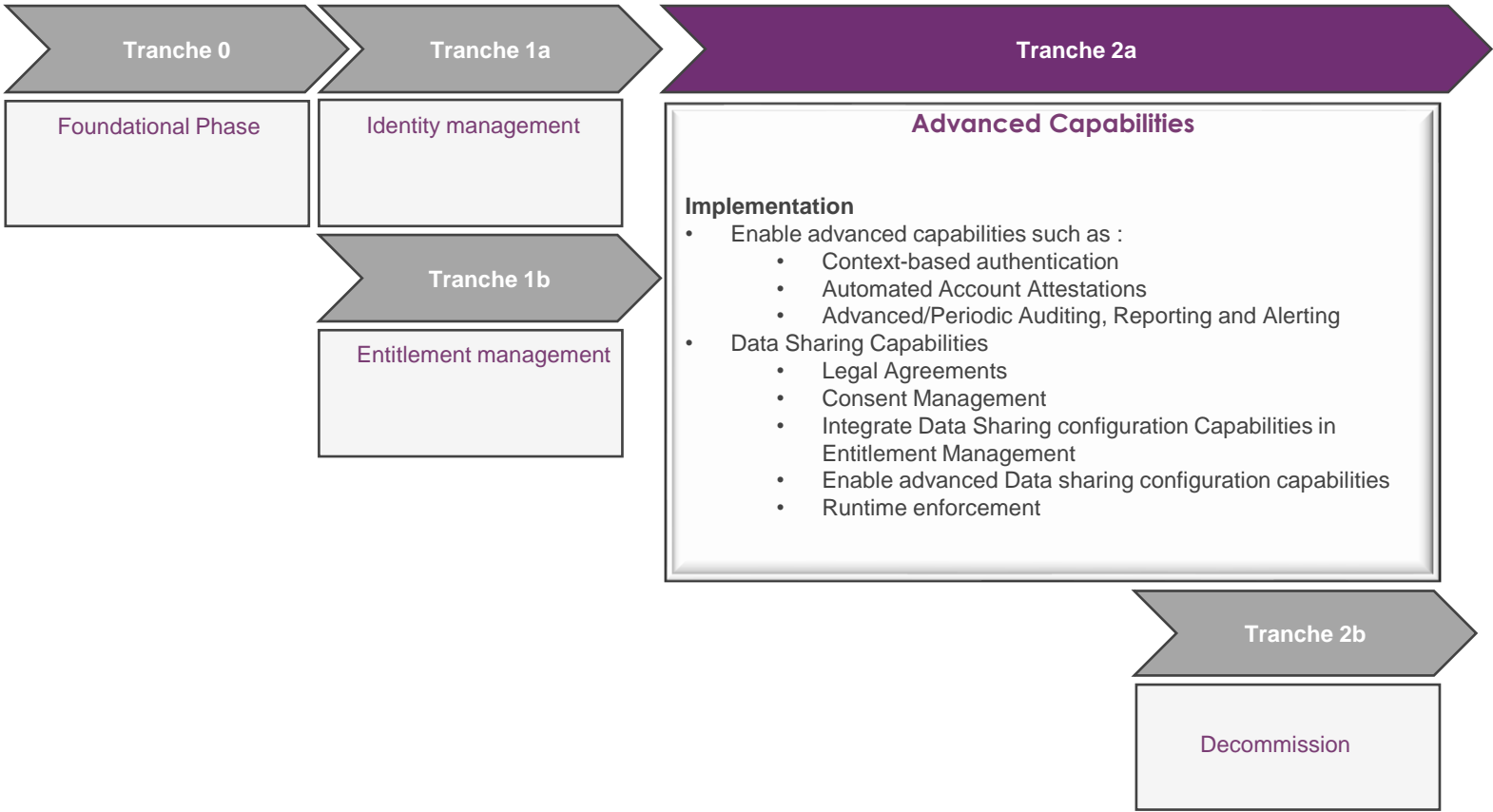
What does the Industry need to do?

- Entry criteria for tranche 1b:
 - Complete progressive migration of person identities
- Clean and consolidate roles in the new solution
- Set expiry dates on entitlements, roles, and user-role association [optional]
- Manage legacy service accounts in new solution until IDX sunsets
- Update training materials and guides

Management	Person Accounts	New Service Accounts	Current Service Accounts
Identities	New solution	New solution	New solution
Entitlement	New solution	New solution	New solution

Runtime	Person Accounts	New Service Accounts	Current Service Accounts
AuthN	New solution	New solution	New solution
AuthZ	New solution	New solution	New solution

IDAM Transition – Tranche 2a : Advanced Capabilities



Capabilities introduced

- Support for advanced and periodic Audit and Compliance Reports
- Support for advanced data-sharing capabilities
- Enhanced security with context-based authentication

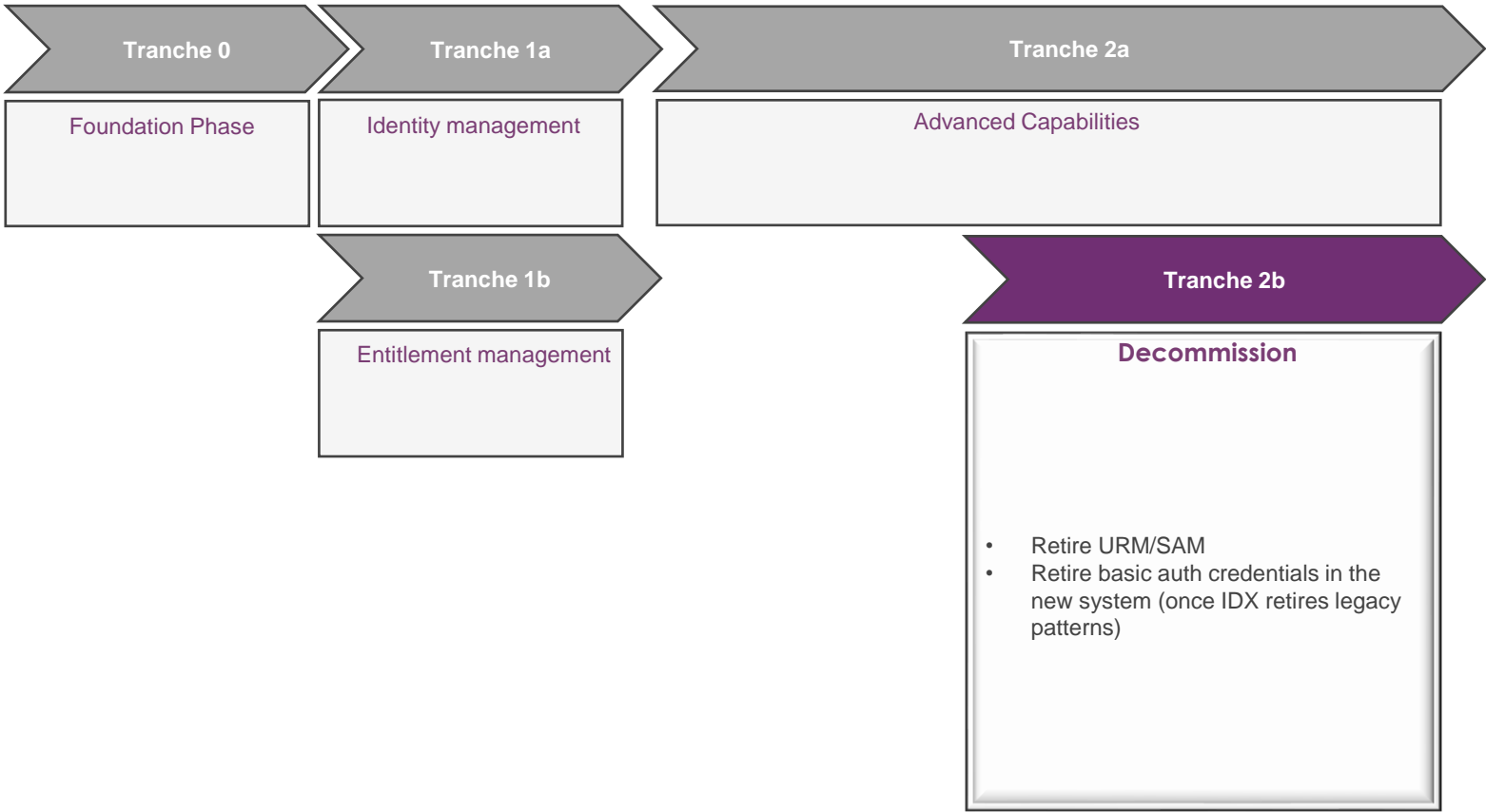
What does the Industry need to do?

- Industry Testing
- Collaborative approach to establish a framework for data sharing and consent management
- Configure and implement advanced data-sharing capabilities *[optional]*
- Consume advanced capabilities such as Context-based authentication and periodic Audit and Compliance Reports

Management	Person Accounts	New Service Accounts	Current Service Accounts
Identities	New solution	New solution	New solution
Entitlement	New solution	New solution	New solution

Runtime	Person Accounts	New Service Accounts	Current Service Accounts
AuthN	New solution	New solution	New solution
AuthZ	New solution	New solution	New solution

IDAM Transition – Tranche 2b : Decommission



Capabilities introduced

- Legacy AEMO systems retired

What does the Industry need to do?

- No impact

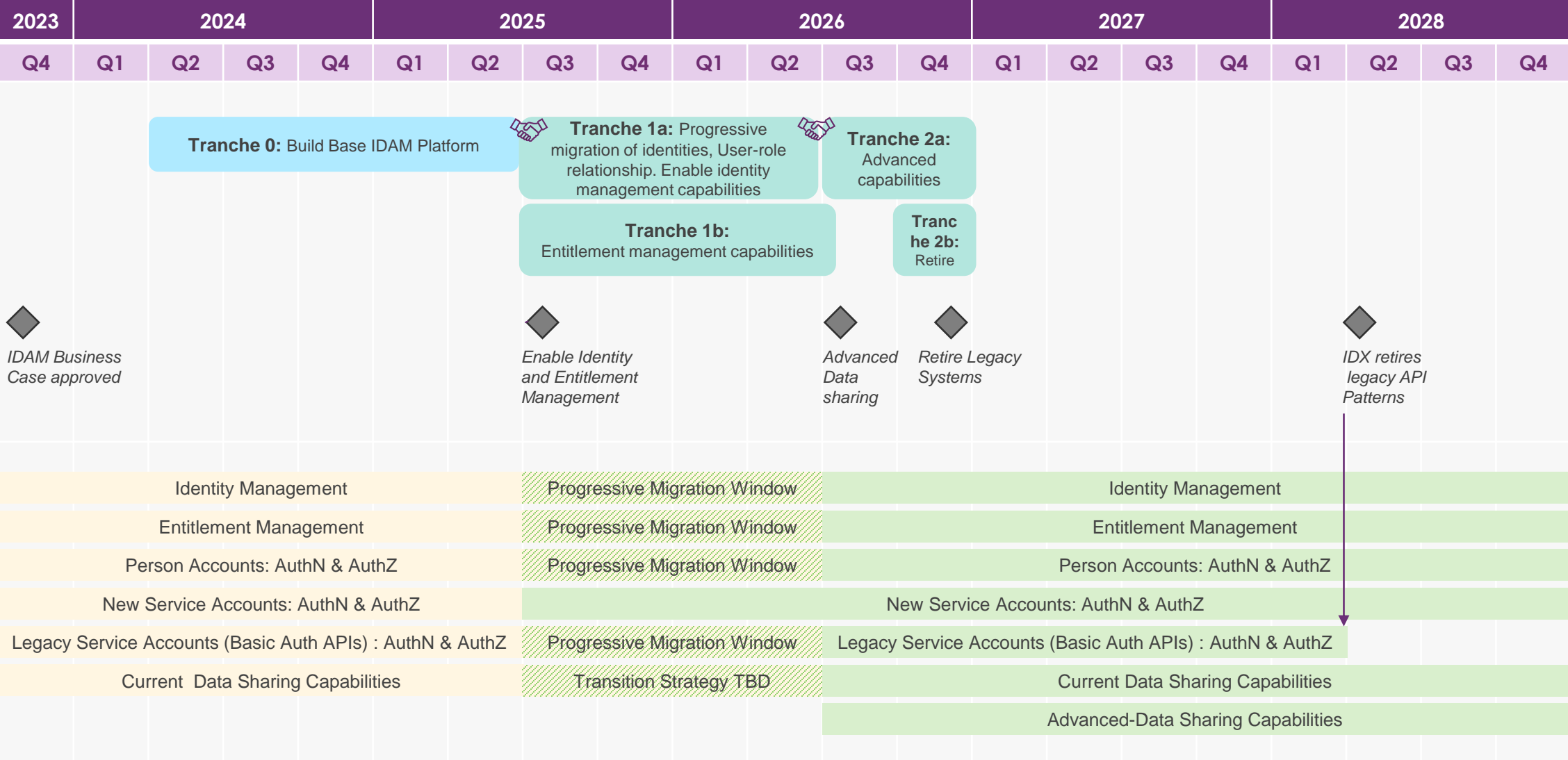
Management	Person Accounts	New Service Accounts	Current Service Accounts
Identities	New solution	New solution	New solution
Entitlement	New solution	New solution	New solution

Runtime	Person Accounts	New Service Accounts	Current Service Accounts
AuthN	New solution	New solution	New solution
AuthZ	New solution	New solution	New solution

IDAM Roadmap



Calendar years

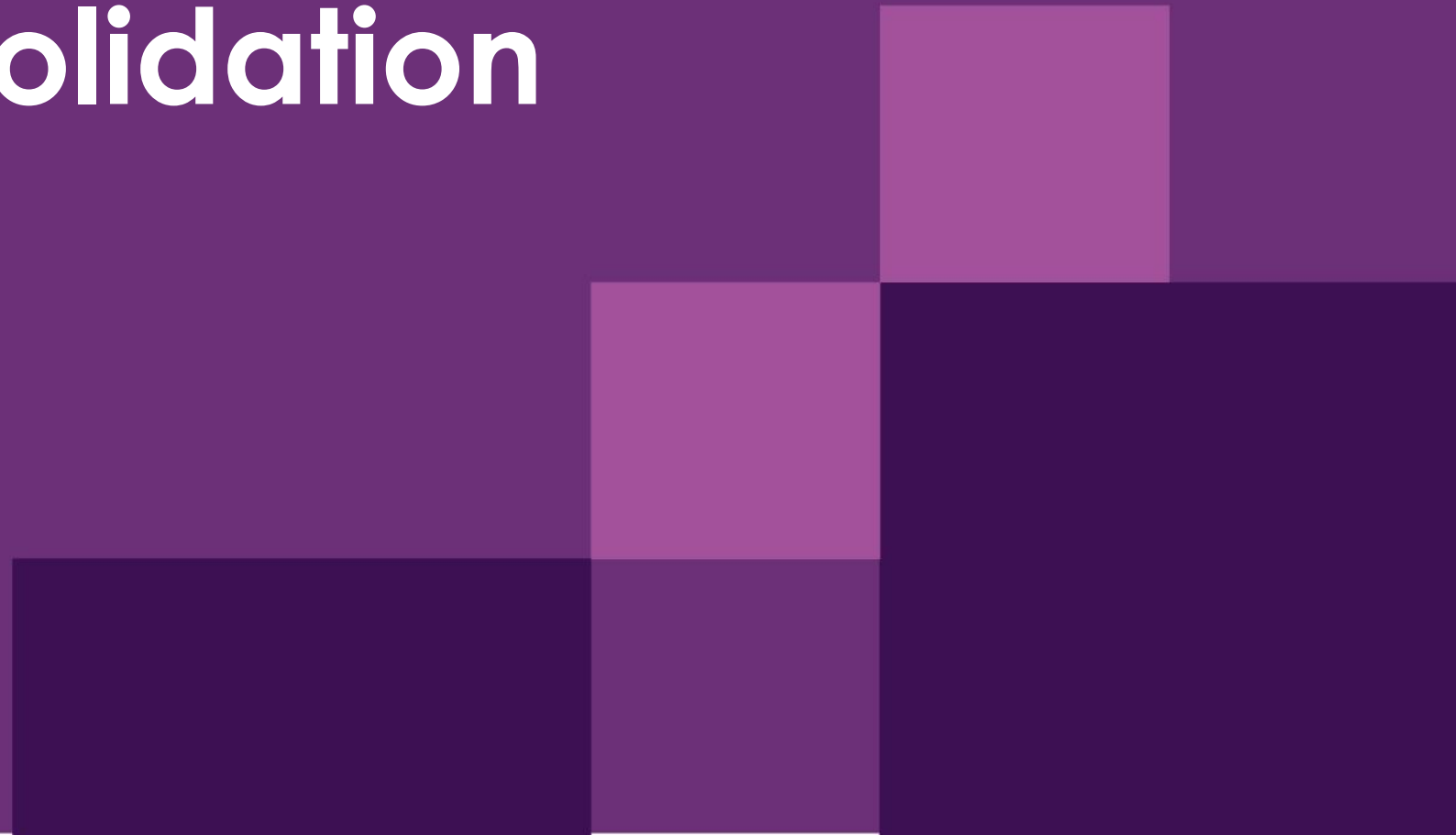


- Industry Testing
- Milestone
- Tranche activities
- Foundational Phase
- Legacy System
- New System

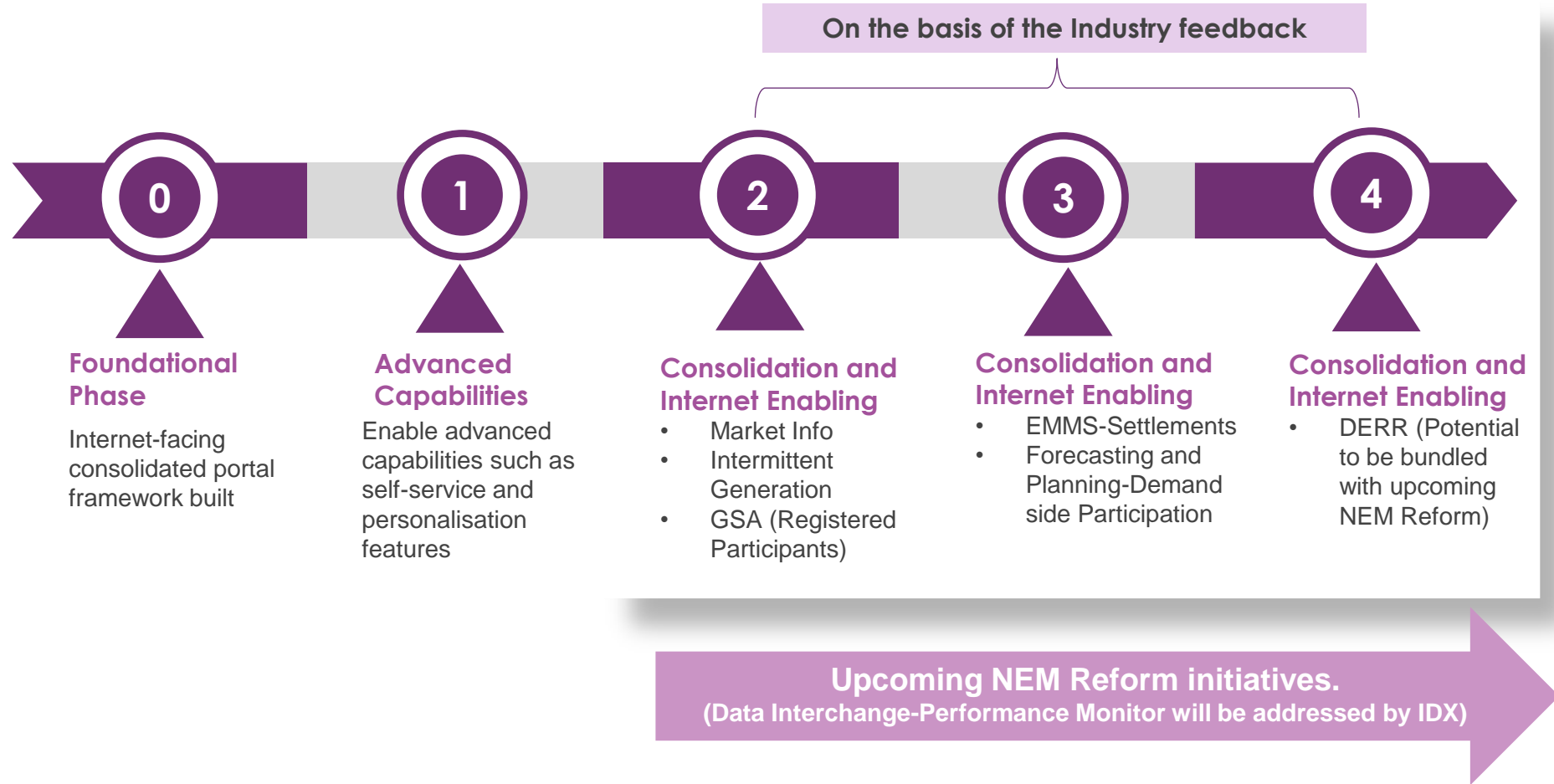
Enable entitlement management capabilities (tranche 1b) for Organisations at an Org level once a participant finishes progressive migration (tranche 1a) to realise IDAM benefits earlier

Transition Roadmap – Portal Consolidation

Transition Tranches
Strawman Roadmap

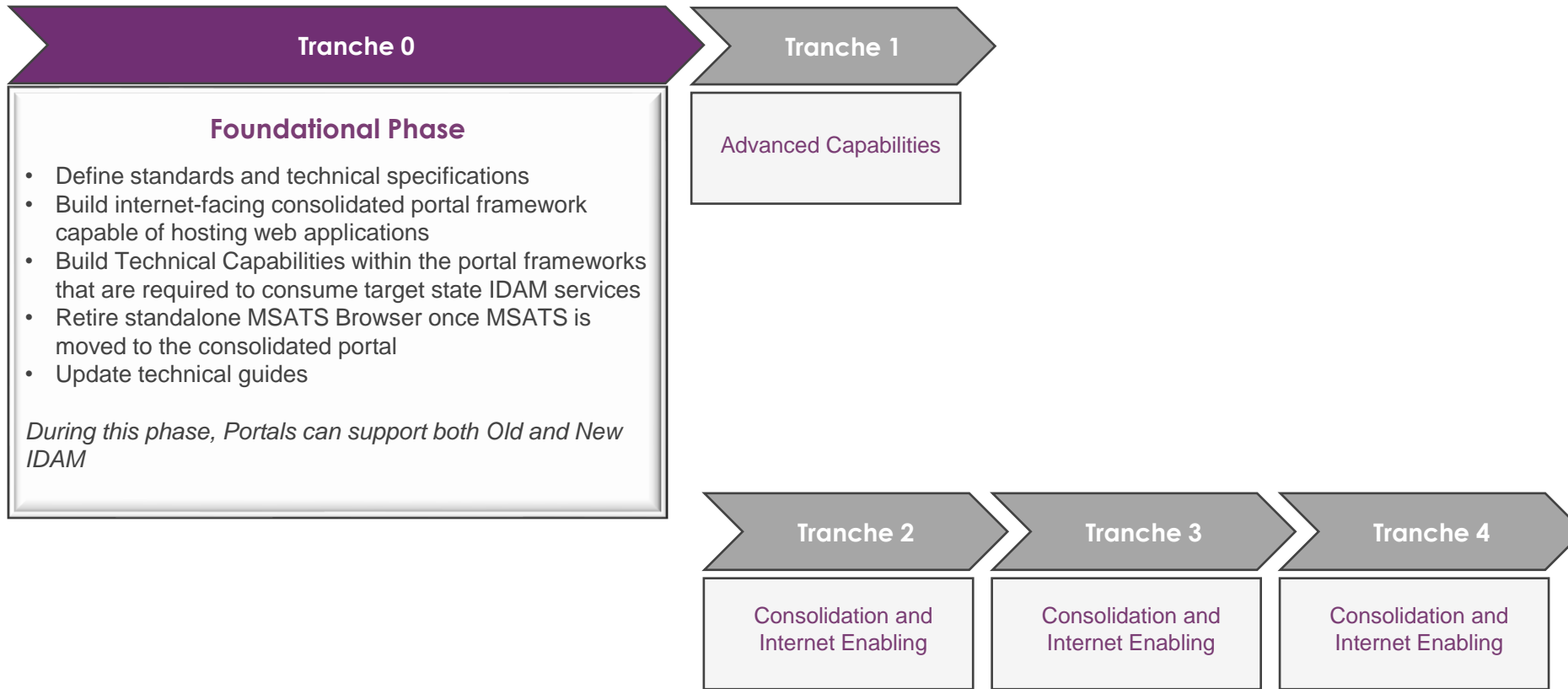


Portal Consolidation Transition Tranches Overview



Web applications which received more than 50% “Yes” vote for moving to the internet, have been included in tranches 2-4.

Portal Consolidation Transition – Tranche 0



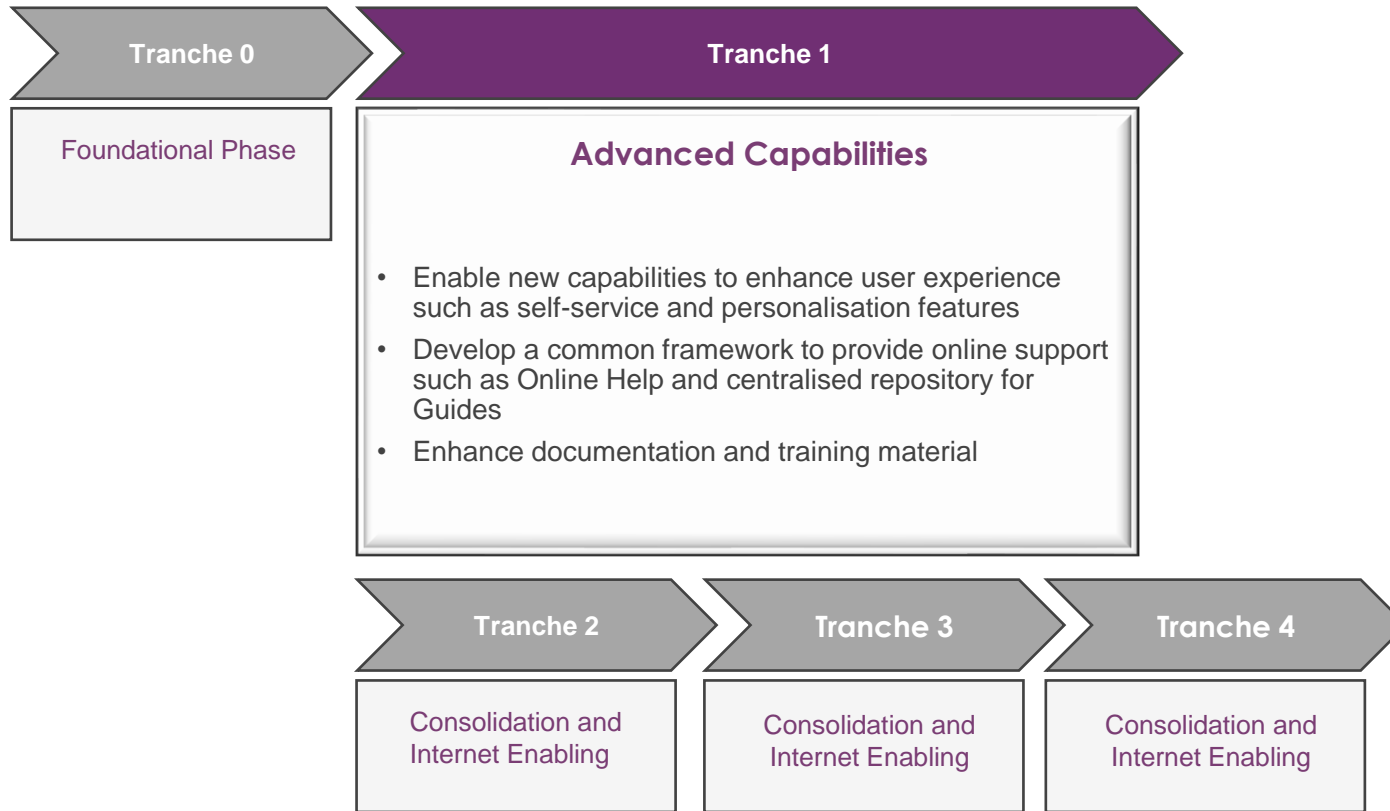
Capabilities introduced

- Internet-facing consolidated portal framework built
- Consolidated portal integrated with new IDAM solution

What does the Industry need to do?

- Industry Testing for the new internet-facing consolidated portal framework
- Ensure access to Markets Portal to gain access to MSATS
- Update AEMO browser services entry point to the new consolidated portal URL.

Portal Consolidation Transition – Tranche 1



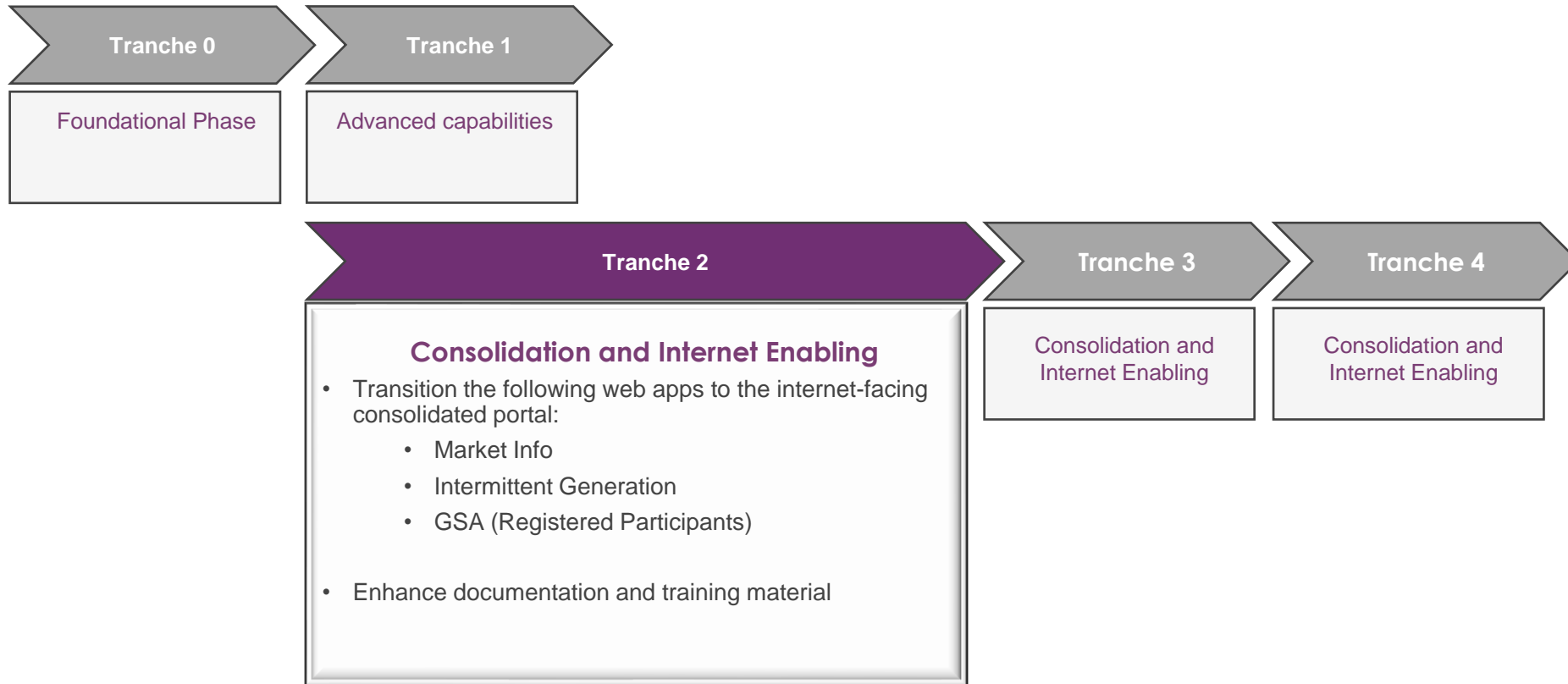
Capabilities introduced

- Self-service and personalisation features available
- Common framework to provide online support

What does the Industry need to do?

- Industry Testing for advanced capabilities
- Training

Portal Consolidation Transition – Tranche 2



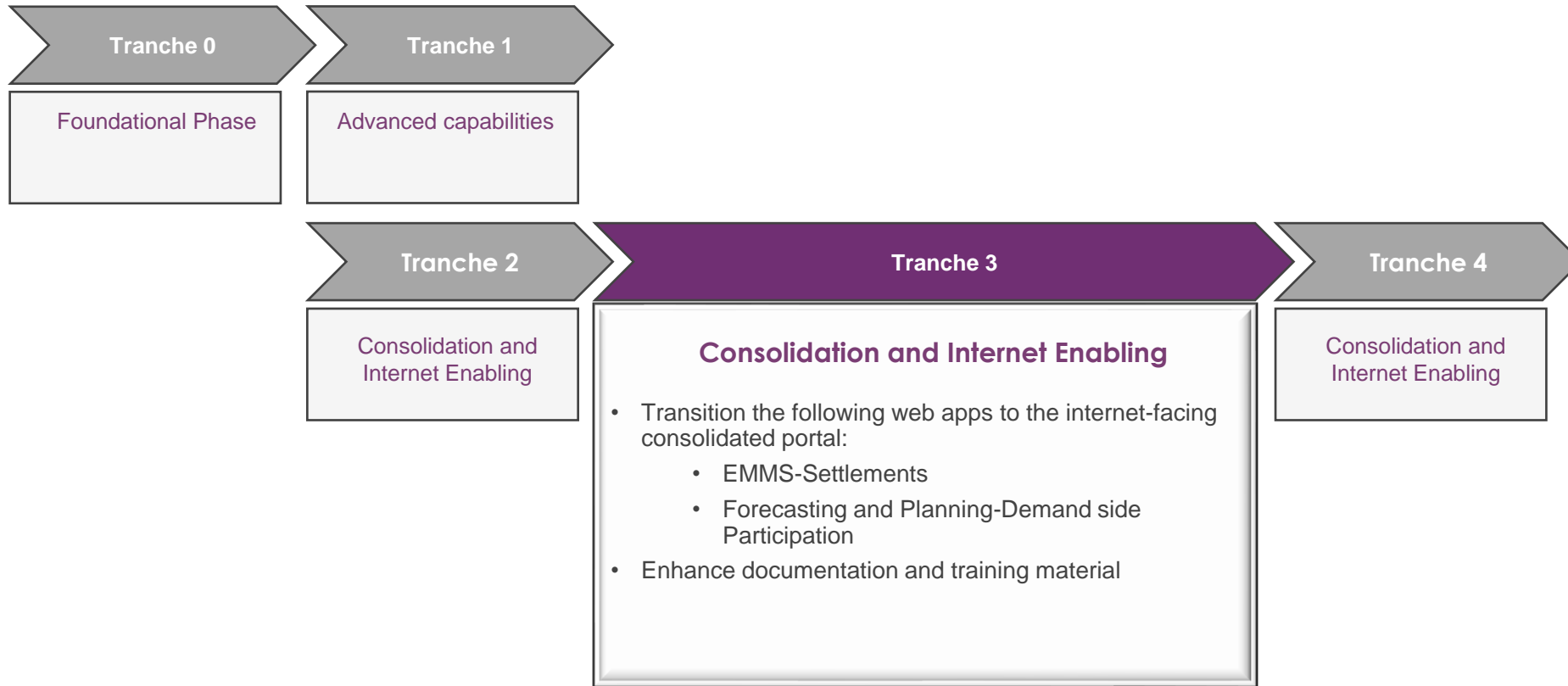
Capabilities introduced

- Internet enabling of the following web apps:
 - Market Info
 - Intermittent Generation
 - GSA (Registered Participants)

What does the Industry need to do?

- Industry testing for internet enabled web apps

Portal Consolidation Transition – Tranche 3



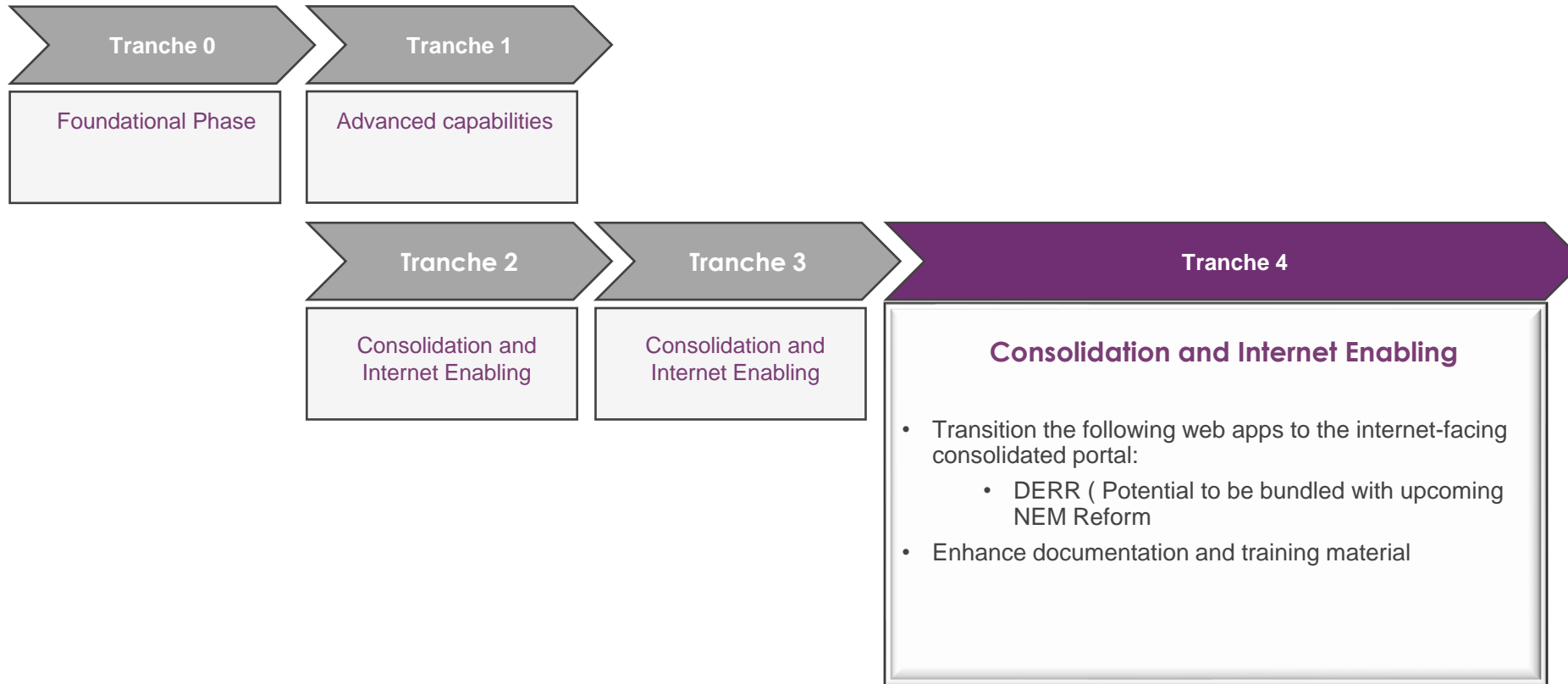
Capabilities introduced

- Internet enabling of the following web apps:
 - EMMS-Settlements
 - Forecasting and Planning-Demand side Participation

What does the Industry need to do?

- Industry testing for internet enabled web apps

Portal Consolidation Transition – Tranche 4



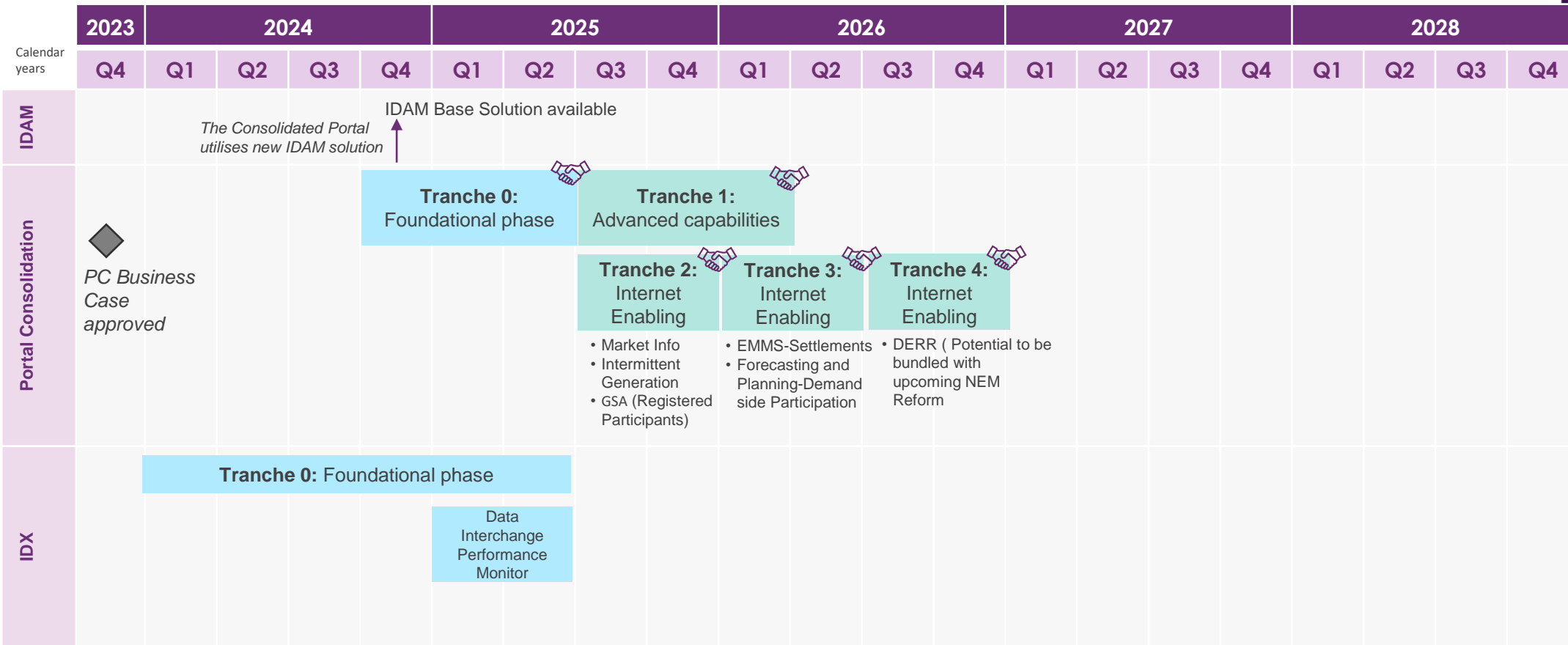
Capabilities introduced

- Internet enabling of the following web apps:
 - DERR (Potential to be bundled with upcoming NEM Reform

What does the Industry need to do?

- Industry testing for internet enabled web apps

Portal Consolidation Roadmap



Foundational Tranches - based on the assumed timeline

AEMO proposed activities

Industry Testing

Milestone

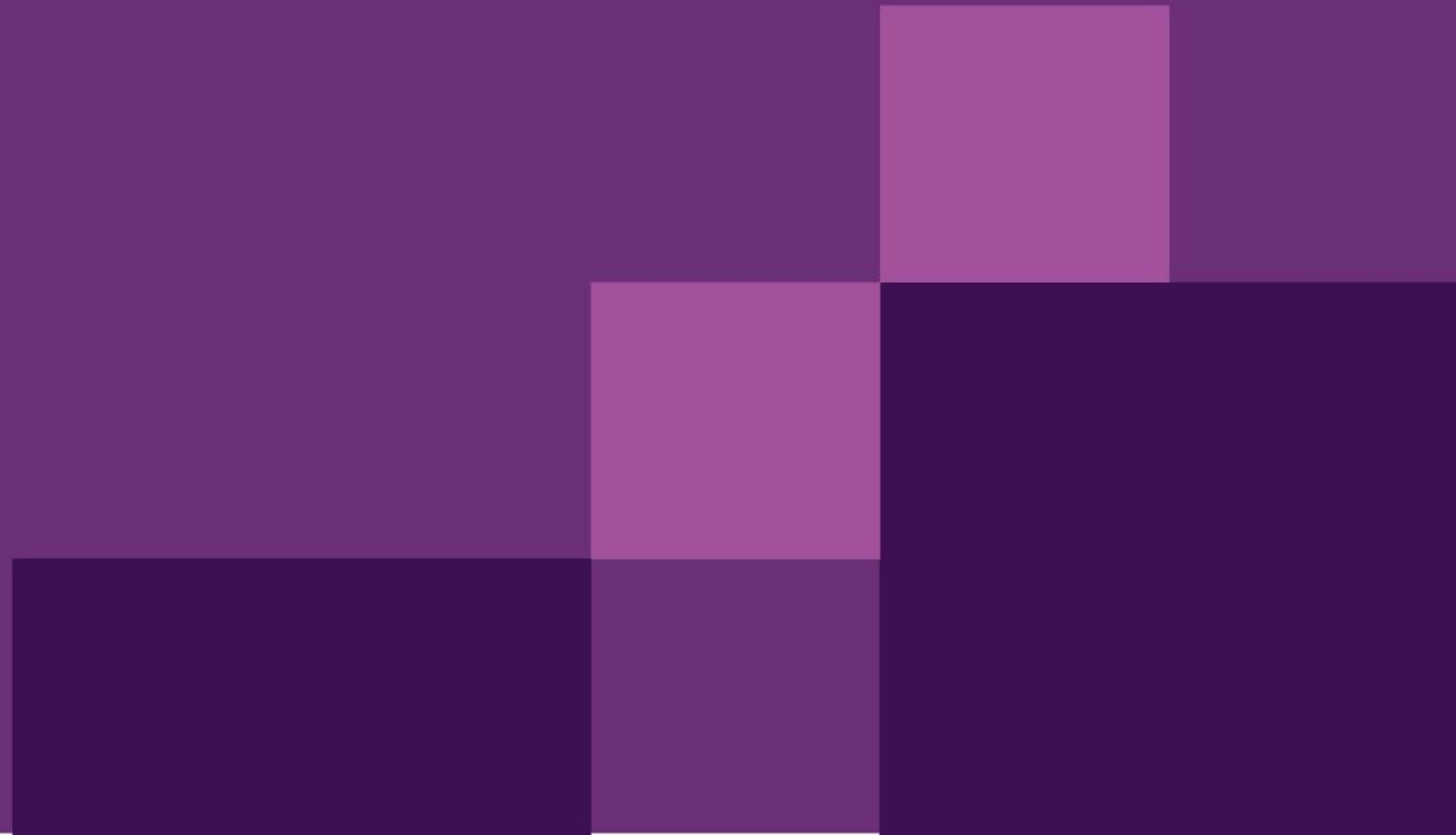
- Post Business Case, AEMO will continue to work with Industry to validate, confirm and where appropriate update the roadmap
Changing sequencing does not have a significant impact on the business case
- Note: Data Interchange Performance Monitor will be remediated by IDX

Transition Roadmap – Industry Data Exchange

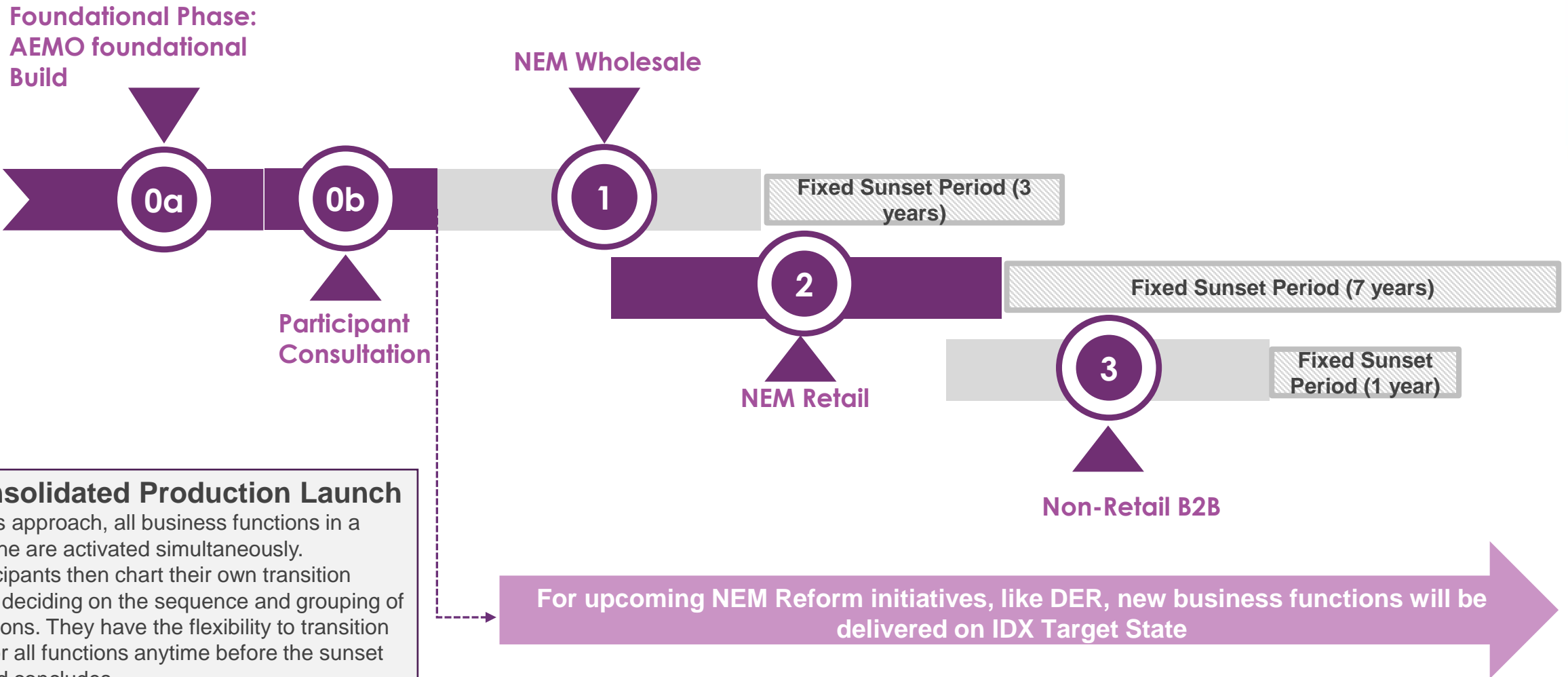


Transition Tranches

Strawman Roadmap



IDX Transition Tranches Overview (based on industry feedback)



IDX Transition – Tranche 0a

The IDX Foundation Phase is the keystone of the IDX transition strategy, providing a vital backbone to all subsequent tranches. AEMO sees the Industry working group representation for developing both Business and Systems artifacts.

Tranche 0a

Tranche n

Foundational Phase

AEMO Gateway Software

- Capture Industry requirements (including NFRs), supporting backend connects and participant integration needs.
- Build core capabilities of AEMO Gateway Software
- Release AEMO Gateway Software to Industry participants for deployment

Scope of work for Technical Working Group(s)

Standardisation	Define protocols, message exchange patterns, & channel definitions to streamline data exchange.
Decision Trees	Develop decision trees for Target State data exchange patterns, channels and protocols.
Payload Formats	Develop target state payload formats (e.g., JSON, AEMO CSV); not schemas
Interoperability	Establishing payload and protocol interoperability principles and approach
Event Notifications	Define a standard pattern and event metadata approach for outbound event notifications.
Endpoints Definition	Agree on the principles of the approach to defining the business functions.
Data Catalogue	Develop an approach to manage data catalogue within the IDX environment.
NFR Requirements	Agree to non-functional requirements for the IDX foundational platform

Pilot

What does the Industry need to do?

- Contribute subject matter expertise to working groups.
- Aid in developing core patterns, protocols and payload formats.
- Ensure requirements reflect practical, operational nuances.
- Engagement on cutover and testing approach.
- IDX Roadmap governance

IDX Transition – Tranche 0b

The IDX Foundation Phase is the keystone of the IDX transition strategy, providing a vital backbone to all subsequent tranches. AEMO sees the Industry working group representation for developing both Business and Systems artifacts.

Tranche 0b

Tranche n

Foundational Phase

Scope of work for Business Working Group(s)

Working Groups Formation	Setup of working bodies, e.g., Business Technical Working Group(s).
Stakeholder Consultation	A strategic plan for engaging and updating all stakeholders on IDX benefits and progression.
Enquiry Services	Identify business services to pilot and rollout IDX enquiry services based on Industry value.
Transition Roadmap	A comprehensive plan detailing key IDX transition milestones and deliverables.
Data Governance	Establishment of data standards to ensure quality, security, and compliance.
Procedural consultation	Undertake where required Procedural consultation and change.
Data Visualisation & Insights	Outline of data insight and visualisation scope and use cases in IDX.
SLAs	Define service level agreements to establish the level of service expected during and after the transition.

Scope of work for Technical Working Group(s)

Payload Schemas & transformation	Define schemas and transformations for NEM wholesale and NEM retail market segment
Interoperability	Establishing payload and protocol interoperability and approach to schema updates.
Event Notifications	Define metadata for outbound event notifications.
Endpoints Definition	Define business-specific endpoints and devise a strategic rollout plan based on business function.
Data Catalogue	Develop a data catalogue to index, manage, and retrieve data assets within the IDX environment.
NFR Requirements	Agree to non-functional requirements to meet SLAs developed by the business working group.

Pilot

What does the Industry need to do?

- Contribute subject matter expertise to business and technical working for NEM wholesale and retail market segments.
- IDX Roadmap definition.
- Ensure requirements reflect practical, operational nuances.
- Engagement on readiness, cutover and testing approach.

IDX Transition – Tranche 0b: Pilot



IDX Tranche zero shall include a pilot to validate IDX patterns and the AEMO Gateway software through low-risk, non-disruptive use case implementations, ensuring seamless integration and functionality.

Tranche 0b

Tranche n

Foundational Phase

Pilot

Pilot Scope

Purpose

Validate distinct use cases for each IDX target state pattern and AEMO Gateway software capabilities for the target state patterns.

To be selected by pilot participants. AEMO proposes preliminary use cases, but they are open for refinement during Foundation Phase.

Pilot Business Functions

Recommended Use Cases for Implementation

- NMID Synchronous Services - Leveraging GraphQL API to enhance real-time data accessibility.
- NEM Wholesale Outbound Delivery - Focusing on the MTPASA to streamline wholesale data delivery.
- NEM Asynchronous Business Function - A NEM asynchronous data exchange business function used by a broad number of Participants in the retail sector.
- Large File Delivery - Delivering comprehensive MSATS Snapshot Reports, ensuring data integrity and efficient transfer.

Participation

Optional. Participants to elect whether to implement the AEMO Gateway software.

Entry Criteria

Ensure readiness of Foundation Phase artefacts, AEMO Gateway software, and AEMO IDX technical capabilities before pilot commencement.

Execution

Carry out the pilot, collect data, and analyse results.

Feedback Loop

AEMO and pilot Participants share findings, ensuring iterative improvement.

What does the Industry need to do?

- Participation is optional yet encouraged for diverse representation; for example, aim for a mix, e.g., x retailers, y DNSPs.
- Choose if to implement AEMO Gateway software.
- Agree on pilot business functions and success metrics.
- Set up participant pilot capability.
- Conduct pilot; share findings with IDX working group(s).

IDX Transition – Tranches 1-3

Tranches represent structured, phased deployments within the IDX transition journey. Each tranche comprises business functions agreed upon with Industry, allowing for a gradual and manageable shift to the IDX target state.

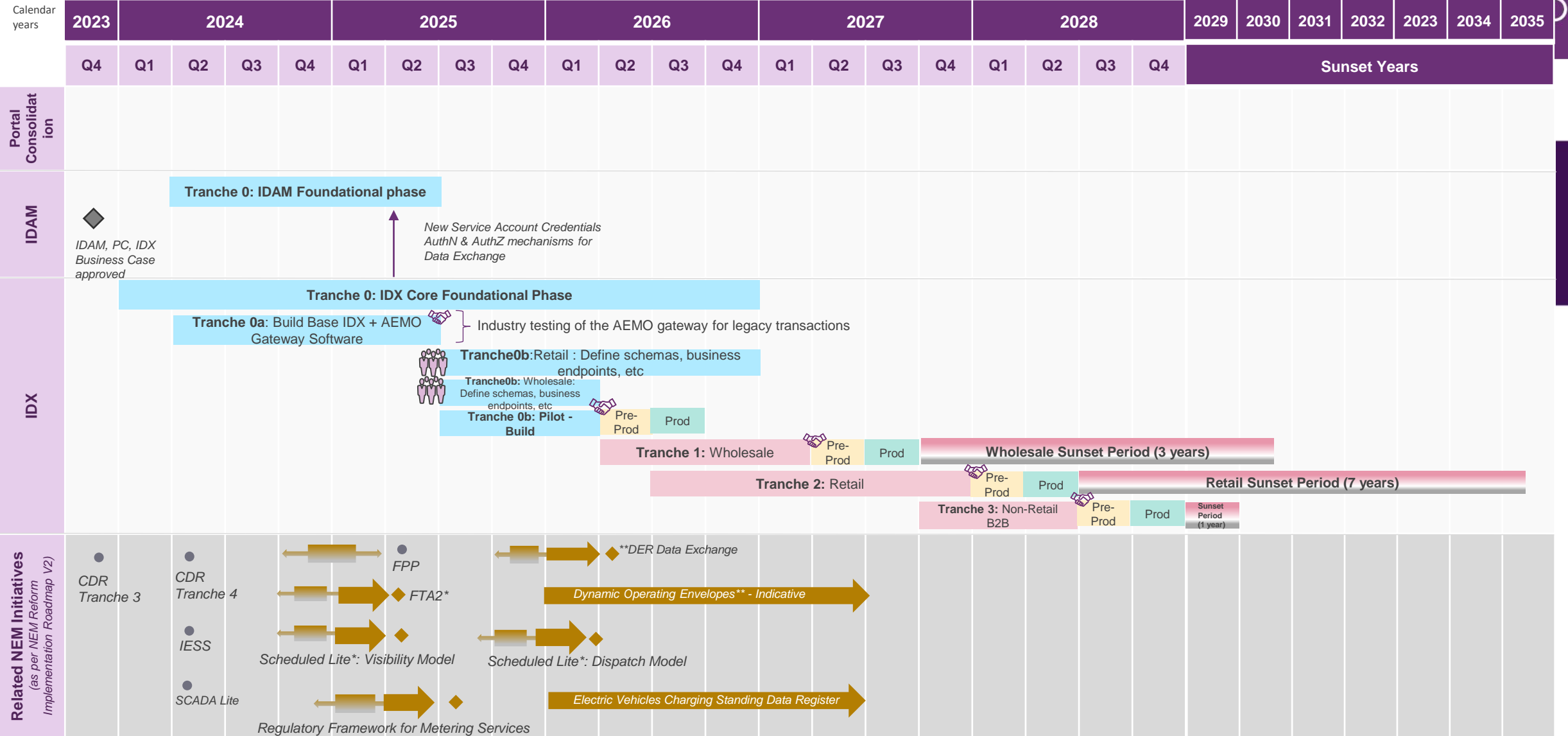


Foundational Phase	Pilot
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Tranche Scope	
Purpose	Enable IDX target state endpoints for agreed business functions, facilitating Participants to integrate and transition at their operational convenience.
Business Functions	Set by the IDX Roadmap Governing body.
Delivery Approach	AEMO offers flexibility in deployment. Business functions can be rolled out progressively through sub-tranches or bundled as a single package. From the enablement until the defined sunset period, the endpoints will handle Target State (protocols, patterns, and agreed payload formats).
Dual Support	Note: Existing legacy endpoints will remain operational until the end of the sunset period.
Sunset Commencement	The onset of the sunset period begins post-completion of all business functions within the tranche.
Sunset Duration	The sunset duration is determined based on Industry consensus and will span a predefined time frame.

- What does the Industry need to do?**
- Determine when/how to perform the transition of business functions in Tranche.
 - Choose if to implement AEMO Gateway software.
 - Make changes in their gateway and potentially the market systems behind it.
 - Review/modify business processes to align with new business function endpoints.
 - Undertake a transition process where business functions are enabled.
 - Operationalise business function.

IDX Roadmap



Foundational Tranches - based on the assumed timeline
IDX Tranche Build
🤝 Industry Testing
 ⬆️ T3A Milestone
 ♦️ New Service
 👥 Working group
 ● Committed effective date
 ♦️ Estimated effective date
 ➡️ Industry testing and trials

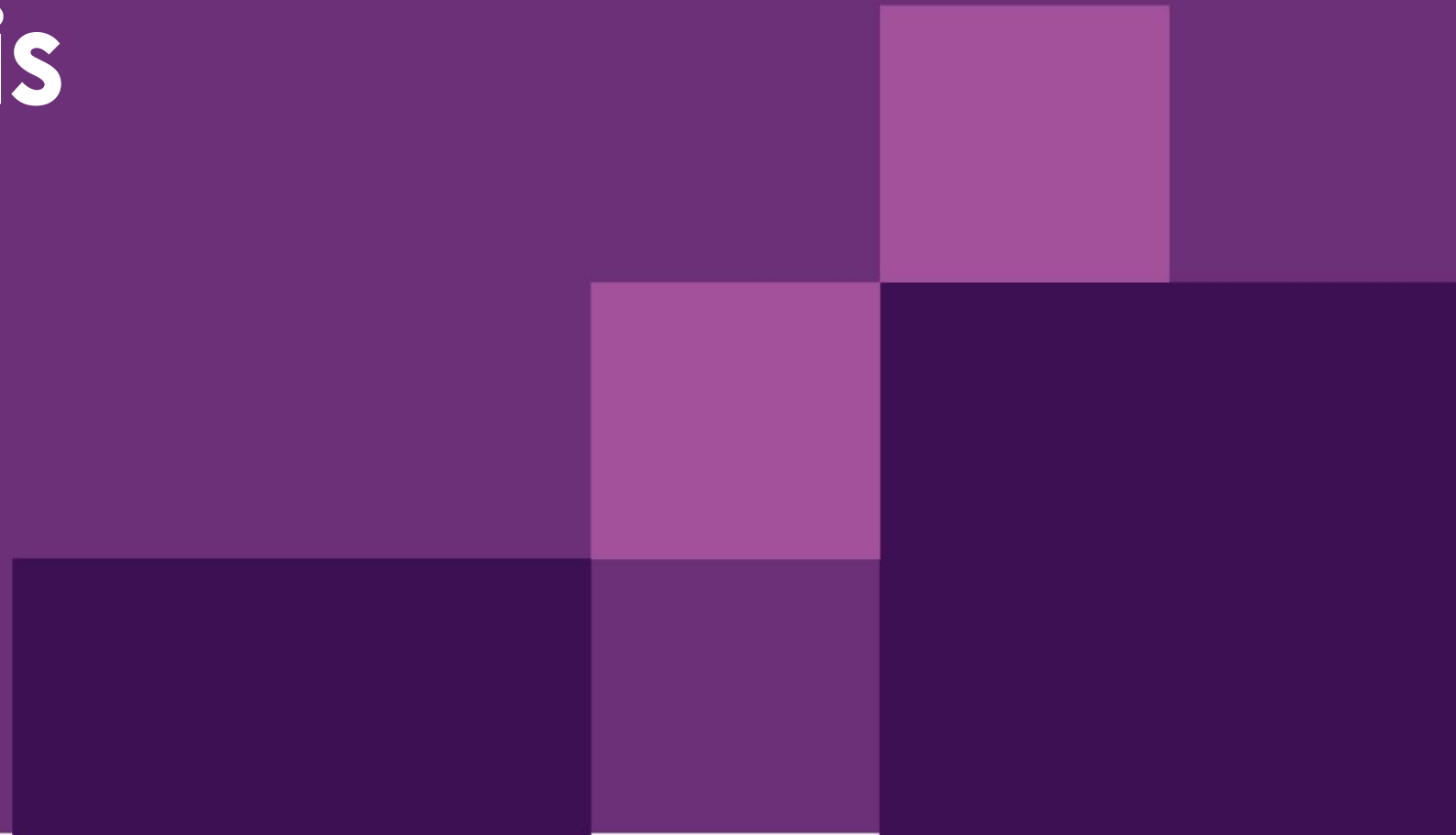
* Indicative timeline likely to be pushed out from what is assumed within V2 NEM Reform Roadmap

Timelines for the related NEM Reforms have been taken from V2 of NEM Reform Implementation Roadmap

Risk Analysis

Risk Assessment

Risk Assessment Matrix



Risk Assessment – Tranche 3A

Risk assessment analysis focuses on the risks on transition and achieving the target state of tranche 3A initiatives.

Risk #	Risk Description	Rating	Potential Mitigants
1	<p>If target state IDX/IDAM/PC is not established as a foundation before embarking on subsequence and other future reforms:</p> <p>Impact</p> <ul style="list-style-type: none"> New market services proposed by NEM2025 and subsequent program may be compromised due to lack of identified fit for purpose capability. Additional work will be required to identify an alternate approach to SOCI compliance for existing services. 	High Impact	<ul style="list-style-type: none"> AEMO develop principles for transition to underpin and enable the approach to definition of a transition roadmap that minimises impacts and risk to achieve the objectives AEMO ensure the rationale for a target state is fully considered to balance implementation cost against whole of life costs, benefits and security considerations
2	<p>If legacy NEM and/or other market services across IDX/IDAM/PC do not transition to target state:</p> <p>Impact</p> <ul style="list-style-type: none"> Participants and AEMO will still have multiple authentication, integrations patterns and portals with associated cost and complexity. The benefits associated with security, adaptability and user experience will not be realised in full and can compromise the benefits. 	Medium Impact	<ul style="list-style-type: none"> Ensure whole of life costs and benefits are considered as part of business case Assess options to mitigate industry transition impacts to enable migration of legacy services Assess approach to change in non-NEM markets as part of Transition Strategy
3	<p>If elements of legacy IDX/IDAM/PC frameworks not aligned with target state principles and the current state must be retained or supported (such as aseXML for retail B2M and B2B transactions):</p> <p>Impact</p> <ul style="list-style-type: none"> Benefits proposed in target state may be compromised including those relating to minimising the impact of future policy or regulatory change 	Low Impact	<ul style="list-style-type: none"> Assess options to leverage AEMO supplied software to mitigate transition impacts to participants (for example, allow participants a longer opt in transition to enable the switch from aseXML to JSON) Rationalise requirements to support backwards compatibility where practical and possible


Risk Assessment – Tranche 3A (con.t)

Risk assessment analysis focuses on the risks of transition and achieving the target state of tranche 3A initiatives.

Risk #	Risk Description	Rating	Potential Mitigants
4	<p>Strategy and Roadmap: The transition strategy and roadmap does not align to the industry’s requirements and addressed the industry’s concerns.</p> <p>Impact</p> <ul style="list-style-type: none"> The industry will not have enough context required to make informed decisions on their investment and readiness for their internal delivery plan. 	High Impact	<ul style="list-style-type: none"> Develop a robust and detailed transition strategy and roadmap, aligning industry’s requirements with considerations of industry’s concerns. Provide the industry with transition strategy and the roadmap and sufficient lead time to develop their internal delivery plan and make informed investment decisions.
5	<p>Communication: The transition strategy and roadmap are not clearly articulated to the industry leading to misunderstanding and/or misinformation.</p> <p>Impact</p> <ul style="list-style-type: none"> Some participants may experience disruptions to their operations if they are unable to meet the milestones of the transition roadmap. AEMO may need to extend systems sunset timelines to accommodate participants who have not been able to transition incurring higher costs. The industry may experience a delay or failure to achieve the target state. 	Medium Impact	<ul style="list-style-type: none"> Develop a communication strategy and engage the industry with regular cadence to ensure the industry understands the transition strategy and is able to implement. Create a open 2 way communication channel for participants to raise concerns during and before the transition period.
6	<p>AEMO Readiness at Go-Live: Identity and access management, industry data exchange and portals are negatively impacted due to AEMO readiness once Go-Live leading to technical challenges. This can include compatibility issues, data migration issues, software bug etc.</p> <p>Impact</p> <ul style="list-style-type: none"> May cause disruptions to identity and access management operations, industry data exchange operations and/or portal operations. 	High Impact	<ul style="list-style-type: none"> Develop a mitigation plan and ensure participant readiness at each transition phase which addresses potential technical challenges including testing, risk assessment, etc.

Risk Assessment – Tranche 3A (con.t)

Risk assessment analysis focuses on the risks of transition and achieving the target state of tranche 3A initiatives.

Risk #	Risk Description	Rating	Potential Mitigants
7	<p>Ineffective Change Management: The transition strategy requires changes in organisational and industry culture, workflows, employee behaviour, etc. Individual participant organisation’s ineffective change management can include lack of training programs, performance metrics, and/or incentives aligned to the objectives of the target state.</p> <p>Impact</p> <ul style="list-style-type: none"> • May lead to lack of or delayed of adoption by the participant organisation as a whole and by individuals within the participants’ organisation • May lead to cost overruns and delays due to rework, unexpected challenges relating to resources or technology. 		<ul style="list-style-type: none"> • AEMO provide a transition strategy and roadmap including the change and impact on the industry. • Participant organisations develop a comprehensive change management plan including objectives, scope, timeline, communication strategy, stakeholder engagement, training and approach to managing resistance and concerns etc. • Establish transparent and consistent communication channels between AEMO and the industry to keep all stakeholders informed. • Participant organisation invest in change leadership and employee engagement to equip leaders with knowledge and tools to manage change for their organisation.

Risk Assessment Matrix

1. LIKELIHOOD	Likelihood	Probability	Qualitative Description
	Almost Certain	>90%	Will occur in most circumstances
	Likely	51% - 90%	Can be expected to occur in most circumstances
	Possible	11% - 50%	May occur, but not expected in most circumstances
	Unlikely	1% - 10%	Conceivable, but unlikely to occur
	Rare	<1%	Will only occur in exceptional circumstances

1 - LIKELIHOOD	2 - CONSEQUENCE					
	Immaterial	Minor	Moderate	Major	Extreme	
	Almost Certain	Medium	Medium	High	Critical	Critical
	Likely	Low	Medium	High	Critical	Critical
	Possible	Low	Medium	High	High	Critical
	Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High	

2. CONSEQUENCE	Project Delivery				Project Budget	Project Scope	Consequence of the Risk
	Extreme	Project will not deliver in time to comply with Regulatory Commitments or materially impact Market Participants.			Cost impact is greater than 30% of the project budget	Will not deliver on the significant components of the project, and directly impact Regulatory Commitments or Market Participants	The project delivery impact of delays to Regulatory or Market Participant Commitments; Extreme excessive costs; scope impact of a solution that does not materially meet the agreed outcomes and affects Regulatory or Market Participant Commitments.
	Major	Project delivers late with major impact to the AEMO business with medium impact to regulatory commitments and/or market participants			Cost impact between 20% to 30% of project budget	Will not deliver on the significant components of the project	Project Delivery path critically impacted and schedule contingency is exhausted with business implication (impeding relationships and trust); Major excess costs over project budget; scope impact of a solution that has a material impact on the agreed outcomes.
	Moderate	Project delivers late with moderate impact to the AEMO business with low impact to regulatory commitments and/or market participants			Cost impact between 10% and 20% of the project budget	Will deliver all significant components of the project; but will require work arounds or compromises	Project Delivery path critically impacted and schedule contingency is exhausted with no business implication; Moderate excess costs over project budget; significant components of the scoped solution provided, but work arounds or compromises are required.
	Minor	Project delivers late with low impact to the AEMO business			Cost impact between 5% and 10% of the project budget	Will deliver all significant components of the project	Project Delivery path is negatively impacted but there is contingency available to absorb; Minor excess costs over project budget; all significant scoped components of the solution will be delivered.
	Immaterial	Negligible or no impact on timelines			Cost impact to project less than 5% of the project budget	No material impact to the intended project scope	Negligible or no impact on Project Delivery Schedule; Minimal excess costs over project budget.

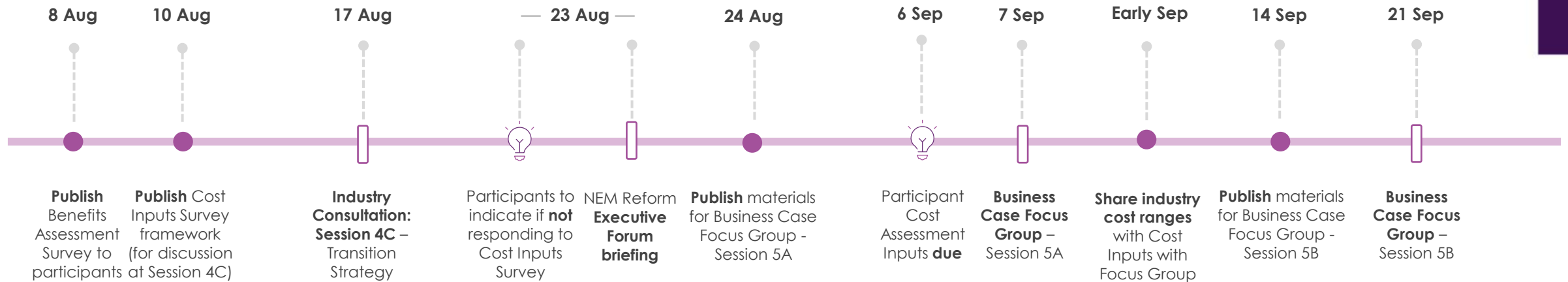
Update on consultation on business case

Business Case Timelines

Industry Cost input Framework

Industry Business Case - Engagement Timeline

AEMO has committed to reviewing the business case with industry before any funding decision is made. A consensus position will be sought. Below outlines the timeline with the Focus Group for business case inputs.



Legend:

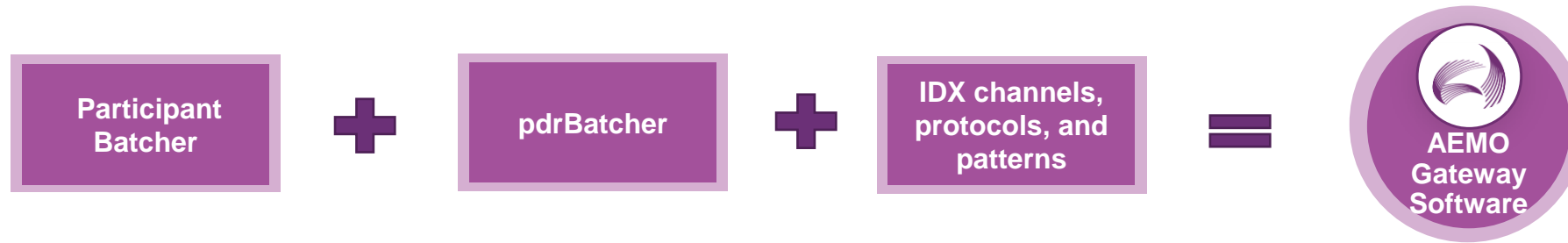
- AEMO publishes materials
-  Feedback due
- Forum/workshop

Appendix A

- AEMO Gateway Software: Reference Material
- NEM Reform Initiative vs IDX Project

Foundational Phase 0a: AEMO Gateway Software

AEMO proposes providing Industry with a new AEMO-Supplied software product that combines the Participant Batcher, pdrBatcher capabilities and is extended to support the target state AEMO IDX Environment.



Why is it part of the IDX Transition strategy?

Opting for the AEMO Gateway Software streamlines the transition, minimise disruption, and maximise operational continuity. It acts as a protective layer, insulating participants' existing systems from the brunt of change while bridging the gap to the IDX target state. Its native connectivity to the AEMO Data Exchange Environment, customisable integration patterns and payload translation capabilities significantly reduce technical complexities. It shall be designed as a common software solution across all markets (NEM, WEM, DER) and fuels (gas).

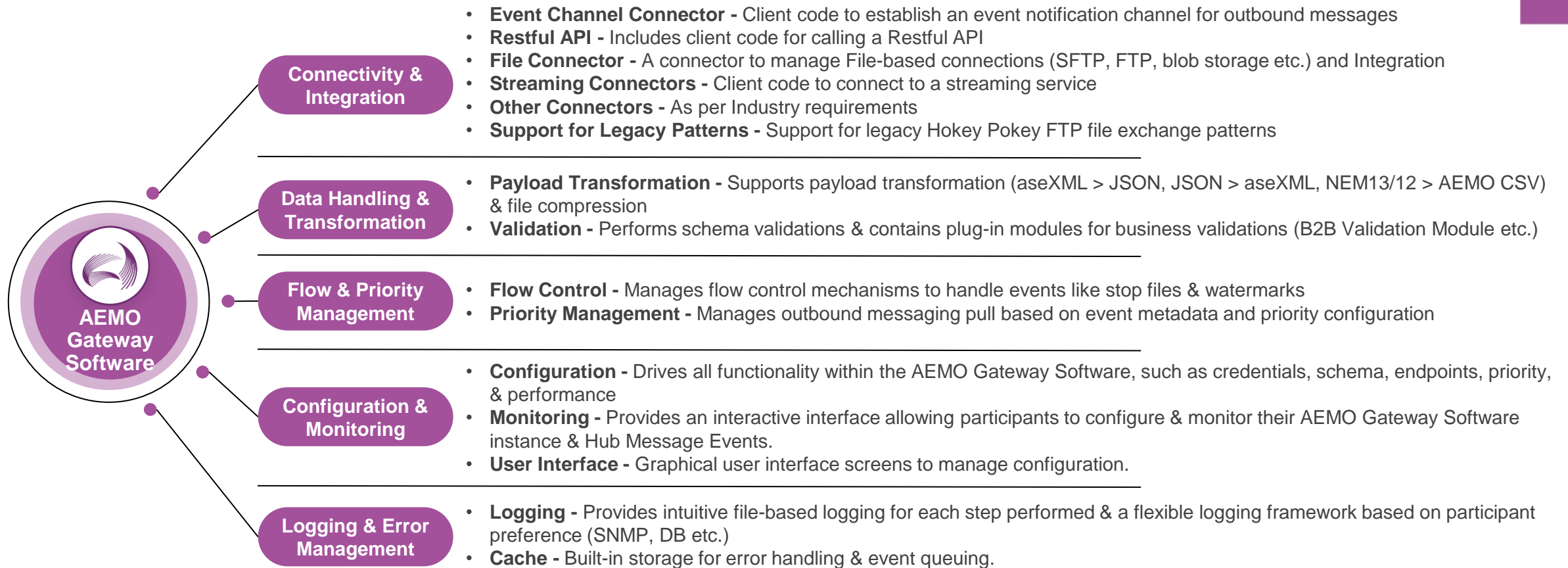
Gateway Principles

- The AEMO Gateway Software provides standard gateway capabilities, including efficient protocol conversion.
- It is designed to support new participants during the transition by maintaining compatibility with legacy protocols.
- Backward compatibility is crucial, with payload conversion capabilities to aid change and transition management.
- To align with the IDAM roadmap, the software supports the latest IDAM patterns, ensuring secure and efficient identity and access management.
- The AEMO Gateway Software can be extended by Participants, for example, to add personalised validations and Transformations.

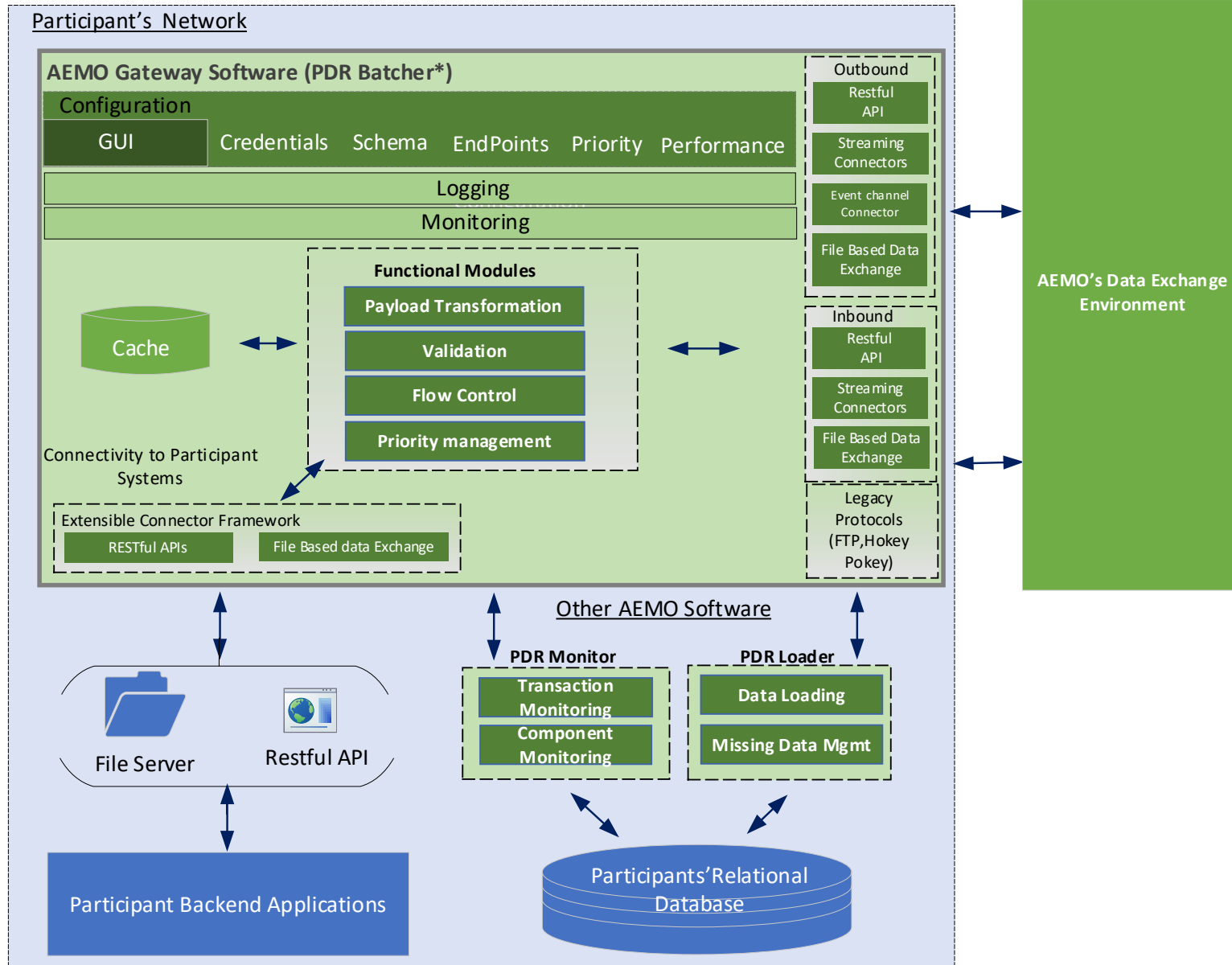
Foundational Phase 0a: AEMO Gateway Software



AEMO has assessed the foundational capabilities of the AEMO Gateway Software, designed to unify and simplify interaction with AEMO's centralised data exchange platform



Foundational Phase0a: AEMO Gateway Software

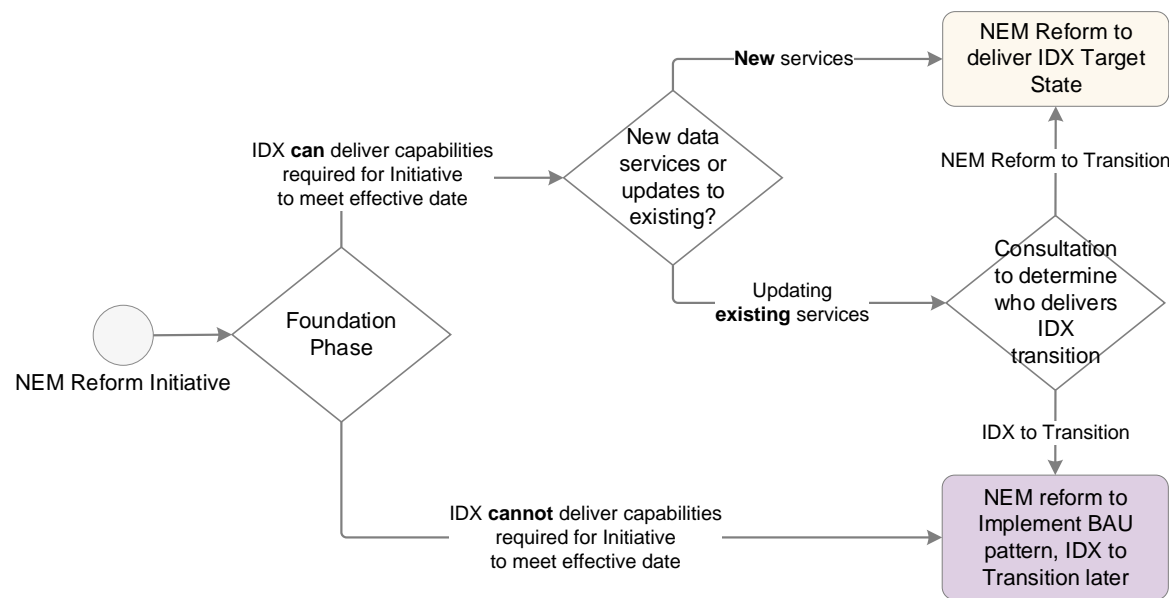


NEM Reform Initiative vs. IDX Project

Critical to the definition of transition scope is determining whether the IDX project or a NEM Reform initiative should handle the transition of a business function to the target state. Factors influencing this include the IDX foundational phase readiness, the nature of the NEM Reform, and business function sequencing within IDX.

Three Key Factors determine whether the transition of business functions is part of the scope of a NEM Reform Initiative or the IDX Project:

1. The timeline of the IDX foundation phase.
2. The nature of the NEM Reform initiative, does it implement new vs. update existing business functions?
3. Industry consultation to determine on an initiative-by-initiative bases if the Reform initiative should implement existing business functions.



Decision Points:

- If the IDX foundation phase **can** deliver the required capabilities in time, then the decision depends on the nature of the NEM Reform initiative:
- If the Reform initiative introduces **new** business functions, it must implement the Target State.
- If the Reform initiative updates **existing** business functions, the decision as to which program, IDX Transition or the NEM Reform Initiative, transitions the business functions to the IDX target state.
- If, through **consultation**, it is determined that the existing business functions will not be materially updated due to the Reform initiative, then the IDX program will transition the business function to the Target State.
- If consultation determines that the existing business functions will be materially updated due to the Reform initiative, then the transition to the target state will be incorporated within the scope of the NEM Reform initiative.
- If the IDX foundation phase **cannot** deliver its capabilities in time for the Reform initiative's effective date, the initiative must implement the current (BAU) pattern. The IDX program will later transition the business function to the Target State.

Note: This decision-making process should be viewed as a guide. Each NEM Reform initiative will require careful consideration, and this guidelines should be applied flexibly.