




CHES Replacement Technical Committee

12 April 2023



ASX acknowledges the
Traditional Owners of
Country throughout Australia.
We pay our respects to
Elders past and present.

ARTWORK BY: LEE ANNE HALL, MY COUNTRY MY PEOPLE

Housekeeping: trouble shooting

- Please mute yourself when not speaking
- Please use the 'raise hand' feature on MS Teams if you would like to ask a question
- Meeting is being recorded for the purposes of minute taking
- Dial in details (audio only):
 - [+61 2 7208 4607](tel:+61272084607)
 - [Phone Conference ID: 486 431 578#](tel:+61272084607)
- Presentation materials were distributed before the meeting

Important information – Competition Law reminder

Committee members are reminded to have regard to their obligations under competition law. In particular, please note that the Competition and Consumer Act prohibits a corporation from engaging with one or more persons in a concerted practice that has the purpose, effect or likely effect of substantially lessening competition.

Agenda

-
- Welcome and open actions
-
- Member feedback from last meeting
-
- Project status & governance – RFI update, solution decision framework
-
- Project scope – industry feedback and engagement plan
-
- Testing approach
-
- Cutover and implementation approach – industry feedback on staged implementation
-
- Forward work plan
-
- Observer playback
-

Welcome
and open actions

Presenters

-
- Tim Whiteley
-
- Triona Quinlan
-
- Jason Genford
-
- Tim Hogben
-
- Keith Purdie
-
- Aaron Smith
-
- Russell Eyre
-

Open actions

Captured from the March Technical Committee

| Item # | Action | Follow-up | Due | Status | Owner |
|--------------|---|--------------------------|---------------|-------------------------|------------|
| 2023 Feb (5) | ASX to propose plan for workshops to scope requirements | Refer to slide 21-22 | 12 April 2023 | Open -> To be closed | ASX |
| 2023 Mar (1) | TC members to provide input and feedback on project scope by 22 March 2023 | Refer to slides from 17 | 12 April 2023 | Open -> To be closed | TC members |
| 2023 Mar (2) | Members to provide input and feedback on opportunities for a staged implementation by 22 March 2023 | Refer to slides from 24 | 12 April 2023 | Open -> To be closed | TC members |
| 2023 Mar (3) | ASX to provide an update on the RFI process | Refer to slide 13 | 12 April 2023 | Open -> To be closed | ASX |
| 2023 Mar (4) | ASX to provide more granularity to the redesign plan | Refer to slide 12 | 12 April 2023 | Open -> To be closed | ASX |
| 2023 Mar (5) | ASX to review DTCC's recent 'lon' implementation for lessons learnt | Verbal update in meeting | 12 April 2023 | Open -> To be closed | ASX |

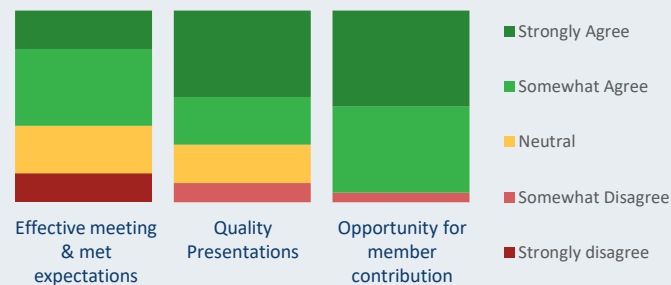
Member feedback from the last meeting

Pulse Survey as at March 2023

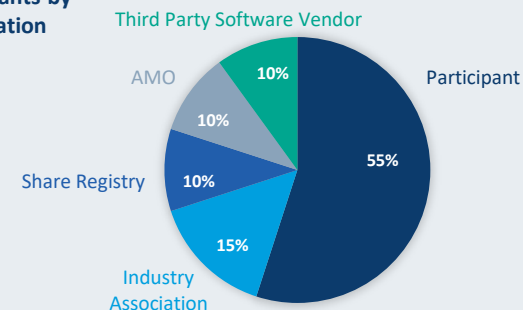
Industry TC members surveyed for feedback after first two committee meetings

| | Written feedback/requests | ASX actions |
|-------------------------------|---|---|
| Industry Consultation | <ul style="list-style-type: none"> Greater transparency sought on project progress and pending decisions Prioritise focus on business scope before address implementation topics Requests for deep dives on scope including bilateral conversations Broad acknowledgement on the need to manage diverse market perspectives | <ol style="list-style-type: none"> 1. Improve the levels of information to be provided as appropriate, acknowledging the early stages of the project and pending decisions 2. Plan formulated to engage stakeholders on changes; scope refinement sessions to be hosted in May & June; business canvases prepared by the industry will act as the key input feeding into the decision/approval process on any scope changes |
| Meeting Administration | <ul style="list-style-type: none"> More time circulation on meeting materials and minutes Competing views on membership being too large vs requests for additional representation Better facilitation of meeting for virtual attendees Admin updates too long | <ol style="list-style-type: none"> 3. Presentation materials circulated 1 week and meeting minutes 2 weeks post TC meeting 4. Focus groups / deep dive sessions will provide the opportunity to other attendees to participate 5. Look to make improvements to meeting hygiene 6. Reduce time on admin activities |

Meeting effectiveness



Participants by organisation



Project status & governance

Redesign Plan Update

Plan for Solution Design

| | CY Q1 | CY Q2 | CY Q3 / Q4 |
|---|---|---|---|
| Product Definition & Business Case | <ul style="list-style-type: none"> ✓ Business Vision & Strategy ✓ Program Objectives | <ul style="list-style-type: none"> ❑ Scope and business requirements refined | <ul style="list-style-type: none"> ❑ Scope and business requirements baselined ❑ Business case submitted |
| Solution Assessment | <ul style="list-style-type: none"> ✓ Current state evaluation ✓ Solution decision framework developed | <ul style="list-style-type: none"> ❑ Solution decision framework approved ❑ Solution options refinement ❑ Solution options evaluated | <ul style="list-style-type: none"> ❑ Solution design finalised ❑ Project estimation completed |
| Sourcing & Commercial | <ul style="list-style-type: none"> ✓ Market Scan ✓ Vendor solution RFI | <ul style="list-style-type: none"> ✓ Vendor RFI evaluation ❑ Vendor RFP issued and responses received ❑ Solution integrator RFP | <ul style="list-style-type: none"> ❑ Vendor commercial and contracting processes ❑ SI selection and contracting |
| Testing & Implementation | <ul style="list-style-type: none"> ✓ Implementation options review | <ul style="list-style-type: none"> ❑ Implementation impact assessment ❑ High level test strategy | <ul style="list-style-type: none"> ❑ Implementation strategy ❑ Test strategy & approach completed |

★ Announcement of solution design

Market engagement on readiness and implementation planning

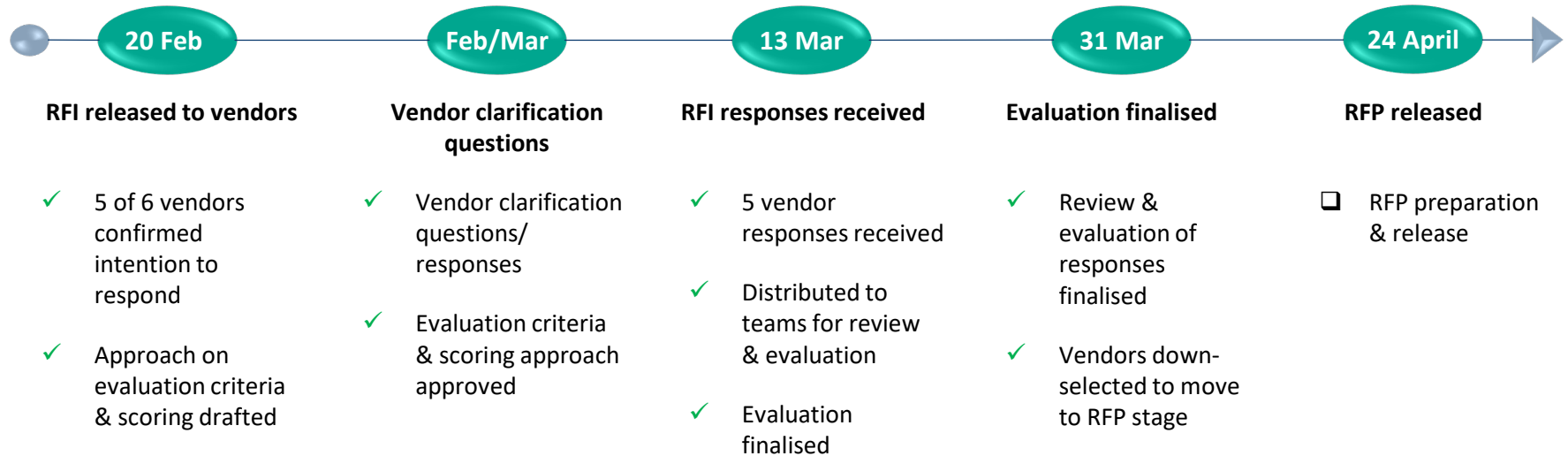
Key Risk:

- Commercial vendors' processes may impact the timeline for a Q4 announcement on a solution design

RFI process update

Activity update in relation to the RFI

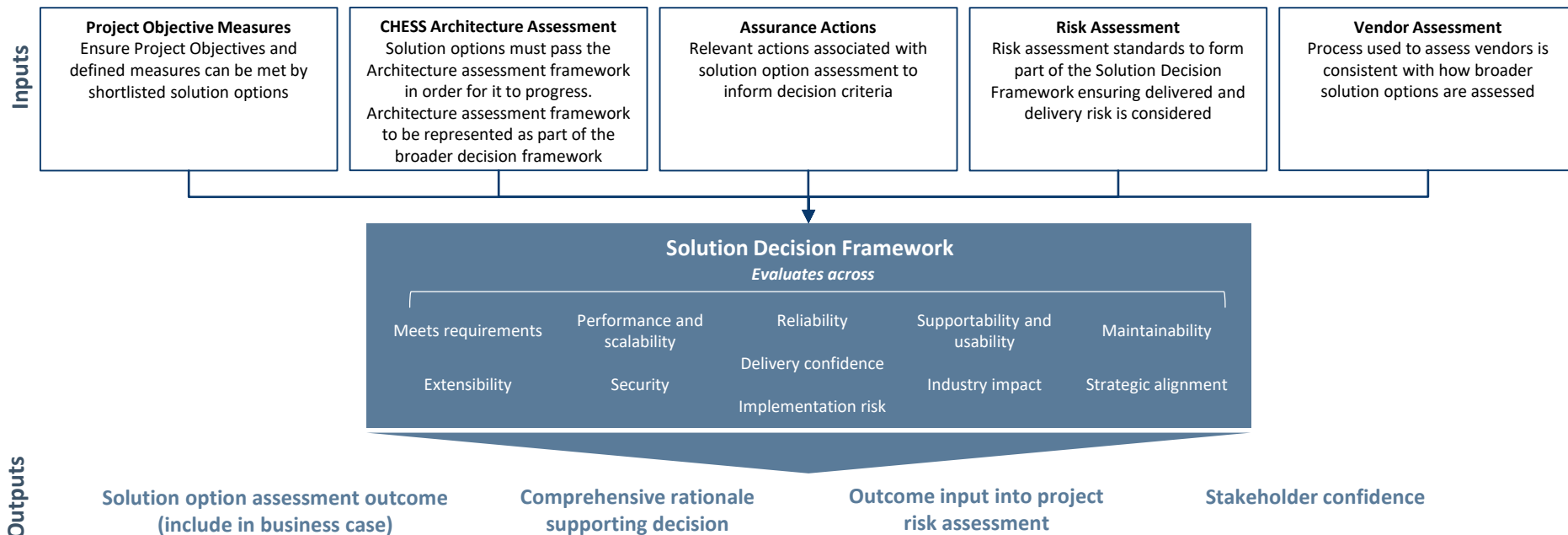
A breakdown of activity in relation to the RFI is outlined below highlighting key callouts across each month.



Solution Decision Framework

Overview of the framework

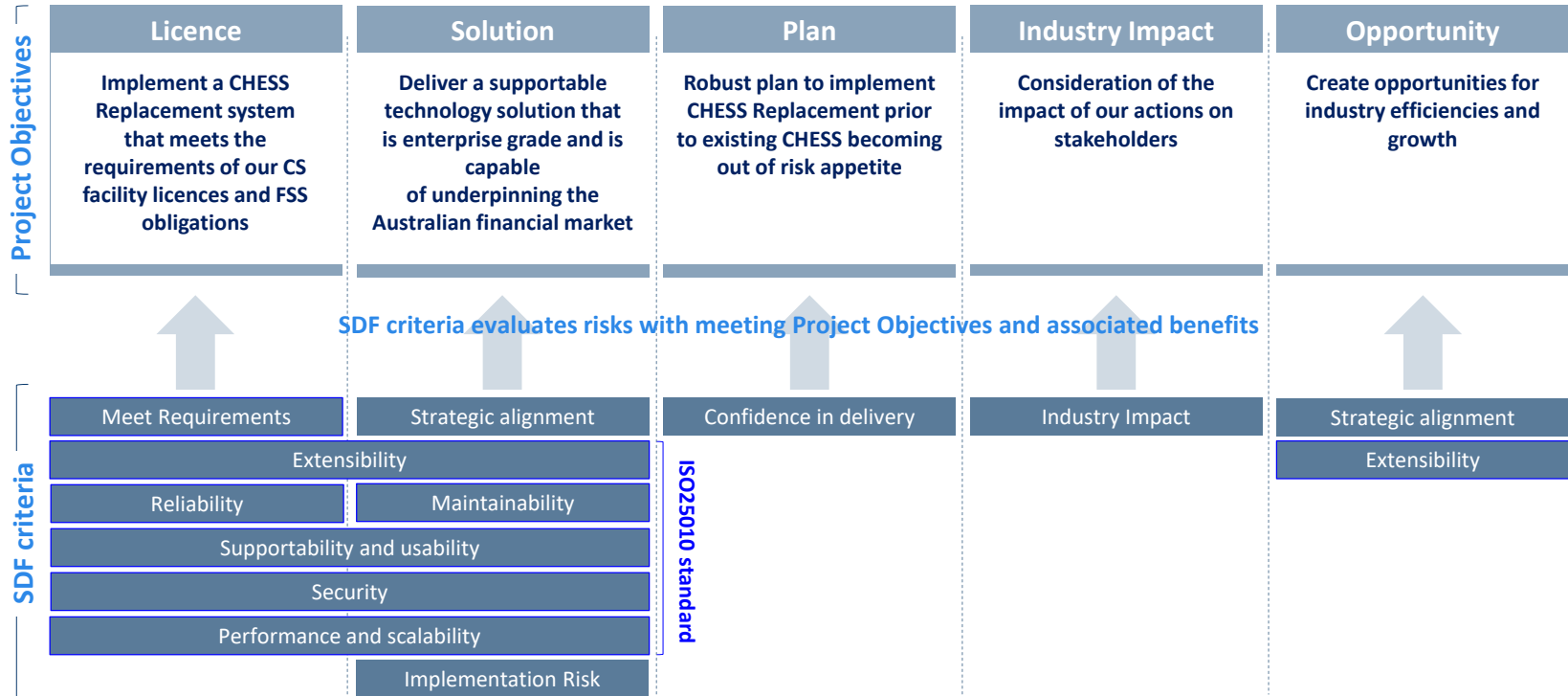
The solution decision framework will be used to perform meaningful comparison when assessing shortlisted solution options emerging from solution assessment. A comprehensive and measurable evaluation criteria will ensure options are compared consistently and provides a clear rationale for why the preferred option is recommended.



Solution Decision Framework

Criteria mapping: how solution decision criteria are aligned with project objectives

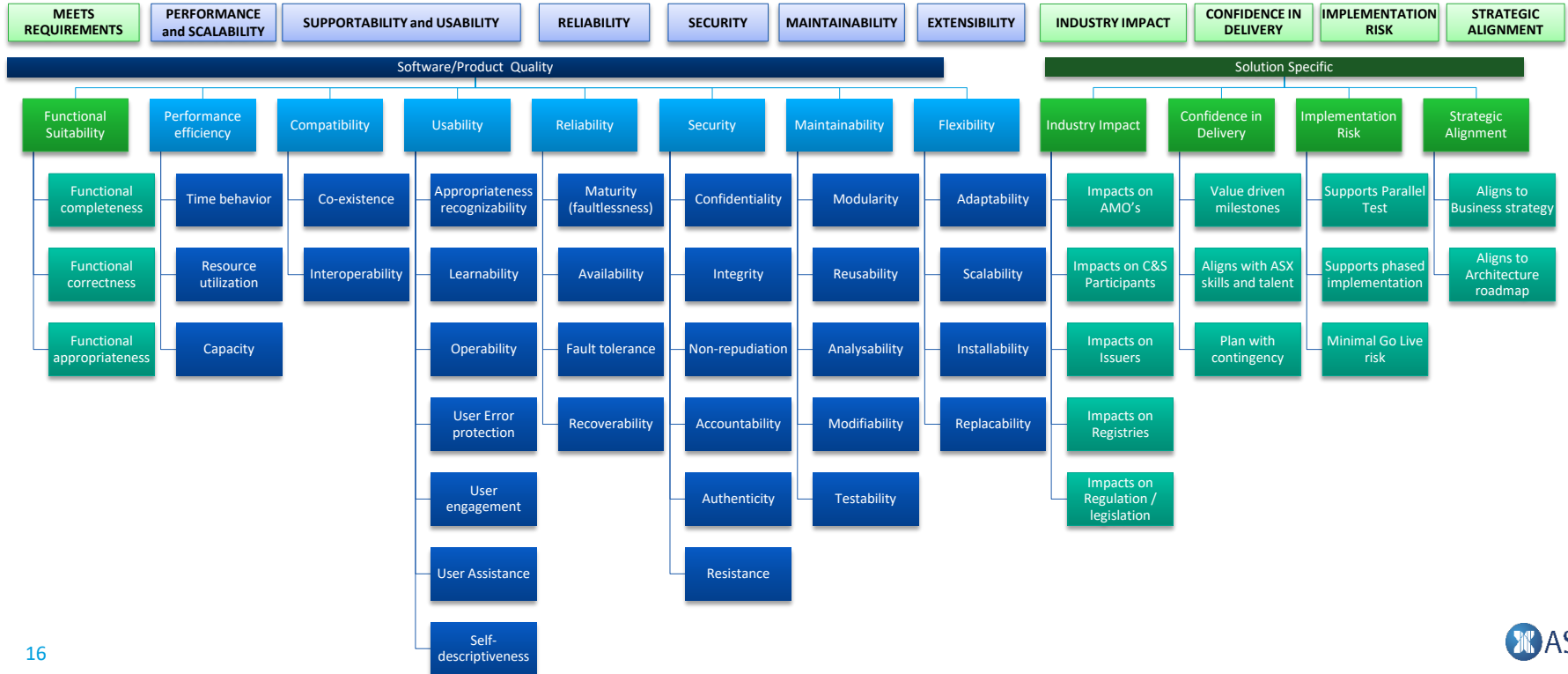
The solution decision assessment outcome will be represented as risks associated with meeting project objectives.



Solution Decision Framework

Assess against criteria: summary of coverage

The solution decision criteria is derived from summarising architecture concerns into technical solution criteria using the ISO 25010 standards and then extending to cover project objective outcomes.



Project scope

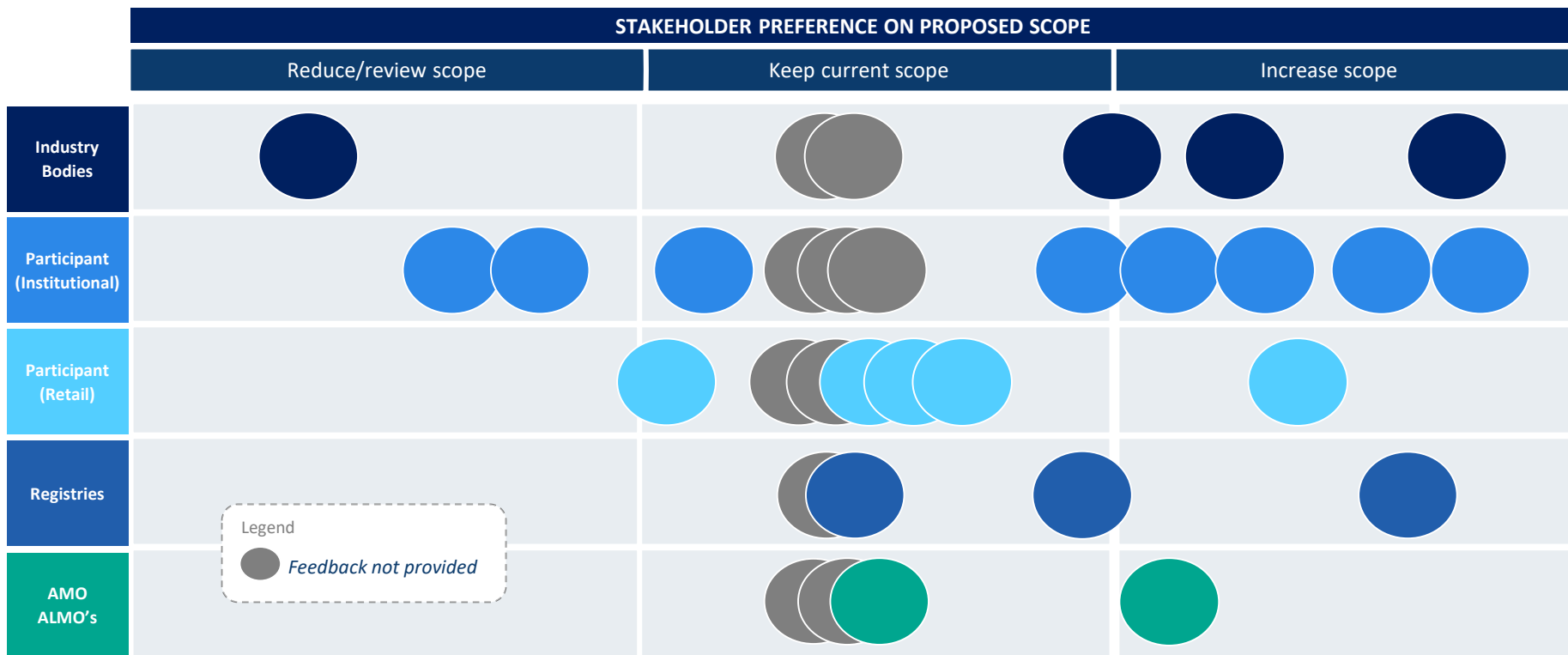
Project objectives

Why replace CHES?

| Licence | Solution | Plan | Industry Impact | Opportunity |
|---|---|--|--|---|
| Implement a CHES Replacement system that meets the requirements of our CS facility licences and FSS obligations | Deliver a supportable technology solution that is enterprise grade and is capable of underpinning the Australian financial market | Robust plan to implement CHES Replacement prior to existing CHES becoming out of risk appetite | Consideration of the impact of our actions on stakeholders | Create opportunities for industry efficiencies and growth |

Project scope

Stakeholder sentiment mapping across CHES Replacement scope



Project scope

Approach & feedback

Scope considered

All current and past scope for consideration has been requested by customers via market consultation and industry feedback since 2016.

The scope of the system should be assessed in the context of bringing value to Issuers and Investors; as an industry we are intermediaries that deliver this value. ASX's role is to lead this drive for consensus.

Scope versus design

Scope is a new feature or significant change to a business process whilst design aims to achieve the same business outcomes whilst making changes to the way the outcome is achieved (e.g. message flows, fields, rules and operational processes).

At this stage ASX is looking to refine feedback on scope. However feedback related to design has been noted and will be considered in the next phase.

Feedback themes

Feedback(*) on scope can be grouped into these areas:

1. Changes requested to existing services which are not necessarily dependent on the replacement of CHESS (e.g. T+1). These will be provided as feedback to the relevant teams for consideration.
2. Detailed design topics for future consideration (such as the netting & settlement workflow). These have been noted and detailed workshops will be held during the next phase.
3. Scope to be refined with the industry falls into three broad categories:
 - Settlement improvements and enhancements
 - Sub-Register and Issuer Sponsored enhancements and process improvements
 - Corporate Action processing efficiencies.
4. A number of scope items previously out of scope for CHESS Replacement remain out of scope following stakeholder feedback (e.g. settlement in foreign currencies)

* Consolidated feedback on scope can be found in **Appendix A**.

Project scope

Engagement plan for scope refinement sessions

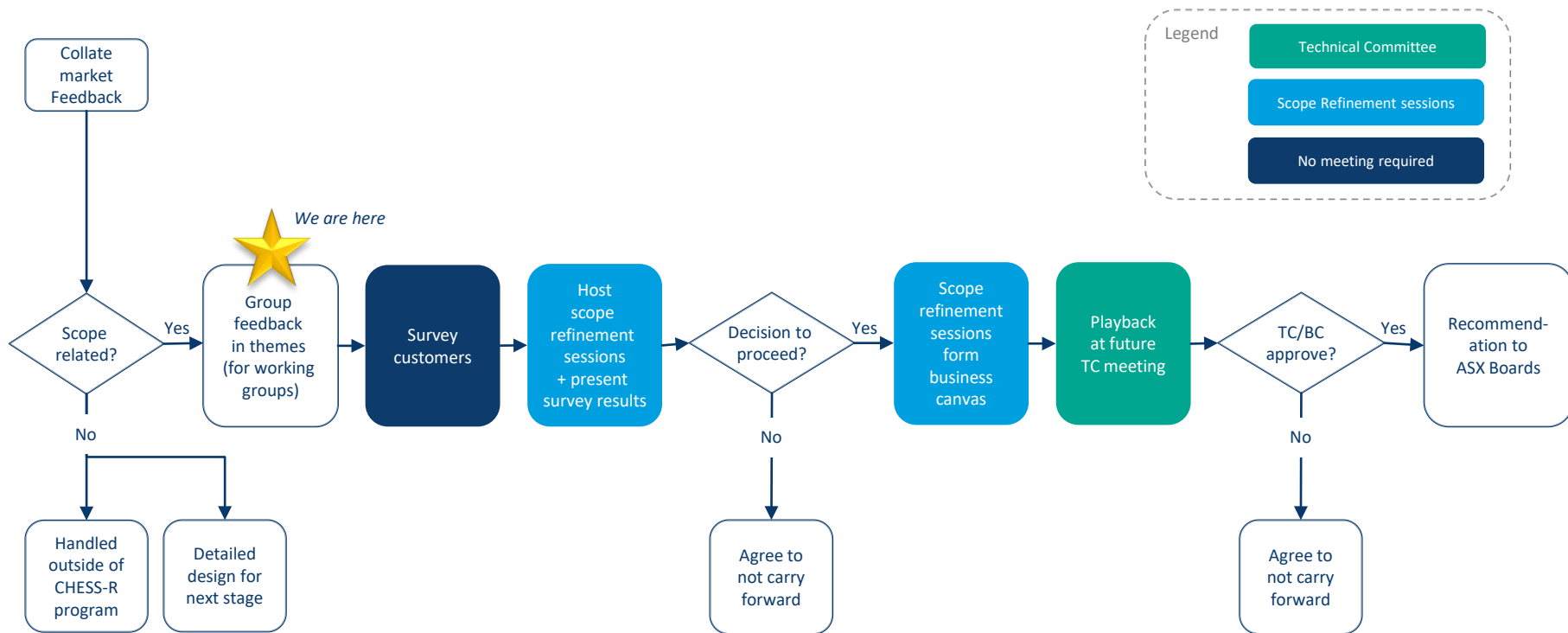
Plan for scope refinement sessions

- A survey will be released in advance of each session to help prioritise and gain feedback to inform the session.
- All affected stakeholders will be surveyed and invitees will be selected based on indications in the survey and to ensure diverse range of stakeholders.
- Each session will be held over a half day (4 hours) at ASX's offices and virtually.
- The output(s) of each session will be a business canvas (refer template) for each scope request that will be developed and agreed in the session.
- Attendees are encouraged to send SMEs with relevant knowledge on the business need.
- ASX proposes an independent moderator (e.g. industry association) for each session. They will be responsible for assisting in reviewing survey results, preparation for the session and guiding discussions on the day.

| | Month | Moderator | Proposed invitees |
|--|-------|-----------|---|
| Sub-Register and Issuer Sponsored enhancements and process improvements | May | TBD | Settlement Participants, Share Registries |
| Settlement improvements and enhancements | June | TBD | Settlement Participants |
| Corporate Action processing efficiencies | June | TBD | Settlement Participants, Share Registries |

Project scope

Feedback from industry and scope refinement engagement approach



Project scope

Scope refinement working groups – Business Canvas (template)

| | | | | |
|---|--|---|---|---|
| Problem Statement What is the problem we are solving? | Solution Proposal How would this work? | Benefits What are the customer benefits? | Success Criteria How do we know that we've been successful? | Customer Segments Who does this impact? |
| Existing Alternatives How is this done today? | | Risks / Challenges What are the risks or challenges we must overcome? | | Priority When do we need this? |
| Impact What are the impacts to the industry? | | | Recommendation What is the justification for inclusion in to scope? | |

Testing approach

Testing approach

Considerations and inputs for developing our project test strategy & approach

Utilise multiple sources of input:



- **Engagement** Share our thinking and seek feedback both internally and externally
- **Learning** Identify prior learnings and conduct ongoing reviews as we develop the test strategy and approach
- **Standards** Adherence to ASX standards
- **Independent Reviews** Address recommendations from independent reviews and conduct new reviews as per standards
- **Test Basis** Ensure adequacy and quality of test inputs
- **Quality Risks** Regular quality risk identification workshops

Follow our guiding principles:



Planning and Status

Focus is on all aspects of the test process for input into the project test strategy

Test Design & Execution

Identify applicable test design techniques, methods or tooling that will enable us to determine and agree upon the applicable coverage. Define the test execution process detailing how testing will be managed, and tracked until completion.

Coverage & Traceability

Tests

Defect Management

Test Reports

Test Monitoring & Control

Ensure our processes are in place to enable our ability to track progress, coverage and quality in an automated solution that is fit for purpose and able to be visible to all.

Tooling

Reporting

Supporting Methods & Processes

Test Planning & Lifecycle Integration

Preparation for applicable plans and approaches that are linked to further granularity of applicable risks and associated requirements. Define our test lifecycle and ensure integration with the Project Lifecycle (Model).

Test Plans

Scope of Testing

Detailed Estimates

Staffing Profiles

Test Strategy & Approach

Ensure our strategy and approach has linkage to generic risk categories ensuring that the applicable test levels and objectives can be put in place to mitigate.

Project Test Strategy

High Level Approach

Identify Supporting Strategies

High Level Estimates

Environments & Data

Risk Identification

Ensure generic key quality risks have been identified, categorised and prioritised for traceability and coverage.

Quality Risk List

Legend

1st Draft

In Progress

Not Started

Industry Testing

Requesting feedback on experience and future expectations for industry testing

Original Industry Testing Scope:

Software Provider Readiness

- **Inflight Migration:** To provide CHES users with the opportunity to test workflows that begin in the current CHES application and complete in CHES Replacement
- **Technical Accreditation:** Ensures all systems that connect to an ASX platform conforms to both functional and non-functional requirements.

CHES User Readiness

- **CHES User Testing:** Incremental Functional and Performance Testing with CHES Users
- **Inflight Migration:** Provide CHES users with the opportunity to test workflows that start in current CHES and complete in CHES Replacement.

Industry Wide Testing

Industry Wide Testing: Industry-wide end-to-end test to provide CHES users the ability to perform their business related functions with other counterparties.

Migration & Cutover Approach

Implementation Dress Rehearsals: Market Dress rehearsals of the cutover event for CHES Replacement.

Questions:

- 1 What went well?
- 2 What could be improved?
- 3 Opportunities for the future?
- 4 What is important to you?

Suggested themes:

Engagement & communication

Release management

Monitoring & reporting

ASX support

Test scope & planning

Risk

Test environments & data

Test strategy

Early access vs waiting for 'code complete'

Other

Potential parallel activities being considered

Early thinking on testing activities

The following activities are considerations for inclusion in the project test strategy or in support of the implementation / cut-over approach.

Parallel Run: Both the current state CHES and future state CHES Replacement are live in production, running concurrently. A parallel run is an enabler for implementation, proving implementation go live criteria is met by observing production outcomes over a period of time before switching to the target state as the source of truth for production processing.

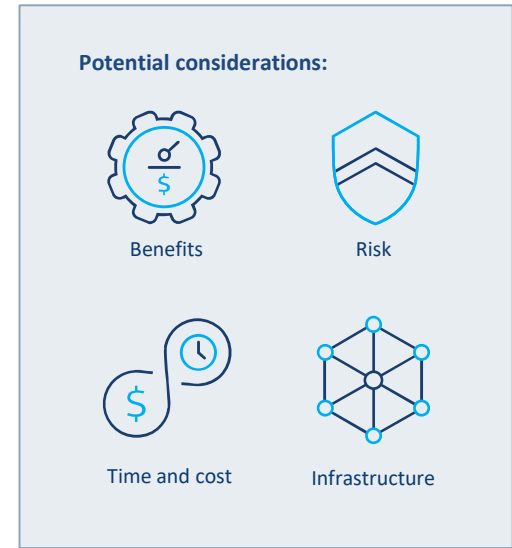
A parallel run involves supporting both production systems with full production level support in place.

Parallel Test: A test activity that will compare identified outcomes between current CHES and future state CHES Replacement, where only the current CHES is live in Production but the new CHES Replacement system is not.

A parallel test may require duplicating effort Current CHES / Future CHES in order to perform these comparisons.

Parallel Production / Extended IWT: A test activity that requires supporting CHES Replacement in a “To Be” production environment, for a defined period of time. Customer environments also required to be using “To Be” production environments.

Running this extended acceptance test will involve supporting “To Be” production systems, either fully or partially for a pre-defined period.



Feedback on opportunities for staged implementation

Opportunities for staged implementation

Recap from presentation in March 2023

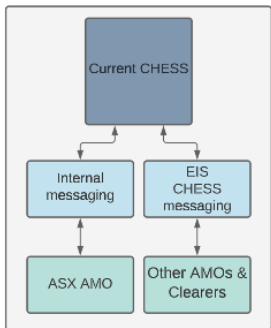
Achieve a safe, reliable and predictable implementation

Clearing Journey

Settlement/Sub-Register Journey

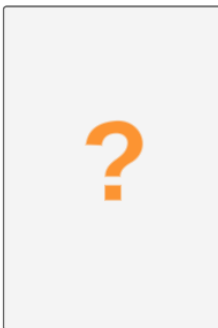
Starting State

Current CHES with an internal interface for ASX AMO and CHES EIS messaging for non-ASX AMO's



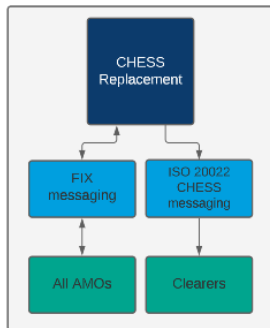
Transition State

Transition over one or more migration events



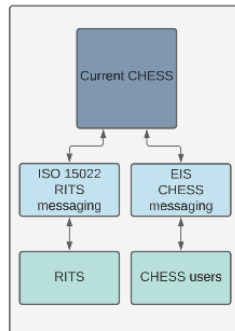
Target State

CHES Replacement with standardised FIX interface for all AMOs and ISO 20022 for Clearers



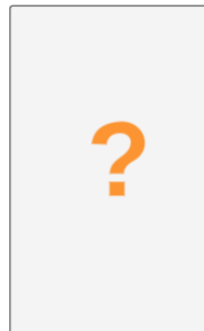
Starting State

Current CHES with SWIFT 15022 for RITS messaging and CHES EIS for CHES messaging



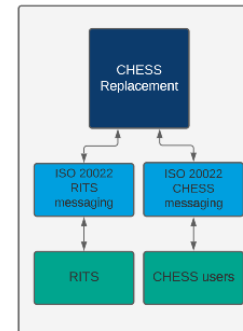
Transition State

Transition over one or more migration events



Target State

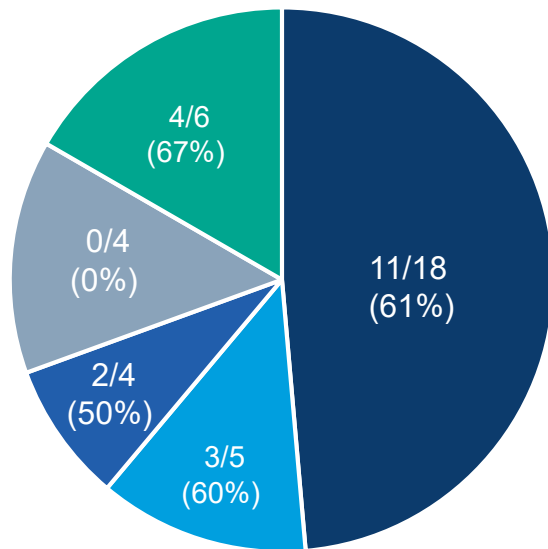
CHES Replacement with ISO 20022 messaging for both RITS and CHES



Opportunities for staged implementation

Broad feedback received

20 organisations (54%) provided feedback



■ Participant ■ Association ■ Registry ■ AMO ■ Vendor

- 2 comments that felt it is premature to discuss transition until scope and solution was known
- 17 comments on clearing transition
- 18 comments on settlement transition
- 9 comments for alternates to consider

Opportunities for staged implementation

Clearing

| No Feedback | Supportive | ¹ Conditionally Supportive | ² Unsupportive / Too early |
|-------------|------------|---------------------------------------|---------------------------------------|
| 20 | 6 | 10 | 1 |

- ¹ Support generally conditional on minimizing changes to Participant systems through EIS and ISO 20022 compatibility
- ² Require more information about the final solution and timeframes
- Some participants requesting ability to optionally receive ISO 20022 trade notifications in parallel with EIS trade notifications

OUTCOME: Candidate for further analysis. Look for ways to minimize or eliminate mandatory impacts to Participants and their vendors.

Opportunities for staged implementation

Early support for “pass-through” messages

| No Feedback | Supportive | ¹ Conditionally Supportive | Unsupportive |
|-------------|------------|---------------------------------------|--------------|
| 27 | 4 | 2 | 4 |

- Concerns it will introduce cost and /or complexity, and may not be viable
- ¹ Conditional support provided subject to:
 - Review with users
 - That if offered, it must be optional

OUTCOME: Mixed support. Revisit once target solution is better defined.

Opportunities for staged implementation

Second settlement batch

| No Feedback | Supportive | ¹ Conditionally Supportive | Unsupportive |
|-------------|------------|---------------------------------------|--------------|
| 19 | 2 | 8 | 8 |

- Concerns it will introduce cost and/or complexity and/or may not be viable
- Concerns it increases risk rather than reduces it
- ¹ Conditional support provided subject to
 - Review with users / whether my vendor can support it
 - Optional migration to new HINs instead of existing ones
 - Netting the split batch into single payment
 - Single margin settlement

OUTCOME: Mixed support. Revisit once target solution is better defined. May still be possible to offer a limited pilot.

Opportunities for staged implementation

Suggestions received

| Suggestion | # | ASX Comment |
|--|---|---|
| Centralised message translation | 3 | Explored in 2022 information paper (found in Appendix B) |
| Transition by function | 3 | Extension of 'pass-through' message opportunity concept – now on hold based on feedback |
| Transition by participant | 2 | Various sub-options |
| Pure technical replacement with no change in interface | 1 | |

Forward work plan

Forward work plan

Calendar invitations have been shared for monthly meetings in 2023



Agenda items:

- Project status update
- Scope refinement continued
- Implementation opportunities continued
- Feedback on industry testing



Business Committee meetings:

19 Jul 2023

11 Oct 2023

6 Dec 2023

Future TC meetings:

10 May 2023

7 Jun 2023

12 Jul 2023

9 Aug 2023

13 Sep 2023

4 Oct 2023

8 Nov 2023

Forward work plan

Topics for the Technical Committee will be in line with the project timeline and phasing

Topics for consideration with this Technical Committee* will likely include:

- Project status updates
- Project risks and issues
- Scope including potential Current CHES priorities
- Access channels / connectivity options
- Industry readiness activities
- Accenture recommendations

(*) Member feedback on additional agenda items is welcomed.

Observer playback

Thank you.



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