



ASX CHESS

Public Roadmap Update Report of ASX
Clear Pty Limited and ASX Settlement Pty
Limited

July 2025

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1. Executive Summary

This CHES Roadmap Report has been produced to provide ongoing visibility of the updates to the CHES Roadmap since it was first published in April 2023 and as subsequently updated in 2024.

Following the CHES Batch Settlement incident on 20 December 2024, the RBA carried out an [out-of-cycle assessment](#) against ASX Clear Pty Limited (ASX Clear) and ASX Settlement Pty Limited (ASX Settlement) in respect of the RBA's Financial Stability Standard for Operational Risk, which included, without limitation, an expectation for ASX to review the initiatives on the CHES Roadmap, in light of the incident, to assess whether they remain appropriate to comprehensively prevent, detect and mitigate risks in the CHES system. The assessment also included recommendations to outline and communicate publicly how ASX plans to strengthen resourcing and third-party support arrangements for CHES, and to outline options for implementing contingency arrangements for CHES.

As at end May 2025, following completion of the annual review process for updating the CHES Roadmap, and assessment in light of the CHES Batch Settlement incident, ASX confirms that:

- From a business as usual, build and change perspective, ASX continues to invest in supporting CHES from a financial, technological and human capital perspective. In light of the CHES Batch Settlement incident, ASX has completed a resourcing review for CHES and is committed to strengthening current arrangements.
- With the exception of the CHES Batch Settlement incident on 20 December 2024, services provided by CHES continue to operate within key performance indicators.
- The CHES Roadmap has been updated to track and monitor 15 new initiatives, 10 of which resulted from the CHES Batch Settlement incident on 20 December 2024.
- The current CHES program of work has completed 31 CHES Roadmap initiatives:
 - All 27 initiatives in the April 2023 CHES Roadmap
 - Three of the seven initiatives added to the CHES Roadmap in 2024
 - One of the 15 new initiatives added to the CHES Roadmap in 2025
- ASX will continue to undertake independent audit and assurance activities over the progress and completion of Roadmap initiatives.
- ASX will continue to provide appropriate transparency to regulators and market stakeholders through standard communication channels.

In light of the CHES Batch Settlement incident on 20 December 2024, ASX confirms that it is responding to all actions from both the RBA and Australian Securities and Investments Commission (ASIC) with urgency and focus, and that taking action to increase confidence in the reliable operation of CHES is an ongoing priority for ASX.

As a result of reviewing and updating the CHES Roadmap, ASX confirms that:

- ASX considers that its existing governance, investment, and management arrangements for CHES are commensurate with its role in providing critical financial market infrastructure.
- ASX has and will continue to invest in and enhance CHES to support the long-term interests of Australia's financial markets and meet applicable regulatory requirements, including the FSS. ASX has a program of work to enhance CHES to ensure it remains operationally reliable until a new solution is implemented.
- 10 new initiatives have been added to the CHES Roadmap in 2025 as a result of the CHES Batch Settlement incident on 20 December 2024.

2. Overview

2.1. Background and Objective

ASX Clear and ASX Settlement are licensed clearing and settlement facility operators under Part 7.3 of the Corporations Act 2001 (Cth) (Corporations Act) and are wholly owned subsidiaries of ASX Limited (ASX). Under the Corporations Act, ASX Clear and ASX Settlement are required to, without limitation, comply with the RBA's Financial Stability Standards (FSS), have adequate arrangements for supervising the clearing and settlement facility, and, to the extent that it is reasonably practicable to do so, do all other things necessary to reduce systemic risk and ensure that the clearing and settlement facility's services are provided in a fair and effective way.

CHESS is the system used by ASX Clear and ASX Settlement to facilitate clearing, settlement and other post-trade services for the Australian cash equities market. It is a critical piece of national financial market infrastructure, enabling the management of clearing and settlement risks across the cash equities market. Accordingly, ASX, its customers, and regulatory agencies need confidence in the continued performance, resilience, and supportability of the CHESS system, including its ability to meet and comply with the FSS.

While ASX continues to engage and work with the industry on the successful replacement of CHESS, important work continues to ensure the ongoing support and maintenance of CHESS. The objective of this program of work is to identify and implement various initiatives to ensure the safe and reliable operations of the CHESS system until it is safely replaced. Importantly, this work enables ASX to inform and provide timely updates to regulatory bodies on the status of CHESS, including ASX's management of risks associated with the supportability of the system. This report provides a summary of this work as at end May 2025.

2.2. Scope of the Report

The CHESS Roadmap continues to evolve as ASX identifies and addresses the risks associated with maintaining the operational reliability of CHESS. This report summarises CHESS Roadmap initiatives that have been completed from June 2024 to May 2025 inclusive (the year since production of the last report), and outlines the revised CHESS Roadmap as at end May 2025 following the completion of the annual process of updating the CHESS Roadmap.

The initiatives in the updated CHESS Roadmap are categorised under three themes – Operations, Security and Continuity. Consistent with categorisation used in ASX's 2023 Special Report and 2024 Roadmap Update Report, the meaning of each is described below:

- **Operations** – how ASX will identify, assess, manage and monitor any risks to the resilience, reliability, integrity and security of CHESS; how ASX will ensure CHESS has the appropriate functionality and the safe and secure implementation of material changes; and how ASX will ensure the necessary upgrades to avoid technology obsolescence and ensure it can support the scalable capacity and performance of CHESS to accommodate current and future trading volumes.
- **Security** – how ASX will ensure the confidentiality, integrity and availability of information and implement a system of security controls to ensure CHESS is resilient to unauthorised access of CHESS data or disruptions due to cyber events.
- **Continuity** – how ASX will implement, test and maintain continuity plans to ensure appropriate preparation for disruptions scenarios, including regular backup and recovery, and resources that are required to engage with such plans are across the training and familiar with their responsibilities.

For the purposes of this report, initiatives are categorised using a letter-number system, with Operations initiatives categorised as O, Security initiatives categorised as S and Continuity initiatives categorised as C. The numbers are sequential. This categorisation system has been used consistently in ASX's 2023 Special Report and 2024 Roadmap Update Report.

The CHESS Roadmap as presented in this report includes new initiatives that have been identified as a result of the annual process, and assessment in light of the CHESS Batch Settlement incident. 10 initiatives have been added to the

CHESS Roadmap as a result of the CHESS Batch Settlement incident that occurred on 20 December 2024. While the planning horizon for the CHESS Roadmap extends to 2032, the initiatives detailed in this report are defined across FY25-27 in line with the annual process for updating the Roadmap.¹ ASX's ongoing assessment of existing and new risks associated with the continued supportability of CHESS will continue to inform decisions regarding new initiatives as required over time.

¹ Initiatives scheduled to commence across FY25-27, noting that completion of initiatives may extend beyond this time.

3. CHESS Update

3.1. CHESS Batch Settlement incident – 20 December 2024

On Friday 20 December 2024, CHESS Batch Settlement could not proceed because a critical step in the settlement process generated an error that prevented completion. ASX was not able to resolve the error before the relevant cut-off time on Friday and therefore cancelled Batch Settlement and rescheduled settlement obligations for Friday 20 December 2024 to the following Business Day, Monday 23 December 2024.

On 23 January 2025, ASX published an [Incident Review](#) to provide customers and external stakeholders an explanation of what occurred in the incident, including a chronology of the management of the incident, the cause and impacts, and the preliminary Action Plan developed in response to the incident. A message from ASX's CEO accompanied the document.

On 3 February 2025, ASX confirmed that ASIC had commenced an investigation into the incident. ASX's market announcement is available [here](#).²

A number of actions in response to the incident (10) have been added to the CHESS Roadmap as initiatives for delivery through to the end of FY 2027 (see section 4.4 for further information).

3.2. Out-of-Cycle Assessment of Operational Risk Financial Stability Standard

In March 2025, following the CHESS Batch Settlement incident on 20 December 2024, the RBA conducted an [out-of-cycle assessment](#) of ASX Clear and ASX Settlement against the RBA's Financial Stability Standard for Operational Risk. ASX Clear and ASX Settlement were downgraded from 'partly observed' to 'not observed' in relation to the Operational Risk standard (refer CCP Standard 16 / SSF Standard 14 respectively). The RBA made the below recommendations:

Resourcing

- i. By 30 April, ASX should:
 - a. outline to the regulators how it plans to strengthen its resourcing and third-party support arrangements considering the 20 December 2024 CHESS batch settlement failure incident and ASX's existing obligations and commitment to the public and regulators. This should include an analysis of how the strengthened arrangements will be designed to ensure that all key systems are operated securely and reliably in all circumstances. It will include details on the level and capabilities of the resources that will support the CHESS system.
 - b. communicate publicly its high-level plans for improving the levels of resources and capabilities to support the ongoing operation, maintenance and investment in the current CHESS.
- ii. ASX should implement its plans to strengthen its resourcing and third-party support arrangements on a timeline agreed with the RBA.

Contingency arrangements

- i. By 30 April 2025, ASX should outline option(s) and its plans for implementing contingency arrangements for the current CHESS. The option(s) should ensure there are contingency arrangements that are designed to enable settlement to be completed by the end of the day in the event of failure of any of the seven steps of the batch settlement process outlined in 'CHESS Batch Settlement Operational Overview'.
- ii. ASX should implement contingency arrangements for the current CHESS on a timeline agreed with the RBA.

ASX acknowledges the out-of-cycle assessment, including the recommendations.

ASX completed a resourcing and capability review for CHESS, which was shared with the RBA and ASIC on 30 April 2025. ASX also published a [media release](#) on 30 April 2025 outlining key findings and actions to address them. Key findings of the review are that there are sufficient resources to support the ongoing maintenance and day-to-day operation of

² While this report provides a summary of work as at end May 2025, ASX notes that on 16 June 2025 ASIC announced an [inquiry into ASX](#), focused on governance, capability and risk management frameworks and practices.

CHESS, as well as build and change activities in accordance with ASX's existing delivery plans. However, it recognised that there is a growing workload on operational and technology teams to support increasing levels of demands following the settlement incident, including post-incident work and the related regulatory actions. The review concluded that while the overall size of the CHESS technical support teams are sufficient for the business as usual operational demands of CHESS and build and change activities, the relevant teams are stretched in the event of a multi-day incident.

On 30 April 2025, ASX also shared with the RBA and ASIC a contingency assessment.

3.3. Current Performance of CHESS

ASX recognises the importance of maintaining market confidence in the continued performance, resilience, security and supportability of CHESS, including its ability to continue to meet the RBA's FSS requirements. Over the last 10 years CHESS has exceeded its target availability of 99.8%.³

Since the last Roadmap Update Report, and for YTD FY2025 (up to and including end-April 2025), CHESS has operated against the key performance indicators and service level objectives noted below:

Table 1: Current Performance of CHESS

Key performance indicator/service level objective	FY25 (as at end April 2025)
Target system availability (CHESS) – 99.80%	Met. 100% availability for CHESS. The CHESS Batch Settlement incident on 20 December 2024 prevented the normal DvP Batch Settlement process from completing and all novated and non-novated Batch Instructions were rescheduled to 23 December 2024 at 19:30.
No major incidents (as defined by ASX)	Not met. CHESS Batch Settlement incident (see section 3.1).
Disaster Recovery Testing – reported system disaster recovery tests failed or not completed within the prescribed timeframe	Met. Successful annual CHESS disaster recovery test.

ASX management continues to monitor key performance indicators to assess the need to improve the operational capacity and performance of CHESS until it is safely replaced.

3.4. Ongoing Stress Testing including Market Management in the event of extreme Trading Volumes

In FY24, ASX designed and executed stress testing of the current CHESS service to evaluate the system's performance under extreme market trade volumes.⁴ The objective of the stress testing was to identify capacity measures that may result in a technical break point or the service failing to meet its availability target, and options were identified for performance and capacity improvements of CHESS.

³ Availability is a metric defined as a percentage of accessibility of a business service to its users within agreed time windows. For the purposes of regulatory reporting, any unavailability is when the business service is unable to be used or accessed by users. For CHESS the time window is 6.00am to 7.00pm Monday to Friday. ASX calculates system availability at the system level. The statistic cited is an average of the last 10 years. There has been one month within that time-frame where CHESS did not meet this target – March 2016 at 99.756%.

⁴ The full technical Stress Test Report was provided to the RBA on 25 January 2024.

Release 1 of CHES replacement is expected to deliver improved scalable performance and capacity of at least double projected stressed volumes.⁵ Until Release 1 is successfully implemented, and thereafter, ASX will continue to monitor our key performance indicators against lead times to improve capacity and performance of CHES to ensure we maintain the operational capacity and performance of CHES.

In June 2024, ASX completed the first of the five options identified as part of the FY24 stress testing (roadmap initiative O-4, which included break-point remediation, database performance tuning and memory tuning). ASX continues to monitor key capacity indicators on a monthly basis, against decision guidelines, through the Current CHES Strategic Guidance Group.

Following the development of the Market Management Guiding Principles in FY24 (a paradigm for decision making that is clear to Participants, Regulators and AMOs in the event of an exceptionally high-volume trading day), ASX performed internal training in February 2025 to ensure staff awareness and clarity regarding roles and responsibilities in response to the scenarios and considerations, based on the guiding principles. Given the CHES Batch Settlement incident that occurred on 20 December 2024, ASX has added a new CHES roadmap initiative (see section 4.4.2 below, CHES Roadmap initiative C-10), to enhance the Market Management Guiding Principles to include additional clearing and settlement resilience scenarios.

ASX is undertaking a review to enhance resilience scenarios for CHES. Following the review and enhancement to the CHES resilience scenarios, ASX will then update (as appropriate) the Market Management Guiding Principles. The Guiding Principles aim to help ASX and Industry prepare for various potential future market scenarios, enabling the optimisation of existing risks management processes and procedures and industry readiness. The guiding principles also aim to validate industry roles, responsibilities, and expectations during complex market scenarios, and are designed to promote efficiency, transparency in decision-making and market confidence. The Market Management Guiding Principles are intended to ensure ASX and Industry have a well-governed approach to navigating complex market scenarios.

⁵ FSS requirement 14 million (double ASX's historical peak of 7 million trades on 13 March 2020).

4. CHESS Roadmap

4.1. Summary

The CHESS Roadmap defines the key initiatives to maintain and upgrade CHESS as necessary until it has been replaced. Initiatives are identified and monitored across three themes: Operations, Security and Continuity. Governance based initiatives are delivered through business-as-usual activities and are not depicted on the CHESS Roadmap.

In April **2023**, ASX published the first iteration of the CHESS Roadmap which contained 27 initial initiatives linked to specific CHESS risks including Reliability, Availability, Resourcing, IT Asset, Compliance, Performance, Capacity and Security. Since this time, ASX has continued to undertake important work to manage risks and ensure CHESS remains operationally reliable until the new clearing and settlement system is implemented. As at end May 2025, this work includes the completion of all 27 initiatives in the April 2023 CHESS Roadmap scheduled for delivery across FY23 to FY25.

In **2024**, following the evaluation of current CHESS risks and the completion of existing business planning processes, ASX updated the CHESS Roadmap to include seven new initiatives scheduled for delivery across FY24 to FY26. As at end May 2025, ASX has completed three of those 7 initiatives. The remaining four inflight initiatives have indicative completion dates ranging from July 2025 to November 2026.

In **2025**, again following the evaluation of current CHESS risks, the completion of existing business planning processes, as well as assessment in light of the CHESS Batch Settlement incident, ASX has updated the CHESS Roadmap to include 15 new initiatives scheduled for delivery across FY25 to FY27 (one of which has been completed and six of which are in progress).

The ongoing assessment of existing CHESS risks, and any new CHESS risks, will continue to inform decisions regarding new initiatives as required over time. The CHESS Roadmap will continue to evolve beyond FY27 and will be updated annually to provide visibility over any required support and maintenance activities until 2032, or such time as the CHESS system is replaced.

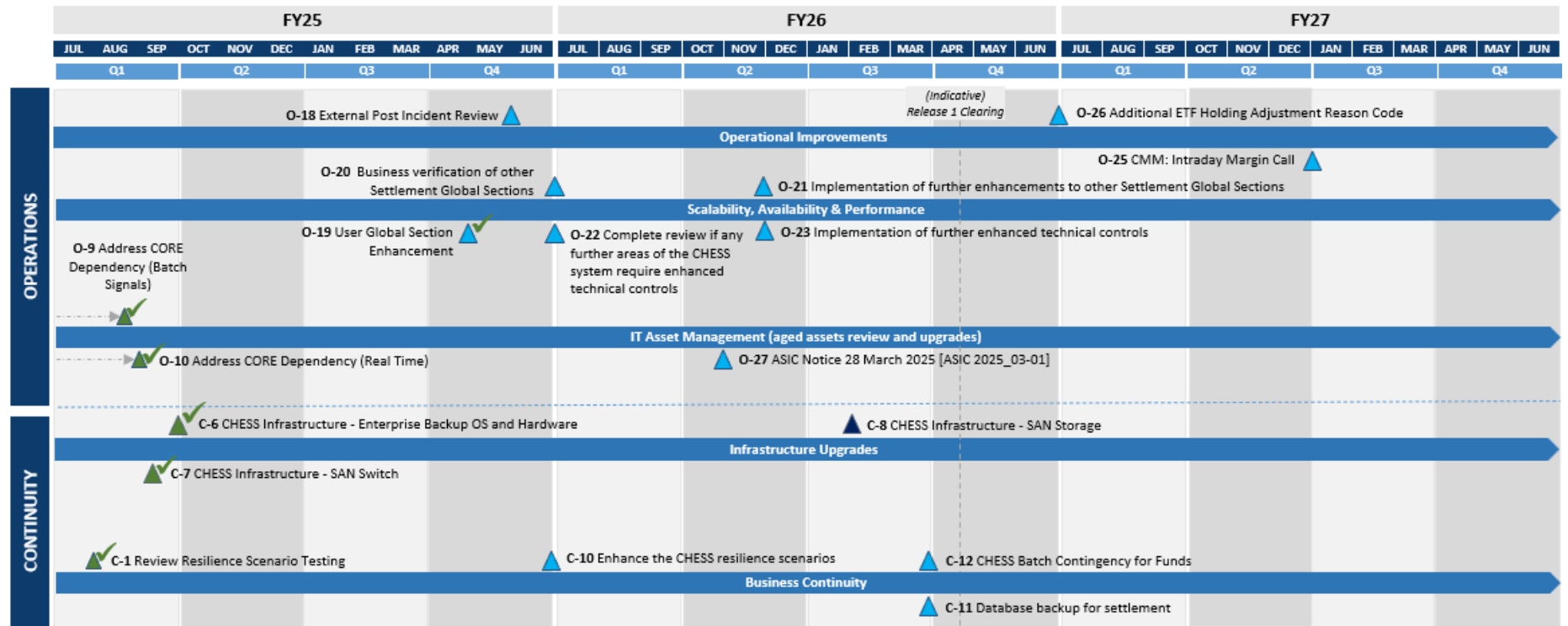
Table 2: Summary of CHESS Roadmap initiatives

CHESS Roadmap (as at end May 2025)	2023 Roadmap initiatives	2024 Roadmap initiatives	2025 Roadmap initiatives	Initiatives Total	Completed Total	Outstanding Total
<i>Operations</i>	16	-	11	27	(17)	10
<i>Security</i>	4	3	1	8	(5)	3
<i>Continuity</i>	7	4	3	14	(9)	5
	27	7	15	49	(31)	18

To note, all Security initiatives, and certain Operational and Continuity initiatives, have not been depicted in this document due to commercial sensitivity.

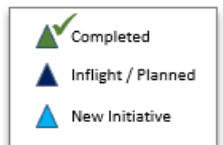
4.2. FY25-27 CHESS Roadmap

Figure 1: FY25-27 CHESS Roadmap



Notes:

- The dates presented in this Roadmap are indicative only.
- Risk & Governance based initiatives have not been depicted in the above roadmap as they are considered ongoing and business as usual in nature.
- 31 Roadmap items have been completed to date (FY23, FY24 and FY25). The following initiatives were completed in June 2024: O-4, O-7, O-13, O-14, C-1, C-7.
- C-9 CHESS Frontend & Backend Hardware is currently being monitored, and its delivery is dependent on the controls & triggers of O-14.
- (NEW)** O-24 Provision of Bank Account Details in Takeovers Messages - this initiative falls outside the roadmap calendar range (target date June 28).



4.3. Completed Initiatives

To date, 31 CHES Roadmap initiatives have been completed, comprising:

- All 27 initiatives in the April 2023 CHES Roadmap
- Three of the seven initiatives added to the CHES Roadmap in 2024
- One of the 15 new initiatives added to the CHES Roadmap in 2025

Over the report period (June 2024 to May 2025 inclusive), ASX completed 13 initiatives. Five initiatives were completed at least one month earlier than planned (O-8, O-12, O-13, C-1 and C-7). Additional time was allocated to the delivery of two initiatives (O-9 (two months) and O-10 (one month)) to accommodate additional testing activities. Where practical, ASX will continue to bring initiative delivery dates forward to provide enhancements earlier.

A summary of the work completed over the report period is provided below. Refer to Appendix A for detailed information on each completed initiative.

To note, all Security and certain Operational and Continuity initiatives have not been detailed due to commercial sensitivity.

4.3.1 Operations

Over the report period nine operations initiatives were completed (adding to the eight completed initiatives reported in 2024). The majority of these initiatives focused on managing risks associated with IT asset management (aged asset reviews and upgrades), as well as important scalability, availability and performance related initiatives.

As noted in section 3.4 the first package of capacity and performance improvement work (O-4) was implemented to remediate short-term points of failure. This initiative was implemented in conjunction with an upgrade of the CHES database to the latest version (O-13) to ensure continued support and resilient operation, providing delivery efficiencies.

To remove a CHES dependency on CORE, and to deliver enhanced capacity and performance, securities and trade feeds were migrated from the current CORE platform (O-9 and O-10).

The CHES Access programming language and underlying middleware was upgraded to ensure CHES Access is fully supported by third-party vendors (O-7).

A review of the current hardware architecture to enable future upgrades was also completed (O-14).

One new initiative added to the CHES Roadmap in 2025 was also completed (O-19), an enhancement to User Global Section in light of the CHES Batch Settlement incident on 20 December 2024. The enhancement provides dynamic size allocation based on actual number of users with settlement obligations, increasing and decreasing the memory page size as needed.

4.3.2 Continuity

Over the report period three continuity initiatives were completed (adding to the four completed continuity initiatives reported in 2024).

A review of CHES resilience scenario testing to support an end-to-end view of the CHES operating environment was completed (C-1). Two CHES infrastructure upgrades to extend supportability and/or align to enterprise standards were also completed (C-6 and C-7).

4.4. Inflight and New Initiatives

As at end May 2025, the CHES Roadmap includes 19 inflight and new initiatives to maintain and upgrade CHES. These initiatives are comprised of four initiatives from the 2024 iteration of the CHES Roadmap which remain either inflight or scheduled for delivery and 15 new initiatives. The new initiatives are a result of an assessment of current CHES risks

and existing business processes, including actions from the 20 December 2024 CHESS Batch Settlement incident, and are planned for delivery through to the end of FY 2027.⁶

A summary of the inflight and new initiatives is provided below. Refer to Appendix A for detailed information on each inflight and new initiative.

4.4.1 Operations

ASX has updated the CHESS Roadmap to include 11 new operations enhancement initiatives (one of which has been completed and four of which are in progress). The new initiatives are focused on managing risks associated with IT asset management (aged asset reviews and upgrades), scalability, availability and performance related initiatives and product and stakeholder initiatives.

Seven operations initiatives have been added as a result of the CHESS Batch Settlement incident on 20 December 2024, including:

- an external post incident review to provide a plan to address any improvement initiatives and actions (O-18);
- an enhancement to the User Global Section to provide dynamic size allocation (O-19);
- business verification of other identified Settlement Global Sections in CHESS to assess whether changes are required (O-20), and relatedly, a separate initiative for implementation of the findings (O-21);
- a complete review of other enhanced technical controls (O-22), and relatedly, a separate initiative for implementation of the findings (O-23);
- appointment of an approved expert and provision of an expert report to ASIC (O-27).

Work to complete O-18, O-20, O-22 and O-27 is in progress, with the status of these initiatives new and in progress. O-19 has been completed.

Other new initiatives include:

- an enhancement to transmit bank account information from the sponsoring broker to the registry in relation to bid offers (O-24);
- enhancement of ASX Clear's capacity to monitor the build-up of current exposures to participants and to make intraday margin calls to participants (O-25);
- introduction of a new reason code ("ETF") to support ETF creation and redemption flows, providing benefits to industry and promoting automation (O-26).

4.4.2 Continuity

ASX has updated the CHESS Roadmap to include three new continuity enhancement initiatives, adding to the two inflight continuity initiatives.

The three new continuity initiatives have been added as a result of the CHESS Batch Settlement incident on 20 December 2024, and include:

- Enhancement of the CHESS resilience scenarios (CHESS Market Management Guiding Principles) (C-10).
- A new database backup to provide additional snapshots during the batch settlement process (C-11).

⁶ Initiatives scheduled to commence across FY25-27, noting that completion of initiatives may extend beyond this time.

- Development of additional reports for batch settlement, to support faster remediation of settlement during the CHESB Batch Settlement process (C-12).

Work to complete C-10 and C-12 is in progress, with the status of these initiatives new and in progress.

The two inflight initiatives include a SAN Storage upgrade (C-8) and monitoring for specified triggers which would initiate CHESB Frontend and Backend Hardware upgrades (C-9).

4.5. Continued investment in CHESB

The CHESB Roadmap will continue to be updated to define key CHESB initiatives in line with the annual process. ASX will closely track the progress of these initiatives as per the existing ASX Delivery and Project Governance processes and frameworks set out in section 4.6.

4.5.1 CHESB Project

To continue to operate critical market infrastructure for the Australian economy, ASX has continued to evolve its vision for the future design of the clearing and settlement system that is; open and accessible to the market, data led, scalable and flexible, resilient and secure, interoperable and able to support evolving industry needs. ASX understands that this will be achieved by taking manageable steps with the industry to deliver a solution that enhances core market capabilities, strengthens the stability of Australia's financial markets and supports compliance with ASX's licence obligations and regulatory expectations.

In November 2023, ASX announced it would proceed with a product-based solution design to replace CHESB. Tata Consultancy Services (TCS) was chosen to deliver the solution using its TCS BaNCS Market Infrastructure product, which offers a modular technology platform for clearing and settlement services. Given the scale and complexity of this project, Accenture was chosen as delivery partner to provide additional capability, capacity and industry expertise.

ASX is planning to implement the platform in two main releases. Release 1 will be clearing services, with settlement and subregister services to follow in Release 2. ASX consulted extensively with industry on the scope and timing of both releases over 2024, and on 28 February 2025 the Release 1 Industry Test Environment opened for commencement of the AMO Build and Test phase. ASX anticipates commencement of industry testing for Release 2 from March 2026 onwards.

4.6. CHESB Governance and Assurance

4.6.1 CHESB Governance

The [CHESB Governance Statement](#), which was last updated in October 2024, provides a guide to the governance framework that applies to CHESB. It is intended to help stakeholders understand the roles and responsibilities of the different ASX governance forums relevant to CHESB, including the CHESB Roadmap and the delivery of the CHESB Project.

4.6.2 CHESB Roadmap Assurance

ASX continues to undertake assurance activities over the CHESB Roadmap via ASX internal audit and/or independent external audits.

There is an ongoing assurance program regarding the completion (or non-completion) of each of the identified initiatives to ensure the initiatives are meeting their risk objectives. The assurance cycles are six months in duration and designed to provide ASX assurance that the initiatives are delivering the desired scope and benefits stated in each work item.

Historically, each assurance cycle included a deep dive topic. Over calendar year 2024, the deep-dive topics were:

- market management scenario testing

- cyber security.

Going forward (from calendar year 2025 onwards), ASX is moving away from the concept of a specific deep-dive topic for each six-monthly assurance cycle with the objective of uplifting to best-practice. Instead, ASX is taking the learnings from the deep dives conducted to date, and embedding these best-practice learnings into roadmap initiatives.

APPENDICES

Appendix A – Detailed CHES Roadmap Initiatives

Table A.1 – Completed Roadmap Initiatives

The table below contains existing roadmap initiatives completed between June 2024 to May 2025 (inclusive). One additional new roadmap initiative has also been completed (O-19), this is identifiable in Table A.3 as the initiative with a status of “New and complete”. Refer to ASX’s 2024 CHES Roadmap Update Report for all initiatives completed prior to June 2024.

Pillar	ID	Status	Completion Date	Initiative Name	Description
Operations					
Operations	O-4	Completed	Jun 24	Capacity and Performance Improvements	Remediate short-term points of failure and assess options for further performance improvements to address the outcomes of the CHES stress test and develop a plan for remediation.
Operations	O-7	Completed	Jun 24	CHES Access - Uplift	Upgrade of CHES Access programming language and underlying middleware.
Operations	O-9	Completed	Aug 24	Address CORE dependency: Reference Data (Batch)	Migration of securities feed from the current CORE platform to deliver enhanced capacity and performance.
Operations	O-10	Completed	Aug 24	Address CORE dependency: Trade Data (Real time)	Migration of trade feed from the current CORE platform to deliver enhanced capacity and performance.
Operations	O-13	Completed	Jun 24	Backend upgrades – database upgrade to the latest version	Upgrade the CHES database to the latest version, to ensure continued support and resilient operation of CHES.
Operations	O-14	Completed	Jun 24	Assess alternative hardware architecture for backend servers to support CHES	Assess alternative hardware architecture to support CHES. The initiative will be a driver for the future CHES server hardware upgrades.
Continuity					

Pillar	ID	Status	Completion Date	Initiative Name	Description
Continuity	C-1	Completed	Jun 24	Review CHES resilience scenario testing	The work on this initiative is to create an inventory of resiliency scenarios for CHES which can be maintained into the future, utilised for testing on a regular on-going basis.
Continuity	C-6	Completed	Sep 24	CHES Infrastructure - Enterprise Backup OS and Hardware	Hardware upgrade to ensure continued support post July 2024 and align the CHES backup solution design to enterprise standards.
Continuity	C-7	Completed	Jun 24	CHES Infrastructure - SAN Switch	Upgrade of the firmware used in CHES SAN Switch to ensure continued supportability post June 2026.

Table A.2 – Inflight (i.e. Planned and In Progress) Roadmap Initiatives

The table below contains inflight initiatives (i.e. planned and in-progress) as at end May 2025. A further six new 2025 roadmap initiatives also have a status of in progress; these are identifiable in Table A.3 as those with a status of “New and in progress”.

Pillar	ID	Status	Indicative Date	Initiative Name	Description
Continuity					
Continuity	C-8	Planned	Jan 26	CHESS Infrastructure - SAN Storage	The work on this initiative is to: <ul style="list-style-type: none"> • Provide additional disk capacity expansion options
Continuity	C-9	Planned	Nov 26	CHESS Frontend and Backend Hardware	This is a monitoring item on the roadmap with a check point in December 2025. There are specific triggers to initiate a re-platforming of CHESS frontend and backend hardware.

Table A.3 – New Roadmap Initiatives

The table below contains new initiatives that have been added to the roadmap between June 2024 to May 2025 inclusive. The 10 initiatives marked with an * have been added as a result of the CHES Batch Settlement incident on 20 December 2024.

Pillar	ID	Status	Indicative Date	Initiative Name	Description
Operations					
Operations	O-18	New and in progress	May 25	External Post Incident Review*	Participants engagement to provide a plan to address any improvement initiatives and actions.
Operations	O-19	New and completed	Apr 25	User Global Section Enhancement*	The enhancement provides dynamic size allocation based on actual number of users with settlement obligations, increasing and decreasing the memory page size as needed.
Operations	O-20	New and in progress	Jun 25	Business verification of other Settlement Global Sections*	Detailed analysis of three identified areas using Settlement Global Sections to identify whether changes are required.
Operations	O-21	New	Nov 25	Implementation of further enhancements to other Settlement Global Sections*	Implementation of further enhancements following the detailed analysis of three identified areas using Settlement Global Sections.
Operations	O-22	New and in progress	Jun 25	Complete review for other enhanced technical controls*	Review if there are any further areas of the CHES system that require enhanced technical controls.
Operations	O-23	New	Nov 25	Implementation of further enhanced technical controls*	Implementation of enhanced technical controls.
Operations	O-24	New	Jun 28	Provision of Bank Account Details in Takeovers Messages	Enhancement to transmit bank account information from the sponsoring broker to the registry in relation to bid offers.
Operations	O-25	New	Dec 26	CMM: Intraday Margin Call	Enhancement to ASX Clear's capacity to monitor the build-up of current exposures to participants and to make intraday margin calls to participants.

Pillar	ID	Status	Indicative Date	Initiative Name	Description
Operations	O-26	New	Jun 26	Additional ETF Holding Adjustment Reason Code	Introduce an additional reason code ("ETF"), to support ETF creation and redemption flows.
Operations	O-27	New and in progress	Oct 25	ASIC Notice 28 March 2025 [ASIC 2025_03-01]*	Appointment of an approved expert and provision of an expert report to ASIC per the terms of ASIC letter dated 28 March 2025.
Continuity					
Continuity	C-10	New and in progress	Jun 25	Enhance the CHESSE resilience scenarios*	Review CHESSE resilience scenarios for all mission critical processes. Update and enhance CHESSE resilience scenarios as required post review.
Continuity	C-11	New	Mar 26	Database backup for settlement*	Database backup: additional snapshots during batch settlement process.
Continuity	C-12	New and in progress	Mar 26	CHESSE Batch Contingency for Funds*	Development of additional reports for batch settlement, to support faster remediation of settlement during the CHESSE Batch Settlement process.