# **Project Briefing Report: Event Management System (EMS)**

Subject: 31272 – Project Management and the Professional

Autumn 2025

Tutor: Mehrnaz Natoori

Prepared by:

Student Name: Bader Naffa SID: 24984787

Student Name: Husain Sourat SID: 24412292

Student Name: Viet Kien Nguyen SID: 14443939

Student Name: Afzal Habib SID: 24708012

Student Name: Magnus Troeen SID: 24611966

Student Name: Jordan McPherson SID: 24506469

## **Table of Contents**

[**Executive Summary** 5](#_Toc198763176)

[**Section 1 – Business Overview** 6](#_Toc198763177)

[**1.1 Document Introduction, Purpose and Background** 6](#_Toc198763178)

[**1.2 Objectives of the Event Management System and Key Success Criteria** 6](#_Toc198763179)

[**1.3 Measurable Organizational Value (MOV) and Potential Benefits** 7](#_Toc198763180)

[**1.4 Project Scope** 8](#_Toc198763181)

[**1.5 Project Assumptions and Potential Constraints** 11](#_Toc198763182)

[**Section 2 – Key Project Management Planning and Control Strategies** 13](#_Toc198763183)

[**2.1 Stakeholder Management and Communication Plan** 13](#_Toc198763184)

[**2.1.1 Stakeholder Management** 13](#_Toc198763185)

[**2.2 Communication Plan** 16](#_Toc198763186)

[**2.2.1 Aims of the communication Plan** 16](#_Toc198763187)

[**2.2.2 Communication Types** 16](#_Toc198763188)

[**2.2.3 Channels and Tools for Communication** 17](#_Toc198763189)

[**2.2.4 Meeting Schedule and Purpose** 17](#_Toc198763190)

[**2.2.5 Stakeholder Communication Matrix** 18](#_Toc198763191)

[**2.3 System Development Approach and Project Management Approach** 20](#_Toc198763192)

[**2.3.1 Initial Planning and Requirements Gathering** 20](#_Toc198763193)

[**2.3.2 System Design and Technical Planning** 21](#_Toc198763194)

[**2.3.3 Incremental Development with Agile Sprints** 22](#_Toc198763195)

[**2.3.4 Ongoing Testing and Quality Review** 22](#_Toc198763196)

[**2.3.5 Deployment and Rollout** 22](#_Toc198763197)

[**2.3.6 Maintenance and Continuous Improvement** 23](#_Toc198763198)

[**2.3.7 Integration with the Project Life Cycle (PLC)** 23](#_Toc198763199)

[**2.4 Risk Management Strategy** 25](#_Toc198763200)

[**2.5 Project Progress Monitoring, Scope Management and Change Control Strategy and Governance** 29](#_Toc198763201)

[**2.5.1 Governance Structure** 29](#_Toc198763202)

[**2.5.2 Scope Management Plan (Scope management plan)** 30](#_Toc198763203)

[**2.5.3 Project Progress Monitoring** 34](#_Toc198763204)

[**2.5.4 Variation management strategy** 35](#_Toc198763205)

[**2.6 Quality Management Strategy and Initial Planning** 38](#_Toc198763206)

[**2.6.1 EMS Project Quality Plan** 38](#_Toc198763207)

[**2.6.2 Quality Assurance (QA) and Quality Control (QC)** 39](#_Toc198763208)

[**Section 3 – Major Project Management Activities and Estimates** 42](#_Toc198763209)

[**3.1 High-Level Work Breakdown Structure (WBS)** 42](#_Toc198763210)

[**3.2 Task Sequencing – AON Network Diagram** 51](#_Toc198763211)

[**3.3 Gantt Chart** 53](#_Toc198763212)

[**3.4 Key Project Milestones** 54](#_Toc198763213)

[**3.5 Critical Path Dependencies** 54](#_Toc198763214)

[**3.6 Time Estimation** 55](#_Toc198763215)

[**3.6.1 Planning the Timeline and Method Used** 55](#_Toc198763216)

[**3.6.2 Allowing for Uncertainty and Building in Flexibility** 56](#_Toc198763217)

[**3.7 Budget Validation** 56](#_Toc198763218)

[**3.7.1 Top-down Budget Allocation** 56](#_Toc198763219)

[**3.7.2 Bottom-up Budget Estimation** 57](#_Toc198763220)

[**3.7.3 Cross-validation Analysis and Recommendations** 59](#_Toc198763221)

[**3.8 Human Resourcing Estimate** 60](#_Toc198763222)

[**Section 4 – Conclusion** 63](#_Toc198763223)

[**4.1 Summary of Major Points** 63](#_Toc198763224)

[**4.2 Required Approvals** 63](#_Toc198763225)

[**4.3 Recommendations and Next Steps** 64](#_Toc198763226)

[**Section 5 – Slide Pitch (refer to Appendices)** 64](#_Toc198763227)

[**Appendices** 65](#_Toc198763228)

## **Executive Summary**

Prepared by Project Management Professionals (PMP) team, this report outlines a clear and structured plan for developing and implementing an Event Management System (EMS) for Nouveau Event Creations (NEC), part of Recreation Amalgamated Holdings (RAH). As NEC moves into managing larger, more complex events, the EMS will be critical in ensuring the success of the upcoming 2027 Festival of Sydney concert and supporting NEC’s long-term strategic goals. The proposed EMS aims to significantly improve event attendance, automate ticketing systems, streamline venue management, enhance supplier compliance, and ensure precise budgeting and scheduling. Clear success criteria include maintaining at least 99% system uptime during events, automating 80% of ticketing transactions, and achieving 100% compliance in tracking supplier documentation.

The primary value of the EMS is to deliver significant improvements in efficiency, customer satisfaction, and strategic growth. Expected benefits include reaching an 85% customer satisfaction rate, increasing repeat ticket sales by 25%, securing two new major event contracts within two years post-launch, boosting profit margins by 20%, and substantially reducing planning time, scheduling conflicts, and paper waste. The project scope covers event marketing, security management, ticketing, vendor coordination, venue management, and detailed analytics. Items that fall outside the project’s scope have been identified to prevent unnecessary complexity and maintain focus. A hybrid project management approach has been selected, a Waterfall approach for fixed scope deliverables such as online ticketing, financial reporting and vendor onboarding while Agile approach for features that require flexibility and user input during development such as Real-time analytics dashboard, mobile application. The total allocated budget for the project is AUD 1.5 million, carefully validated using both top-down and bottom-up budgeting methods. Key risks regarding the project have been thoroughly evaluated, and corresponding mitigation strategies are set in place to address them. In the end, PMP is fully committed and prepared to deliver the EMS, which will position NEC to achieve excellence in event management, and it will also provide a competitive edge to NEC over other event management firms.

## **Section 1 – Business Overview**

### **1.1 Document Introduction, Purpose and Background**

This project briefing report is prepared by the Project Management Professionals (PMP) in response to a formal engagement by Nouveau Event Creations (NEC), a subsidiary of Recreation Amalgamated Holdings (RAH). The report outlines a proposed plan for the development and delivery of an Event Management System (EMS) to support NEC’s strategic transformation and expanding operational needs. The purpose of this report is to provide NEC’s executive board with a structured, high-level planning document that details the project scope, approach, risks, resource estimates, and milestones for the successful delivery of the EMS. It serves as the foundation for NEC’s informed oversight of the development process and facilitates executive decision-making, resource allocation, and vendor evaluation. Recently NEC has secured a contract to manage a large concert as part of the 2027 festival of Sydney which demands significant upgrades to NEC’s internal systems. NEC currently lacks the digital infrastructure and integrated capabilities to manage large-scale event logistics, stakeholder coordination, and real-time data analysis. The development of a robust EMS is therefore critical not only to the success of the 2027 Festival of Sydney concert, but also to NEC’s long-term competitiveness and RAH’s broader modernization plan.

### **1.2 Objectives of the Event Management System and Key Success Criteria**

The primary objective of the Event Management System (EMS) project is to design, develop, and implement an integrated digital platform that automates, streamlines, and enhances NEC’s event planning and execution capabilities.

Project objectives:

* Maximize event attendance by increasing attendance by at least 20% through targeted marketing campaigns, social media outreach, and online promotions by December 2026.
* Automate ticketing & registration by developing and implementing an integrated online ticketing system with 95% of transactions automated by October 2026.
* Design and implement a digital venue management tool that includes interactive site maps, entry/exit tracking, and emergency response plans, ensuring 100% venue mapping completion for all major locations by November 2026.
* Establish an automated supplier management system to track contracts, compliance, and service areas, ensuring at least 90% of suppliers are on board into the system by September 2026.
* Develop a budget tracking system that enables real-time monitoring of planned vs actual expenses, ensuring at least 95% budget tracking accuracy by November 2026.
* Implement a scheduling module to manage performer bookings, stage allocations, and setup time, reducing scheduling conflicts by at least 80% based on historical event issues, with full deployment by December 2026.

Key success criteria:

* System Go-Live by November 30, 2026, fully deployed and tested EMS available two months prior to the January 2027 Festival concert.
* System Uptime ≥ 99% during live event operations, ensures uninterrupted availability and reliability of the EMS during important event periods.
* At least 80% of all ticket transactions processed through the EMS, indicates successful adoption of the integrated ticketing system across all channels.
* 100% compliance tracking of supplier documentation and permits, ensures regulatory adherence through vendor management module.

### **1.3 Measurable Organizational Value (MOV) and Potential Benefits**

MOV statement:

“To enable NEC to efficiently manage and execute large-scale entertainment events through a scalable, secure Event Management System that automates and integrates all aspects of event planning, execution, and analysis—delivering measurable improvements in operational efficiency, customer experience, and strategic market growth.”

Benefits:

* Achieve 85% customer satisfaction rating (through post-event surveys) and 25% increase in repeat ticket sales for future events.
* Secure at least 2 new event contracts within 24 months of successfully delivering the 2027 Festival that will use the EMS.
* Achieve at least 20% increase in profit margins through optimization of budget, labor & sponsorships with the new EMS.
* Reduce planning time by at least 30%, while minimizing scheduling conflicts by 80% using real-time analytics & automated workflow integration.
* Reduce paper waste by 95% through digital ticketing, and ensure compliance with accessibility standards (e.g., wheelchair access, interpreters, inclusive signage).

### **1.4 Project Scope**

* **In-Scope Deliverables**

The Event Management System (EMS) project aims to provide an automated, integrated, and scalable solution for organizing and managing large-scale entertainment events. The key components of the project scope include:

Event Marketing & Audience Engagement:

* Targeted advertising and marketing campaigns (email, social media, mass media).
* Tracking and managing advertising schedules across platforms.

Security & Access Control:

* Integrated security monitoring, including CCTV and facial recognition.
* Banned patrons list management for ticket sales.
* Enforcement of no-phone, no-photo, and no-video policies.

Ticketing & Registration:

* Online and in-person ticket sales.
* Multi-channel payment options (credit card, PayPal, cash).
* Electronic ticketing with barcode scanning at venue entry points.

Venue Management:

* Digital mapping of venues, seating arrangements, service areas.
* Emergency response planning and security route mapping.

Event Risk & Emergency Management:

* Mitigation strategies for weather, performer no-shows, crowd control.
* Emergency response integration with security and medical teams.

Supplier & Vendor Management:

* Coordination of food, merchandise, security, emergency services, etc.
* Licensing and compliance tracking (e.g., food permits, WWCC).

Performance & Artist Management:

* Scheduling and coordination of performances.
* Tracking artist bookings, contracts, itineraries, and special requests.

Event Budgeting & Finance Management:

* Expense tracking, planned vs. actual cost monitoring.
* Supplier invoice reconciliation and approvals.

Sponsor & VIP Management:

* Sponsorship agreements, advertising placements, and access management.
* VIP guest handling, concierge services, and security arrangements.

Data Analytics & Reporting:

* Event summaries, audience demographics, financial performance.
* Insights for continuous improvement and future event planning.

Scalability & Maintenance:

* Support for events of 100 to 10,000 attendees.
* Flexibility for indoor and open-air venues.
* Future-proof architecture for system upgrades.
* **Out-of-Scope Items**

The out-of-scope components include:

* Physical office space setup and administrative staffing.
* Management of the actual 2027 Festival of Sydney concert.
* Legal and regulatory compliance (e.g., tax, immigration, council permits).
* Hardware procurement unrelated to EMS development
* Broader NEC modernization initiatives beyond EMS.

This scope ensures a structured, time-bound, and high-quality EMS development process, aligning with NEC’s expansion strategy while positioning PMP for long-term business opportunities.

* **Requirements Traceability Approach**

To ensure all functional and non-functional requirements of the Event Management System (EMS) are consistently captured, tracked, and validated across the project lifecycle, PMP will implement a structured Requirements Traceability Matrix (RTM) approach. This will ensure that each requirement is aligned with NEC’s business objectives and can be verified during system development and testing.

**Traceability Method**

The RTM will track each requirement through the following stages of the Systems Development Life Cycle (SDLC):

|  |  |
| --- | --- |
| Phase | Approach |
| Requirements Gathering | Requirements collected from NEC will be assigned unique IDs and categorized by priority, source, and type (e.g., functional, technical, regulatory). |
| Design | Each requirement will be mapped to specific design components, including UI features, workflows, and system architecture. |
| Development | Traceability will link each design element and user story to its originating requirement. Developers will reference the RTM to ensure scope alignment. |
| Testing | Test cases will be mapped directly to requirements to validate full coverage. Any unmet or failing requirements will be flagged. |
| Deployment | Verification that all requirements marked "Implemented" have passed testing and are operational in the live system. |
| Post-Implementation | The RTM will support change requests by identifying dependencies and assessing the impact of any modifications on existing requirements. |

### **1.5 Project Assumptions and Potential Constraints**

Assumptions:

* NEC and Stakeholders will provide feedback within agreed timeframes.
* Internet and cloud infrastructure will support EMS deployment.
* Stakeholders will adopt and use the system as trained.
* All necessary licenses and permissions will be secured before deployment.
* Venue Information will be provided in time.
* Project resources such as staff assignments, funding releases, and vendor access will be made available in time.
* The core scope of the project will remain largely stable after the design phase, with only minor change requests expected during execution.
* NEC will take responsibility for all legal, environmental, and regulatory compliance obligations, including privacy, accessibility, and safety requirements.

Constraints:

* The EMS must be fully developed, tested, and operational by 30 November 2026, two months prior to the Festival of Sydney concert, limiting buffer time for delays.
* The initial allocated budget of $1.5 million may restrict scope expansion, requiring strict budget adherence and value prioritization.
* The system must comply with GDPR, ISO27001, and accessibility standards.
* Limited project team (max 5 contributors) with no external contractors.
* Integration with existing NEC or venue infrastructure may present compatibility challenges that could impact timelines and system architecture.
* Features like facial recognition, banned patron lists, and CCTV integrations must meet legal and ethical standards, possibly adding to compliance effort and cost.
* NEC’s expansion (e.g., acquiring firms in Adelaide and Perth) during the project may introduce scope drift or resource reallocation pressures.

## **Section 2 – Key Project Management Planning and Control Strategies**

### **2.1 Stakeholder Management and Communication Plan**

#### **2.1.1 Stakeholder Management**

Stakeholders of this project were identified through consultation with NEC, PMP, and external entities. Selection was based on the level of influence on EMS decision-making, interest in project outcomes, and their role in ongoing operations. Failure to engage these stakeholders could lead to project delays, regulatory risks, or misalignment with NEC’s long-term objectives. Justification for each stakeholder includes:  
**Key Decision Makers**:

* **NEC Board & Managing Director**: Chosen due to high control over EMS scope and budget. Her buy-in is essential for moving through milestone approvals.
* **RAH Representative**: While RAH has low operational interest, their strategic oversight of NEC’s transformation makes their alignment key to securing long-term funding and support.

**Project Delivery Stakeholders**:

* **PMP Project Team**: Directly responsible for EMS implementation. Close engagement ensures alignment between scope, deadlines, and NEC expectations.

**External & Regulatory Stakeholders**:

* **Sydney City**: Required to approve venue infrastructure plans and public safety logistics.
* **NSW Government**: Holds regulatory authority over security and compliance. Exclusion could risk operational permissions.

**Beneficiaries & Partners**:

* **General Public**: As primary users of ticketing and attendance systems, their satisfaction will reflect in NEC’s public image.
* **Vendors & Sponsors**: Provide operational support and funding. Poor communication here may result in supply or reputational risks.
* **Festival organizer:** Coordinate overall event logistics; EMS must align with timeline.

In order to effectively manage stakeholders of the EMS project, the following stakeholder management matrix was created, detailing each stakeholder’s role, responsibilities and management strategy. Specifically, the table includes:

* Stakeholder Name/Group
* Role: Stakeholder’s role in the completion of the project
* Interest (High/Med/Low): Stakeholder’s interest in the success of the project
* Influence (High/Med/Low): Stakeholder’s influence in all phases of the project, from planning to execution
* Responsibilities/ Objective: Stakeholder’s responsibility in overseeing project execution and their desired outcomes
* Specific Management/Engagement Strategy

Stakeholder Management Matrix:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Stakeholder | Interest level  (L/M/H) | Influence  (L/M/H) | Role | Responsibilities/ Objective | Specific Management strategy |
| NEC Managing Director | High | High | Supervisor  /Head | Final EMS approval, sign-off on project phases, escalates major decisions. | Direct communication, regular updates involving key decisions |
| RAH | Low | High | Parent Company/ Corporate owner of NEC | Modernization of NEC infrastructure, ensure EMS project align with wider corporate strategy | Quarterly progress reports, strategic alignment updates |
| PMP Project Team | High | High | Project Developers | Successful system delivery according to plan | Frequent team meetings, transparent communication |
| Sydney City | Medium | Low | Venue Sponsor | Smooth event management, provide venue logistics, emergency coordination | Periodic status updates, involve in key milestones |
| NSW State Government | Low | Low | Festival Sponsor | Ensure compliance and successful event | Annual reporting, ensure regulatory compliance |
| General Public | Medium | Low | End Users | User-friendly, efficient event experience | User testing, accessibility considerations |
| Event Sponsors | High | Medium | Financial supporters | Brand exposure, profits from successful event execution | Regular sponsor meetings, briefed on promotional content & activities |
| Event Suppliers/Vendors | High | Medium | Service Providers | Smooth, coordinated event operations, successful delivery of goods/services | Supplier meetings, EMS training, clear contractual terms |
| NEC board of directors | Medium | High | Governance Body | Effectively determine superior financial decision and monitor strategic performances | Formal quarterly updates, presentation to board for milestones |
| Festival Organisers | High | High | Event Coordinators | Successful event execution | Regular coordination meetings, progress reports on current phases |

### **2.2 Communication Plan**

The communication plan fulfils several important functions. Primarily, it provides a clear and dependable way to share information about the project’s aims, progress, challenges, and changes. This openness fosters cooperation, builds trust, and minimises misunderstandings or disputes that could impede progress. Given that the project will bring significant change to NEC’s operations, the plan also plays a vital role in managing expectations and reassuring staff as they adapt to the new system.

#### **2.2.1 Aims of the communication Plan**

The communication plan has been created with several important aims at its core. Its primary goal is to attempt to have all stakeholders receive relevant and timely updates regarding project milestones, risks, changes, and upcoming deliverables. This approach attempts to prevent any unexpected developments and is made to allow everyone involved to prepare accordingly. Another important aim is to set up a clear and formal framework for the exchange of information between the project team, NEC’s leadership, and other stakeholders.

The plan also seeks to encourage a culture of transparency and teamwork, facilitating open dialogue and collaborative problem-solving. By maintaining clear communication, potential problems can be identified early and addressed quickly. Finally, the plan attempts to help issues that are escalated get resolved efficiently by keeping communication channels open at all times.

#### **2.2.2 Communication Types**

The project will utilise a broad range of communication methods to meet the needs of its diverse stakeholders. These include formal and informal, as well as written and spoken communications.

* Formal communication covers official documents such as project reports, meeting minutes, and presentations. These are scheduled and follow a defined format. For instance, the NEC Board will receive a monthly report summarising completed tasks, budget status, risks, and next steps.
* Informal communication includes brief messages, spontaneous discussions, and instant messaging between team members. Despite their informal nature, these exchanges are vital for daily coordination and rapid problem resolution.
* Written communication involves emails, newsletters, project documentation, and digital announcements. These allow for consistent messaging and provide a record for future reference.
* Verbal communication takes place during meetings, phone calls, and video conferences, allowing for immediate dialogue, clarification of complex issues, decision-making, and dispute resolution.

#### **2.2.3 Channels and Tools for Communication**

Since the project involves multiple NEC locations and may include remote or hybrid working arrangements, the communication tools must be reliable, accessible, and secure. The project will therefore employ a combination of in-person meetings, video conferencing, and cloud-based collaboration platforms.

Key tools will include Microsoft Teams or Zoom for live meetings and video calls, email for formal announcements and approvals, SharePoint or Confluence for centralised document storage and collaboration, Microsoft Project or a similar tool for tracking project progress, instant messaging platforms such as Slack or Microsoft Teams chat for quick exchanges, intranet announcements for organisation-wide communications, and project dashboards to visualise key performance indicators and milestones.

#### **2.2.4 Meeting Schedule and Purpose**

To try to be as certain as possible that communication is consistent and well organised, the project will establish a schedule of regular meetings. Each meeting will have a specific purpose, list of participants, agenda, and expected outcomes. The meetings will include:

* A project kick-off meeting to bring together all key stakeholders and align on goals, scope, and responsibilities.
* Weekly project team meetings with PMP consultants and NEC staff to review progress, issues, risks, and upcoming work.
* Fortnightly technical review meetings involving developers, business analysts, and technical leads to discuss development progress and technical challenges.
* Monthly steering committee meetings attended by senior NEC and PMP leaders to review high-level progress and approve changes.
* Quarterly stakeholder forums for a broader NEC audience to provide updates and collect feedback.
* Pre-launch training workshops to prepare NEC staff for the new system.
* Minutes will be recorded and distributed within twenty-four hours of each meeting to try to maximise transparency and accountability.

#### **2.2.5 Stakeholder Communication Matrix**

| Stakeholder | Report required | Time due | Produced by | Delivery format | Additional comments |
| --- | --- | --- | --- | --- | --- |
| NEC Managing Director | Comprehensive Monthly Report | First Monday of every month, 9am | Project Manager | Email + In-person presentation | Include financial and progress updates |
| RAH Representative | Quarterly Strategic Update | Q1-Q4, end of month | Project Manager | Formal written report | Focus on long-term strategic alignment |
| PMP Project Team | Weekly Progress Report | Every Monday, 9am | Team Leads | Internal project management tool | Detailed technical and operational updates |
| Sydney City | Bi-monthly Coordination Report | End of alternate months | NEC project liaison officer | Email + Video conference | Focus on event-specific requirements |
| NSW State Government | Annual Compliance & Event Summary Report | End of Calendar year | NEC project sponsor | Formal written report + email | Ensure alignment with regulations and policies |
| General Public | Event Information & Updates | Monthly - Weekly during event month | Communications team | NEC website + social media, email newsletters | Information must be freely accessible, user-friendly and explicit |
| Event Sponsors | Sponsorship engagement report | End of each month | Sponsorship Manager | Email + sponsor meetings | Briefed on sponsor visibility and current engagement |
| Event Suppliers/Vendors | Supplier coordination summary | Bi-weekly during project month | Supplier Liaison Officer | Email + supplier portal update, supplier meetings | Must include schedule, compliance & issues |
| NEC board of directors | Quarterly Status report | End of each quarter | Project Manager | Formal written report + board meeting | Focus on milestones, budget & objectives |
| Festival Organisers | Event readiness & progress report | Monthly - Weekly during event month | Project Manager | Email + video conference, written report | Include key risks & EMS status |

### **2.3 System Development Approach and Project Management Approach**

When developing a system as significant and wide-ranging as the Events Management System for Nouveau Event Creations, choosing the most suitable system development approach is an important consideration. The selected methodology needs to reflect both the technical complexity of the system and the broader needs of the organisation, including its pace of delivery, required quality standards and cultural context. Taking into account the demands of the EMS project, alongside the firm deadline linked to the January 2027 Festival of Sydney, a hybrid system development approach has been selected. This combines elements from both the Waterfall and Agile frameworks.

The reasoning behind this choice lies in the strengths each approach offers. The Waterfall model brings a structured framework, allowing for clear documentation and thorough planning, which are helpful for large and integrated systems. On the other hand, Agile offers adaptability and regular opportunities to receive feedback, which helps the team respond to changes or challenges that arise during development. Since NEC places considerable importance on delivering a high-quality product on time, and given that oversight from NEC’s leadership and their parent company is also a factor, this combined method appears to offer a reasonable compromise. The team will follow a structured plan where necessary, while keeping the flexibility to make adjustments during the course of the project.

To better explain how this hybrid approach will be used in practice, and how it aligns with the broader project management process, it is useful to break the project into its main phases and explore how each one incorporates elements of both the Waterfall and Agile models.

#### **2.3.1 Initial Planning and Requirements Gathering**

The project will begin with a detailed planning and information-gathering stage. This early work resembles the Waterfall approach more closely, as it involves structured stakeholder engagement, documentation of needs, and formal analysis of NEC’s current practices. Through interviews, workshops and research, a clear list of system features will be assembled. This will cover both the practical and technical expectations, such as how users will interact with the system, how secure it needs to be, how it connects with other platforms, and how well it performs under different conditions.

The outcome of this phase will be a thorough project specification and an overall roadmap. This plan will highlight important milestones and outline areas where more flexible development cycles will be introduced. Although Agile is more typically associated with looser planning, NEC has indicated the need for formal oversight, especially in the early stages. This formal approach gives everyone involved a shared understanding of the system’s goals before development begins.

#### **2.3.2 System Design and Technical Planning**

Once the initial planning activities are completed, attention turns to designing the overall structure of the system. This stage will involve outlining key architectural elements, including how data will be stored, how users will interact with the interface, and how the system will connect with other platforms and services. The approach here will remain fairly structured, drawing on principles similar to those in the Waterfall model, which are well suited for defining complex systems in advance.

At the same time, the project will begin to incorporate more collaborative ways of working. Different specialists such as designers, analysts and developers will be involved early on to produce initial design models and working examples. These prototypes will be shared with NEC for early input. By engaging with stakeholders at this stage, the team can make useful changes before development begins in full. This should help reduce the likelihood of needing major alterations later on.

#### **2.3.3 Incremental Development with Agile Sprints**

Following the completion of the design phase, the project will move into development, with work carried out in short cycles known as sprints. These typically last between two and four weeks and focus on building specific sections of the system. The system will be divided into smaller components such as event registration, scheduling tools, supplier management, and reporting features.

Each sprint will conclude with a working version of one of these parts, which NEC staff will be able to test and review. Their feedback will then inform the work in the following sprint. This method allows the project team to make steady progress while also adjusting to suggestions or emerging requirements.

Regular team check-ins, sprint planning and review sessions will help maintain communication and support decision-making. Although Agile encourages flexibility, the overall timeline and objectives identified earlier will continue to shape how the work is organised. This should provide a balance between adapting to change and keeping the project moving forward.

#### **2.3.4 Ongoing Testing and Quality Review**

Testing will not be left until the end of the project. Instead, it will be a regular part of development. Automated testing tools will be used to identify and address issues early, and manual testing will take place alongside this. NEC team members will help create realistic test cases that reflect how the system will be used in practice, including examples such as ticket bookings, promotional activity or emergency planning scenarios.

Later in the project, as the main features come together, more structured and wide-ranging tests will be carried out. These will cover how well different components work together, how the system performs under pressure, and whether it meets key security standards. This part of the process will follow a more traditional and carefully sequenced structure, similar to what is seen in Waterfall-based approaches. Given that the system is to be used during a major public event, it is important that it performs reliably, which this review is expected to help with.

#### **2.3.5 Deployment and Rollout**

After testing is complete, the system will be released gradually. A smaller event will serve as the initial trial to observe how the system performs in a live setting. Any challenges identified during this phase will be addressed before the full launch.

The final release is expected to take place by November 2026. This timing has been chosen to give NEC enough opportunity to train staff, promote the system to end users, and resolve any remaining concerns before the festival begins. The rollout will follow a structured plan but will also allow for minor updates and improvements based on early feedback. This approach reflects a blend of Waterfall’s disciplined release strategy with Agile’s capacity for ongoing refinement.

This hybrid approach attempts to balance structure with flexibility. It respects the need for clear documentation, careful planning, and reliable delivery, while still leaving room for changes and improvements during development. For NEC’s EMS project, this method appears well-suited to support both the technical and organisational goals, particularly in the context of a fixed deadline and a high-profile public launch.

#### **2.3.6 Maintenance and Continuous Improvement**

The post-implementation phase reflects a return to Agile philosophy. Continuous improvement is a stated goal of NEC, and the EMS must evolve to meet the demands of future events, many of which may be annual or of greater complexity. The system will be monitored for performance, and regular feedback will be collected from staff, performers, suppliers and attendees through digital surveys and analytics reports. Future upgrades will be planned as Agile mini-projects or enhancements, each running within a short development cycle and released with minimal disruption to ongoing operations.

The hybrid model is to try to be as certain as possible that the project benefits from the strengths of both development methodologies. The structure and foresight of the Waterfall approach bring clarity and predictability, which are essential in managing large, complex systems and providing assurance to senior stakeholders. Meanwhile, the flexibility and iterative feedback of Agile development offer adaptability, stakeholder engagement and responsiveness to change, which are critical for systems designed to handle live events and public interaction.

#### **2.3.7 Integration with the Project Life Cycle (PLC)**

The EMS project is expected to follow the traditional five-phase Project Life Cycle, which includes initiation, planning, execution, monitoring and closure. Throughout these phases, the chosen hybrid system development approach will work alongside the broader project framework to help maintain alignment between technical efforts and overall project aims.

During initiation, key project documents such as the charter will be finalised, the initial scope will be outlined, and plans for stakeholder engagement will be developed. The more structured elements of the Waterfall model will support the early setup of project controls. At the same time, early Agile-style activities such as stakeholder discussions or preliminary design ideas may begin to take shape.

In the planning stage, attention will turn to building a detailed structure of work, assigning resources and considering possible risks. Agile principles may influence how collaborative teams are formed and how planning sessions are conducted. Project managers are likely to coordinate with product owners and scrum masters to make sure roles are understood and that teams can work together effectively.

During the execution phase, both traditional and Agile practices are expected to work alongside each other. Tools like Gantt charts and milestone schedules will help keep track of project progress at a broader level, while development teams will likely rely on Agile methods such as sprints and task boards to organise their day-to-day work. This approach should support clear oversight while giving the teams enough room to manage technical progress more flexibly.

Monitoring and control efforts will probably draw on both frameworks as well. Structured reporting, stage reviews and performance checks will assist in tracking whether the project remains aligned with its original scope, timeline and budget. In parallel, Agile activities like sprint reviews and team retrospectives will offer regular opportunities for feedback and course correction. If changes are needed, a mix of formal governance and more adaptive Agile responses may be used, depending on the nature of the issue and how quickly it needs to be addressed.

When the project reaches closure, NEC will formally review and accept the completed system. The team will also take time to reflect on the project’s outcomes, document lessons learned and prepare for ongoing support. A plan will be drawn up to guide future maintenance of the EMS, particularly as NEC has indicated interest in possibly using the system across other parts of the organisation in future.

### **2.4 Risk Management Strategy**

**Approach**

The EMS project utilizes a structured risk management approach aligned with ISO 31000 and PMP standards. This approach is comprised of the following:

**Risk Identification:** Risks and their triggers are identified through:

* Brainstorming Sessions
* Historical Data
* Expert Judgement
* Stakeholder interviews

**Risk Analysis:** Risks are assessed through an evaluation of their impact and likelihood. It’s calculated through a qualitative 3-point scale:

* **Impact:** Low (1), Medium (2), High (3)
* **Likelihood:** Unlikely (1), Possible (2), Likely (3)

**Risk Mitigation Planning:** For each identified risk, mitigation strategies are defined and recommended. Each mitigation is classified under one of four categories:

* Avoid
* Mitigate
* Transfer
* Avoid

**Risk Ownership:** Each risk is assigned to a specific owner, depending on risk type and trigger.

This approach is cumulated into a Risk Register outlining descriptions, impact, likelihood, mitigation and priority rank.

**Initial Risk Register**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Priority Rank** | **Description** | **Trigger** | **Risk Owner** | **Impact** | **Likelihood** | **Score** | **Mitigation Plan** |
| **RO1** | **1** | Delay in material delivery | Supplier failure or logistical issues | Senior Project Manager | 3 | 3 | 9 | Establish multiple suppliers, buffer stock, expedite orders when needed |
| **RO2** | **2** | Design Errors | Misinterpretation of requirements | Engineering Lead | 3 | 2 | 6 | Implement rigorous design reviews, cross-verification with stakeholders |
| **RO3** | **1** | Regulatory non-compliance | New or changed regulations | Compliance Officer | 3 | 3 | 9 | Regular regulatory updates, compliance audits, early engagement with regulators |
| **RO4** | **3** | Cost overruns | Unforeseen expenses | Finance Manager | 2 | 2 | 4 | Contingency budgeting, detailed cost tracking, cost control measures |
| **RO5** | **2** | Labour shortages | Skilled workforce unavailability | HR manager | 3 | 2 | 6 | Workforce planning, training programs, subcontractor agreements |
| **RO6** | **1** | Safety incidents | Workplace hazards | Safety Officer | 3 | 3 | 9 | Strict safety protocols, regular training, safety audits |
| **RO7** | **2** | Technology failure | System breakdown | Senior IT Engineer | 3 | 2 | 6 | Regular maintenance, backup systems, emergency response plan |
| **RO8** | **2** | Communication breakdown | Miscommunication between teams | Mid-level communications officer | 2 | 2 | 4 | Clear reporting lines, structured meetings, collaboration tools |
| **RO9** | **1** | Stakeholder conflict | Disputes between project stakeholders | Stakeholder manager | 3 | 3 | 9 | Regular engagement, transparent decision-making, conflict resolution mechanisms |
| **RO10** | **1** | Untested system | Lack of available opportunities to test system after development | Senior Project Manager | 3 | 2 | 6 | Schedule internal testing phases throughout development, ensure early involvement of testers and stakeholders, conduct thorough UAT, allocate buffer time for retesting before deployment |
| **RO11** | **3** | Data Privacy Breach | Unauthorized access or cyber attack | Senior IT Engineer | 3 | 1 | 3 | Implement robust security measures, audit regularly, ensure all necessary data is encrypted |
| **RO12** | **3** | Delay in third-party services | Third-party failing to provide promised ESM service | External/Consultant | 3 | 1 | 5 | Establish service level agreement to ensure conditions are met and service is uninterrupted |
| **RO13** | **2** | Inadequate user adoption | Resistance to change or insufficient training | Senior Training Manager | 2 | 3 | 6 | Conduct targeted traiing workshops, offer user guides and hands-on approach |
| **RO14** | **1** | Inadequate disaster recovery capability | Lack of tested recovery plans for critical failures | Mid-level IT/DevOps/Cloud Specialist | 3 | 2 | 6 | Test comprehensive recovery plan, ensure frequent backups, conduct simulation exercises |
| **RO15** | **3** | Scope misalignment with NEC expectations | Poorly defined deliverables or evolving stakeholder goals | Senior NEC Representatives/ Project Sponsor | 2 | 2 | 4 | Maintain scope baseline, regular scope reviews, strong change management process |

### **2.5 Project Progress Monitoring, Scope Management and Change Control Strategy and Governance**

#### **2.5.1 Governance Structure**

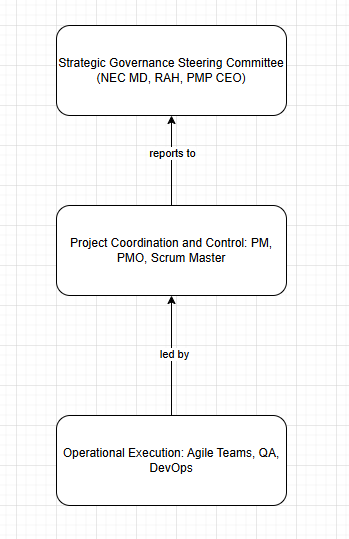


Figure 1: Project Governance structure

The EMS project is governed by a structured oversight model that includes strategic, tactical, and operational layers to ensure effective decision-making, accountability, and project alignment with organizational goals (refer to figure 1 above).  
   
At the top of the governance structure is the Steering Committee, which includes the NEC Board & Managing Director, RAH Executive Sponsor, and the PMP CEO. This committee meets monthly to review progress, assess escalated risks or issues, and approve major scope changes.  
   
Supporting the Steering Committee is the Project Management Office (PMO), which provides governance support, prepares reports, and ensures adherence to NEC’s delivery standards. The PMP Project Manager leads the operational management of the project, supported by Scrum Masters, Team Leads, and Technical Advisors.

Led by PMO are the Operational Execution teams, which includes teams such as Agile Development, QA & Testing, DevOps. These teams perform the hands-on work: coding, testing, system setup, documentation, etc. Progress is reported daily in stand-ups and via task boards. Sprint reviews are held weekly to present completed work to the Project Manager and NEC stakeholders.  
   
A tiered reporting system ensures transparency. Weekly Scrum meetings identify issues early, while weekly sprint reviews provide opportunities to validate deliverables and report performance metrics. Monthly governance reports are produced by the PMO and reviewed by the Steering Committee. This structure enables agility at the development level, while maintaining executive oversight at key checkpoints.

#### **2.5.2 Scope Management Plan (Scope management plan)**

Effective scope management is essential to ensure that the EMS project delivers exactly what is required by NEC, within the allocated time and budget. This section outlines how the project scope is defined, documented, validated, and controlled throughout the project lifecycle.

The scope of the EMS project was initially defined through a series of stakeholder workshops and requirement-gathering sessions conducted with NEC representatives, PMP analysts, and select external stakeholders. The output of these sessions was documented in a comprehensive Requirements Traceability Matrix (RTM) and decomposed into a Work Breakdown Structure (WBS).

* **Work Breakdown Structure (WBS):** The WBS serves as the foundation for scope definition. It breaks down the project into major deliverables (e.g., ticketing system, vendor management, analytics) and further into smaller tasks and subcomponents, allowing clear traceability and accountability for all work. After creating WBS and analyzing the deliverables, the following in-scope items are identified:

|  |  |
| --- | --- |
| Category | In-scope components |
| Ticketing | Online ticket sales, barcode entry scanning, payment integration (PayPal, credit card) |
| Performer & Vendor Management | Performer profiles, booking status, vendor compliance (WWCC, food permits) |
| Venue Management | Seating layout tools, security zones, backstage access areas |
| Budgeting | Cost tracking, reconciliation, reporting (planned vs actual) |
| Security Features | Facial recognition, banned patron database, CCTV integration |
| Sponsorship Management | Sponsor profiles, access to promotional tools, VIP entry |
| Analytics & Reporting | Ticket sales reports, audience demographics, event summary dashboards |
| Risk & Emergency | Risk scenario library, disaster recovery planning, emergency contact integratio |
| Mobile Integration | Mobile tickets, device usage restrictions, alerts for security staff |
| User Roles | Role-based access control (admin, vendor, sponsor, public) |
| UAT & Training | User training materials, workshop delivery, post-Go-Live support |

* Out-of-scope items includes:

|  |  |
| --- | --- |
| Category | Out-of-scope components |
| Physical Infrastructure | Purchase/setup of speakers, lighting, stage equipment |
| Legal & Permits | Local council applications, tax or immigration law considerations |
| Festival Event Delivery | Execution of the Festival of Sydney concert (EMS will support but not manage the event) |
| Back Office Systems | Payroll, HR systems, non-EMS finance platforms |
| Hardware Procurement | Laptops, phones, office space for the EMS team |
| Broader NEC Modernization | Other digital projects not directly linked to EMS |
| Non-EMS Projects | Any systems intended for other RAH subsidiaries or unrelated NEC initiatives |

* **Functional and Non-functional Requirements:** All requirements were documented in detail and reviewed with stakeholders to ensure clarity and alignment. These were grouped by category (e.g., UI design, performance, compliance) and prioritized using the MoSCoW (Must-Have, Should-Have, Could-Have) method. Functional Requirements composes of the following elements:

|  |  |
| --- | --- |
| Module | Function Requirements |
| Ticketing | Users can register, purchase tickets, and receive digital or postal delivery |
| Entry Management | Barcode scanning gates validate ticket authenticity at venue |
| Artist & Vendor Management | System captures travel, accommodation, rider needs, licensing |
| Event Scheduling | Event coordinators create, edit, and publish multi-stage schedules |
| Sponsorship | Manage sponsor benefits, access levels, and branding areas |
| Budget Tracking | Admins track expenses, submit invoices, generate financial reports |
| Risk Management | Log risks, assign mitigation plans, track resolution status |
| Access Control | Admins assign permissions by user role and module access level |
| Reporting | Generate customizable reports by module (financial, attendee, vendor) |
| Mobile Policy | Restrict or notify mobile usage at events (e.g., alerts for non-compliance) |

* Non-Functional Requirements includes:

|  |  |
| --- | --- |
| Area | Non-Functional Requirement |
| Performance | System must support up to 10,000 concurrent users during peak ticketing times |
| Security | End-to-end encryption, compliance with Australian data protection laws |
| Availability | 99.9% uptime SLA required during event days |
| Scalability | Platform must support additional cities/venues as NEC expands |
| Maintainability | Modular design with clean code structure and automated backups |
| Usability | Accessible design for public users (e.g., WCAG 2.1 compliance) |
| Support | 24/7 technical support hotline during Go-Live and warranty period |
| Integration | Must integrate with existing NEC CRM and email systems |
| Localization | System language should default to English but be ready for internationalization |
| Logging | Activity logs should be retained for a minimum of 12 months for audit purposes |

Scopes are validated through gaining formal acceptance of completed deliverables from NEC and other key stakeholders. The project team conducts reviews at the end of each Agile sprint (for software deliverables) and after milestone completions (for infrastructure components).

* **Sprint Reviews and Sign-offs:** Agile sprint reviews are used to demonstrate completed features. NEC stakeholders validate functionality against user stories and acceptance criteria before approving work as complete.
* **Formal Milestone Sign-offs:** For major deliverables, milestone sign-off forms are used, signed by NEC management or the Project Steering Committee. This ensures alignment and prevents disputes.

To manage scope effectively throughout the project, the team has implemented a formal scope change control process, supported by clearly defined procedures and documentation standards.

* **Scope Change Request (SCR) Forms:** Any request to alter the scope must be submitted as a formal SCR. Each form includes a description of the proposed change, justification, and an impact analysis (cost, time, risk).
* **Change Review and Approval Workflow:**
  + **Step 1:** SCR submitted by stakeholder or team member
  + **Step 2:** Reviewed by Project Manager and PMO
  + **Step 3:** Technical/financial impact assessed
  + **Step 4:** Approval by Steering Committee (for major changes) or PM (for minor changes)
  + **Step 5:** Update project documents (WBS, RTM, project schedule)
* **Scope Change Log:** All changes are recorded in a change log with tracking ID, date, requester, approval status, and links to affected components (tasks, requirements, cost).

As the project progresses, the uncontrolled expansion of project scope without adjustments to time, cost, or resources may result in scope creep, which poses a significant risk to the EMS project. To mitigate this:

* **Strict adherence to MoSCoW prioritization** ensures that only "Must-have" items are guaranteed in this phase, with "Should" and "Could" items included only if capacity allows.
* **CR threshold criteria**: Any change exceeding 5% of the original budget or timeline requires escalation to the Steering Committee.
* **Agile feedback loops**: Sprint reviews help catch early attempts at adding new features outside the defined scope.
* **Stakeholder education**: All key stakeholders have been briefed on scope boundaries and change protocols to reduce casual or informal change requests.

#### **2.5.3 Project Progress Monitoring**

Monitoring project progress is essential to ensure the EMS project stays on track with regard to schedule, scope, and resource utilization. PMP will employ a hybrid approach that combines Agile sprint-level tracking for software development and traditional waterfall-style tracking for infrastructure, governance, and integration elements.

Daily stand-up meetings are conducted every morning with the development teams. These are short, focused sessions (15 minutes max) where each team member reports on their daily progress. These meetings are facilitated by the Scrum Master and help ensure transparency, promote accountability, and allow for the rapid resolution of issues. Any risks or delays are flagged early and escalated when needed. Updates from stand-ups are logged into Jira for visibility by the Project Manager and PMO.

Every week (or at the end of each sprint), the Agile development teams hold Sprint Review sessions. During these reviews:

* The team demonstrates completed features to stakeholders
* Stakeholders provide feedback or request adjustments
* Acceptance is recorded in Jira or confluence-based sprint boards

Sprint Retrospectives follow these reviews to assess what went well, what didn’t, and what improvements can be made. These sessions support continuous improvement and are logged for audit and performance reflection.

For project-wide tracking — including non-software components such as infrastructure deployment, procurement, and UAT, Microsoft Project is used to maintain a dynamic Gantt chart. This chart:

* Visually displays all tasks, phases, and their interdependencies
* Highlights start and end dates, durations, and critical path activities
* Is updated weekly by the PMO and reviewed in bi-weekly internal management meetings

This provides stakeholders, especially those from NEC and RAH, with a high-level view of progress toward project milestones and final delivery.

#### **2.5.4 Variation management strategy**

Given NEC's evolving needs, potential vendor dependencies, and the high-profile nature of the 2027 Festival event, it is critical that all proposed changes to the EMS project are managed in a controlled, auditable, and transparent manner. To mitigate risks from uncontrolled or undocumented changes, PMP has implemented a formal Change Management Strategy, which governs how any alterations to scope, cost, schedule, or quality are evaluated and handled.

All change requests must go through a structured five-step workflow to ensure consistency and accountability:

1. **Submission**
   1. Any project stakeholder (internal or external) may initiate a Change Request Form (CRF).
   2. The CRF must clearly describe the requested change, its justification, and the component(s) it affects (e.g., feature, deadline, cost).
2. **Evaluation**
   1. The Project Manager and Technical Lead conduct a feasibility and impact assessment, covering:
      1. Impact on project timeline
      2. Budget implications
      3. Resource reallocation
      4. Dependencies and risks
   2. The evaluation outcome is documented and attached to the CRF.
3. **Approval or Rejection**
   1. Based on the impact:
      1. Minor changes are approved by the Project Manager.
      2. Major changes (exceeding set thresholds) are escalated to the Steering Committee for review and decision.
   2. All decisions are documented in the Change Log and CRF.
4. **Communication**
   1. Once approved or rejected, the outcome is communicated to all affected stakeholders.
   2. The PMO ensures the change is reflected in all updated project documentation, including the WBS, schedule, and requirements matrix.
5. **Implementation**
   1. Approved changes are incorporated into project tasks, tracked via Jira or MS Project.
   2. Any rescheduling or reallocation of effort is assigned and monitored by the Scrum Master or Team Leads.

To prevent unnecessary delays in decision-making while maintaining oversight of high-impact changes, PMP has defined specific thresholds for automatic escalation to the Steering Committee:

|  |  |
| --- | --- |
| Change Type | Escalation Threshold |
| Cost Impact | > $5,000 AUD or >3% of project phase budget |
| Timeline Delay | > 5 working days extension to critical path tasks |
| Scope Creep | > 5% increase in feature volume or deliverables |
| Resource Shift | Replacement or addition of key personnel |
| Strategic Impact | Any change that affects contractual obligations, public safety, or compliance |

If a proposed change exceeds any of these limits, it must be submitted for Steering Committee review during the next formal governance meeting or escalated urgently if time-critical.

All change-related activity is tracked using a centralized Change Log, maintained in SharePoint and linked to both MS Project and Confluence documentation. The Change Log captures the following for each Change Request:

* CR ID (auto-generated)
* Date submitted
* Submitted by
* Affected deliverable(s)
* Description and rationale
* Impact analysis summary (cost, time, risk)
* Approval status (pending, approved, rejected)
* Responsible approver
* Implementation status
* Linked documents (CRF, WBS version, updated schedule)

The log is updated in real-time by the PMO and reviewed weekly in internal planning meetings and monthly in Steering Committee reviews.

### **2.6 Quality Management Strategy and Initial Planning**

#### **2.6.1 EMS Project Quality Plan**

The EMS project's quality vision is to deliver a system that is fit for purpose, user-friendly, secure, and compliant with NEC and regulatory standards. Quality is embedded throughout the development lifecycle, starting from requirements analysis to final deployment. Quality criteria for the EMS system are aligned with its key deliverables and the following operational requirements:

**Quality Requirements Matrix:**

|  |  |
| --- | --- |
| Quality aspects | Requirements |
| Performance | The system should handle 1,000 concurrent users without performance degradation. |
| Reliability | 99.9% uptime guarantee, ensuring minimal downtime. |
| Security | Multi-factor authentication (MFA), role-based access control, and end-to-end encryption for sensitive data. |
| Usability & Accessibility | The system must be intuitive and user-friendly, with WCAG 2.1 compliance for accessibility. |
| Data Integrity | Regular automated backups, data validation checks, and audit trails. |
| Compliance & Legal | Must align with government regulations and NEC’s corporate IT policies. |
| Testing & Validation | System must pass unit, integration, system, and UAT (User Acceptance Testing) with at least 95% test case success. |
| Maintainability | Code should follow modular architecture to allow easy updates and scalability. |
| Scalability | The system should support future expansion, including additional users and event modules. |

In addition to adhering to the above quality requirement, the EMS must comply with the following industry and government regulations:

1. ISO 9001:2015 (Quality Management System) – Ensures a structured quality management process.
2. ISO/IEC 27001 (Information Security Management System) – Ensures data protection and cybersecurity.
3. ISO 25010 (Software Quality Standards) – Covers maintainability, reliability, usability, and security.
4. Australian Privacy Act 1988 & GDPR Compliance – Protects user data and privacy rights.
5. WCAG 2.1 (Web Content Accessibility Guidelines) – Ensures accessibility for people with disabilities.

#### **2.6.2 Quality Assurance (QA) and Quality Control (QC)**

Quality Assurance (QA) is crucial in every development phase of EMS in order to ensure the final product’s quality aligns with project’s quality requirement, while Quality Control (QC) refers to activities that detect and fix defects in the EMS product. Quality planning began in the early stages of the project lifecycle, during the Planning Phase. The Quality Management Plan (QMP) was developed and formally approved as part of Task T47 (refer to Task List), in alignment with NEC’s delivery framework. Test planning activities, including unit test template creation, environment setup, and definition of acceptance criteria, were performed before any development commenced. Initial roles (QA Lead, QA Analysts) were assigned during team formation, and a sprint-zero was dedicated to preparing test cases and review protocols. These activities laid the foundation for robust quality assurance and control throughout the EMS development.

The following preventative actions in QA will be implemented aim to reduce defects before they occur by implementing structured processes and standards:

* Standards such as ISO 9001 or WCAG 2.1 will be strictly followed
* Code review policy: All code must pass through Git-based peer review before merging into the main branch. This helps identify and fix potential issues early.
* Code walkthroughs processes are implemented where teams analyze system workflows to ensure alignment with requirements.
* Sprint Demo validations sessions are held weekly to ensure feature works as intended, while having minimal response times under peak load conditions. Results of these sessions are shared with stakeholders to gather feedback and confirm alignment with project goals.

The development team is responsible for most QA and QC tasks, while end-users provide feedback and modification requests to ensure a user-friendly approach. In particular, each role has the following responsibilities:

**1.** Developers – Unit Testing

* Conduct unit tests to verify individual components function correctly.
* Ensure code quality by following best practices and coding standards.
* Use automated testing frameworks (e.g., JUnit, NUnit) to validate logic.
* Collaborate with QA Analysts to resolve defects before integration testing.

2. QA Analysts – Integration & System Testing

* Perform integration testing to ensure seamless interaction between system modules.
* Conduct system testing to validate overall functionality, performance, and security.
* Identify and document defects using bug tracking tools (e.g., JIRA, Bugzilla).
* Ensure compliance with ISO 9001 and OWASP security standards.
* Conduct Performance Testing: Load simulation to verify scalability under peak usage.
* Conduct Penetration Testing: Security assessments to identify vulnerabilities in the system.

3. End-Users – User Acceptance Testing (UAT)

* Validate system usability and functionality from a real-world perspective.
* Execute test scenarios based on actual event management workflows.
* Provide feedback on user experience, accessibility, and responsiveness.
* Approve or request modifications before final deployment.

4. Project QA Lead – Overall Control & Sign-Off

* Define QA strategy, including testing methodologies and quality benchmarks.
* Oversee test execution, ensuring adherence to project timelines and objectives.
* Conduct final review and approval before system deployment.
* Ensure continuous process improvement based on testing insights.

Software module and/or functional units will be signed off by Project QA Lead if they pass the following acceptance criteria and metrics:

|  |  |
| --- | --- |
| Metric | Target |
| Test Case Coverage | ≥ 90% of functional requirements |
| Major Defect Rate | ≤ 3 major defects/module during UAT |
| Rework Rate | ≤ 10% of sprint capacity |
| UAT Success Threshold | ≥ 95% of test cases must pass |
| Regression Pass Rate | ≥ 90% following code changes |

All test results are logged in Jira and stored centrally in SharePoint. Weekly QA reports summarize defect trends and highlight quality risks to the PMO.

## **Section 3 – Major Project Management Activities and Estimates**

### **3.1 High-Level Work Breakdown Structure (WBS)**

The following Work Breakdown Structure (WBS) outlines the project deliverables broken up hierarchically along with the work required to create them for the Event Management System (EMS) project. The WBS is structured by project phases, with deliverables in each phase, and the integral tasks for each deliverable.

PHASE 1: Project Initiation (Waterfall) Tasks: T1–T15

**Deliverable 1:** Identify Project Scope and Structure

* T1: Clarify EMS deliverables with stakeholders
* T2: Structure EMS deliverables into a WBS
* T3: Document project assumptions and constraints
* T4: Define project success criteria
* **Milestone:** Scope and WBS formally documented and approved by project sponsor

**Deliverable 2:** Identification and Engagement Planning

* T5: Identify stakeholders and their roles
* T6: Analyse and prioritise stakeholder influence and interests
* T7: Develop stakeholder communication plan
* **Milestone:** Stakeholder register and engagement plan validated and signed off

**Deliverable 3:** Project Charter Development and Approval

* T8: Compile initial EMS project charter
* T9: Review EMS project charter (internal and NEC)
* T10: Obtain approvals for EMS project charter
* **Milestone:** Project charter endorsed by NEC board and PMP team

**Deliverable 4:** Project Team Definition

* T11: Document project team structure
* **Milestone:** Core project team roles allocated and onboarding completed

**Milestone:** Project initiation phase completed, with scope, charter, stakeholder plans, and team formally established.

PHASE 2: Planning Phase (Waterfall) Tasks: T16–T62

**Deliverable 5:** Team Formation and Governance Planning

* T12: Assign core project team members
* T13: Establish project governance framework
* T14: Develop escalation procedures
* T15: Define decision-making hierarchy
* **Milestone:** Project team operational and governance structure implemented

**Deliverable 6:** Stakeholder Engagement and Feasibility Study

* T16: Develop stakeholder engagement plan
* T17: Conduct project feasibility analysis (technical + financial)
* **Milestone:** Feasibility report and engagement plan reviewed and endorsed by stakeholders

**Deliverable 7:** Risk Management Planning

* T18: Conduct risk assessment workshop
* T19: Create preliminary risk register
* **Milestone:** Initial risk register approved and integrated into planning documentation

**Deliverable 8:** Project Structure

* T20: Define major project phases
* T21: Set high-level estimated timelines
* T22: Identify key internal dependencies
* T23: Identify key external dependencies
* T24: Set up project team and allocate resources.
* **Milestone:** Project schedule, structure, and resource plan validated and agreed upon

**Deliverable 9:** Budget Planning

* T25: Develop project budget
* T26: Break down budget by phase
* T27: Develop cost breakdown structure
* **Milestone:** High-level budget and CBS finalised and authorised

**Deliverable 10:** Procurement Planning

* T28: Establish procurement requirements
* T29: Draft vendor selection criteria
* T30: Review vendor selection criteria with NEC procurement
* T31: Initiate vendor selection process
* T32: Shortlist vendors for EMS development
* **Milestone:** Procurement plan approved and RFP process launched

**Deliverable 11:** Communication Planning

* T33: Develop communication strategy
* T34: Schedule stakeholder briefing sessions
* T35: Set up project collaboration tools (Teams, Slack, Email)
* **Milestone:** Communication strategy rolled out across project team and stakeholders

**Deliverable 12:** Requirements Gathering

* T36: Conduct stakeholder interviews
* T37: Create requirement gathering plan
* T38: Conduct workshops to gather functional and non-functional requirements
* T39: Document functional and non-functional requirements
* T40: Validate and obtain stakeholder approval for all documented requirements
* T41: Categorise approved requirements using MoSCoW
* **Milestone:** Requirements document signed off by all relevant stakeholders

**Deliverable 13:** Change and Document Control

* T42: Define change request process
* T43: Set up document management system
* **Milestone:** Change management and document control processes established

**Deliverable 14:** Scheduling and Quality Planning

* T44: Prepare high-level project schedule
* T45: Identify critical path activities
* T46: Define key project milestones
* **Milestone:** Project timeline and quality gates incorporated into master schedule

**Deliverable 15:** Quality, Compliance, and Risk Planning

* T47: Establish quality management plan
* T48: Develop health, safety, and compliance plan
* T49: Review and approve plans
* T50: Create risk management plan
* T51: Develop risk mitigation strategies
* **Milestone:** Approved plans integrated into overall project plan and risk framework

**Deliverable 16:** Project Launch Preparation

* T52: Conduct project kick-off meeting
* T53: Distribute approved project documents to stakeholders
* **Milestone:** Kick-off meeting completed, and project artefacts distributed

**Milestone:** Planning phase concluded (Governance, schedule, budget, and requirements baselined for execution)

PHASE 3: Design & Development Phase (Agile) Tasks: T63–T107

**Deliverable 17:** EMS System Design

* T54: Create high-level system design
* T55: Develop EMS system architecture
* T56: Develop data flow diagrams
* T57: Develop user interface wireframes
* T58: Conduct design review sessions
* T59: Finalize system design documents
* T60: Conduct design sign-off meeting
* **Milestone:** System design documentation signed off by stakeholders and approved for development

**Deliverable 18:** Agile Development Planning

* T61: Set up Agile development team
* T62: Prepare product backlog
* T63: Develop sprint schedule and milestones
* T64: Conduct sprint planning meeting
* T65: Establish Continuous Integration (CI) pipeline
* T66: Set up development environment
* **Milestone:** Agile team assembled, backlog ready, CI pipeline and dev environment established

**Deliverable 19:** EMS Module Development & Testing (Sprints)

* T67: Develop ticketing and registration module
* T68: Conduct unit testing for ticketing module
* T69: Develop artist management module
* T70: Conduct unit testing for artist module
* T71: Develop vendor management module
* T72: Conduct unit testing for vendor module
* T73: Develop sponsor management module
* T74: Conduct unit testing for sponsor module
* T75: Develop event scheduling module
* T76: Conduct unit testing for scheduling module
* T77: Develop budget tracking module
* T78: Conduct unit testing for budget module
* T79: Develop role-based access control
* T80: Conduct unit testing for access control
* T81: Develop analytics dashboard
* T82: Conduct unit testing for analytics module
* **Milestone:** All core modules developed and unit tested, ready for integration

**Deliverable 20:** Advanced EMS Functions and Integration

* T83: Integrate modules into single EMS platform
* T84: Develop banned patrons list database
* T85: Develop supplier compliance checklist (e.g., WWCC, food permits)
* T86: Create automated financial reconciliation report templates
* T87: Develop VIP guest registration and tracking system
* T88: Implement event risk scenario planning system
* T89: Configure EMS for mobile device usage policy
* T90: Integrate mobile restriction alerts to security staff
* T91: Develop emergency services digital access interface

**Deliverable 21:** System Testing & Agile Sprint Cycles

* T92: Conduct system integration testing
* T93: Conduct sprint review meetings
* T94: Conduct sprint retrospectives
* T95: Update product backlog after each sprint
* **Milestone:** Integration and sprint cycles completed, platform stabilised for UAT

**Deliverable 22:** User Acceptance Testing (UAT)

* T96: Prepare UAT environment
* T97: Conduct User Acceptance Testing (UAT) & Fixes
* T98: Obtain UAT sign-off from NEC
* **Milestone:** UAT approved, system accepted by NEC for deployment

**Milestone:** Design & development phase concluded (EMS fully developed, tested, integrated, and signed off for infrastructure implementation)

PHASE 4: Infrastructure & Security Implementation (Waterfall) Tasks: T108–T124

**Deliverable 23: Core physical and hosting environment.**

* T99: Conduct initial site survey
* T100: Finalize infrastructure requirements
* T101: Procure servers and hosting services
* T102: Install infrastructure hardware
* T103: Set up EMS hosting environment
* **Milestone: Infrastructure Setup Plan, Configured Servers and Hosting Environment Ready.**

**Deliverable 24: Security Configuration**

* T104: Configure security protocols
* T105: Conduct penetration testing
* T106: Implement data encryption
* T107: Establish data backup procedures
* **Milestone: Security Protocols for EMS Configured**

**Deliverable 25: Surveillance Systems Integration**

* T108: Digitally map venue layout for emergency response teams
* T109: Integrate CCTV modules
* **Milestone: CCTV and Venue Mapping Operational**

**Deliverable 26: Disaster Recovery Plan & Testing Report**

* T110: Develop a disaster recovery plan
* T111: Develop an automated EMS data backup process
* T112: Integrate emergency contact database
* T113: Conduct disaster recovery testing
* **Milestone: Disaster recovery plan approved, Backup Process Tested and Documented**

**Deliverable 27: Regulatory Compliance & Final Checks**

* T114: Prepare infrastructure deployment checklist
* T115: Obtain regulatory security certifications
* **Milestone: Compliance Certificates Obtained**

**Milestone - Phase completion: Infrastructure and security task completed**

PHASE 5: Training & Go-Live Preparation Tasks: T125–T134

**Deliverable 28: Training Development & Delivery**

* T116: Develop training materials
* T117: Schedule staff training sessions
* T118: Conduct EMS training workshops
* T119: Develop quick-start user guides
* T120: Conduct training sessions for users
* T121: Conduct training feedback survey
* **Milestone: Training Materials Approved, Staff/User Training Completed, Training Survey Responses Reviewed**

**Deliverable 29: Go-Live Readiness & Communication**

* T122: Finalize Go-Live plan
* T123: Conduct pre-Go-Live readiness check
* T124: Obtain Go-Live approval
* T125: Notify stakeholders of Go-Live date
* **Milestone: Go-Live Strategy Finalized, System Readiness Confirmed, Go-Live Authorization Granted, Stakeholders notified.**

**Milestone - Phase completion: Training and Golive task completed**

PHASE 6: Deployment & Support Tasks: T135–T141

**Deliverable 30: System Migration & Activation**

* T126: Migrate EMS to production environment
* T127: Activate EMS live services
* **Milestone:** **EMS migrated to production and active.**

**Deliverable 31: Go-Live Development & Support**

* T128: Monitor system performance post-deployment
* T129: Deploy Go-Live support hotline
* T130: Address initial user issues
* **Milestone: EMS Go-Live Complete, First Week System Health Check Passed, Go-Live Support Hotline Operational.**

**Deliverable 32: Post-Implementation Review & Handover**

* T131: Conduct post-implementation review
* T132: Identify and fix issues post-implementation
* T133: Transition to Maintenance & Support Team
* **Milestone: Review Meeting Held and Documented, Major Issues Resolved Post-Go-Live, Operations Team Onboarded & Handover Done.**

**Milestone - Phase completion: Deployment and support task completed**

PHASE 7: Closure Tasks: T142–T143

**Deliverable 33: Project Closure**

* T134: Archive Project Documentation
* T135: Conduct project closure and team recognition
* **Milestone: Formal Project Closure Signed**

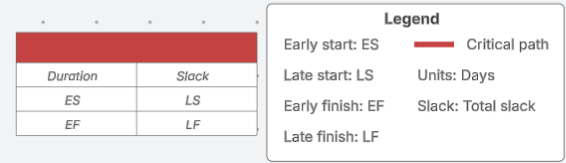
**Milestone - Phase completion: Closure task completed**

### **3.2 Task Sequencing – AON Network Diagram**

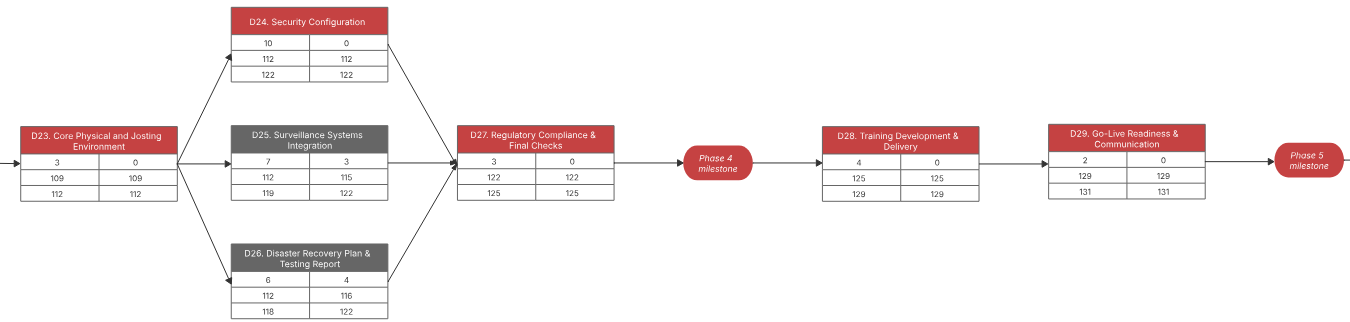
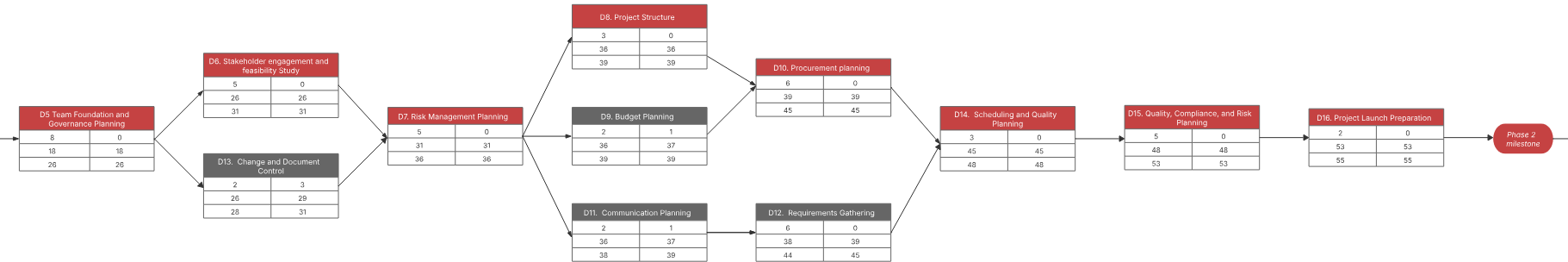
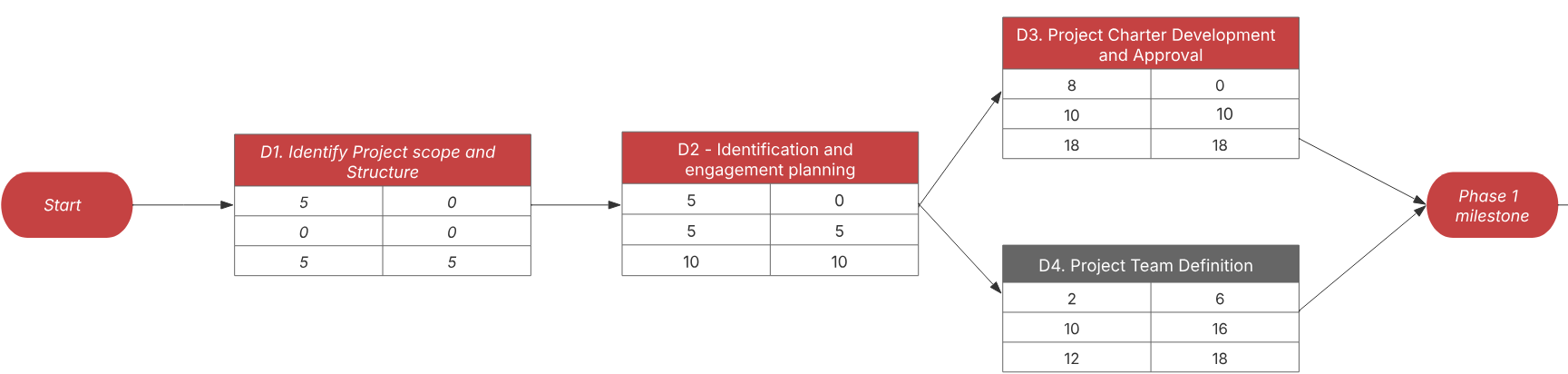
The Activity-on-Node (AON) diagram visually represents the logical sequence of EMS project tasks, derived from the Work Breakdown Structure (WBS). Each node corresponds to a key deliverable or milestone, with directed arrows indicating dependencies.

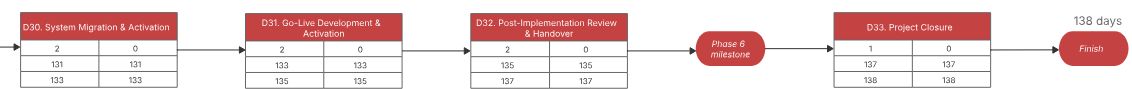
AON was selected for its ability to clearly illustrate task dependencies, identify the critical path, and assess slack, making it ideal for complex project sequencing such as the EMS.

**AON Legend:**

The following AON legend is used for the entirety of the AON  


AON:



This Diagram is used to further create:

* The Gannt chart and time estimates (section 3.6)
* The Critical Path analysis (section 3.5)
* Phase and milestone alignments with SDLC/PLC frameworks.

The use of AON is very useful for the EMS, due to it being a project with a fixed deadline and multi-phase dependencies that is important to track to avoid scope creep or inability to finish on time.

### **3.3 Gantt Chart**

The Gantt Chart provides an easy-to-understand timeline showcasing each individual task, their start/end dates, durations, dependencies, and milestones. It ensures development stays on track by managing milestones and task deadlines. It is attached to the submission.

### **3.4 Key Project Milestones**

The EMS project includes key milestone that structure progress and align stakeholders across lifecycle phases:

|  |  |  |
| --- | --- | --- |
| **Milestone** | **WBS Phase** | **Phase** |
| 1. Project Kickoff | Deliverable 16, T52 | Initiation |
| 1. Requirements Finalized | Deliverable 12, T41 | Planning |
| 1. System Design Approved | Deliverable 17, T60 | Design |
| 1. Core Modules Developed | Deliverable 19, T82 | Development |
| 1. User Acceptance testing completed | Deliverable 22, T98 | testing |
| 1. Go-Live Approval | Deliverable 29, T124 | Go-Live Readiness |
| 1. System Deployment (Go-Live) | Deliverable 30, T127 | Deployment |
| 1. Post-implementation Review Completed | Deliverable 32, T133 | Closure |

These Checkpoints support alignment with governance, risk control and performance measurement.

### **3.5 Critical Path Dependencies**

The *Critical path* is *“The longest path through the project network, but shortest time in which the project can be completed*” (UTS, 2025), and we use it to determine the minimum duration required to complete the EMS Project. The Critical path contains 138 working days and includes several tasks with zero slack, meaning that if these tasks are delayed, the whole project is also delayed.

**Tasks on critical path include:**

* D1 to D4: Initial Setup and stakeholder planning
* D5 to D18: Design, Agile sprint planning, and core module development
* D20 to D27: Integration, testing and infrastructure security
* D28 to D33: Go-live, review, and closure activities

**Significance:**

* Any delays in these tasks directly impact project completion
* Non-critical tasks have slack and can be rescheduled without affecting timeline.
* Monitoring and resource prioritization must focus on critical activities.

### **3.6 Time Estimation**

#### **3.6.1 Planning the Timeline and Method Used**

To develop a reliable timeline, the project team has used a mix of planning methods. These include a structured Work Breakdown Structure (WBS), the Program Evaluation and Review Technique (PERT), as well as an Activity-on-Node diagram. This blend allows the team to build time forecasts that are informed both by experience and by statistical analysis, making the planning process more grounded and less reliant on rough guesswork.

A detailed WBS has already been prepared, breaking the overall EMS delivery into smaller components. Activities such as requirements gathering, design, development sprints, testing, pilot rollout, final launch and user training have each been scoped and reviewed. For every task, a range of time estimates has been produced, covering best-case, likely and less favourable scenarios. These estimates were then used in PERT calculations to arrive at more realistic scheduling outcomes.

In total, it is expected that the EMS project will take about a year of focused effort. This includes all stages from planning and design to testing and rollout. The work is expected to begin early in 2026, with a deliberate buffer period built in towards the end of that year. This time has been reserved for polishing the system, responding to final feedback, and preparing NEC staff for the live environment ahead of the festival.

#### **3.6.2 Allowing for Uncertainty and Building in Flexibility**

Even with a solid plan in place, it is understood that delays and unexpected issues can occur. To accommodate this, a dedicated buffer has been included in the schedule to allow room for setbacks. These might involve integration challenges, shifting business priorities, vendor availability, or other technical complications that emerge during development. The use of a hybrid methodology provides a useful balance here. While the Waterfall elements offer structure and predictability, the Agile side of the process enables the team to adjust quickly when plans need to change.

This flexibility is further supported by regular checkpoints built into the delivery cycle. Progress will be reviewed every few sprints to assess whether the project is on track. These reviews will draw on methods such as Earned Value Management to compare planned outcomes with actual achievements. If progress starts to drift, the team will be able to respond early, rather than waiting until delays become more difficult to manage.

### **3.7 Budget Validation**

#### **3.7.1 Top-down Budget Allocation**

The top-down method involves distributing the high-level preliminary budget of $1.5 million across the major phases of the EMS project. This method is rooted in strategic estimation and historical understanding of similar projects, and it is especially useful in early planning when task-level clarity is limited.

Given the complex nature and scale of the EMS, and considering the hybrid SDLC (Waterfall and Agile) structure, the funds should be allocated proportionally based on the relative workload, anticipated costs, and importance of each phase. Here is the high-level distribution proposed using this method:

* Phase 1: Project Initiation – $75,000 (5%)
* Phase 2: Planning – $225,000 (15%)
* Phase 3: Design and Development – $525,000 (35%)
* Phase 4: Infrastructure and Security Implementation – $225,000 (15%)
* Phase 5: Training and Go-Live Preparation – $150,000 (10%)
* Phase 6: Deployment and Support – $150,000 (10%)
* Phase 7: Closure – $15,000 (1%)
* Contingency Reserve – $135,000 (9%)

This budget distribution makes sense given how the work is spread across the project. The largest share goes to the Design and Development phase because it includes the most demanding tasks like building the system’s structure, developing key modules, integrating features, and carrying out user acceptance testing. A significant portion is also allocated to the Planning phase, which covers a wide range of activities such as sourcing vendors, gathering detailed requirements, setting timelines, and identifying potential risks. The Infrastructure and Security phase also needs a solid budget to cover the cost of servers, hosting, surveillance systems, and making sure everything meets compliance standards. Investment in training and support is just as important, ensuring that users are well prepared, documentation is in place, and any post-launch issues are addressed quickly. Lastly, a 9% contingency fund has been set aside, which is a sensible precaution for a project of this size and complexity, helping to cover any unexpected costs that might come up.

#### **3.7.2 Bottom-up Budget Estimation**

Unlike top-down budgeting, the bottom-up approach involves evaluating each task independently to estimate its cost. By summing these estimates within each phase, a more granular and accurate total is obtained. The calculations below are based on average resource costs (assuming professional rates of $75–$150 per hour), task complexity, time duration (ranging from 1–10 days per task), and the need for specialised tools, infrastructure, or vendor engagement.

**Phase 1: Project Initiation ($80,000 estimated)**

* 15 tasks involving stakeholder discussions, documentation, planning, assuming an average of $5,000 per major deliverable and $2,500 per milestone, with three workshops.
* Total: $80,000

**Phase 2: Planning ($245,000 estimated)**

* 47 tasks ranging from team formation, risk planning, feasibility studies, procurement, and detailed scheduling
* Average cost per task varies from $3,000–$7,000, with complex ones like requirement gathering and budget planning costing more
* Total: $245,000

**Phase 3: Design and Development ($540,000 estimated)**

* 45 tasks including architecture, sprint planning, module development, and integration
* Development tasks (T67–T82) are particularly labour-intensive, assuming $10,000 per module including testing
* Integration and advanced features (T83–T91): an additional $80,000
* UAT (T96–T98): $20,000
* Total: $540,000

**Phase 4: Infrastructure and Security ($230,000 estimated)**

* 17 tasks related to server procurement, installation, security configuration, CCTV, and compliance
* Server procurement and setup: $80,000
* Security and DRP: $100,000
* Final checks and compliance: $50,000
* Total: $230,000

**Phase 5: Training and Go-Live Preparation ($140,000 estimated)**

* 10 tasks focusing on staff training, materials, sessions, feedback, and readiness
* Training materials and delivery: $60,000
* Go-Live coordination and communications: $80,000
* Total: $140,000

**Phase 6: Deployment and Support ($150,000 estimated)**

* 7 tasks including migration, performance monitoring, hotline setup, and reviews
* Migration and activation: $50,000
* Go-Live support: $60,000
* Post-implementation: $40,000
* Total: $150,000

**Phase 7: Closure ($10,000 estimated)**

* 2 tasks involving documentation and team recognition
* Archive: $5,000
* Closure ceremony: $5,000
* Total: $10,000

**Contingency Reserve: Maintain at $105,000 (Remaining funds)**

* Bottom-up totals add up to approximately $1,395,000
* Leaves $105,000 as contingency, slightly reduced from top-down but still a robust buffer

#### **3.7.3 Cross-validation Analysis and Recommendations**

When comparing the results of the top-down and bottom-up methods, the total estimated from bottom-up budgeting amounts to approximately $1,395,000. This is comfortably within the original $1.5 million top-down budget. There is a slight overspend in some areas such as initiation and planning, which is balanced out by efficient cost estimation in closure and training phases. The most notable insight is that the design and development phase, as expected, consumes the largest portion of the budget and justifies a careful tracking mechanism during project execution.

The bottom-up method provided enhanced visibility into task-level spending, highlighting critical cost drivers such as module development, stakeholder workshops, and procurement. It also unveiled that while high-level estimates are broadly accurate, nuances such as intensive documentation, legal compliance, or technical complexity can push certain phases above initial projections.

Given the overall alignment, there is no immediate need to request a formal increase or decrease in the preliminary budget. However, based on the findings, the following recommendations are prudent for responsible financial governance of the EMS project:

* Maintain the Contingency Reserve: Retain the $105,000 contingency fund to manage unforeseen costs, especially those associated with vendor delays, infrastructure configuration, or regulatory shifts.
* Monitor Planning and Initiation Phases Closely: These phases showed modest increases over the initial allocation. While not significant enough to trigger alarms, project managers should monitor for scope creep or prolonged stakeholder engagement that could push costs further.
* Regular Budget Reviews During Agile Development: Agile sprints can sometimes lead to repetitive cycles of changes and enhancements. Periodic reviews must be instituted after every few sprints to ensure burn rate aligns with budgeted forecasts.
* Formalise Vendor Contracts Early: Procurement activities were flagged as potential cost-intensive tasks. Early finalisation and clear vendor terms can prevent unanticipated expenses in infrastructure or system integration.
* Digital Documentation to Reduce Closure Costs: Given the minor variance in closure costs, digitalising documentation and automating archiving processes can optimise final stage spending.
* Cost Management Tools: The project should incorporate cost tracking tools such as MS Project or Jira’s budgeting add-ons, allowing real-time monitoring and alerts when certain task costs exceed thresholds.

### **3.8 Human Resourcing Estimate**

The human resourcing estimate for the EMS project is derived from the detailed tasks that the WBS provides, along with the associated skills that each project phase and deliverable requires. The estimates reflect PMP’s proposed client charge-out rates. The project is estimated to require approximately 25-35 distinct role types to cover all specialised functions necessary for successful delivery.

A summary of key roles, their indicative numbers, involvement, and daily charge rates is provided below:

|  |  |  |  |
| --- | --- | --- | --- |
| Role | Indicative Number | Indicative Involvement | Daily Charge Rate (AUD) |
| Senior Project Manager | 1 | Full Project Lifecycle | $1440 |
| Technical Lead | 1 | Full Project Lifecycle | $1200 |
| Senior Business Analyst | 2 | Initiation, Planning, Design & Development Phases | $1160 |
| Mid-Level Business Analyst | 1-2 | Planning, Design & Development Phases | $960 |
| Principal/Senior Solution Architect | 1 | Initiation, Planning, Design & Development Phases | $1440 |
| Senior Developer | 2-3 | Design & Development, Deployment & Support Phases | $1200 |
| Mid-Level Developer | 3-4 | Design & Development Phase | $1080 |
| Lead QA Manager/Lead QA Tester | 1 | Planning, Design & Development, Go-Live Phases | $1200 |
| Mid-Level QA Tester | 2-3 | Design & Development, Go-Live, Support Phases | $1080 |
| Senior IT/Infrastructure/Security Engineer | 1-2 | Planning, Design, Infrastructure & Security, Deployment | $1200 |
| Mid-Level IT/DevOps/Cloud Specialist | 2-3 | Design, Infrastructure & Security, Deployment, Support | $1080 |
| Senior UI/UX Designer | 1 | Design & Development Phase | $1060 |
| Mid-Level Communications Officer | 1 | Initiation, Planning, Go-Live Phases | $960 |
| Senior Training Specialist/Trainer | 1 | Training & Go-Live Preparation Phase | $1020 |
| Senior NEC Representatives/Sponsor | As required | Key approvals and strategic input throughout | $1440 |
| External/Consultant (e.g. Security) | As required | Specific specialist tasks (e.g. Pen Testing) | $1120 |

These daily charge rates are indicative and client-facing rates based on combined industry benchmarks for roles with comparable experience and skill requirements within the Australian IT sector. They are converted from agreed hourly rates assuming an 8-hour workday and represent standard PMP professional services rates.

A lump sum of $50,000 for recruitment is included in the project’s overall financial estimates. This allocation is intended to cover the potential costs associated with sourcing external specialists for highly specific or critical roles, in the circumstances that the existing PMP resource pool may not cover it. For the EMS project, such roles may include:

* **Cybersecurity Consultants:** For specialised areas such as advanced penetration testing (task T105) of the EMS platform or ensuring compliance with specific event security protocols and certifications (task T115).
* **Specialist Software Engineers:** For development or integration of unique and complex modules such as the ‘emergency services digital access interface’ (task T91) or for complex data migration and integration tasks.
* **Lead UX/UI Designers:** If the project demands a highly specialised and innovative user experience for the EMS user’s diverse range, especially for critical interfaces such as the analytics dashboard (task T81) or custom venue mapping tools (task T108).

Skill levels vary from Junior to Senior, Lead, and Principal/Executive to anticipate for various technical and management domains, which ensures each task has an appropriate expertise applied to it. The resourcing strategy will primarily involve internal PMP staff, but may include externally sourced contractors or consultants to ensure all required skills are available for the project’s duration.

The roles that have been identified, along with their estimated involvement, are aligned with the WBS’ major phases and deliverables, ensuring that each stage of the EMS development and deployment has appropriate skills planned.

## **Section 4 – Conclusion**

### **4.1 Summary of Major Points**

The EMS project represents a pivotal initiative for NEC to lead large-scale, high-profile entertainment experiences, beginning with the Festival of Sydney in January 2027. This report presents a structured project management plan which delivers an adaptable and secure EMS system that meets NEC’s goals. The project includes a WBS of 135 specific tasks, split into 7 phases. It is governed by a hybrid Agile-Waterfall delivery model. It defines key aspects, such as stakeholder engagement, scope control, quality assurance and risk management to ensure an accountable, flexible and on-time deployment of the system.

The project’s MOV enables NEC to efficiently execute large-scale events through automation, integration and real-time analytics, which enhances customer experience, streamlines operations, and achieves long-term market competitiveness.

The duration of the project spans 16 months, with a go-live date of November 30, 2026; 2 months before the festival. The budget of $1.5 million AUD is supported by top-down and bottom-up approaches, while a dedicated human resourcing plan exists alongside a lump sum of $50,000 is allocated for specialist recruitment.

This plan positions NEC to achieve both EMS delivery success and generate repeat event business, while enhancing profit margins and decreasing operational costs.

### **4.2 Required Approvals**

To progress with the plan, the following approvals are required:

* **Project Scope Sign-off** from NEC Managing Director and Board
* **Budget and Resource Allocation Approval** from NEC and RAH
* **Project Charter Endorsement** by all key stakeholders
* **Procurement Plan Approval** to initiate vendor onboarding
* **WBS and Milestone Validation** for phased tracking
* **Risk Management Plan Endorsement** from the Steering Committee

### **4.3 Recommendations and Next Steps**

To initiate the execution of the project, PMP recommends the following actions to be immediately undertaken:

1. Finalize Stakeholder Signoffs for scope, timeline and MOV criteria.
2. Assign Core Project Team Members and begin onboarding (T12).
3. Confirm Governance Framework and activate project controls (T13-15).
4. Launch initial kick-off meeting to establish cadence and communication protocols (T52).
5. Begin Requirements Workshops to gather detailed system specifications (T36-T38).
6. Initiate Vendor Selection Process per procurement strategy (T31).

The EMS project briefing report presents a complete and practical approach to develop NEC’s future EMS system that aligns with strategic objectives. By following this plan NEC can achieve operational readiness for the 2027 Festival of Sydney while establishing digital transformation across its national portfolio.

## **Section 5 – Slide Pitch (refer to Appendices)**



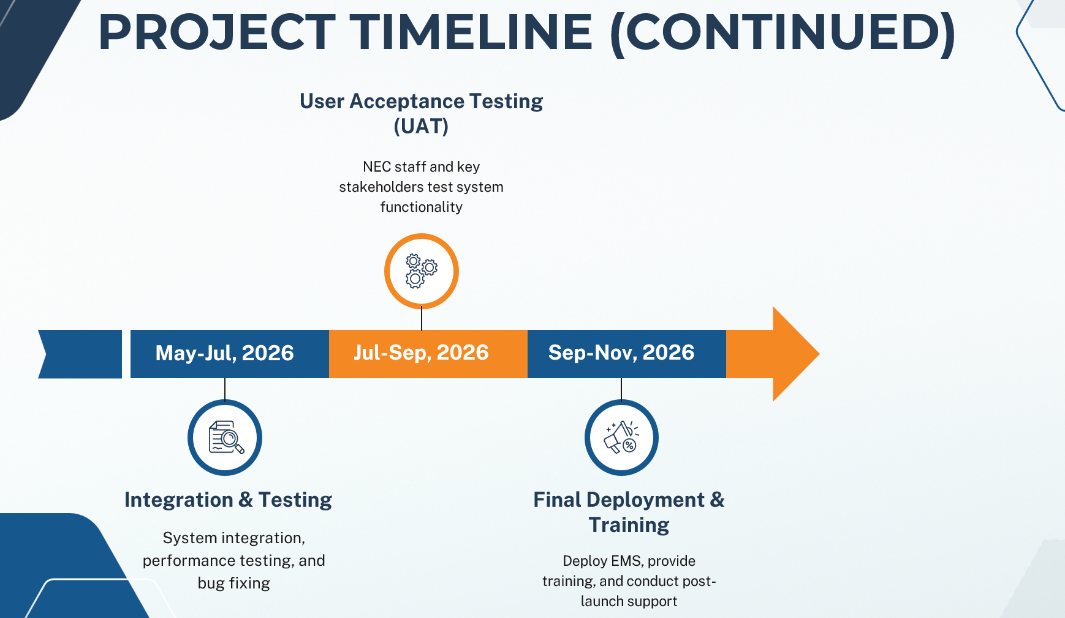
### **Appendices**

* AON:  
  [https://lucid.app/lucidspark/f7e5fde1-aa31-4a2b-9eaa-da4dc88dfa3f/edit?page=0\_0&invitationId=inv\_34f8ed1f-14ff-4c73-b9d5-60c24f93dbe3#](https://lucid.app/lucidspark/f7e5fde1-aa31-4a2b-9eaa-da4dc88dfa3f/edit?page=0_0&invitationId=inv_34f8ed1f-14ff-4c73-b9d5-60c24f93dbe3)
* Presentation slides:









A screenshot of a computer screen

AI-generated content may be incorrect.

