Scottish Ambulance Service

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NHS SCOTLAND

Full Business Case

Re-Procurement of the contract for provision of an Air Ambulance Service for Scotland

Version: 1.0
Date: 13.12.2023

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DOCUMENT CONTROL SHEET:

Key Information:

Title:	Full Business Case for Air Ambulance Re-Procurement
Date Published/Issued:	
Date Effective From:	
Version/Issue Number:	V1.0
Document Type:	Full Business Case
Document status:	Approved (by Project Board)
Author:	Melanie Barnes, Assistant Director of Finance
Owner:	Julie Carter, Director of Finance
Approver:	Scottish Government Capital Investment Group Scottish Ambulance Service Board Scottish Ambulance Executive Team
Contact:	Sheri Rankin, Project Manager [redacted]
File Name:	AAR-FBC-Approved-V1.0

Revision History:

Version:	Date:	Summary of Changes:	Name	Changes Marked:
0.1	09/01/2023	FBC Template	ES	No
0.2	13/12/2023	Updated outstanding actions and formatting	SR	Yes
0.3	08/01/2024	Updated by Julie Carter	JC	Yes
0.4	23/02/2024	Update by Core Team (collaboratively)	Various	No
0.5	12/03/2024	Updated by Execs and PM	Various	No

Approvals: This document requires the following signed approvals.

Name:	Date:	Version:
Scottish Ambulance Service Executive Team	08.03.2024	V0.4
Air-Ambulance Re-Procurement Project Board	15.03.2024	V0.5
Scottish Ambulance Service Board	27.03.2024	V1.0
Scottish Government Capital Investment Group	23.05.2024	V1.0

Distribution: This document has been distributed to

Name:	Date of Issue:	Version:
Air-Ambulance Re-Procurement Project Team	10.01.2024	V0.2
Scottish Ambulance Service Executive Team	05.03.2024	V0.4
Air-Ambulance Re-Procurement Project Board	12.03.2024	V0.5
Scottish Ambulance Service Board	20.03.2024	V1.0
Scottish Government Capital Investment Group	23.05.2024	V1.0

Linked Documentation:

Scottish Ambulance Service 2030 Strategy	Our 2030 Strategy (scottishambulance.com)
Healthcare Improvement Scotland's Leading Quality Health and Care for Scotland Our Strategy 2023-28	https://www.healthcareimprovementscotland.org/about_us/our_strategy_2023-2028.aspx
Consultation & Engagement Strategy Report	https://www.scottishambulance.com/media/a1sdgu3g/airambulancefinal.pdf

Equality and Diversity Impact Assessment:

AAR-EQIA-Draft-v0.2.docx (sharepoint.com)

Contents

Section 1: Executive Summary

1.1 Introduction

This document is the Full Business Case (FBC) for investment in the Re-Procurement of Air Ambulance Services for the Scottish Ambulance Service (SAS), building upon the Outline Business Case (OBC), approved in July 2022 by the SAS Board.

The focus of this document is to outline the approach taken to select an option that can deliver and develop an aircraft transport service to support the delivery of urgent, emergency and critical care to patients in Scotland within our agreed Key Performance Indicators (KPI).

The provision of Air Ambulance services to Scotland is a publicly funded Air Ambulance service and been in operation for the last 30 years, providing a vital lifeline for remote and rural communities across Scotland 24 hours a day, 365 days a year.

It provides an invaluable resource to the public of Scotland, providing not only lifesaving healthcare but also supports population and economic growth in remote and rural areas.

Given the current system pressures and the need to maximise patient flow, air ambulances perform a vital role for "repatriations". Being able to safely transport patients back to their local healthcare facility is great for patient centred care and their families but it also has a vital role in keeping the system moving. By being able to get patients back to their local hospital in a timely fashion (without having to wait until they are well enough to go on a ferry or commercial flight) thereby increasing delays, facilitates this whole system flow. This can then prevent turnaround delays and improve A&E performance.

As in all healthcare resources it must be used appropriately to ensure value for money. Total operating costs including contract and related costs in 2010/11 were circa £12 million per annum. This has now risen to £16.6 million per annum in 2023/24 for contract costs and the new contract will cost an average of £25 million per annum.

Air Ambulances augment and extend the service provided by conventional land ambulances. The Air Ambulance service ensure aircraft have the ability to be used 24 hours a day, 365 days of the year to respond to Emergency, Urgent and Planned requests across the whole of Scotland, predominately, but not exclusively, in remote, rural and island locations. Air transport is also used to transport specialist retrieval teams such as; Emergency Medical Retrieval, Neonatal and Paediatric.

This remains a vital healthcare service to the whole of Scotland.

1.7 Recommended Way Forward

A procurement process has been carried out and it has been identified that Gama Aviation Ltd submitted the tender that provided the most benefits for the lowest cost. This FBC has been

produced in accordance with the guidance issued by the Scottish Government's Capital Investment Group.

It is recommended that this FBC is approved with the following outcome:

The contract for the provision of air ambulance services is awarded to Gama Aviation Ltd and will be delivered through the introduction of new aircraft, namely two Beechcraft King Air 360C fixed wing aircraft and two Airbus H145 D3 helicopters.

These aircraft bring enhancements over the current service provision which will address a number of the existing challenges faced with the carriage of bariatric patients, the ability to operate in inclement weather and infection prevention and control challenges identified during the recent pandemic. These were all identified within the Outline Business case.

The aircraft will be supported by back-up aircraft equipped and configured to the same specification in order to ensure there is no loss of service capability during periods of aircraft maintenance.

Gama Aviation will continue to use the existing air ambulance bases which were built to Scottish Ambulance Service specifications as part of the current contract and continue to meet all of the current and future needs. Enhancements to the estates provision will include the installation of solar panels and additional EV charging points to assist SAS in meeting sustainability targets.

Section 2: Introduction and Purpose

2.1 Introduction

This Full Business Case (FBC) will identify the preferred commercial solution and confirm the affordability of the project. It will also demonstrate that appropriate contractual, commercial and management arrangements are in place to successfully deliver an air ambulance transport service to support the delivery of urgent, emergency and critical care to patients across Scotland.

The FBC follows on from the Outline Business Case (OBC) which demonstrated that the preferred implementation option optimises value for money on a cost-benefit basis. It also set out the supporting commercial and management arrangements required to successfully implement the preferred option.

The FBC follows the guidance published in the Scottish Government Health and Social Care Directorate (SGHSCD) Scottish Capital Investment Manual (SCIM). Whilst this is a revenue-based contract, it was agreed with Scottish Government that the Outline and Full Business Case should be presented to the Scottish Government's Capital Investment Group (CIG), in recognition of the high value of the proposed contract award. The Outline Business case was approved following the CIG meeting in October 2022.

Post-approval of the FBC, the Service will then proceed to award the contract to the successful supplier and fully implement the service arrangements of the programme.

2.2 Scope of the Business Case

The scope of this full business case is to recommend the award of a contract to a provider for the provision of Air Ambulance services across Scotland.

Following approval of this FBC, the Service will proceed to award the contract to Gama Aviation Ltd and fully implement the service arrangements for delivery in 2026.

The implementation of the preferred option will deliver the full provision of an air ambulance service for Scotland. There are around 100 inhabited islands around Scotland within excess of 100,000 inhabitants in total. In addition, the remote nature of some mainland locations means the provision of ambulance services by traditional road vehicles is not possible. The air ambulance service therefore provides a lifeline of both emergency and routine services to these communities 24 hours per day, 7 days a week.

The geography of Scotland provides a number of challenges for air ambulance operations that are best met using a mix of rotary (helicopter) and fixed wing (aeroplane) aircraft. These challenges include weather, the distances involved, terrain and landing locations. These challenges mean utilisation of the Maritime and Coastguard Service remains a necessity and the costs of this are shown separately within the Full Business Case affordability and costings. Scenarios of when the Marine and Coastguard (Search and Rescue) is utilised includes:

- Bariatric transfers
- Bad weather and
- If there are no SAS resources available.

The Maritime and Coastguard Service charge SAS on a case-by-case basis and the current 2023/24 charges are shown specifically in the financial appraisal within this Full Business Case.

In addition, the air ambulance service is supported by two helicopters provided by Scotland's Charity Air Ambulance (SCAA). SCAA are based at Perth and Aberdeen. These aircraft are available 12 hours per day, 7 days a week and are fully integrated into the air ambulance fleet for tasking and deployment purposes.

Services currently provided by the air ambulance service are:

- Routine transfer for low acuity patients (e.g. outpatient appointments, hospital admissions and discharges etc)
- Transfer of patients between medical facilities (inter-hospital transfers)
- Transport of patients to specialist services
- Critical care transfers including medical retrievals and repatriations
- A pre-hospital Helicopter Emergency Medical Service (HEMS)

Air ambulances are generally deployed over long distances or where the rapid transfer of patients and/or medical teams is necessary. Where required, air ambulances can bring a team with enhanced clinical skills to the location of the patient in order to stabilise and make onward transfer safer.

This service is set up to adapt to changes in demand and activities that can arise as a result of:

- Service changes within Health Boards and regions
- Maritime and Coastguard Service Provision and the
- SCAA Operating Model

<u>Forecast Future Demand</u>

Future demand and estimated capacity of admissions, transfers and missions has been modelled by projecting out demand to 2035/36 taking account of the following key factors:

- Age of population: split between <65 and 65+ years old
- Geography of population: split between rural/island populations (Argyll and Bute, Dumfries and Galloway, Highland, Na h-Eileanan Siar, Orkney Islands, Shetland Islands) and other populations.

Future demand for HEMS and ScotSTAR Neonates/Paediatrics has been modelled by extending out the demand patterns seen in previous years (adjusted to take account of the demand variations seen due to COVID-19).

Other factors have been identified which may impact on the demand of the Air Ambulance Services in Scotland, these have also been taken account of in the modelling.

- Scottish Trauma Network
- Thrombectomy Services
- Interventional Radiology developments
- Bariatric Patients demand
- The potential for wider service changes across NHS Scotland particularly within remote and rural services, and the fragility of services across Scotland

The following charts describes the forecasted demand, time from allocated to clear and estimated utilisation to 2035/36 for Unique Journeys with a 95% confidence interval applied.

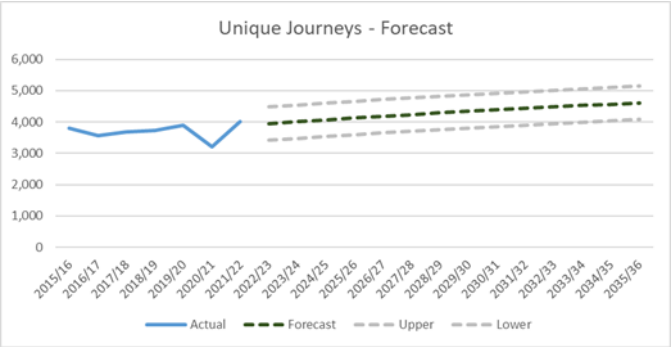

Figure 1 Unique Journey Forecast

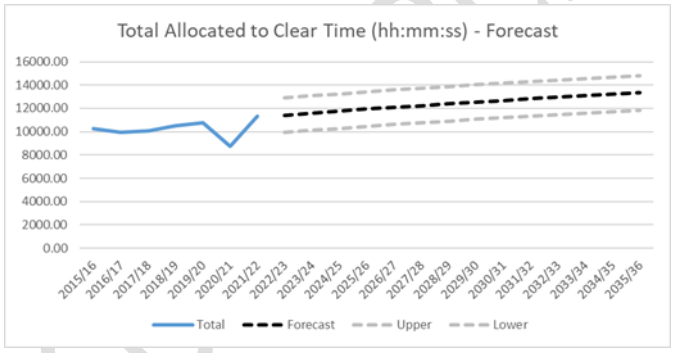

Figure 2 Total Allocation to Clear Time Forecast

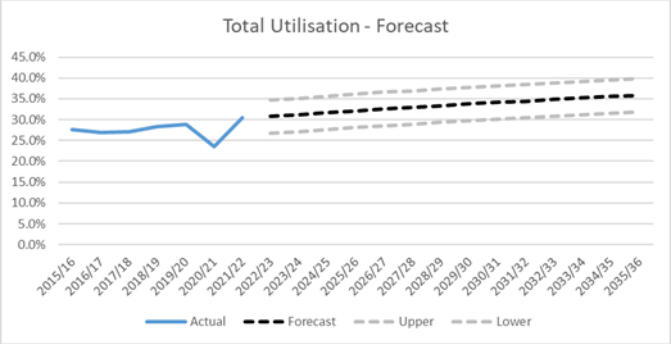

Figure 3 Total Utilisation Forecast

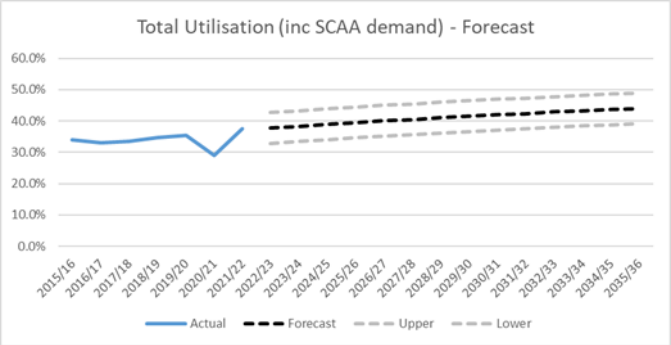

Figure 4 Total Utilisation (incl SCAA) Forecast

This shows the following:

- We are anticipating an increase in demand rising up to circa 6,000 missions per annum
- Utilisation would increase in line with this, and would continue to require the same number of overall resources, although type and location may change

Reviewing the activity since the Outline Business case this has remained fairly stable and the future predications remain unchanged.

<u>High level description of the preferred solution</u>

The service will continue to be delivered by a combination of fixed-wing aircraft and helicopters based strategically across the country to maximise the potential to reach patients in a timely fashion.

The aircraft used to deliver the service will be two Beechcraft KingAir 360 fixed wing aircraft and two Airbus H145 D3 helicopters. All aircraft will be fully operational and available 24 hours per day, 365 days per year based as follows:

Base Location	Aircraft Type
Inverness	H145 (helicopter)
Aberdeen	KingAir 360C (aeroplane)
Glasgow	H145 (helicopter)
Glasgow	KingAir 360C (aeroplane)

The proposed aircraft will allow SAS to continue to provide a full range of air ambulance services to communities the length and breadth of the country and delivers a number of areas of improvement over the current service.

The primary aircraft outlined above will be supported by one KingAir 360 and one H145 D3 back-up aircraft which will be deployed to ensure SAS are able to maintain the ability to provide 24/7 cover during periods of aircraft downtime due to planned or reactive maintenance. The back-up aircraft will be equipped to the same specification as the primary aircraft ensuring no loss of service capability when they are deployed.

Both the KingAir 360 and the H145 D3 bring additional payload capacities over the existing fleet which translates into greater range and/or ability to carry additional equipment or personnel, in addition the KingAir 360 has a larger interior to the current fixed wing aircraft allowing for improved access to the patient in flight and improvements in infection prevention and control capabilities.

Both aircraft have the potential to operate in more challenging weather conditions than the current service, and this is a capability that will be explored and developed in conjunction with Gama Aviation following approvals from the Civil Aviation Authority.

As the incumbent supplier Gama Aviation will continue to use the existing 3 air ambulance bases, all of which were built to Scottish Ambulance Service requirements and continue to meet the needs of our clinical teams. Further enhancements to the bases for the new contract will include the addition of solar panels and installation of additional EV charging points.

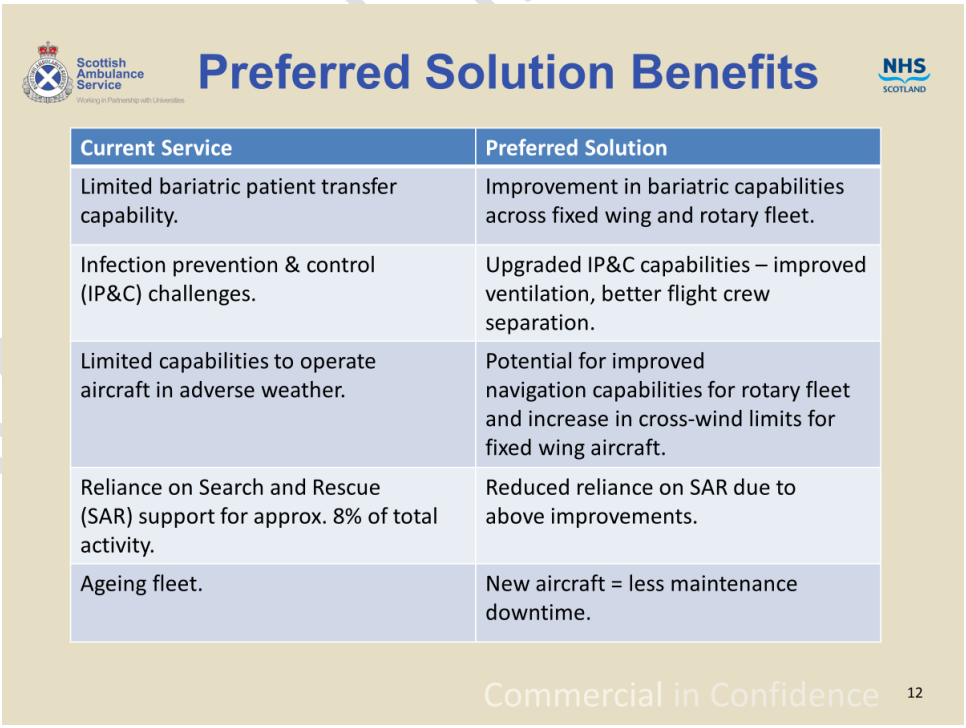

Figure 5 Preferred Solution Benefits

2.3 Investment Decision Process

The Outline Business Case (OBC) for this project was approved by the Scottish Ambulance Service Board on 27th July 2022. The OBC was also approved by the Scottish Government's Capital Investment Group (CIG) on 19th October 2022 and authority was given to progress to Full Business Case (FBC) stage.

The approval process for this full business case will follow the diagram below:

Approval Group	Date of meeting	Approval
SAS Executive Team	8th March 2024	Approved
Programme Board	15th March 2024	Approved
SAS Board	27th March 2024	Approved
Capital Investment Group	23rd May 2024	Approved

Table 1 Approval Process

Post approval of the FBC, the Service will proceed to fully implement the project.

The Outline Business case described a range of financial scenarios with total costs ranging from £21m to £34m against 2021/22 costs of £15.3 million. These scenarios reflected the uncertainty of:

- The estimated costs of the aircraft
- The estimated costs of inflation (noting this was based on assumptions in July 2022
- Assumptions on exchange rates
- Variable costs including fuel directly related to demand
- Transitional costs of implementing new aircraft and the potential for a new air base

The preferred option costs from the Outline Business case are summarised below:

Cost Driver	Cost Headings	Option 4		Option 5	
		Total Average Cost	Average per annum	Total Average Cost	Average per annum
Aircraft type	Fixed and variable fixed wing and rotary costs, profit margin, finance costs	247.2m	24.7m	278.7m	27.9m
Relocation assumptions	Estates costs and non-recurring additional costs	10.3m	1.0m	10.3m	1.0m
Search and Rescue Mission Numbers	Recurring additional costs (SAR)	17.5m	1.8m	17.5m	1.8m

Airport Standby assumptions	Recurring additional costs (airport standby)	8.2m	0.8m	8.2m	0.8m
Total		**283.2m**	**28.3m**	**314.8m**	**31.5m**
Against a 2021/22 cost of £15.3m per annum this showed an on average annual increase of £13.0m - £16.2m					

Table 2 Preferred Option Costs

A comparator to the Full Business case costs and the 2023/24 costs is shown in the financial case (Section 6) below.

In addition, and recognising the level of financial uncertainty, the outline business case described a high likelihood of these costs reducing up to the level of £5.2m per annum due to market conditions, stabilising activity, the latter being funded if part of a specific development e.g. Thrombectomy and further confirmation of the tasking assumptions of the different air resources.

A summary of these 'reducing cost assumptions' are noted below:

Modelled Scenario	Option 4 - Possible Cost Reduction	Option 5 - Possible Cost Reduction
Reduction in estimated average annual CPI increase from 2.02% to 1.73% (2.02% representing the average increase over the last 5 years, with 1.73% being the average increase across the last 3 years)	£2.3m	£3.1m
Reduction in assumed cost of back-up aircraft provision from 5% of fixed costs to 2.5%	£1m	£1.1m
Reduction of assumed profit margin from 10% to 5%	£10.8m	£12.4m
Reduction of finance costs from 5% to 2.5%	£7.8m	£7.1m
Reduction in re-location expenses	£1.8m	£1.8m
Total Reduction	**£23.7m**	**£25.5m**
Total Annual Reduction	**£2.4m**	**£2.6m**

Table 3 Reducing Cost assumptions

Demand Modelling

Modelled Demand	Option 4 - Possible Cost Reduction	Option 5 - Possible Cost Reduction
Annual flying hours stabilise at 2022/23 forecasted levels	£18.0m	£20.8m
Annual Search and Rescue missions stabilise at 2022/23 forecasted levels	£1.8m	£1.8m

Further reduction of stabilised SAR mission numbers at 2022/23 forecasted levels by 50%	£7.9m	£7.9m
Total Reduction	**£27.7m**	**£30.5m**
Total Annual Reduction	**£2.8m**	**£3.1m**

Table 4 Demand Modelling

These tables above illustrated a potential cost reduction of between **£5.2m** and **£5.7m** per annum against a range of assumptions.

These reducing cost assumptions have been reviewed in line with the current financial climate and assessed against the preferred bidder costs to identify whether these assumptions remain valid. This is described in the financial case in Section 6 of this document.

The remainder of this document will set out in detail the:

- Strategic Case (Section 3) - confirmation of how this investment meets the strategic aims of the Scottish Ambulance Service, the wider health system and in particular the remote and rural areas within Scotland
- Economic Case (Section 4) – confirmation of how this investment delivers value for money by demonstrating the benefits being delivered justify the costs
- Commercial Case (Section 5) - confirmation of how the procurement process has identified a preferred bidder who can deliver the services required
- Financial Case (Section 6) - confirmation of the costs of the contract and associated services
- Management Case (Section 7) - confirmation of how SAS will successfully implement the contract

Section 3 Strategic Case

3.1 Review of Strategic Case within the Outline Business Case

Since the approval of the Outline Business Case (OBC) for the re-procurement of the provision for the Air Ambulance service there has been no fundamental change to the strategic context of the proposal.

The key strategic aim of the Air Ambulance Re-Procurement is to **identify a commercial partner that can deliver suitable aircraft to support the delivery of emergency and critical care to patients in Scotland**. The commercial partner will be expected to facilitate and support the strategic development of the service by being **flexible, resilient, and as 'future proof' as possible.** The aircraft require to be equipped to enable the Service to deliver **safe and effective care to patients.**

The procurement will be for the award of a single contract with a primary supplier with the potential for a consortium, which will cover both fixed wing and rotary aircraft provision.

The OBC stated that the new contract would be over a 10-year term. Following consultation with CLO and the development of the final ITT documents, the final contract term is confirmed as 7 years plus an option to extend for 3 years. The reasoning for this tern is based on several strategic factors.

1. The nature of this contract and the close relationship that is required with the service provider(s);
2. Potential price benefits flowing from a longer-term contract;
3. The considerable investment in time and cost to the Service to conduct this procurement exercise.
4. The Service can break from the contract after seven years if significant advancements have been made in the aviation industry that cannot be delivered in scope of the contract.
5. It may incentivise the Service Provider to deliver / exceed the contracted outcomes to secure the three-year extension.
6. There is some evidence that that the current fixed wing aircraft are showing signs of natural wear & tear and stress due to the nature of air ambulance operations. The current contract has been in place for more than 10 years. A contract exceeding 10 years may not align with the operational serviceability of aircraft.

The strategic case as outlined in the OBC remains in line with the Service's 2030 Strategy and Annual Delivery Plan.

Scottish Ambulance Service 2030 Strategy and ADP

The 2030 Strategy was published in the Summer of 2022 with 6 key ambitions:

1	We will provide the people of Scotland with compassionate, safe and effective care where and when they need it
2	We will be a great place to work focusing on staff experience, health and wellbeing
3	We will innovate to continually improve our care and enhance the resilience and sustainability of our services
4	We will work collaboratively with citizens and our partners to create healthier and safer communities
5	We will improve population health and tackle the impact of inequalities
6	We will deliver our net zero climate targets

Figure 6 2022 Strategy Ambitions

This re-procurement fully supports these strategic ambitions and is reflected in the preferred option, the procurement process, and the final contract award. Our Annual Delivery Plan (ADP) builds on these strategic ambitions and includes specific deliverables each year to realise them fully.

The 2024/25 ADP continues to prioritise actions that will:

- Save more lives, improving clinical outcomes and healthy life expectancy
- Improve the Health & Wellbeing of our staff and citizens
- Continue to shift the balance of care away from acute hospitals into people's homes and local communities, improving patient experience and avoiding unnecessary hospital admissions.
- Improve our care by anticipating needs and responding quickly and safely as possible, delivering the right care in the right place at the right time
- Tackle the root cause of health issues and addressing the inequalities that the COVID-19 pandemic has exacerbated.

The Air Ambulance Re-Procurement plays a key role in achieving a number of these priorities by ensuring we can deliver appropriate healthcare to the communities dispersed across remote, rural and island locations. Air services can travel faster and cover a wider area in comparison to a road ambulance making them particularly useful in sparsely populated rural areas.

The air ambulance service delivers:

- Transport - Air Ambulance transfers from remote and rural locations to hospitals but also repatriations back to remote and rural locations. This includes immediate, urgent and routine transfers.

- HEMS - Helicopter Emergency Medical Service (HEMS) responding to pre-hospital emergency calls to provide advanced medical interventions and transport to definitive care.

3.2 Stakeholder and Service Changes since Outline Business Case Approval

There are a number of key stakeholders and services which impact on the delivery and activity of the Air Ambulance service. Potential changes have been noted below with these changes assessed and the impact included within the final solution.

Scotland's Charity Air-Ambulance (SCAA)

SCAA is Scotland's only charity air ambulance and is funded through donations, fundraising, events and SCAA lottery funds.

Working in partnership with the Scottish Ambulance Service (SAS), SCAA operates two helicopters. SCAA uses twin-engine Eurocopter EC135s based at Perth Airport and Aberdeen Airport.

SCAA have been involved throughout the Project with representation on the Air-Ambulance Re-Procurement Project Team.

The business case assumes there will be no significant change to the delivery model of SCAA over the period of the new contract.

Highlands and Islands Airports Ltd (HIAL)

HIAL is responsible for the management and operation of 11 regional airports across Scotland, serving some of the remotest communities. These airports are regularly visited by the Air Ambulance Service in Scotland and HIAL charge for opening airports out of hours to accommodate SAS and SAR missions and for use of the airports.

HIAL is a private limited company wholly owned by the Scottish Ministers and receive subsidies from the Scottish government and is sponsored by Transport Scotland. There have been significant annual increases in charges from HIAL to SAS with little control by SAS to contain and reduce them. Recent correspondence suggests that there is a potential for further significant increased costs associated with these services or loss of these services altogether, either of which would restrict SAS capability in the associated geographical areas. Any final decisions and arrangements are not known yet. However, the Service through the contract structure, of charging for variable and fixed costs, may be able to adapt to these changes.

Discussions will also continue with HIAL and Scottish Government to aim to mitigate any cost increase across two public bodies, that may arise in driving any changes in service provision.

The additional costs from HIAL are included within this Full Business Case affordability section. The scale of these additional costs were not assumed within the Outline Business Case and have been shown separately within the financial appraisal.

Local Health Board Service Changes and Regional Planning

Service changes within Territorial Boards can have a significant impact on the activities of the Air Ambulance Service. Health Boards have reported experiencing staff shortages across a number of services but particularly in remote and rural facilities, including GP and Advanced Practitioner led facilities. These have resulted in an increase in Air Transfers to transport patients to a centralised treatment facility.

In addition, a recent audit of mental health related transfers conducted on air ambulance by the Service's Mental Health Clinical Effectiveness Lead, suggests there may be an over reliance on air transfer, in place of local pre-emptive mental health emergency care planning or resource. The financial burden is compounded by the use of mental health escorts for whom SAS has responsibility for accommodating and repatriating. The Service has shared this audit with mental health leads in the relevant Health Boards.

Management within the Air Ambulance Service along with Regional Planners are actively engaging with Territorial Boards at the planning stage of proposed changes to communicate the impact to the Service and work with the Boards to ensure service changes are known and air ambulance impact assessed at the planning stage.

Ferry Services

The response to a Scottish Government Freedom of Information request in October 2021 showed that 7% of all CalMac ferry crossings were cancelled in the first 6 months of 2021. https://www.gov.scot/publications/foi-202100245416/ The Brodick-Ardrossan route which services the Island of Arran, saw 21% cancellations in the same time period.

Through detailed air ambulance analysis, the cancellation of ferries, directly impacts in an increase of Air Ambulance routine transfers for patients attending hospital clinics and treatments.

In the absence of air ambulance resource, patients living within island communities require ferry travel and onwards road travel to the receiving unit. Generally, ferries only operate between circa 7am and 10pm so patients requiring transport out with these hours would need to wait until the following morning to depart the island. Ferry services can also be reduced or cancelled entirely during periods of poor weather. In some areas, only one ferry sailing takes place per day and there is also reduced ferry coverage in the winter months.

The reliance on rural communities in the absence of ferry transport is time critical and lifesaving and it is anticipated this reliance is likely to grow over the term of this contract.

3.3 Air Ambulance Efficiency Project

In line with delivering best value across all of the Service and recognising feedback from the external stakeholder review from this procurement, following the OBC submission, the Service has initiated an air ambulance efficiency project.

The project was set up to review triaging, tasking and co-ordination of air assets to identify and implement improvements to ensure appropriate and efficient use of the service.

This is implementing a range of actions included as below:

- **Triaging and Tasking**
  - Introduce new guidance and standard operating procedures (SOPs) for call handling, triaging and tasking of aeromedical transport and escorting team, in order to improve the efficiency and effectiveness of the system and patient outcomes.
- **Alternative transport**
  - To develop and implement robust guidance working with Territorial Health Boards, to increase the use of scheduled flights and alternative transport options for patients where appropriate.
- **Telemedicine**
  - Implement GoodSAM (or other digital technology) to enhance remote clinical triage to ensure aeromedical transport and escorting teams are only tasked if necessary.
- **Nurse escorts**
  - To develop and test a new protocol that minimises the need for nurse escorts for aeromedical transfers, while maintaining patient safety and quality of care.
  - To implement a cost recovery mechanism that ensures health boards are charged appropriately for the repatriation of nurse escorts.,
  - Revise and update the process for booking travel and accommodation for nurse escorts, ensuring compliance with the Agenda for Change policy.
- **Cross border transfers**
  - To review and revise the current policies and practices for cross border transfers in order to ensure appropriate use of assets and teams and that fair and accurate recovery of expenditure is applied.
- **Mental health transfers**
  - To review and revise the Mental Health Air Transport Risk Assessment Tool in order to ensure the optimal allocation of transfer platform and clinical escort.
  - To implement a cost recovery mechanism that ensures health boards are charged appropriately for the use of nurse escorts for mental health transfers.
- **Airport usage and value for money**
  - To analyse the cost-effectiveness and quality of service of specifically identified airports used for aeromedical transport in Scotland and determine whether they provide value for money if alternatives are available.
- **Local and national planning**

    - Establish ScotSTAR representation on local and national planning groups to ensure any proposed changes to rural service provision or national clinical pathways are modelled and appropriately funded where ScotSTAR reliance will be greater.
- **Charging process for non-UK citizens**
    - Establish an efficient charging process for non-UK citizens requiring aeromedical transport.

This project is progressing well with a project plan and project management support in place. All of this work will fully support the new contract service delivery model and aim to reduce unnecessary air ambulance activity and thereby potentially reducing the variable costs associated with this Service. The aim is for this project to be fully delivered and in place for the new contract in 2026.

3.4 Current Arrangements

The current arrangements as described within the IA/OBC are still valid and there have been no material changes since approval.

The Air Ambulance Service exists to provide a full range of ambulance services to communities across Scotland and helps ensure equity of access to services for people in remote and rural locations. The services provided include:

- A pre – hospital Helicopter Emergency Medical Service (HEMS)
- Critical care transfers, including medical retrievals and repatriations
- Transport of patients to specialist services
- Transfer of patients between medical facilities (inter – hospital transfer)
- Transfer of routine patients (e.g. outpatient appointments, hospital admissions and discharges etc.)

The Air Ambulance service is an intrinsic component of Scotland's Specialist Transport and Retrieval (ScotSTAR) service, and provides dedicated air support to the following services:

- Neonatal Transport service
- Paediatric Retrieval service
- Emergency Medical Retrieval Service (EMRS)[1].

These teams provide critical care, on-site resuscitation, and safe transfer to definitive treatment for patients in remote, rural and island healthcare facilities such as community hospitals. The medical

[1] EMRS provides critical care and safe transfer to for patients in remote healthcare locations and at accident scenes. The team responds by helicopter, plane or fast response vehicle. The aim of EMRS is to provide equity of access to life saving care irrespective of the patient's location.

requirements for the ScotSTAR retrieval teams are highly variable from straightforward logistical missions to rapid response, time-critical trauma missions.

EMRS also deploy directly to pre-hospital emergency calls alongside Air Ambulance Paramedics as part of the HEMS '999' response.

Activity data has been updated since the application of the IA/OBC. Within the IA/OBC it was assumed that activity undertaken by the Service would remain within the 3,500 to 4,000 journeys per annum range. The data provided to bidders to base their costs upon was 4,100 to 5,300 total journeys per annum, including those that are currently carried out by SCAA and SAR. This was based upon updated data modelling.

Activity assumptions by the Service remains within the 3,500 to 4,000 journeys per annum. The financial assumptions describe this in more detail, and over the life of the contract.

Bidders were also asked to provide options for reducing the reliance on SAR and ideas by the bidders have included:

- The improved bariatric capability of the new aircraft is anticipated to reduce SAR missions by around 20 per annum
- The improved weather capability is anticipated to reduce SAR missions by around 170 per annum
- Improvements in IP&C and layout of the aircraft is anticipated to reduce SAR missions by around 15 per annum

A reduction of around 200 SAR missions per annum has resulted in a cost saving and this is shown in the financial section. It is important however to highlight that there will be weather enhancements possible brought by improved de-icing arrangements for fixed wing, but rotary benefits depend on development of a network of instrument guided navigational routes which require both technological innovation and CAA approval both of which are not related specifically to this contract. The business case assumes they will both to be in place to an increasing degree over the lifetime of the contract.

3.5 The Need for Change

The main driver for the project is the need to re-procure the contract due to Public Sector Procurement requirements as the current contract has exceeded its contractual term.

This re-procurement allows an opportunity for improvements to the current service and contract and recognises the changes of the service between 2025 and up to 2035.

It also needs to consider the impact of COVID-19 and future pandemics and other external factors including climate change, remote and rural developments, the national clinical strategy; the NHS Scotland vision, associated strategies and impacts of future health and social care reform that may impact on the air ambulance service.

There are also several recently introduced and planned future changes to clinical pathways and NHS service provision across Scotland that have the potential to impact on air ambulance demands. Examples include (but are not limited to): the introduction of the Scottish Trauma Network, the Best Start Maternity and Neonatal Services Review, the introduction of Thrombectomy pathways and the centralisation of specialist burns injury services. Consideration has been given to the impact these changes may have on air ambulance operations and have been incorporated into the future demand projections illustrated later in this document.

Modelling for future air ambulance requirements also acknowledges the Scottish Government strategy document "*A Scotland for the Future: opportunities and challenges of Scotland's changing population*". This paper seeks to address population distribution across Scotland recognising that there is a need to maintain and grow remote and rural populations. Future provision of robust air ambulance services will be vital to ensure equity of access to healthcare services is maintained where population growth is realised and will also be key to helping sustain the remote and rural healthcare workforce by ensuring support and assistance is available when required.

The IA/OBC described the requirements to address the limitations of the current aircraft to effectively transport COVID-19 positive patients and other infectious patients requiring aerosol generating procedures. In addition, it included opportunities to meet future demands arising from services and populations changes across Scotland. These opportunities remain and have been all been addressed within the service being proposed by the preferred bidder.

Since the publication of the OBC, the Service has commenced the Air Ambulance Efficiency Programme with the aim of implementing improvements to ensure a more efficient service is delivered that will enhance patient and staff experience. Delivery of this will positively impact on the new Air Ambulance contract as air resources will only be tasked on the basis of evidenced clinical need, resulting in reductions to flying hours and variable costs. This will also reduce the reliance on SAR for support when in-house resources have been otherwise utilised on non-essential incidents, also resulting a reduction to costs.

Health Benefits

The health benefit associated with air ambulance missions is discussed further below.

1. Transport Missions

Service Transport missions are broken down into:

- Immediate - An air resource is expected to arrive within 2 hours of allocation
- Urgent - An air resource is expected to arrive within 9 hours of allocation. This category has updated to 4 or 9 hours of allocation.
- Routine - Routine transfers including medical appointments from remote and rural locations and repatriations to those locations.

All immediate and urgent timed admissions have been triaged by a clinician at the referring location (hospitals and GP surgeries). These are time critical patients which require various medical interventions within a set timeframe, for example a ruptured abdominal aortic aneurysm. There are many conditions where intervention in as short a time as possible materially affect the outcome of the patient.

The vast majority of patients served by air transport missions live in rural areas in which travel by means other than air would result in breaching the time limits set out by clinical guidelines. The presenting condition for these patients is not recorded in the ACC C3 system, rather they are coded in line with their response time (immediate, urgent or routine). Some examples of time critical patients included within this group are set out in the table below.

Clinical Condition	Clinical Intervention	Clinical Time Limit
Myocardial Infarction (MI)	Primary Percutaneous Coronary Intervention (PCI)	Within 120 minutes of the time when fibrinolysis could have been given. Ideally within 90 minutes.
Acute ischaemic stroke	Thromboloysis	Treatment is started as soon as possible within 4.5 hours of onset of stroke symptoms
Sepsis	ICU admission	'For adults with sepsis or septic shock who require ICU admission, we suggest admitting the patients to the ICU within 6 hours.'

Table 5 Time Critical Patient Examples

For patients living within a rural and/or remote area in Scotland, it would not be possible to meet these timed admissions targets by alternative means of transport.

PCI Transfers

The European Society of Cardiology (ESC) and the Scottish Intercollegiate Guideline Network (SIGN) produce an aligned standard that optimum care for ST-Elevation Myocardial Infarction (STEMI) – the most serious type of heart attack – is Percutaneous Coronary Intervention (PCI i.e. angiogram and stenting). Furthermore, it is stated that this should occur "within 120 minutes of first medical contact (either in the pre-hospital or non-PCI hospital setting". This target is included in the table above.

Figure 1 demonstrates the geographical area reliant upon the Air Ambulances of the Service to meet this care standard. The highlighted areas are considered to be more than 120 minutes from first medical contact by road response – but within which an Air Ambulance is able to fly out, collect the patient, and convey them to a PCI centre within 120 minutes. As illustrated, this covers a population of approximately 209,000 people. However, this simulation assumes an ambulance response time of less than 10 minutes, treatment time of less than 15 minutes, perfect alignment with ferry departure times, and all PCI centres being open at the time of conveyance. Any delay beyond this 10 minute response, the patient requiring more than 15 minutes of treatment, a ferry not being in port and ready for immediate departure, or transfer to anything but the closest PCI centre will favour an Air Ambulance transfer. Also, this model assumes that the Air Ambulance is not the first asset

tasked and is merely operating in a transfer capacity. It is likely therefore, that in real-world operations, the population served by the Air Ambulances for PCI transfer to meet the guideline standard of care is larger than the above estimate.

Fig.7: *PCI transfer times map of Scotland, illustrating:*

- *Area reliant upon Air Ambulances for transfer to PCI centre within 120 minutes of first medical contact (shaded magenta).*
    - *SAS Air Ambulance Bases with24/7 helicopter resources (red circles) Note: excludes SCAA resources in Perth and Aberdeen*
- *24/7 PCI services (solid black triangles).*
- *In-hours only PCI service (hollow black triangle) noting that the Inverness PCI centre has been 24/7 7 days a week since Jan 2023*
- *Area reachable by road within 120 minutes of first medical contact by road ambulance (shaded light grey).*
- *Area unable to transfer to PCI centre within 120 minutes of first medical contact with any SAS assets (shaded dark grey).*

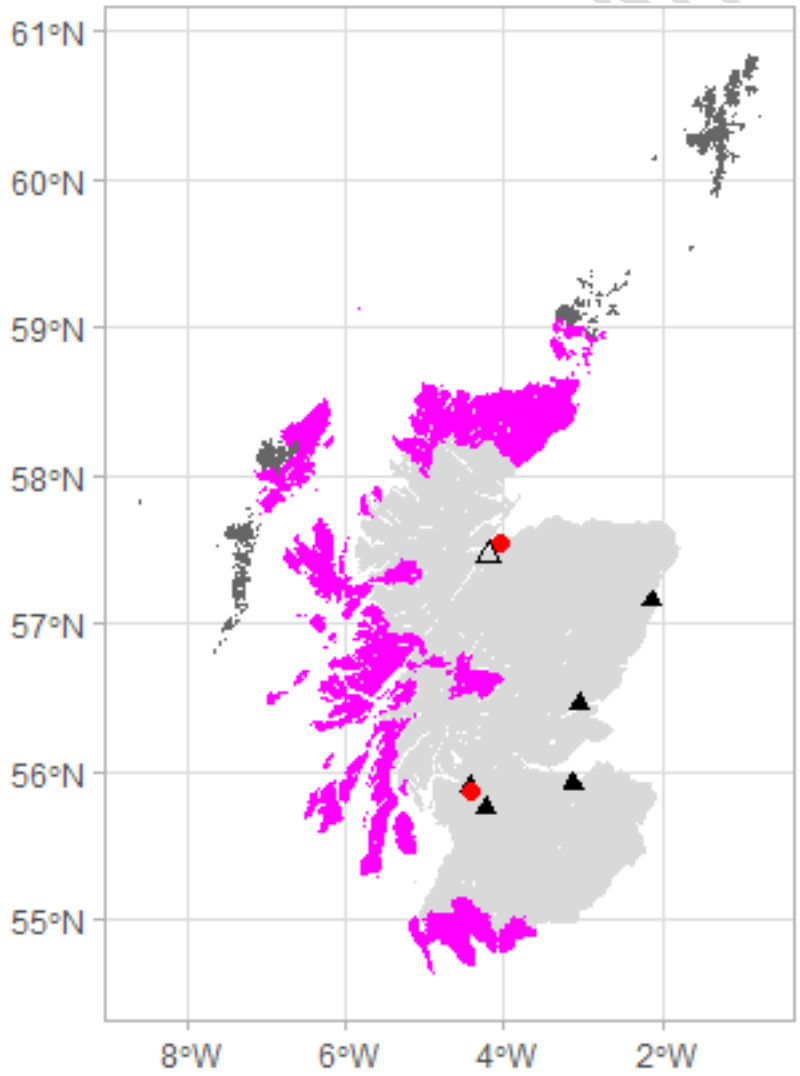

Figure 7 PCI transfer times map of Scotland

An illustrative example of this included below to show the journey time for a patient suffering an MI on Tiree being transported to the Golden Jubilee via ferry and road.

Journey	Journey Time
Ferry from Tiree to Oban (including check-in time)	4h 45mins
Road transport from Oban to Golden Jubilee (~85 miles)	2h 15mins
Total	7h

Table 6 Illustrative Patient Journey

In addition to patients residing on islands who require ferry transport, there are a number of locations on mainland Scotland which have considerable increased travel times by road compared to air. A comparison is shown in the table below.

From	To	Distance (miles)	Road	Air
Lochgilphead	Glasgow	85	2 hours	23 mins
Campbeltown	Glasgow	135	>3 hours	25 mins
Wick	Aberdeen	204	>5 hours	25 mins

Table 7 Road vs Air Journey Times Example

2. HEMS

Helicopter Emergency Medical Service (HEMS) provides advanced pre-hospital care in emergency care settings. There is evidence of improved outcomes specific to the system of getting Emergency Medical Retrieval Service (EMRS) to scene of HEMS incidents. The helicopter can land at or near the scene of an incident, which may be remote and inaccessible, deliver a team with the appropriate skills, and provide timely transport onward to definitive care. The only way to transport EMRS teams from bases in Glasgow and Aberdeen to remote locations is by air[2]. HEMS includes the Service's response to major trauma incidents; this includes both adult and paediatric trauma.

The relevant clinical targets for major trauma incidents are:

1. 45 minutes within the initial call to emergency services to intubate patients where required, this can be undertaken by the trauma team at the incident site[3]
2. 45 minutes to convey patients to a Major Trauma Centre where this has been triaged[4]. This Key Performance Indicator (KPI) is set by the Scottish Trauma Network (STN). In many parts of Scotland this is only feasible by air.

Within the Scottish Trauma Network, there are 4 major trauma centres:

[2] Maddock A, Corfield AR, Donald MJ, et al Prehospital critical care is associated with increased survival in adult trauma patients in Scotland Emergency Medicine Journal 2020;37:141-145.
[3] NICE Guideline: Major Trauma: assessment and initial management [NG39] 1.2.3
[4]STAG/MTOG, *Key Performance Indicators for the Scottish Trauma Network v7.5*, Public Health Scotland publication

- Queen Elizabeth University Hospital, Glasgow
- Royal Infirmary of Edinburgh
- Ninewells Hospital, Dundee
- Aberdeen Royal Infirmary

Figure 2 demonstrates the geographical area reliant upon the Air Ambulances of the Scottish Ambulance Service to meet this care standard.

The highlighted areas are considered to be more than 45 minutes by road from a Major Trauma Centre - but within 45 minutes by Air Ambulance. As illustrated, this covers a population of approximately 667,000 people. However, this assumes that the scene is directly accessible by road ambulance. Major Trauma occurring in very remote, rural or inaccessible locations will favour and Air Ambulance transfer. Additionally, there are patient groups (e.g. spinal injury) where the smoothness of an Air Ambulance journey compared to uneven roads is of clear patient benefit. It is likely therefore, that in real-world operations, the population served by the Air Ambulances in delivering the best in major trauma care is larger than the above estimate.

Fig.8: *Major Trauma transfer times map of Scotland, illustrating:*

- *Area reliant upon Air Ambulances for < 45-minute transfer time to Major Trauma Centre (shaded magenta).*
    - *SAS Air Ambulance Bases with 24/7 helicopter resources (black circles) Note: excludes SCAA resources in Perth and Aberdeen.*
- *Major Trauma Centres (blue triangles).*
- *Area with < 45-minute transfer time to MTC by road ambulance (shaded light grey).*
- *Area > 45-minute transfer time to MTC by any SAS asset (shaded dark grey).*

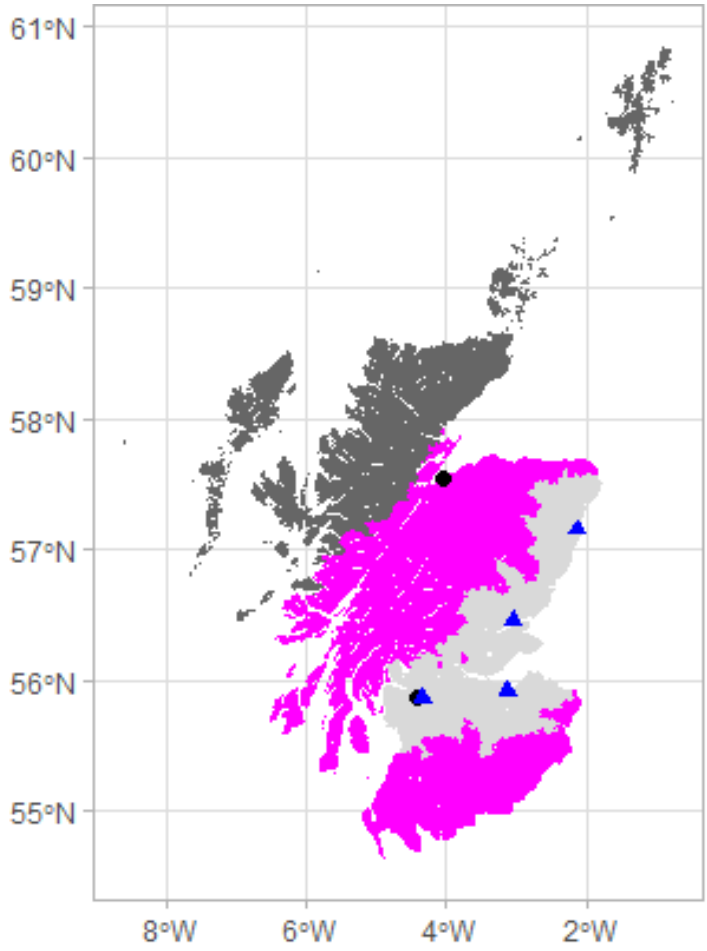

Figure 8 Major Trauma Transfer Times Map of Scotland

Where a patient cannot be transferred to a major trauma centre within 45 minutes, particular emphasis can then be placed upon getting a Pre-Hospital Critical Care Team (PHCCT / "Red Team") directly to the patient in order to perform these life-saving interventions at the scene.

Figure 3 demonstrates the geographical area reliant upon the Scottish Ambulance Service Air Ambulance (Helimed 5) co-located to the EMRS West team to meet this care standard. The highlighted areas are more than 45 minutes by road from either a Major Trauma Centre or from a Pre-Hospital Critical Care "Red" Team – but within 45 minutes by Helimed 5 Air Ambulance with the EMRS West Trauma Team embarked. As illustrated, this covers a population of approximately 435,000 people. However, this assumes that the patient is not trapped and is able to be immediately extricated to a conveying resource. Patients who are trapped in vehicles or any other locations from which they cannot be immediately extricated favour the attendance of a PHCCT to minimize the time to life-saving intervention. Where it is also the case that the patient's location is very remote, rural or otherwise not directly accessible by a road ambulance then this favours conveyance of the PHCCT by Air Ambulance. It is likely therefore, that in real-world operations, the population served by the Helimed 5 Air Ambulance with an embarked Pre-Hospital Critical Care Team so as to minimize the time to life-saving intervention is larger than the above estimate.

Fig.9: *Pre-Hospital Critical Care Team attendance times map of Scotland, illustrating:*

- *Area reliant upon Air Ambulances for attendance of PHCCT within 45 minutes, where transfer to MTC within 45 minutes is not possible.*
- *EMRS West PHCCT with co-located Scottish Ambulance Service Air Ambulance (solid red circle).*
- *Medic 1, TTT and EMRS North PHCCTs (hollow red circles).*
- *Area within 45 minutes of MTC by road or reachable within 45 minutes by any PHCCT (shaded light grey).*
- *Area greater than 45 minutes from MTC and unreachable within 45 minutes by PHCCTs using any SAS assets (shaded dark grey).*

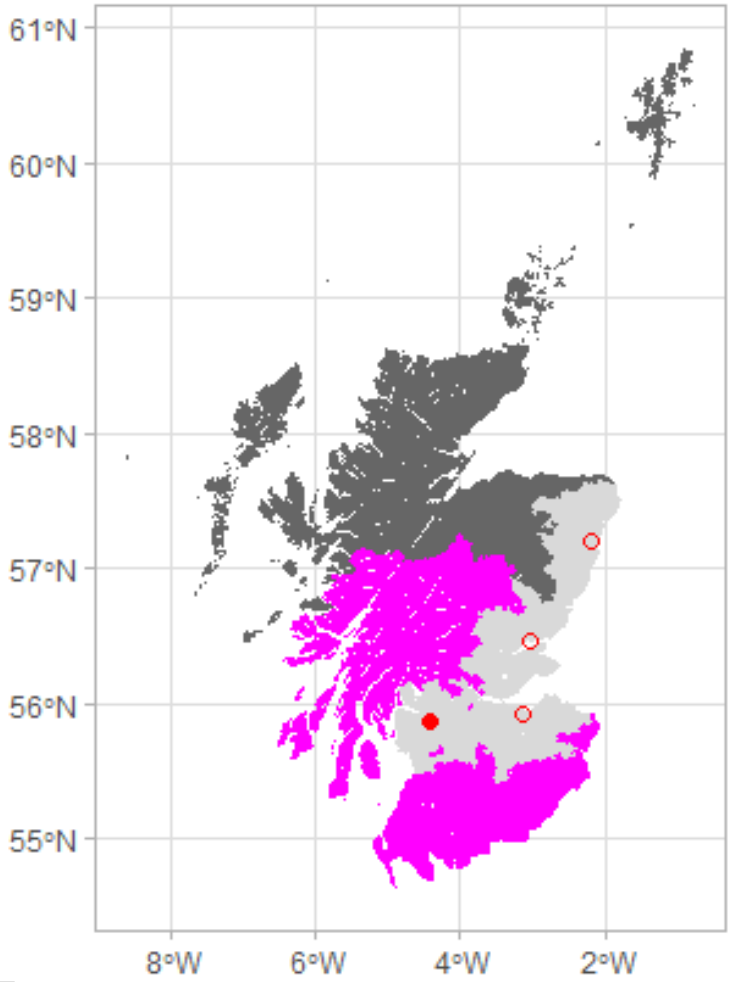

Figure 9 Pre-Hospital Critical Care Team Attendance Times Map of Scotland

The importance of the air ambulance service in terms of patient outcomes is exemplified by the following case studies:

Case report published in the Annals of Thoracic Surgeons[5].

[5] Al-Adhami, A., Macfie, A., Mathieson, C., Quasim, I., Smith, R., Craig, S., Gardner, R., Payne, J., Petrie, M. and Haj-Yahia, S., 2014. Ventricular Assist Devices as Rescue Therapy in Cardiogenic Shock After Subarachnoid Hemorrhage. *The Annals of Thoracic Surgery*, 97(4), pp.1440-1443.

A GP attended a patient on a Scottish Island after reports of a seizure shortly after 23:30. The patient was 4 months post-partum and was found unresponsive in the community. The patient was attended by EMRS (a mobile critical care team bringing hospital level intensive care interventions to the patient) retrieved by helicopter, stabilised, then airlifted by EMRS to a secondary care facility, the Southern General Hospital, now the Queen Elizabeth University Hospital, in Glasgow. The patient had suffered a subarachnoid haemorrhage (SAH) resulting in severe acute cardiogenic shock and multi-organ failure. Post-medical intervention, the patient's condition stabilised, with no reported cardiac or neurological limitations 4-months after these events. SAH is associated with high morbidity and mortality, particularly if associated with myocardial dysfunction and out-of-hospital cardiac arrest. Without air ambulance provision, this patient would not have survived. It would not have been possible to retrieve the patient to mainland Scotland until the following morning when the ferry service had resumed, with the patient then having an ongoing journey by road ambulance to the Southern General Hospital.

Neonatal Transfer Case Study

A 2-day old baby presented from home to Raigmore Hospital with bile stained vomits which can be an indication of severe abdominal issues. The baby had an abdominal x-ray which suggested an intestinal mal-rotation indicating that the bowel is twisting and can cause obstruction. Surgery must be performed as soon as possible to prevent permanent damage to the bowel as any delay to treatment can potentially result in more damage to the bowel and higher morbidity and mortality.

The patient was attended to by the ScotSTAR West Neonatal team (a team that safely move all Neonatal patients requiring inpatient care between medical facilities in Scotland and can provide all levels of care up to and including critical care). As intervention was time critical the team was taken by helicopter from Glasgow to Inverness where they stabilised the patient and then moved the baby by helicopter to the Royal Hospital for Children Glasgow for abdominal surgery which the baby received the same night. Due to the timely retrieval of this patient, there was no bowel loss, and the patient subsequently made a full recovery.

The patient was transferred back to Raigmore Hospital 10 days later by the ScotSTAR Neonatal team, using the Glasgow based King Air aeroplane, in order to give the baby time to re-establish feeds and ensure the family were nearer to home and their support networks.

Paediatric Retrieval Case Study

A 16-month child presented to an island hospital unwell and needed further assessment at the Royal Aberdeen Children's Hospital (RACH). They were quickly transferred by air ambulance as they had a complicated medical history which had resulted in the patient requiring air ambulance transfers on previous occasions, due to which the family had built up a positive relationship with the air ambulance paramedics and pilots.

During the child's time in RACH they unfortunately deteriorated and became critically unwell resulting in the local team intubating and ventilating the child and inserting invasive lines to be able to deliver inotropic support (strong medications to treat a very low blood pressure). The initial diagnosis was

severe septic shock, meaning this patient then required to be transferred to the Paediatric Critical Care Unit in Glasgow.

A ScotSTAR Paediatric Retrieval Team was flown by air ambulance to Aberdeen to carry out the transfer. The patient was critically unwell, and the team required significant time to stabilise the patient prior to transfer. A few hours later, with additional medications and a period of some stability, the team and patient were swiftly transferred by air ambulance to Glasgow for specialist intensive care treatments and further investigations. The patient made a full recovery and was discharged initially back to RACH by air ambulance, and then finally flown home a few weeks later.

It would be reasonable to assume that all missions are potential prevented fatalities given that these have been triaged as emergency calls through the ACC.

Financial Constraints

NHS Scotland is under significant financial pressure and direction has been given by Scottish Government for all Boards to review financial forecasts and significantly reduce spend where appropriate. This has been recognised within the competitive dialogue discussions and ultimately in this value-based service provision.

The IA/OBC focussed on service options that delivered a more capable aircraft to deliver the following improvements:

1. An increased payload to allow for additional equipment or staff to be carried in the aircraft
2. Larger interior in terms of length, width or height to deal with infection control risks
3. Improved Bariatric capability
4. Improved weather capability
5. Improved Navigation equipment
6. Changes to access/egress of the aircraft

It was anticipated that this would result in a solution being offered by bidders that included larger, more expensive aircraft. Recognising the current financial pressures faced by NHS Scotland, discussions were held with potential bidders regarding budgetary constraints and bidders were provided with information on a budgetary envelope to develop their solutions within. Reflective of these significant financial challenges, both bids that were received included the same type of aircraft that is currently in service but with improvements to internal layouts and other equipment that will still deliver the aims listed above.

It is recognised that due to the current economic climate the costs for providing the Air Ambulance contract have increased significantly, primarily as a result of inflationary pressures, but through competitive dialogue, the Service has worked with bidders to ensure that solutions meet the needs of the service and are as cost effective and efficient as possible.

The increased costs primarily reflect the inflationary pressures being experienced at a global level due to the turbulent impact of the war in Ukraine and in addition the aftermath of the pandemic continues to create instability, none more so than in the air aviation economy.

This is described further within the financial appraisal.

3.6 Investment Objectives

The following table details the investment objectives of the air ambulance re-procurement, as described in the IA/OBC:

Investment Objective	Baseline Data	Relevant Stakeholders	Investment Priority Area
To provide the right mix of aircraft required to deliver the most appropriate response depending on the nature of the call.	The missions flown per aircraft type for 2022 was: Fixed wing – 1,593 Rotary – 2,456	Patients, Staff	Person centred Safe Effective Quality of Care
To develop the fleet capability to manage the transfer of bariatric patients in-house	The bariatric mission undertaken by Coastguard for 2022 was 28.	Patients	Person centred Safe Effective Quality of Care
To deliver appropriate infection control measures for the carriage of suspected or known infectious disease patients (separation of flight deck and crew from clinical areas, ventilation, access etc.)	The number of transfers undertaken by other agencies (Coastguard and military) during 2021* was 15. **2021 data used as reference period as this highlights the IP&C challenges associated with Covid-19*	Patients	Person centred Safe Effective Quality of Care
To develop in-house capabilities and reduce the reliance on Search and Rescue (SAR) support.	The number of transfers undertaken by Coastguard during 2022 was 398.	Patients Staff Healthcare partners	Person centred Safe Effective Quality of Care
To reduce environmental impact through innovation and adoption of sustainable solutions	Reduction in Co2 emissions	All	Value

Table 8 Investment Objectives

These have been assessed through the FBC process and are still valid. In conjunction with the Air Ambulance Efficiency programme, delivery of these objectives will result in safe and effective delivery of and Air Ambulance service to patients in Scotland.

Section 4: Economic Case

4.1 Summary of Economic Case within the OBC

The Economic Case within the OBC provided a detailed analysis of the costs, benefits and risks of the short-listed options to determine a preferred option which demonstrated value for money in delivering the required outcomes.

Shortlisted Options within the OBC

A short-list of implementation options was identified within the OBC:

	Option	Additional Information	Description
1	Do nothing/minimum	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. Aircraft as per current technical specification.	Replicate the current service delivery model ensuring provision to meet future anticipated demand.
2	Option 1, but with **partial provision** for a more **capable fixed wing aircraft**	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. However one of the fixed wing aircraft will have a higher technical specification to accommodate improvements in IPC and bariatric capability. The other 3 aircraft as per current technical specification.	Current service delivery model but with enhanced capability across part of the fixed wing fleet to address current and future demands and challenges.
3	Option 1, but with **partial provision** for a more **capable helicopter**	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. However one of the rotary helicopters will have a higher technical specification to accommodate improvements in IPC and bariatric capability. The other 3 aircraft as per current technical specification.	Current service delivery model but with enhanced capability across part of the helicopter fleet to address current and future demands and challenges.
4	Option 1, but with **partial provision** for a more **capable fixed wing aircraft** and a more **capable helicopter**	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. However, one of the fixed wing and one of the rotary helicopters will have a higher technical specification to accommodate improvements in IPC and bariatric capability. The other 2 aircraft as per current technical specification.	Current service delivery model but with enhanced capability across part of the fixed wing and helicopter fleet to increase flexibility to address current and future demands and challenges.

5	Option 1, but with **full provision** for more **capable helicopter**(s) and fixed wing aircraft across the fleet	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. However, both of the fixed wing and both of the rotary helicopters will have a higher technical specification to accommodate improvements in IPC and bariatric capability.	Current service delivery model but with enhanced capability across the whole fixed wing and helicopter fleet to maximise flexibility to address current and future demands and challenges.
6	Options 3, and 5 and 7 plus helicopter fleet provisioned with equipment and/or technology to enable operating in more adverse weather conditions	Total number of 4 aircraft with the technical spec as per the clarification above. However all rotary helicopters fitted with technology regardless of whether they have an enhanced spec or existing spec	Enhancements could include: Ice protection to allow operating in known icing conditions. Enhanced navigation capabilities to allow operating in low cloud situations.

Table 9 Implementation Options Identified in OBC

Outcome of Economic Analysis within the OBC

The economic appraisal in the OBC considered the benefits, costs and risks of the shortlisted options to inform a value for money assessment and arrive at a rank order of the options in terms of value for money.

The economic appraisal from the OBC is shown in the table below

	AVERAGE COSTS ACROSS THE 3 SCENARIOS						
Option	BENEFITS	COSTS	COSTS	Costs per Benefit	Costs per Benefit	RISK	RISK
	Weighted Benefit Score	Equivalent Annual Charge	Equivalent Annual Charge	£000 / Points	Rank Order (lowest cost per benefit first)	Median risk quotient	% of Total
	Points	(£000s)	(£)	(£s)			%
Option 1	362	33,016	33,015,987	91	5	16.00	21
Option 2	462	29,041	29,041,026	63	3	14.00	19
Option 3	494	34,927	34,927,257	71	4	16.00	21
Option 4	556	25,295	25,295,415	45.5	1	12.00	16
Option 5	624	28,169	28,169,068	45.1	1	9.00	12
Option 6	688	32,523	32,523,221	47	2	8.00	11

Table 10 OBC Economic Appraisal

The table shows that Option 4 and Option 5 was the joint highest-ranking option based on benefits gained versus expenditure, and these options were both taken forward as preferred options. It was recognised that the financial modelling was unaffordable at that level, however financial analysis was undertaken recognising all of the risks and uncertainties in the airline market and assumed, what was considered a worst-case scenario at every cost level.

The OBC preferred options had a financial gap of £13.0m -£16.2m compared to the 2021/22 costs of £15.3m.

Sensitivity analysis against the key cost drivers, excluding the aircraft types was undertaken, and this identified potential cost savings up to £5m including assumptions on

- Reduction in estimated average annual CPI increase from 2.02% to 1.73% (2.02% representing the average increase over the last 5 years, with 1.73% being the average increase across the last 3 years)
- Reduction in assumed cost of back-up aircraft provision from 5% of fixed costs to 2.5%
- Reduction of assumed profit margin from 10% to 5%
- Reduction of finance costs from 5% to 2.5%
- Reduction in re-location expenses
- Annual flying hours stabilise at 2022/23 forecasted levels
- Annual Search and Rescue missions stabilise at 2022/23 forecasted levels
- Further reduction of stabilised SAR mission numbers at 2022/23 forecasted levels by 50%

These assumptions are updated and described within the financial case below.

The OBC after offsetting against these costs recommended an approval value of £20m - £23m pa and the Bidders were advised on this proposal and developed their solutions of this basis.

This OBC financial approval is summarised on the table below:

Description	**Option 4 as per OBC Per annum**	**Option 5 as per OBC Per annum**
2022/23 costs (as at OBC stage)	£15.3m	£15.3m
OBC Option costs	£28.3m	£31.5m
Gap	£13m	£16.2m
Potential cost reductions	£2.4m+£2.8m=5.2m	£2.6m+£3.1m=£5.7m
Revised option gap	£7.8m	£10.5m
Approval value	**£23.1m (£15.3m+£7.8m)**	

Table 11 OBC Approved Value Summary

4.2 Validation of the Preferred Option

Following approval of the OBC, the economic case has been reviewed to take account of new information received in the intervening period to ensure that the outcome of the economic appraisal within the OBC remains valid.

The descriptions of preferred Options 4 and 5 were compared against the solutions proposed by both bidders and it has been confirmed that both solutions meet the description of Option 5 by **providing full provision for more capable helicopters and fixed wing aircraft across the fleet,** although it is important to note that this does not deliver the 'platinum' service offering previously envisaged within the OBC.

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The costs used in the economic analysis within the OBC were based on market intelligence and known information at that time.

4	Option 1, but with **partial provision** for a more **capable fixed wing aircraft** and a more **capable helicopter**	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. However, one of the fixed wing and one of the rotary helicopters will have a higher technical specification to accommodate improvements in IPC and bariatric capability. The other 2 aircraft as per current technical specification.	Current service delivery model but with enhanced capability across part of the fixed wing and helicopter fleet to increase flexibility to address current and future demands and challenges.
5	Option 1, but with **full provision** for more **capable helicopter**(s) and fixed wing aircraft across the fleet	Total number of 4 aircraft, with 2 rotary and 2 fixed wing. However, both of the fixed wing and both of the rotary helicopters will have a higher technical specification to accommodate improvements in IPC and bariatric capability.	Current service delivery model but with enhanced capability across the whole fixed wing and helicopter fleet to maximise flexibility to address current and future demands and challenges.

Figure 10 OBC Economic Analysis

Through Competitive Dialogue, the bidders were advised of the current financial climate. Bidders were asked to ensure value for money was demonstrated within their bids and to contain costs within a £20-£23m annual financial envelope.

Both bids received delivered solutions that met Option 5, in terms of capability across all 4 aircraft to accommodate improvements in IP&C and bariatric capability. However, it is recognised that these improvements will not meet all the requirements of all bariatric and highly infectious patients but will likely reduce the reliance on the Maritime and Coastguard Agency by around 200 missions per year.

The implementation of Option 4, where only half the fleet would have the higher technical specification would have resulted in additional issues that the Service would have to manage throughout the life of the contract. This would include staff familiarisation with using different aircraft and may result in take-off delays. It could also result in patients not receiving the most appropriate care if two incidents for the same clinical assessment require an air ambulance response at the same time.

The tendered costs from the bidders have therefore been assessed against Option 5 only. This has resulted in the following change to the Economic Analysis for Options 5 only:

Option	Benefits	Costs	Costs per Benefit	Costs per Benefit	Risk	Risk	Rank	Score
	Weighted Benefit Score	Equivalent Annual Charge (EAC)	£ / points	Rank Order (Lowest cost per benefit first)	Median Risk Quotient	% of Total	Rank order based on EAC	30 points for lowest
	Points	£000s	£			%		
Option 5 - Bidder X	624	35,130	56,298	2	9.00	12	2	29
Option 5 - Bidder Y	624	34,633	55,502	1	9.00	12	1	30
Option 5 – as per OBC	624	28,169	45,142					

Table 12 Option 5 Economic Analysis

The cost per benefit has increased by 22.9% since the approval of the OBC. This reflects the continuing economic uncertainty, with interest rate, inflation and exchange rate fluctuations having a major impact on the contract costs. This is described further in the financial appraisal.

The operational risks and benefits of the preferred option have been reviewed regularly at project team meetings and no significant changes have taken place since approval of the OBC. Benefits and risks will continue to be monitored throughout the life of the contract and are described within Section 7.

Section 5: Commercial Case

5.1 Procurement Strategy

The procurement route selected by the Air Ambulance Re-Procurement Programme Board was the Competitive Dialogue procedure. This procedure gave the Service increased flexibility to discuss and negotiate complex areas of the contract with potential service providers during the tender process. The process was carefully managed by the Procurement workstream to ensure full compliance with Scottish procurement law. Support from the Central Legal Office (CLO), as the Service's legal advisor, was sought at significant project milestones.

The CLO endorsed the Competitive Dialogue procedure recommendation, stating that it "*concurred with the Board's decision to discount the competitive procedure with negotiation*". The CLO went on to state that "*From the information provided to CLO we consider the competitive dialogue procedure to be the most appropriate approach for this procurement*".

The AAR Project Board also approved the use of the competitive dialogue procedure following a detailed options appraisal of other route to market solutions.

5.2 Selection of Preferred Supplier

Summary of Procurement Process

A high-level overview of the procurement timetable and key deliverables is set out in the table below:

Stage	Dates	Activity	Outcome
PIN and Market Engagement	26/04/2022 - 15/07/2022	Publication of Prior Information Notice and Market Engagement Sessions	23 suppliers noted an interest and attended the market engagement sessions
Competitive Dialogue Stage 1 (Contract Notice and SPD)	16/12/2022	Publication of Contract Notice and Single Procurement Document	Prospective bidders were invited to an SPD information session to provide details on the SPD and next steps in the procurement process A comprehensive SPD Bidder instructions document was published to support bidders through the process

			The instructions document confirmed the 70% technical / 30% commercial cost ratio would be applied to the evaluation of final bids to identify the winning bid
	19/01/2023 - 13/02/2023	SPD Submission, evaluation and short-listing	Submissions were received from 4 distinct bidding entities All bidders met the mandatory and discretionary exclusion criteria and met the minimum selection criteria thresholds, including the minimum score criteria. No shortlisting was required as less than 6 bidding entities submitted an SPD All four bidders were invited to participate in the next phase of the procurement process (Competitive Dialogue Stage 2 – ITPD)
Competitive Dialogue Stage 2 (ITPD)	14/02/2023 - 10/10/2023	Shortlisted bidders invited to participate in dialogue	A set of bidder instructions were sent to prospective bidders which included user requirements, outline of evaluation process, award criteria and draft T&C's The purpose of the ITPD stage was to work with all bidders to explore and develop solutions to meet and deliver the user requirements A number of dialogue sessions were held with shortlisted bidders to provide information on specific areas of the bid

	02/03/2023		[redacted] formally withdrew from the process citing one of the member organisations withdrew from the consortia due to the perceived barriers to entry and limited chance of success in the competition
	03/03/2023 - 14/04/2023	Submission of outline provisional solution	All 3 remaining bidders submitted a provisional solution and the two required response documents in accordance with the ITPD instructions. This Provisional Solution was not evaluated and used by the Service to gather information on the proposed solution and to inform competitive dialogue sessions. Dialogue sessions were held focusing on the discussion and development of bidder solutions submitted at provisional solution stage
	14/04/2023	Submission and compliance evaluation of updated provision solution	All 3 bidders submitted an updated provisional solution Appendix 1A was formally evaluated by the ITPD Technical Evaluation panel to assess that the provisional solution further developed during dialogue would comply with the Services mandatory requirements. Failure to comply at this stage would result in the bidder being disqualified from the process in accordance with the ITPD. The ITPD Technical Evaluation Panel determined that all updated provisional solutions submitted complied with the

			mandatory must have requirements All bidders were notified and informed they would be invited to submit a final bid at the ITT stage
	03/07/2023		[redacted] formally withdrew from the process on the 3rd July citing perceived barriers to entry and limited chance of success in the competition as the reason for its withdrawal
	14/06/2023 - 10/10/2023	Competitive Dialogue Sessions	Sessions focussed on refinements of the updated solutions and the development of the bespoke terms and conditions
	10/10/2023	Conclusion of Invitation to Participate in Dialogue	
Competitive Dialogue Stage 3 (ITT Phase)	20/10/2023	Compliant bidders invited to tender (ITT)	The remaining two bidders were issued with the following schedules: - Schedule 2 – User Requirements - Schedule 3 – Technical Evaluation - Schedule 4 – Commercial Evaluation - Bespoke Terms & Conditions
	22/11/2023	Submission of final bids	
Evaluation Stage	23/11/2023	Evaluation, bid clarification and identifying the preferred bidder	

Table 13 Procurement Timetable and Key Deliverables

Interested Suppliers at Stage 1 of the Competitive Dialogue

The SPD was published on the Public Contracts Scotland portal on 16th December 2022. The deadline for the return of submissions was 19th January 2023. The following entities were received at the deadline date:

Prime Contractor	Sub-contractor(s)	Notes

Gama Aviation UK Ltd – Fixed wing and rotary	n/a	Submitted a final tender on 22 November 2023
[redacted]	[redacted]	Withdrew from the process on 2 March 2023
[redacted]	[redacted]	Submitted a final tender on 22 November 2023
[redacted]	[redacted]	Withdrew from the process on 3 July 2023

Table 14 Stage 1 Interested Suppliers

An SPD for a consortium between [redacted] was not submitted through the Public Contracts Scotland portal and was received by email after the advertised deadline or 09:00 on 19th January 2023. No SPD submission was received by or on behalf of [redacted] in relation to this proposed consortium arrangement. The submission did not comply with the Scottish Ambulance Service's Contract Notice and the associated Bidder Instructions. [redacted]

Scope of Services

The agreed scope and content of the commercial arrangements as documented in the OBC remains as follows:

1. An aircraft fleet that must be capable of reaching at least 95% of the population of Scotland in one hour. The rotary aircraft must have 24/7 HEMS capability and all aircraft must act as a suitable transport platform for the personnel and equipment associated with the ScotSTAR teams including EMRS, paediatric and neonatal.
2. Provision of aircraft hangarage in order to ensure 24/7 availability of aircraft during inclement weather.
3. Provision of maintenance & backup. All planned and reactive maintenance must be carried out in Scotland. Backup aircraft to be provided to the same specification as core aircraft.
4. Provision of 24/7 engineering support.
5. Provision of adequate base facilities for clinical staff. e.g., provision of ops room space, lockers and parking facilities etc., In addition, meeting room/training room and overnight accommodation (where necessary) for on-call clinical staff.
6. Provision of air crew member training (e.g. Technical Crew Member training for HEMS).
7. Provision of compliant radio communications system. The aircraft must be capable of compliance with the current Airwave communications system (if this is still in operation at contract commencement), and also compliance with the future Emergency Services Network (ESN) system

8. Provision of ongoing monitoring of service provision by way of regular contract monitoring meetings.
9. The Service will provide the clinical staffing. The aircraft, flight crew (pilots), estate & facilities and engineering support will be provided by the successful contractor(s) on a managed service basis.
10. The successful contractor(s) shall support a variety of air ambulance missions; ranging from pre-hospital emergency calls and critical care transfers through to hospital discharges

The solution the preferred bidder has offered is capable of meeting these requirements and delivering a successful outcome for the project.

Selection Process

Several requirements were highlighted as mandatory and a supplier's failure to meet any of those essential outputs resulted in an unsuccessful bid. Non-mandatory criteria were scored in accordance with the following evaluation methodology:

Technical	Weighting	Section Weighting
Clinical Capabilities	15	**70**
Operational Capabilities	10	
Estates Provision	10	
Health, Safety & Welfare	10	
KPIs	10	
Sustainability	7.5	
Innovation	2.5	
Implementation & Transition	5	
Commercial	30	**30**
Total Score (100)	100	**100**

Table 15 Evaluation Methodology

Summary of scoring process

The technical evaluation was carried out by assessing the bidders' responses against the evaluation criteria and specification. Each scored criterion had tailored scoring descriptors relevant to the award domain being assessed.

The table below illustrates broadly how scores were applied to each criterion assessed.

Score	Description

0 – Unacceptable	- Solution not considered to reach mandatory requirements - Solution is not safe or effective - Unsatisfactory evidence provided
1 – Poor	- Ranged from the proposed solution resulting in either service provision that is less than or equal to the current contracted standards
3 – Satisfactory	- Ranged from the proposed solution resulting in either service provision that equals, marginally or materially improves on the current contracted standards
5 – Excellent	- Reserved for solutions that demonstrated a significant improvement on the current contracted standards

Table 16 Scoring Criteria

Each evaluator reviewed the bids from each bidder and scored them independently in the first instance. Consensus meetings were then carried out to agree a consensus score for each evaluation criterion and to generate a total quality score.

The scores for the commercial pricing were added to the technical scores to give a combined total score for each bidder. The winning bidder was the one who had the highest score.

Evaluation Panel

The technical evaluation panel consisted of a core team further supported by subject matter experts in the relevant areas. The core team consisted of:

- Associate Medical Director
- General Manager, Air Ambulance Services & ScotSTAR
- Area Service Manager (North)
- Clinical Lead (North)

In addition, a Patient Representative also observed all technical evaluation meetings, which was extremely beneficial. The sessions were facilitated by Senior Procurement staff within the Service to ensure that the evaluation methodology was adhered to and to answer queries on the procurement process.

The commercial evaluation was carried out by:

- Assistant Director of Finance
- Head of Finance (Projects & Planning)

Final Recommendation

The outcome of the tender evaluation is as follows:

Technical	Weighting	Gama	[redacted]
Clinical Capabilities	15	11	8.2
Operational Capabilities	10	9.2	6.4
Estates Provision	10	6.8	6
Health, Safety & Welfare	10	9.2	5.2
KPIs	10	6	6
Sustainability	7.5	5.3	4.5
Innovation	2.5	2.5	1.5
Implementation & Transition	5	5	3
Technical Score (70)	**70**	**55**	**40.8**

Commercial	**30**	**30**	**29**

Total Score (100)	**100**	**85**	**69.8**

Lowest EAC	£34.633m
Lowest Bidder	**Gama Aviation**
Score	30

Highest EAC	£35.130m
Highest Bidder	[redacted]
Score	29

Price Gap	**£0.497m**

Table 17 Tender Evaluation Outcome

The winning bidder was Gama Aviation Ltd with a financial score of 30 and technical evaluation score of 55, resulting in an overall score of 85.

5.3 Commercial and Contractual Arrangements

Agreed Risk Allocation

It is important in any programme of considerable investment to ensure that risks are allocated and apportioned to the party best able to manage that risk. Consequently, the Air Ambulance Re-Procurement Project has done this through-out the Procurement Strategy which transfers appropriate risks in the following areas to the preferred supplier:

- Provision and maintenance of aircraft to deliver the services within the contract
- Provision of back-up aircraft to provide continuity of services when dedicated aircraft are offline
- Compliance with all CAA requirements
- Provision of suitably qualified and experience aviation staff

The matrix table below illustrates how key commercial and contractual risks have been allocated

Risk Description	Allocation		
	The Service	Gama	Shared
Currency fluctuation			X
Fuel rate fluctuation	X		
Inflation			X
Cost overruns (outwith prescribed adjustment mechanisms)		X	
Insurance & liability		X	
Availability & Performance		X	
Contract implementation			X
Contract Termination			X
Force Majeure (Covid -19)		X	
Legislative change			X
Staff Transfer (TUPE)		X	
Change in requirements			X

Table 18 Matrix of Key Risks

The risks allocated to the Service will be managed through the development and management of risk registers throughout the life of the contract.

The wider programme risks are referred to later within the Section 7.

Agreed Charging Mechanisms

The proposed payment mechanism is as follows:

- Payment of the costs associated with mobilisation and transition arrangements will be made after agreed milestones have been met
- Fixed and firm costs will be made on a monthly basis, unless mutual agreement is made between the supplier and the Service to prepay the charges on an annual basis
- Variable costs will be charged monthly in areas based on actual activity levels
- Pass through costs will be charged on a monthly basis based on the recharge invoices received by the supplier

Whilst some of the costs associated with the services being delivered will be charged to the supplier in a foreign currency, it will be the suppliers responsibility for currency conversion and all invoices paid by the Service will be in GBP.

Contractual arrangements

The contract will be awarded to Gama Aviation Ltd, a limited liability company backed by a parent company guarantee provided by Gama Aviation Plc, Company No: 07264678. The term of the contract is 7 years with an option to extend for a further three years. The decision to extend will be taken at the sole discretion of the Service. For the purposes of this business case, the contract duration is assumed as a 10-year life.

The Services to be provided are the provision of transportation of NHS patients and others by specified air ambulances, contract management including tasking and triaging services to co-ordinate the deployment of aircraft, provision of base facilities and HEMS crew training. Pilots are provided by the operator and paramedic staff are provided by the Ambulance Service. Base facilities, therefore, include provision for Ambulance Service staff. The selected option provides 24 hour a day availability for each aircraft with duty pilots on airport stand-by.

Contract duration

The proposed contract duration is 7 years with the option to extend for a further 3 years.

Contract Management

The future contract will be managed quarterly, or more regularly as required, during the implementation. This may move to a monthly basis when operations have matured, in accordance with the Service's local procurement policies which align to the Scottish Government Procurement Journey. The chosen service provider will be classified as a high-risk strategic supplier and the level of contract management resource deployed will be proportionate to this level of risk.

This contract will be included in the Procurement Contract Management programme with regular scheduled reviews based on the Balance Scorecard approach.

Contract management meetings will take place with Procurement, the Air Ambulance operational management representatives and the winning bidder on a regular basis during implementation and will then decrease to quarterly for during 'in-life' management. Responsibility for contract management during the 'in-life' management phase will be passed to the Service's Director of National Operations.

Asset Ownership and Maintenance Responsibilities

The provider will:

- Provide, maintain, equip and operate the aircraft from the Operational Bases for the performance of the services in accordance with the Specification (including in accordance with CAA requirements) and any reasonable operational requirements notified by the Service during the Operational Period.
- Provide and maintain at the Operational Bases such spare parts, tools and equipment as are necessary for the proper maintenance and efficient operation of the aircraft and all goods,

equipment, consumables and materials which are to be supplied and/or which in the course of the services shall be of satisfactory quality and in accordance with the Specification.

The Service will not own any fixed assets associated with the delivery of the contract. The Aircraft, estates and any other fixed assets will be provided by the Supplier on a Managed Service Contract basis.

Compliance with Regulations and Standards

The provider will:

- Maintain valid Certificates of Airworthiness in respect of the aircraft for the performance of the services.
- Obtain all licences and permits necessary for the operation of the aircraft in accordance with this agreement.
- Operate the aircraft in accordance required by the Authority from time to time provided that final decisions as to whether or not a flight can be undertaken shall be made by the Service Provider in accordance with the Air Navigation Order.

Personnel Implications

There are no anticipated personnel implications and due to the incumbent supplier being identified as the preferred supplier for the new contract, no TUPE arrangements will apply. The contract obligates the preferred bidder to work with the Service at the end of the contract in the event of any future staff transfer or TUPE implications. The risk of any potential TUPE and staff transfer implication will sit with the Service Provider and any incoming supplier entirely.

Only minor changes to existing SOPs are anticipated to reflect that the contract will provide the new updated model of the existing aircraft. Limited training and development will be required for existing staff to familiarise with the new aircraft.

Section 6: Financial Case

6.1 Summary of Financial Case within the OBC

The following section summarises the estimates and assumptions that were contained within the OBC, approved in July 2022.

Costs of Preferred Option from the Outline Business Case

The average costs for the preferred options, options 4 and 5 identified in the OBC are split by cost drivers below.

Cost Driver	Cost Headings	Option 4		Option 5	
		Total Average Cost	Average per annum	Total Average Cost	Average per annum
Aircraft type	Fixed and variable fixed wing and rotary costs, profit margin, finance costs	247.2m	24.7m	278.7m	27.9m
Relocation assumptions	Estates costs and non-recurring additional costs	10.3m	1.0m	10.3m	1.0m
Search and Rescue Mission Numbers	Recurring additional costs (SAR)	17.5m	1.8m	17.5m	1.8m
Airport Standby assumptions	Recurring additional costs (airport standby)	8.2m	0.8m	8.2m	0.8m
Total		**283.2m**	**28.3m**	**314.8m**	**31.5m**

Table 19 Preferred Option Average Costs

Funding Assumptions

The assumption is that the Scottish Government will fully fund the increase in revenue costs resulting from the new contract compared to the existing contract costs as described within this Full Business Case.

The Service, through Scottish Government, currently funds a recurring requirement of £16.6m per annum as at 2023/24 in relation to the Air Ambulance service contract, and a further £2.4m for coastguard and airport standby costs, this compared to the 2021/22 level of £15.3m described within the Outline Business Case, with the increase due to inflation. This does not include the staffing element, which will remain fully funded by the Service through the baseline allocation and anticipates no change to staffing levels as a result of this contract.

It is also assumed that additional capital and depreciation coverage as required by IFRS16 will be funded by the Scottish Government through an increase to the Service's capital and non-cash Annually Managed Expenditure (AME) budget. This is a revenue-funded project; however, capital and depreciation coverage is required due to the adoption of IFRS16, as discussed in section 6.2 below

Current Costs of the Service

The table below shows the actual costs in 2022/23 and 2023/24, Contract negotiations are being finalised over the final cost of extension, from 2024 to contract go live in 2026.

Description		**Costs in 2022/23 £m**	**Costs in 2023/24 £m**
Contract Costs	Fixed Costs	[redacted]	[redacted]
	Variable Costs	[redacted]	[redacted]
Coastguard		[redacted]	[redacted]
HIAL costs		[redacted]	[redacted]
Total costs		**18.0**	**19.3**
Activity undertaken:			
Air ambulance		4,049	4,021

Table 20 Current costs

Affordability

The preferred options within the Outline Business case had a financial gap of £13.0m-£16.2m per annum compared to the 2021/22 costs of £15.3m, this was before applying any sensitivity analysis on the cost assumptions.

Within the Outline Business Case sensitivity analysis against the key cost drivers, excluding the aircraft types was undertaken, and this identified potential cost savings up to £5m including assumptions on

- Reduction in estimated average annual CPI increase from 2.02% to 1.73% (2.02% representing the average increase over the last 5 years, with 1.73% being the average increase across the last 3 years)
- Reduction in assumed cost of back-up aircraft provision from 5% of fixed costs to 2.5%
- Reduction of assumed profit margin from 10% to 5%
- Reduction of finance costs from 5% to 2.5%
- Reduction in re-location expenses
- Annual flying hours stabilise at 2022/23 forecasted levels
- Annual Search and Rescue missions stabilise at 2022/23 forecasted levels
- Further reduction of stabilised SAR mission numbers at 2022/23 forecasted levels by 50%

The £ detail of this is shown in the tables below along with a comparator to the now actual bid costs.

The OBC after offsetting against these costs recommended an approval value of £20m - £23m pa and the Bidders were advised on this proposal and developed their solutions of this basis.

The OBC approval is summarised on the table below:

Description	Option 4 as per OBC Per annum	Option 5 as per OBC Per annum
Current costs (as at OBC stage)	£15.3m	£15.3m
OBC option costs	£28.3m	£31.5m
Gap	£13m	£16.2m
Potential cost reductions	£2.4m+£2.8m=5.2m	£2.6m+£3.1m=£5.7m
Revised option 4 gap	£7.8m	£10.5m
Approval value	**£23.1m (£15.3m+£7.8m)**	

Table 21 OBC Approved Costs

The financial gap for Option 5, after the sensitivity analysis was £10.5m

6.2 Revised Financial Case following submission of Bids

The financial case has been revised using the preferred supplier's tendered costs (including the estimated annual inflationary impact) and this has resulted in the following changes from the estimates in the OBC as shown in the above section:

Cost Driver	Cost Headings	Option 5 OBC		Option 5 - Preferred Bidder	
		Total Average Cost	Average per annum	Total Average Cost	Average per annum
Transition and Implementation				[redacted]	[redacted]

Aircraft type	Fixed and variable fixed wing and rotary costs, profit margin, finance costs	[redacted]	[redacted]	[redacted]	[redacted]
Relocation assumptions	Estates costs and non-recurring additional costs	[redacted]	[redacted]	[redacted]	[redacted]
Search and Rescue Mission Numbers	Recurring additional costs (SAR)	[redacted]	[redacted]	[redacted]	[redacted]
Airport Standby assumptions	Recurring additional costs (airport standby)	[redacted]	[redacted]	[redacted]	[redacted]
Total		**314.8m**	**31.5m**	**330.8m**	**33.1m**

Table 22 Preferred Option Revised Costs

Excluding the impact of CPI/AWEI, the financial costs are as follows:

Category	Total Lifecycle costs over 10 years £000	Average Annual Costs over 10 years £000	Current Budget at 2023/24 £000	Notes
Transition and Implementation	[redacted]	[redacted]	[redacted]	Average annual costs is over the 2 year implementation period
Internal Project Costs	[redacted]	[redacted]	[redacted]	
Contract Costs	[redacted]	[redacted]	[redacted]	Average annual costs is over 10 years from 2026/27
Search & Rescue & Airport Standy By	[redacted]	[redacted]	[redacted]	
Total Lifecycle costs over the 10 years	**263,893**	**29.290**	**18.200**	This is reflecting an increase cost per annum of £11.0m

Table 23 Financial Costs

The annual cost profile of the new contract excluding inflationary uplifts over the 10 years is shown in the table below. This is based on activity data shown below which was provided to the bidders to base their cost assumptions on. It is assumed that Search & Rescue activity will be stable at 2023/24 level.

	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	Total Costs
	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000	£000

Mobilisation & Transition	[redacted]	[redacted]											[redacted]
Fixed Wing - Fixed Costs			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fixed Wing - Variable Costs			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rotary - Fixed Costs			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Rotary - Variable Costs			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Estates Costs			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Contract Costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Costs	[redacted]	[redacted]											[redacted]
Search & Rescue			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Airport Standby			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
TOTAL COSTS	**1,939**	**5,313**	**25,113**	**25,245**	**25,379**	**25,515**	**25,654**	**25,798**	**25,871**	**25,946**	**26,020**	**26,096**	**263,889**

Table 24 New Contract Cost Profile

Activity Data

The bidders were provided with the following table to base their costs assumptions upon. Demand modelling was carried out by the Service to forecast changes in service delivery and operational demand across NHS Scotland which would impact the air ambulance service.

Missions / Flying Hours

		2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Actual / Forecast Missions		**4,119**	**4,316**	**4,398**	**4,483**	**4,559**	**4,649**	**4,723**	**4,801**	**4,878**	**4,959**	**5,032**	**5,098**	**5,162**	**5212**
Split into current aircraft															
King Air	Aberdeen	959	1,005	1,024	1,044	1,062	1,082	1,100	1,118	1,136	1,155	1,172	1,187	1,202	1,213
King Air	Glasgow	832	872	888	906	921	939	954	970	985	1,002	1,016	1,030	1,043	1,053
H145	Inverness	525	550	561	571	581	593	602	612	622	632	641	650	658	664

H145	Glasgow	881	923	941	959	975	994	1,010	1,027	1,043	1,061	1,076	1,090	1,104	1,115
SCAA	Aberdeen	228	239	243	248	252	257	261	265	270	274	279	282	286	289
SCAA	Perth	315	330	336	343	349	356	361	367	373	379	385	390	395	399
SAR		379	397	405	412	419	428	435	442	449	456	463	469	474	479
Total Missions		**4,119**	**4,316**	**4,398**	**4,483**	**4,559**	**4,649**	**4,723**	**4,801**	**4,878**	**4,959**	**5,032**	**5,098**	**5,162**	**5,212**

Affordability

The OBC identified a funding gap of around £13m per annum reducing to £7.8m after describing potential 'worst case' financial planning assumptions and savings.

In comparing to Option5 within the Outline Business case this gap increased to £10.5m per annum.

Category	Current Costs 2023/24 on an annual basis as at OBC £000	Average Annual Costs on new contract from 2026/27 £000	Notes
Transition and Implementation	[redacted]	[redacted]	Average annual costs based on 2 years costs (Total £7.102m) – **this is due to be paid in 2024/25 and 2025/26**
Internal Project Costs	[redacted]	[redacted]	Average annual costs based on 2 years costs (Total £150k) – this is due to be paid in 2024/25 and 2025/26
Contract Costs	[redacted]	[redacted]	
Search & Rescue & Airport Stand By	[redacted]	[redacted]	

HIAL costs	[redacted]	[redacted]	
Total Annual costs	£19.0m	**£25.664m excluding transition and implementation costs** **£29,290m including transition and implementation costs over 2 years**	

Table 25 Funding Gap Identified in OBC

Excluding, transition and project costs, the financial gap is around £6.7m per annum. Noting that addition non-recurring funding of £7.1m will be required to support the transition costs between 2024 and 2026. If this is spread over the 2 years the additional annual costs would rise to £29.2m with a gap of £10.2m.

This, importantly includes the reduction in SAR missions. The preferred bidder proposal includes an assumption that SAR missions will be reduced by around 200 per annum due to the increased technical capability of the new aircraft.

The outline business case included a range of assumptions for cost reduction/savings that have now been incorporated into the final bidder costs, as above. The next section however compares these assumptions, where the information is known.

Comparison of Outline Business Case cost reduction/savings assumptions revisited for the Full Business Case

The modelled scenarios within the Outline Business case for the preferred options are noted below with an update on the Full Business Case assumptions.

Modelled Scenario	Option 4 - Possible Cost Reduction	Option 5 - Possible Cost Reduction	FBC final bid assumptions	Notes

Reduction in estimated average annual CPI increase from 2.02% to 1.73% (2.02% representing the average increase over the last 5 years, with 1.73% being the average increase across the last 3 years)	£2.3m	£3.1m	(£3.6m) relating to an additional cost	Average inflation increased to 3.98%
Reduction in assumed cost of back-up aircraft provision from 5% of fixed costs to 2.5%	£1m	£1.1m		No data provided by the bidders – costs included in overall submission for rotary and fixed wing provision
Reduction of assumed profit margin from 10% to 5%	£10.8m	£12.4m	£3.7m	% profit margin has reduced to 8.3%
Reduction of finance costs from 5% to 2.5%	£7.8m	£7.1m		No data provided by the bidders – costs included in overall submission for rotary and fixed wing provision
Reduction in re-location expenses	£1.8m	£1.8m	£1.8	No relocation required as current bases are retained in the new contract
Total Reduction	**£23.7m**	**£25.5m**	**£1.9m**	
Total Annual Reduction	**£2.4m**	**£2.6m**	**£0.2m**	

Table 26 Modelled Preferred Options Updated for FBC

Demand Modelling

Modelled Demand	**Option 4 - Possible Cost Reduction**	**Option 5 - Possible**	**FBC final bid assumptions**

		Cost Reduction	
Annual flying hours stabilise at 2022/23 forecasted levels	£18.0m	£20.8m	£9.0m
Annual Search and Rescue missions stabilise at 2022/23 forecasted levels	£1.8m	£1.8m	£1.8m
Further reduction of stabilised SAR mission numbers at 2022/23 forecasted levels by 50%	£7.9m	£7.9m	£7.5m
Total Reduction	**£27.7m**	**£30.5m**	**£18.3m**
Total Annual Reduction	**£2.8m**	**£3.1m**	**£1.8m**

Table 27 Demand Modelling of Preferred Options Updated for FBC

These tables above illustrated a potential cost reduction of between **£5.2m** and **£5.7m** per annum against a range of assumptions described within the Outline Business Case. These assumptions now updated for the Full Business case show the following:

- Assumptions on a reduction of inflation hasn't materialised and the average has increased to 3.98%
- Profit margin is confirmed 8.3%, a reduction of 1.7% from the assumption in the OBC
- Proposal by the preferred bidder to reduce SAR missions by around 200 per annum

These assumptions are all reflected in the final contract cost of £23.4m per annum

<u>IFRS16</u>

As described in the OBC, a new accounting standard for leased assets has been adopted by the Public Sector in April 2022. This requires all relevant leased assets to be capitalised and depreciated over the lease term.

While the preferred bidder is the legal owner of the aircraft and associated estates, the Service has full operating control over these assets for all or most of their useful life. This means that the provision of aircraft and estates under this contract falls under the IFRS16 requirements and

additional capital and depreciation funding is required to record them on the Service's asset register as Right of Use Leased Assets. This is assumed to be fully funded by SG.

The financial impact of IFRS16 is shown in the table below:

Asset	Asset Value	Annual Depreciation Charges	Annual Interest Charges
Fixed Wing Aircraft	£40.90m	£4.09m	£0.87m
Rotary Wing Aircraft	£44.55m	£4.46m	£0.95m
Estates - West	£12.64m	£1.26m	£0.27m
Estates – North East	£6.91m	£0.69m	£0.15m
Estates - North	£2.84m	£0.28m	£0.06m

Table 28 Financial Impact of IFRS16

Overall Financial Summary

The key messages in this financial and affordability analysis are:

- **The outline business case, for option 5, after making assumptions on the cost sensitivity was anticipated at £10.5m additional revenue costs per annum**
- **The final business case describing the preferred bidder costs is now reporting a revenue increased cost of £25.739m this is against a current cost of £19m, a recurring increase of £6.7m per annum, noting this includes a saving of circa £0.5m per annum with reduced reliance on SAR activity**
- **In addition there is a requirement of additional non recurring £7.1m transition costs over 2024-2026 that requires to be funded.**
- **Including the £7.1m spread over the 2 years in 2024/25 this would increase the revenue impact to £29.2m in 2026/26, an increase of £10.2m against current revenue funding**
- **The Outline business case assumed total contract costs of £314.8m compared to the final contract cost of £330.8m.**

Section 7: Management Case

7.1 Project Management Arrangements

This section details the project management approach adopted by SAS including how the Air Ambulance Re-Procurement project is governed and will be resourced over the transition and mobilisation period to full implementation.

Air-Ambulance Re-Procurement is a high-profile project within the Service and has senior sponsorship from the Executive Team and SAS Board. It is envisaged that the Air Ambulance Re-Procurement Project Board will continue its structure and functions through to the conclusion of the implementation phase. In support of implementation, the Project Board will include relevant stakeholder representation, including ongoing support from the Project Board and now including representatives from the selected supplier.

The Phase 2 Project for Implementation will follow the guidance issued by the Scottish Ambulance Service Programme Management Office (PMO) on Project Assurance. This guidance states the following:

Project Assurance covers the primary stakeholder interests (business, user and supplier). Project Assurance monitors the project's performance and product delivery independently of the Project Manager. The individual undertaking the role is known as the Project Assurance Officer and should be an individual experienced in project delivery who is independent of the project they are assuring. The role cannot be undertaken by someone directly involved in the project. The role of the Project Assurance officer is not intended to be adversarial or in the form of an audit. In fact, one of the key parts of the role is to act as a 'critical friend' to the Project Manager by giving advice and guidance on issues identified during assurance reviews.

This has been in place throughout the project and is described further in the project monitoring and evaluation section below.

The governance structure supporting the implementation of the new contract has been slimmed down considering the preferred bidder is the current incumbent supplier and thereby reducing a significant level of implementation risks. This is shown below:

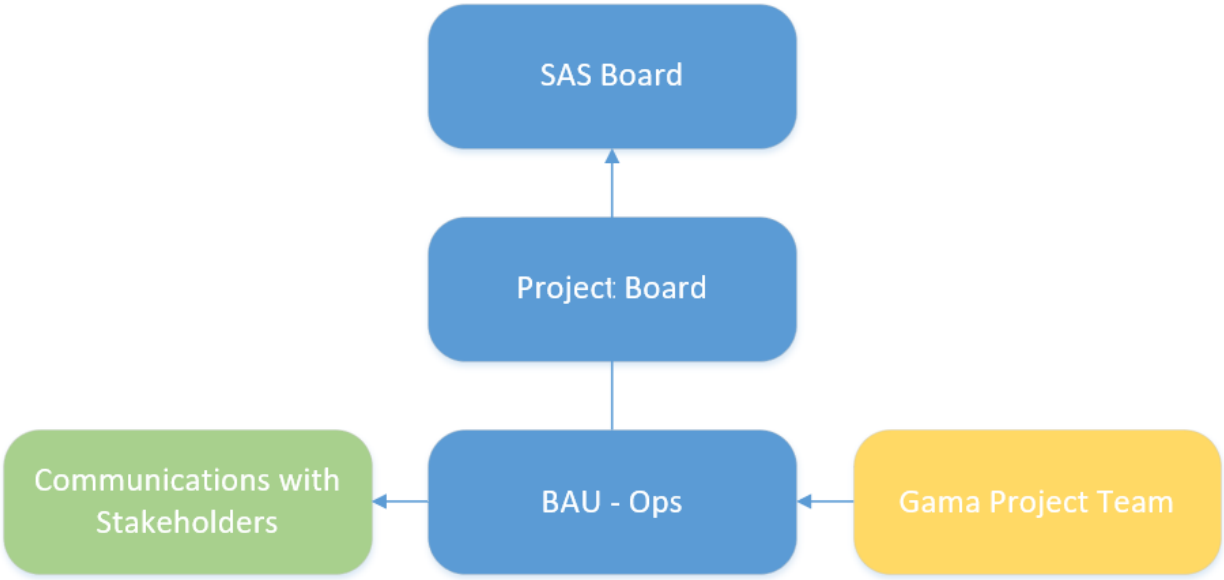

Figure 11 Governance Structure

During Phase 2 Implementation, the Communications and Engagement workstream will develop and implement a strategy to keep the stakeholders engaged. Below is an example of how we mapped out the engagement for phase 1 re-procurement. After consultation with the Communications and Engagement workstream Lead, it is expected that this matrix will remain unchanged for phase 2.

Air Ambulance Re – Procurement Project: STAKEHOLDER MATRIX

Power relates to the amount of influence and input a stakeholder has that can impact on the project.

Interest relates to the amount of true interest they have in relation to the project outcomes. Stakeholders are placed into one of these categories to allow the most appropriate management technique to be applied.

KEEP SATISFIED Scottish Ministers (FM, Cab Sec) MSPs/MPs/Parliament Non-remote and rural NHS Chairs/Directors Trade Unions	**MANAGE CLOSELY** Highland & Islands MSPs Highlands & Islands NHS Chairs and Directors Highland & Island Councils Convention of the Highlands & Islands Group (CoHI) Scottish Government Media Remote and rural public/Patients/Carers/Community Groups/PFPI Staff/Staff side partnership NHS Boards Remote and Rural General Practice Working Group (RRGPWG) Marine and Coastguard (MCA) Transport Scotland (inc. ferries and airports) Scotland's Charity Air Ambulance (SCAA) Scottish Health Council Health and Social Care Alliance Scotland (The Alliance) Health & Social Care Partnerships
LIMITED INFORMATION Other Ambulance Services Scottish Police Authority	**KEEP INFORMED** Remote and Rural Healthcare Education Alliance (RRHEAL) General public Third Sector Organisations GP Network RNLI NASPEG Scottish Fire and Rescue Service/Police Scotland Regional Transport Partnerships (RTPs) Royal Colleges Best Start Initiative

POWER: LOW

INTEREST: HIGH

Figure 12 Stakeholder Matrix

Key Roles and Responsibilities

The BAU/Ops team will provide service oversight of the implementation project. As the transition to aircraft implementation becomes closer, a core team will be assigned and made up of the following members:

Core Team	Description
Head of Service	Overall responsibility of new contract
Project Manager	Project Management
Admin Support	Administrative Support
Workstream Leads	**Description**
Operational	Management of the change of aircraft
Training	Training requirements for new aircraft
Contract Management	Finance, Procurement, HR
Consultation & Engagement	Communications
ICT	Introduction of new technology, airwave,

Table 29 Core Team Membership

The communication with the external stakeholders is vital especially as the new service is implemented. During the re-procurement a very detailed communication plan was completed, and a final output report also reviewed and approved by the Project Board. The details of the 'you said' 'we did' approach will be a critical communications and engagement process as the new project is implemented.

Air Ambulance Re- Procurement Phase 2 Implementation – Project Board

The remit of the Air Ambulance Re- Procurement Project Board is to oversee the Implementation of the Air Ambulance contract. It will be responsible for approving key documents and making recommendations to the SAS Board.

It is expected that the current Project Board for Re-Procurement will carry over to Phase 2 – Implementation and will consist of the following membership and will be reviewed throughout the implementation stage.

Project Roles & Responsibilities	Named Person
Senior Responsible Officer	[redacted]
Executive Lead/Operational Assurance	[redacted]
Financial Governance Assurance	[redacted]
Implementation Lead	[redacted]
Clinical Governance Assurance	[redacted]
Procurement compliance	[redacted]
Senior Communications Advisor	[redacted]

Senior User	[redacted]
Senior User	[redacted]
Patient Representative	[redacted]
Patient Representative	[redacted]
SAS Staff side Representative	[redacted]
Island Health Boards Representative	[redacted]
Scottish Government Sponsor Team	[redacted]
Scottish Government Finance	[redacted]
External Agency Representative	[redacted]
External Aviation Advisor	[redacted]

Table 30 Phase 2 Team Membership

Planning

Detailed implementation plans will be developed in conjunction with the supplier to ensure that the ability to provide the current air ambulance service is not affected during implementation. These plans will cover the following areas:

- Contract Award
- Manufacturing
- Delivery and fit of medical interior
- Training (aircraft specific)
- Handover
- Service readiness

The current assumption is that the implementation of the solution and the transition will be broken down into a staged approach. This will enable the Project Board to manage and take account of risk to patient safety and to protect the current service delivery to patients and level of service quality.

In considering the most appropriate implementation approach SAS will take into account the following:

- Manage risk to patients
- Manage SAS resource inputs
- Management of the cost of the project to SAS
- Ensure the continuity of patient service

The dates below show the high-level overview taken from the preferred suppliers' final bid. Due to delays an additional 14 weeks has been added to illustrate the timeline below. This is subject to change.

Figure 13 Implementation and Transition Timeline

Below is the more detailed implementation plan as submitted by the preferred supplier. This assumes a contract award in early April 2024 and will be subject to change if there is any delay to contract award.

Phase 2 - Implementation Plan	
Notified as Preferred Bidder (Programme Start)	26/04/2024
Master Supply Agreement Signed	06/05/2024
Fixed Wing Schedule	
KingAir 360 Aircraft Orders placed (Fixed Wing) and confirm delivery date	03/06/2024
Confirm Specification Fixed Wing Aircraft 1	03/06/2024
Confirm Delivery date (to supplier) Aircraft 1	03/06/2024
Confirm Specification Fixed Wing Aircraft 2	03/06/2024
Confirm Delivery date (to supplier) Aircraft 2	03/06/2024
Confirm Specification Fixed Wing Aircraft 3	03/06/2024
Confirm Delivery date (to supplier) Aircraft 3	03/06/2024
Rotary Schedule	
Airbus H145 D3 Aircraft Orders Placed (Rotary) and confirm delivery date	26/07/2024
Confirm Specification Rotary Aircraft 1	26/07/2024
Confirm Delivery date (to supplier) Aircraft 2	26/07/2024
Confirm Specification Rotary Aircraft 2	26/07/2024
Confirm Delivery date (to supplier) Aircraft 3	26/07/2024
Confirm Specification Rotary Aircraft 3	26/07/2024
Confirm Delivery date (to supplier) Aircraft 4	26/07/2024
Delivery of aircraft to Glasgow base	
H145 Aircraft 1	03/09/2025
H145 Aircraft 2	04/11/2025
H145 Aircraft 3	10/12/2025
KA360 Aircraft 1	07/10/2025
KA360 Aircraft 2	13/11/2025
KA360 Aircraft 3	16/01/2026

Training	
Airbus H145 D3 Training Complete	23/02/2026
TCM Differences Training Program Complete	23/03/2026
Medical Passenger Differences Training Program Complete	23/04/2026
Service Readiness	01/04/2026
Project Close	11/05/2026

Table 31 Phase 2 Implementation Plan

Project Recruitment Needs

The Phase 2 Implementation Project will be fully delivered by the Service and does not intend to utilise shared support from other NHS Boards. The PMO will appoint a Project Manager to aid the Head of Service at appropriate points in the delivery of phase 2. Administrative support will also be provided when required.

7.2 Change Management Arrangements

To support the Implementation phase 2 Project there will be a Communications and Engagement workstream which will concentrate on stakeholder engagement, internal and external communications. Focus will be on preparing users for the transition to the new service and engaging with them to ensure their buy-in.
Contract Change Management for phase 2 will largely be managed through business as usual (BAU) via Operations and utilising quarterly contract review meetings with the supplier.

7.3 Benefits Realisation

Benefit Category	Benefit Description	Who Benefits	Measurement Criteria	Date of baseline Measurement	Owner	Benefits Status
Reliability	The provision of new aircraft will reduce the frequency of reactive maintenance during the early years post-implementation resulting in a more reliable service	**Patients** – more effective healthcare provided **Clinical staff** – reliable aircraft which are fit for purpose **Operational Performance** – improved patient outcomes as a result of improved aircraft availability **Supplier** – fewer reactive maintenance **Finance** – reduced reliance on SAR support.	Number of AOG (aircraft on ground) occurrences – i.e. unplanned maintenance	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	
Resilience	The provision of a mixed fleet of fixed wing and rotary aircraft ensures the air ambulance service remains able to respond to all areas of Scotland	**Patients** – maintains equity of access **Operational Performance** – mixed fleet ensures the service can reach 95% of locations within 1 hour **Finance** – reduced reliance on SAR support.	The number of air ambulance missions undertaken annually.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	
Operational	New aircraft are designed to improve capability in respect of bariatric patient transfers	**Patients** – greater proportion of bariatric patients will be serviced by dedicated air ambulance aircraft (rather than by SAR helicopter) **Operational Performance** – having greater "in-house" capability will improve on response times **Finance** – reduced reliance on SAR support.	Number of bariatric transfers undertaken by HMCG on behalf of the Service.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	

Operational	Use of GPS based navigation aids to minimise the impact of adverse weather on operational capability for rotary operations.	**Patients** – greater proportion of patients will be transported by dedicated air ambulance resources. **Operational Performance** – having greater "in-house" capability will improve on response times **Finance** – reduced reliance on SAR support.	The number of missions rejected due to adverse weather.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	
Operational	Improved fixed wing patient loading system.	**Clinical staff and flight crew** – due to a significant reduction in the manual handling associated with the deployment of the loading system **Operational Performance** – deployment is less time consuming resulting in a reduction in overall mission times	The number of DATIX manual handling reports related to operation of the aircraft loading system.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	
Operational	Improvements in Infection Prevention and Control within the aircraft	**Patients** – enhanced capability to convey ID patients **Clinical staff and flight crew** – through improvements in aircraft ventilation and flight deck separation	Number of patient transfers undertaken by HMCG on behalf of the Service due to IP&C challenges.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	
Operational	Limited fixed wing de-icing capability – the aircraft will carry de-icing equipment on board reducing the reliance on airport based facilities which are not available out of hours.	**Patients** – greater proportion of patients will be transported by dedicated air ambulance resources. **Operational Performance** – having "in-house" capability will improve on response times.	The number of missions rejected due to lack of de-icing capability.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	

		Finance – reduced reliance on SAR support.				
Operational	Additional cargo space on FW aircraft	**Patients** – ability to carry additional patient luggage if necessary. **Clinical staff** – ability to carry additional patient care equipment and/or consumables		Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	
Operational	Increase in maximum take off weight for both fixed wing and rotary aircraft allowing for more fuel to be carried resulting in reduction in requirement to refuel away from the base.	**Operational performance** – less requirement for refuelling at remote locations. **Finance** – fuel drawn at remote locations is generally more expensive.	The number of occasions when fuel is drawn away from base.	Q4 2025/26, prior to implementation of new aircraft	Head of Air Ambulance	

Table 32 Benefits Realisation

Benefits management process (SAS PMO):

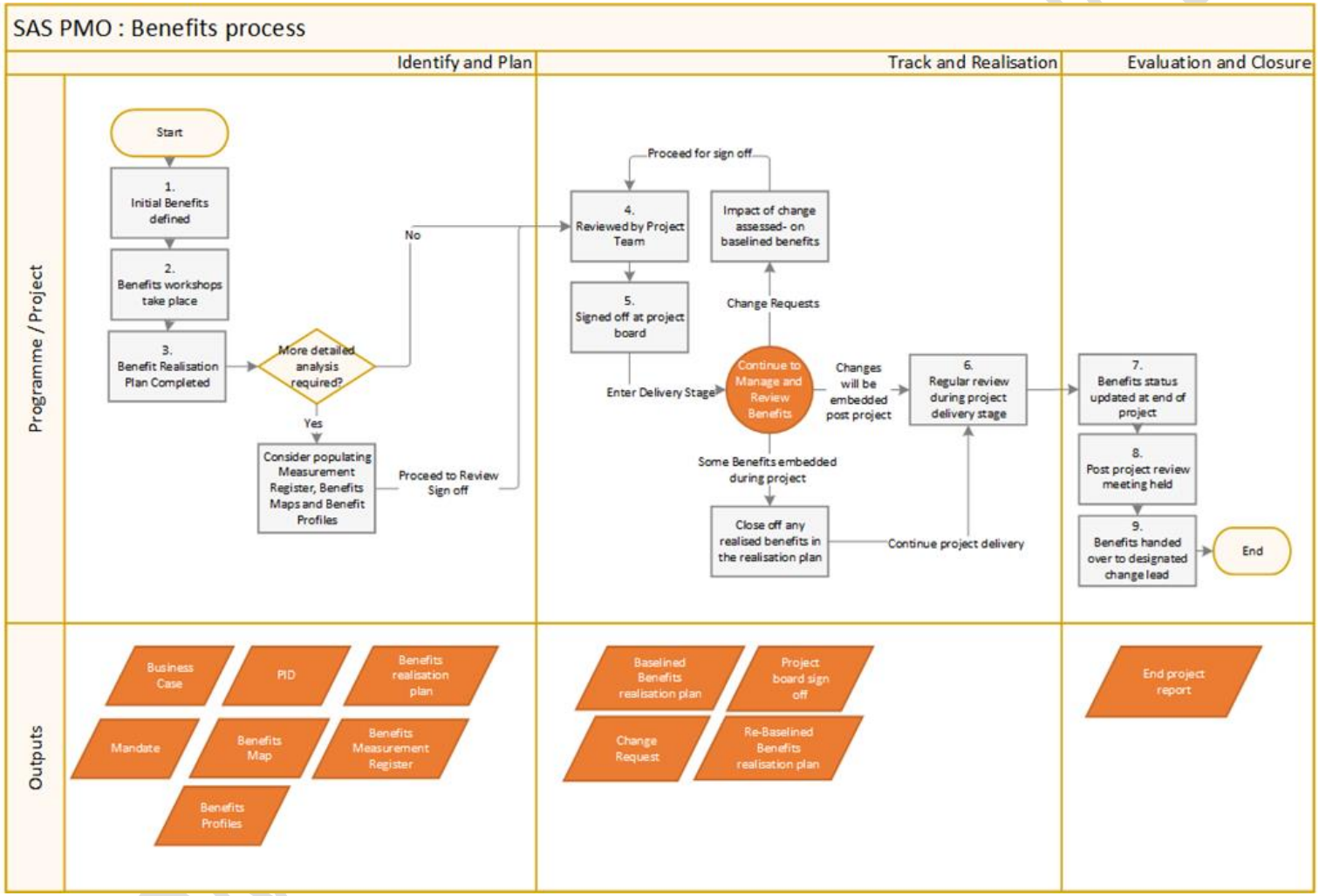

Figure 14 SAS PMO Benefits Management Process

Benefits Management provides a structured approach for maximising good business outcomes for an organisation as a result of change. The key areas outlined below provide a standardised framework and process for Benefits Management within SAS which covers but is not exhaustive to the following:

1. Identifying and recording Benefits
2. Governance of Benefits
3. Traceability
4. Handover and closing of Benefits

Benefits are identified, tracked and reviewed throughout the lifecycle of the Project and the End of Project Report will include the status of each benefit including plans for post-project reviews.

7.4 Risk Management

Throughout the procurement phase, the risk register was reviewed each month by the core project team. The risk register was presented at each AAR Project Team and each AAR Programme Board meeting. The risks were reviewed and closed for phase 1 where appropriate.

Risks which will be carried to phase 2 have been identified in the risk register with the appropriate control measure and the identified risk owner.

The following risks relate to the procurement risks within the re-procurement project and focus on:

- The risk of legal challenge. This was identified by the Central Legal Office at the commencement of the project and based upon their experience of procuring services. The risk relating to this is detailed below with the controls and actions in place.

ID	Description	Controls in place	Risk level (current)	Action Planning (Future Controls)
5127	There is a risk that there is a legal challenge to the procurement process because of a bidder not being awarded the contract resulting in potential legal action.	1. The Procurement workstream is in place and has robust evaluation processes in place compliant with current legislation. 2. CLO engagement has taken place during the shortlisting process 3. The Single Procurement Document (SPD) has been strengthened following CLO advice 4. NHS Assure representation on AAR Project Team	High	1. Procurement workstream to engage with CLO as required and, if required, CLO to be present at meetings. 2. Engage with Scottish Government Procurement, if required (Procurement workstream lead). Monitoring throughout procurement activity - Jan24 3. all actions to date agreed with the legal advisors as key mitigations of legal challenge

Table 33 Risk of Legal Challenge

Given the significance of this and with the Service now selected their preferred bidder further more detailed risk mitigation work has taken place with a risk assurance paper completed that describes in detail the actions put in place to mitigate this risk.

The risk to climate change impact can now be closed given the preferred bid selected.

ID	Description	Controls in place	Risk level (current)	Action Planning (Future Controls)
5132	There is a risk that the Service's climate impact reduction targets cannot be met because aircraft offered within the new contract are not as efficient as possible resulting in reputational damage and/or financial consequence.	1. Project plan in place to include the Innovation and Sustainability workstream is addressing environmental issues in its work 2. Sustainability to form criteria in the procurement specification. 3. Dedicated Innovation and Sustainability competitive dialogue sessions held	Medium	1. Procurement workstream and Innovation and Sustainability workstream to work together to ensure sustainability requirements are included in the ITT (Procurement workstream lead and Innovation and Sustainability workstream lead Jan 2024) 2. Programme Director to review SAS climate change risk assessment and consider impact on air ambulance. Paper to be developed and presented to AAR board.

Table 34 Risk to Service Climate Impact

The risk of financial affordability will be reviewed as the funding discussions are confirmed.

ID	Risk Type	Risk Subtype	Description	Controls in place	Risk level (current)	Action Planning (Future Controls)	Owner
5313	Project Risk	Financial	There is a risk that the costs of the air resources, because of the economic downturn results in an impact upon affordability	1. Detailed financial analysis and modelling, including ongoing engagement with Aviation Consultant to identify factors in the sector affecting costs 2. Engagement with potential bidders to ensure financial constraints are understood and	Very High	1. Detailed milestone reporting is built into the Project Plan 2. Implementation of Air Ambulance Efficiency Project which reports to the Best Value Steering Group. 3. Collaboration with the wider H&SC system to understand and	Head of Air Ambulance

			and funding for the new contract.	adapting procurement process to ensure bids are value for money 3. Communication with relevant stakeholders regarding issues affecting costs		influence local system service changes	

Table 35 Risk of Economic Impact on Funding

The following implementation risks are noted below:

Implementation Risks

ID	Risk Type	Risk Subtype	Description	Controls in place	Risk level (current)	Action Planning (Future Controls)	Risk Approval Governance Group(s)
NEW			There is a risk that aircraft are not delivered in time due to delays on manufacturing resulting in late implementation of the new contract.	1. 24 month lead-in time for new contract. 2. Robust implementation plan (Gama Aviation). 3. Production line slots already provisionally in place & will be confirmed on award of contract.		1. Continuation of Programme governance structure. 2. Head of Air Ambulance Services embedded within Gama Aviation project implementation team.	Head of Air Ambulance
NEW			There is a risk that aircraft medical interiors are not fitted out optimally due to lack of input from clinical users resulting in poor ergonomics.	Aircraft interiors will be a specific workstream within Phase 2 of the project.		Ensure all clinical teams are represented within the Workstream membership.	Head of Air Ambulance

NEW			There is a risk that aircraft are not delivered on time due to delays in manufacturing resulting in late implementation of the new contract and subsequent financial penalties associated with extending the current contract.	1. 24 month lead-in time for new contract. 2. Robust implementation plan (Gama Aviation). 3. Production line slots already provisionally in place & will be confirmed on award of contract.		1. Continuation of Programme governance structure. 2. Head of Air Ambulance Services embedded within Gama Aviation project implementation team.	Head of Air Procurement

Table 36 Key Implementation Risks

7.5 Project Monitoring and Evaluation

During the Re-Procurement phase 1, the Project has adhered to the *SAS PMO Monitoring and Control Process*. This defines the monitoring and control process that projects and programmes should follow to meet the SAS PMO standards.

Throughout Phase 1, project assurance has been undertaken by the Head of Programme and the project manager as described in the *PMO Project Assurance Process.* A project assurance plan has been completed. External assurance has been provided to the project by NHS Assure as members of the AAR Project Team. The Scottish Government Sponsorship team is also represented on the Project Team. NHS Scotland Assure exists to improve how we manage risk in the healthcare environment across Scotland. Managing risk in the right way gives those involved confidence and reassurance.

During Phase 2, the Programme Management Office will provide an assurance review at appropriate stages in the project.

7.6 Lessons Learned

Throughout phase 1 of Air-Ambulance Re-Procurement the core Project Team kept a Lessons Learned log in accordance with the Scottish Ambulance Service PMO Lessons Learned Process. Lessons learned were identified throughout the Project lifecycle. Lessons learned from previous PMO Projects were also considered at the Project start. Project team members were encouraged to raise lessons learned throughout phase 1. As part of the closing down a project phase, the Project Manager will schedule a lessons learned workshop. To prepare for this, the Project Manager incorporated lessons learned into the monthly checkpoint reports which were issued to the workstream leads before each Project Team meeting.

During April/May stakeholders will be invited to participate in the workshop to ensure there is a good cross section of participants who have been involved in the project. They will consider what they felt went well and didn't go well with the project.

Once identified, lessons will be grouped into themes and any necessary actions and recommendations that will help to ensure good practice moving forward will be agreed. Given the criticality of the project the lessons learnt will be presented and reviewed by the SAS Executive Team and shared with the wider Project Team and Project Board.

All lessons learned from this project will be added to the PMO master log for future reference.

Section 8: Conclusion and Recommendation

The strategic aims of this procurement project has been achieved:

The key strategic aim of the Air Ambulance Re-Procurement is to **identify a commercial partner that can deliver suitable aircraft to support the delivery of emergency and critical care to patients in Scotland**. The commercial partner will be expected to facilitate and support the strategic development of the service by being **flexible, resilient, and as 'future proof' as possible.** The aircraft require to be equipped to enable the Service to deliver **safe and effective care to patients.**

The necessity to continue an air ambulance service for Scotland is described within this business case.

The additional financial costs were anticipated at Outline Business Case and have been further impacted by the economic downturn and inflationary pressures.

The benefits of the new contract have been described within the business case.

The Scottish Ambulance Service now seek approval to appoint the new contract to Gama Aviation, and proceed with the implementation over the new 24 months.

8.1 Preferred Supplier Statement

This FBC has revisited the outcomes of the OBC. The preferred option for investment is **Option 5 (Full provision for more capable helicopter(s) and fixed wing aircraft across the fleet)** maximising benefits to patients**,** staff and healthcare partners alike whilst carrying minimal business risk.

A procurement process has been carried out for the contract to deliver an air ambulance transport service to support the delivery of urgent, emergency and critical care to patients across Scotland.

The preferred solution is offered by Gama Aviation Ltd

The contract will deliver the following objectives:

- *Providing the right mix of aircraft required to deliver the most appropriate response depending on the nature of the call*
- *Reducing environmental impact through innovation and adoption of sustainable working practices*
- *Developing in-house capabilities and reducing the reliance on Search and Rescue support*
- *Delivering the appropriate infection control measures for the carriage of suspected or known infectious disease patients*
- *Developing the fleet capability to manage the transfer of bariatric patients in-house*

8.2 Recommendation

A procurement process has been carried out and it has been identified that Gama Aviation Ltd submitted the tender that provided the most benefits for the lowest cost. This FBC has been produced in accordance with the guidance issued by the Scottish Government's Capital Investment Group.

It is recommended that this FBC is approved with the following outcome:

The contract for the provision of air ambulance services is awarded to Gama Aviation Ltd and will be delivered through the introduction of new aircraft, namely two Beechcraft King Air 360C fixed wing aircraft and two Airbus H145 D3 helicopters.

These aircraft bring enhancements over the current service provision which will address a number of the existing challenges faced with the carriage of bariatric patients, the ability to operate in inclement weather and infection prevention and control challenges identified during the recent pandemic. The aircraft will be supported by back-up aircraft equipped and configured to the same specification in order to ensure there is no loss of service capability during periods of aircraft maintenance.

Gama Aviation will continue to use the existing air ambulance bases which were built to Scottish Ambulance Service specifications as part of the current contract and continue to meet all of our needs. Enhancements to the estates provision will include the installation of solar panels and additional EV charging points to assist SAS in meeting sustainability targets.

Appendix 1 – Glossary

AA	Air Ambulance
AAR	Air Ambulance Re - procurement
AAGBI	Association of Anaesthetists of Great Britain and Ireland
ADP	Annual Delivery Plan
AME	Annually Managed Expenditure
ANP	Advanced Nurse Practitioner
AOG	Aircraft on Ground
APCC	Advanced Practitioner in Critical Care
ASM	Area Service Manager
AWEI	Average Weekly Earnings Index
BAU	Business as Usual
CEO	Chief Executive Officer
CAA	Civil Aviation Authority
CIG	Capital Investment Group
CLO	Central Legal Office
CPI	Consumer Price Index
DGH	District General Hospitals
EAC	Equivalent Annual Charge
ED	Emergency Department
EMRS	Emergency Medical Retrieval Service
EQIA	Equality Impact Assessment
EV	Electric Vehicle
ESN	Emergency Services Network
FBC	Full Business Case
GP	General Practitioner
GPA	Agreement on Government Procurement
HCP	Healthcare Professional
HEMS	Helicopter Emergency Medical Service
HIAL	Highlands and Islands Airports Ltd
HMCG	His Majesty's Coastguard
HoS	Head of Service
IA	Initial Agreement
IA/OBC	Initial Agreement / Outline Business Case
ICT	Information Communication and Technology
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Schedule
IP&C	Infection Prevention and Control
ITPD	Invitation to Participate in Dialogue
ITT	Invitation to Tender
KPI	Key Performance Indicator

MCA	Maritime and Coastguard Agency
MEAT	Most Economically Advantageous Tender
MoU	Memorandums of Understanding
MSP	Member of the Scottish Parliament
NoS	North of Scotland
NVIS	Night Vision Imaging System
OBC	Outline Business Case
OPS	Operations
PA	Per Annum
PID	Project Initiation Document
PIN	Prior Information Notice
PCS	Public Contracts Scotland
PMO	Programme Management Office
PPMCoE	Programme and Project Management Centre of Expertise
QEUH	Queen Elizabeth University Hospital
RGH	Rural General Hospitals
RIE	Royal Infirmary of Edinburgh
RPI	Retail Price Index
SAR	Search and Rescue
SAS	Scottish Ambulance Service
SAS PMO	Scottish Ambulance Service Programme Management Office
SCAA	Scotland's Charity Air Ambulance
SCIM	Scottish Capital Investment Manual
ScotSTAR	Scotland's Specialist Transport and Retrieval
SG	Scottish Government
SGHSCD	Scottish Government Health and Social Care Directorate
SLT	Senior Leadership Team
SOPs	Standard Operating Procedures
SPD	Single Procurement Document
SSIP	Scottish Stroke Improvement Plan
T&C	Terms and Conditions
TAG	Thrombectomy Advisory Group
TBC	To be Confirmed
TUPE	Transfer of Undertakings (Protection of Employment) Regulations