Initial Agreement

For the establishment of an

Ambulance Telehealth solution in the pre-hospital unscheduled care environment
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GM ICT

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Executive Summary

Introduction
The purpose of this document is to establish a case for change within the Scottish Ambulance Service (the Service) and to outline the need for investment in the Service’s Ambulance Telehealth project in order to secure the future of mobile data services across the A&E response fleet through 2016 and beyond. This project has one overarching outcome: to procure and deliver an affordable, reliable, robust and resilient mobile data communication system (or systems) that fulfills the current and future operational requirements of the Service. This will enable the Service to take forward its strategic aims in line with the Scottish Governments 20:20 Vision of delivering more care locally to the public in their own community.

The objective of this document is to secure the Initial Agreement to proceed with this project.

Organisational overview
The Scottish Ambulance Service is one of eight Special Health Boards within NHS Scotland. It is also one of the three Scottish emergency services. With over 4300 staff and an overall budget of over £220 million, the Service are at the frontline of the NHS in Scotland providing an emergency ambulance service to a population of over 5 million people serving all of the nation’s mainland and island communities. In addition, the Patient Transport Service (PTS) undertakes over 1.3 million journeys every year. The PTS service provides care for patients who need support to reach their healthcare appointments due to their medical and mobility needs.

The Service is just past the mid-way point of a five year strategic framework “Working Together for Better Patient Care” which was published in January 2010. “Working Together for Better Patient Care” established the vision to deliver the best patient care for people in Scotland, when they need it, where they need it, putting our patients at the heart of everything we do.

This strategy was, and continues to be, focused on three main goals:
1. To improve patient access and referral to the most appropriate care
2. To deliver the best service for patients
3. To engage with all of our partners and communities to deliver improved healthcare.

Existing Business Strategies
It is clear that this programme cannot be considered in isolation. As outlined in section one of this document, cognisance has been taken of relevant local planning in the form of Local Delivery Plans, HEAT Targets and local strategies. Cognisance has also been taken of the Scottish Governments 20;20 Vision and Digital Health Strategy along with NHS Scotland eHealth Strategies as well as other relevant documents like the National Delivery Plan for Telehealth and Telecare and the Scottish Future Communications Programme. Links to relevant strategy and planning documents mentioned in this document are provided in Appendix 2.

Investment objectives
By 2016, the Scottish Ambulance Service will:

1. Deliver an improved patient-driven user interface which will result in more accurate and improved completion of electronic patient report forms.
2. Ensure front terminal compliance with Vehicle Type Approval guidelines issued by the Vehicle Certification Agency under the CEN standard (BS EN 1789:2000) for Medical Vehicles and their Equipment from 2015.
3. Deliver a robust and reliable hardware solution which supports wireless data communications outside of the dock and can therefore be used effectively at the point of care. This will result in improved turnaround times at incidents where a patient is not conveyed to hospital.
4. To provide a solution which supports access to external clinical information to aid clinical decision making and access to Back Office systems for incident reporting, eForm completion and accessing business information which will reduce the amount of time ambulance crews need to spend
completion administrative tasks on station.

5. Enable data links to patient monitoring equipment within the vehicle to allow automatic population of clinical data. This will increase the accuracy of clinical recording and speed up the record completion process.

6. Enable electronic data sharing between responding vehicles to avoid duplication of effort and to ensure that all responding clinicians can review the full treatment record for the patient.

7. To deliver a telemedicine interface to support video connections to health care professionals from within the ambulance environment to allow patients to connect with clinicians without the need to travel to a hospital or clinic where a physical consultation may not be necessary. This will improve ambulance journey efficiency, reduce unnecessary hospital attendance and will allow patients to access enhanced healthcare services from within their community.

**Critical Success Factors**
The following critical success factors have been identified:

1. Availability of sufficient funding to support development, training and implementation
2. Organisational support for the project
3. Availability of dedicated project resources throughout the project lifecycle
4. Ability of suppliers to provide a solution that meets the identified Operational Requirements
5. Availability of proven and trusted technology to meet the Operational Requirements
6. Availability of public communications network in Scotland to support the solution nationally
7. Provision of a solution which meets all ‘threshold’ needs identified in the Operational Requirements
8. Provision of a solution which meets some or all of the ‘objective’ needs identified in the Operational Requirements

**Existing arrangements**
Mobile data services are currently provided through an installation, support and maintenance contract with Terrafix Ltd. The contract expires in 2016 and costs circa £1.5M per annum.

**Business needs**
This main investment driver or objective for undertaking this project is the ‘business gap’ between the existing and future requirements. Therefore the high-level business need can be summarised as the ability to improve ambulance response to patients, patient monitoring and reporting in the pre-hospital environment by establishing the ambulance vehicle as a communications hub, utilising available technology solutions, to send and receive data communications, which includes video, as an aid to patient care.

**Business Scope**
The scope of this project covers the replacement of the existing mobile data systems and enabling emergency vehicles as wireless communications hubs for the secure transmission of patient data between systems and healthcare partners. The scope also covers provision of mobile data services to other Responder types utilised by the Ambulance Control Centres (ACCs) such as Community First Responders and BASICS-trained clinicians.

**Resultant Service Requirements**
In terms of mobile data, current services are considered to be inadequate due to network coverage and bandwidth (data-rate) limitations, ageing hardware and out-dated software platforms. Therefore the high-level service requirements can be summarised as:

- Mobile data services
  - Improve current data collection functionality
  - Improve hardware platform
  - Increase coverage compared to current arrangements
  - Increase bandwidth compared to current arrangements
  - Enhance the services and capabilities available in the Ambulance environment
  - Enhanced satellite navigation that can be updated regularly and simply.
- Mobile telehealth services
  - Provide real-time transfer of diagnostic data from near-patient testing equipment
  - Enable video conferencing to 3rd party health care professionals from within the ambulance environment to allow patients access to care from within their community and to reduce hospital admissions.

**Drivers for Change**

The Scottish Ambulance Service Strategy is to deliver more care locally in people own homes, the existing technology permits the electronic transmission of information to hospital in advance of the patients arrival, as well as storing all the patient details from the incident. However with advances in technology it would be possible to use video technology to assist in professional to professional support. Also there are possibilities in terms of diagnostics and a move to wireless technology would be more efficient and improve both patient and staff safety.

The second driver for change is the fact that the existing contract to supply the Service with mobile data services expires in 2016. Although this date may at first appear to be some way off, the reality is that although the Service could realistically go to market and procure off-the-shelf mobile data services over a relatively short timescale, development and implementation of the preferred solution is likely to take 2-3 years to complete, due to the complexity of the system and the geographically area to be covered. Also the requirement not to impact operational delivery of the service.

A further main driver for change is the need to replace the ageing equipment currently in use in the ambulances which has been in continuous use for the past 6 years. The hardware is becoming increasingly unreliable, particularly with poor battery performance. There are also limitations in further developing the software as a result of the major technology advancements since 2007 which cannot run on the existing hardware and software platforms.

**Benefits**

The main benefit that will be delivered by this project is very straightforward; The Service will be able to offer Scotland’s residents and visitors efficient and effective A&E Ambulance services with more care provided locally. If the current mobile data services are not replaced by the end of the current contract in 2016, we will be running our A&E services with legacy, ageing equipment and technology meaning patient safety, staff safety and patient care will undoubtedly be compromised. There will also be a saving to the wider NHS economy in terms of enhanced information sharing of patient data, less people requiring hospital admission and attendance at A&E. There will also be benefits to patient safety due to the availability of real-time data by all parties in the NHS.

**Risks**

Risks to the project will be identified, mitigated and controlled in accordance with standard programme governance methodology using both a “Likelihood” and “Impact” assessment. The main high level risks identified at this early stage are:

- That the project does not deliver within the required timescales
- That the project is not provided with the resources it requires
- That the project does not deliver a solution that meets the minimum / essential user requirements

**Constraints**

The main constraints related to this project that have been identified so far are:

- Timescales – e.g. the current contract expires in 2016
- Procurement legislation e.g. OJEU thresholds
- Technical – e.g. the ability of telecoms providers to deliver high-speed mobile broadband
- Commercial / Legal / Contractual – e.g. the legality of extending the current Terrafix contact if required, or desired
- Resources – e.g. financial envelope
Dependencies
The key dependency related to this project is the National Delivery Plan for Telehealth and Telecare as set out by the Scottish Centre for Telehealth and Telecare (SCTT) which sets out the contribution that telehealth and telecare can make to wider strategic policies for health, care, housing and wellbeing in Scotland.

The project will also take cognisance of the SAS Future Mobile Communications (SAS FMC) Programme and the Scottish Future Communications Programme (SFCP) which is focussed on providing the future voice and data communications needs of Scotland’s Emergency Services as well as other non blue-light agencies. Whilst the solution is likely to include the sending and receiving of short data messages and a mobile broadband data solution, it is unlikely to provide a full mobile data and video solution as required by the Ambulance Telehealth project. However, we will remain engaged with the SFCP to ensure that if there is any scope to utilise or enhance their chosen solution to meet the Ambulance Telehealth requirements, we will be best placed to identify this.

Preferred Way Forward
In order to ensure that the Service interests and requirements are addressed in an appropriate, timely and cost-effective manner, the preferred way forward is to update the front and rear-terminal hardware and software and to implement a true broadband and wireless communication infrastructure. In order to provide a balanced appraisal of the options and to ensure that if the level of funding required to achieve the preferred solution is not available, an alternative option can be adopted, options 4 and 5 as detailed in this document will be fully evaluated at the OBC stage. Option 2 will also be evaluated as a feasible minimum alternative in order to provide a baseline option for comparison.

The Service will remain engaged with the SCTT and work with them on developing a European centre for excellence in telehealth to share best practice and ensure that the project continues to deliver solutions in line with National Delivery Plan. We will also take cognisance of the SAS FMC Programme and SFC Programme to identify any scope for collaboration.

Recommendation
It is recommended that the preferred way forward outlined in this Initial Agreement is endorsed and that a mandate is given to progress to the Outline Business Case (OBC) stage whilst maintaining full engagement with the SCTT.
Section 1: Strategic Case

1.1 Strategic Context
The purpose of the strategic case is to explain the strategic context for the Ambulance Telehealth project, present the strategic drivers and argue the case for change.

In this section, the strategic ‘fit’ of the project is considered from two separate but related perspectives; the external strategic landscape and current internal strategies and plans.

1.2 External Strategic Landscape

1.2.1 Scottish Government and NHS Scotland eHealth Strategy
Recently, the Scottish Government published a revised eHealth Strategy 2012_2017, and to ensure that the Service was fully aligned with this strategy, it was decided to review the existing eHealth ICT Strategy and produce a new five year strategy covering the period, April 2012 to March 2017.

The main components / deliverables of the ICT eHealth Strategy contribute towards achieving NHS Scotland’s strategic aims with improvements to the following main areas:

- Healthcare services are more efficient
- People are supported to communicate with the NHSS
- Care is better integrated and people with long term conditions are better supported
- Clinicians have better access to the information they need
- Improve the safety of people taking medicines and their effective use
- Performance data are readily available to proactively improve service delivery

1.2.2 National Delivery Plan for Telehealth and Telecare

A National Delivery Plan for Telehealth and Telecare for Scotland to 2015 was published in December 2012 to drive improvement, integration and innovation through partnerships with NHS Boards, Local Authorities and other key stakeholders supported by the SCTT and Joint Improvement Team.

The National Delivery Plan sets out four strategic ambitions for the next three years:

- Telehealth and telecare will enable choice and control in health, care and wellbeing services for an additional 300,000 people;
- People who use our health and care services, and staff working with them, will increasingly demand the use of telehealth and telecare as positive options;
- There is an established Centre of Excellence, where an interacting community of academics, practitioners and industry innovate to meet future challenges and provide benefits for Scotland’s health, wellbeing and wealth; and
- Scotland is recognised worldwide as a chosen location for trialling innovative telehealth and telecare services products.

1.2.3 Spending Review / Austerity
The Ambulance Telehealth Project will take account of the current financial landscape and in particular the Spending Review which requires difficult decisions to be taken to sustain the public finances and public services. As a result, there will be considerable emphasis placed on cost-effectiveness and value for money throughout the project lifecycle.
1.3 Internal Strategies and Plans

1.3.1 The Scottish Ambulance Service Five Year Strategic Framework
The Service is just past the mid-way point of a five year strategic framework “Working Together for Better Patient Care” which was published in January 2010. “Working Together for Better Patient Care” established the vision to deliver the best patient care for people in Scotland, when they need it, where they need it putting our patients at the heart of everything the Service do.

This strategy was, and continues to be, focused on three main goals:

1. To improve patient access and referral to the most appropriate care
2. To deliver the best service for patients
3. To engage with all of our partners and communities to delivery improved healthcare.

Points 1 & 2 above are underpinned by the effective and efficient use of mobile data services, whether it be the allocation and mobilisation of emergency crews to an incident via the mobile data terminal, or passing of clinical patient data to the receiving Emergency Department prior to arrival with the patient.

1.3.2 HEAT Targets (Health, Efficiency, Access and Treatment)
Each NHS Board must set out in a Local Delivery Plan (LDP), an annual delivery agreement with the Scottish Government Health Department, based on key Ministerial targets. LDPs reflect the HEAT Core Set – the key objectives, targets and measures that reflect Minister’s priorities for the Health portfolio. The key objectives are as follows, with the HEAT acronym derived from the initials:

- **Health Improvement** for the People of Scotland – improving life expectancy and healthy life expectancy
- **Efficiency** and Governance Improvements – continually improve the efficiency and effectiveness of the NHS
- **Access** to Health Services – recognising patient’s need for quicker and easier use of NHS services; and
- **Treatment** Appropriate to Individuals – ensure patients receive high quality services that meet their needs.

Building upon the recommendations contained within the Scottish Government *Healthcare Quality Strategy for NHS Scotland, May 2010*, and more recently, the Scottish Government paper on *Achieving Sustainable Quality in Scotland’s Healthcare – A ’20-20’ Vision*, the Service revisited, and revised its mission statements, long term corporate objectives, and key result areas. This resulted in the development of the Service’s HEAT Delivery Plan and Corporate Plan in order to fully support the Healthcare Quality Strategy ambitions for NHS Scotland which are to be:

- **Person-Centered** – mutually beneficial partnerships between patients, their families and those delivering healthcare services which respect individuals needs and values and which demonstrate compassion, continuity, clear communication and shared decision-making.
- **Clinically Excellent** – the most appropriate treatments, interventions, support and services will be provided at the right time to everyone who will benefit, and wasteful or harmful variation will be eradicated.
- **Leading Edge** – Processes and New Technology will be aligned and developed wherever possible, to fully underpin the Operational Service Delivery requirements of both the Unscheduled and Scheduled Care Services.
- **Safe** – there will be no avoidable injury or harm to people from healthcare they receive, and an appropriate, clean and safe environment will be provided for the delivery of healthcare services at all times.

A copy of the current HEAT Targets, including an outline of the specific HEAT targets that are underpinned by mobile communications relevant to the Ambulance Telehealth Project, is included in Appendix 3.
1.3.3 eHealth ICT Strategy 2012 - 2017

The Service firmly believes that eHealth has a vital role to play in shifting the balance of care as timely information on a patient’s condition will allow them to be appropriately cared for in their own environment. The Service also believes that eHealth can assist with diagnosis and treatment performed through telehealth and decision support from distant clinicians, especially in the remote and rural parts of Scotland. In support of this belief, the Service has developed a 5-year eHealth Strategy and will:

- Continue to develop ‘See and Treat’ technology to enable people to be treated in their own community supported by access to an appropriate and secure communications infrastructure without the need for an A&E attendance or admission. In particular the service wishes to expand near patient diagnostic testing where it is safe and effective to do so.
- Aim to improve the availability of appropriate securely held information for its clinicians and to provide the tools to use and communicate that information effectively to improve the quality of care it provides to patients.
- Continue to develop access to ECS and KIS for frontline clinicians, and will continue to develop interfaces which pass information to A&E departments electronically prior to the patient’s arrival, thus improving the outcome for patients and developing a system that is streamlined and reduces waste and harmful impacts on patients.
- Continue to work with Scottish Government and Healthcare Partners to develop its mobile voice and data strategy for both the Unscheduled and Scheduled Care Services and to facilitate the secure exchange of patient centered care information through better use of integration technology.
- Ensure all systems are as efficient as possible, and that waste and inefficiency is reduced, producing cash savings. Benefits will be measured to enable value for money to be demonstrated as part of the aim.
- Progress the development of mobile broadband solutions, in order that it can contribute to enhancing overall patient care in the local communities, through the transmission of Clinical Telemetry, Telehealth and Telemedicine applications and exploitation of mobile communication device technology and on-line services.
- Support people to manage their own health and wellbeing, and to become more active participants in the care and services they receive through better use of information systems. The Service recognises however that eHealth is only one aspect of the support individuals require to enable them to manage their own health and well being and will continue to provide links to other support mechanisms as not all patients have access to e-systems.

Through the Ambulance Telehealth Project, the Service aims to develop a secure communications infrastructure that will underpin the various integrated eHealth applications delivered through the eHealth Strategy.

1.4 Drivers for Change
1.4.1 Existing Contracts Expiry Dates
The primary driver for change is the fact that the existing contract to supply the Service with mobile data services expires in 2016. Although this date may at first appear to be some way off, the reality is that although the Service could realistically go to market and procure off-the-shelf mobile data services over a relatively short timescale, development and implementation of the preferred solution is likely to take 2-3 years to complete. As a result, the project timescales for renewing, extending or replacing the current Terrafix contract is estimated to be at least 2 years.
1.4.2 Ageing Technology & Equipment
The second main driver for change is the need to replace the ageing equipment currently in use in the ambulances which has been in continuous use for the past 6 years. The hardware is becoming increasingly unreliable, particularly with poor battery performance. There are also limitations in further developing the software as a result of the major technology advancements since 2007 which cannot run on the existing hardware and software platforms.

1.4.3 Cost Savings e.g. Through Consolidated Contract Structure
The Service currently spends £1.5m per annum on mobile data services, through the existing Terrafix contract. Given the current economic climate, the Service are keen to explore all potential options for reducing, or at least containing, these costs.

1.4.4 Greater data volume services
Mobile data transmission services are currently provided through a contract with Terrafix Ltd to supply mobile data rates via the Vodafone mobile telephone network. One of the main drivers for the Ambulance Telehealth Project is to support frontline ambulance services and improve the scope and quality of patient care through the provision of truly broadband speed data services.

1.4.5 Type Approval Legislation for Ambulance Vehicles
The Vehicle Certification Agency has issued a new CEN standard (BS EN 1789:2000) for Medical Vehicles and their equipment which includes a new Vehicle Type Approval guideline to ensure the safety of both patients and paramedics. This is a voluntary standard but given its importance, it is adopted across the health industry as a purchasing requirement when buying new vehicles.

This new guideline is widely expected to impact on the choice and fitting of mobile data equipment in the driver cabin of the ambulance. It is anticipated that our current standard hardware selection will not comply with this new standard due to the size of the terminal and the fixed docking station.

Section 2: Economic Case

2.1 Outcome
This project has one overarching outcome: to procure and deliver an affordable, reliable, robust and resilient mobile data communication system (or systems) that fulfils the current and future operational requirements of the Service.

2.2 Options for way Forward

2.2.1 Option 1: Do nothing
Outline Description: Allow the existing contract to expire in 2016 and cease using mobile data services.
Evaluation: Undesirable. This would fail to meet the Service requirements and would have a detrimental impact on patient safety and care. It would also compromise the Service position as a Category 1 emergency responder.
Recommendation: Reject option.

2.2.2 Option 2: Update the system software but not the hardware
Outline Description: Update the front and rear-terminal software but continue to run on legacy hardware
Evaluation: Feasible but Undesirable. Whilst this option could deliver a fit for purpose mobile voice and data solution, it is likely to produce limited benefits due to the technical limitations of the existing hardware and the increasing fault maintenance costs associated with supporting ageing equipment. This option would curtail the strategic objective of working with other public bodies whilst leveraging best value through economies of scale. Additional costs would also be incurred in providing new vehicles with alternative hardware to comply with Type Approval legislation.
**Recommendation:** Progress to OBC Stage. This option will be evaluated as the minimum feasible option to provide a baseline for comparison in the Outline Business Case.

2.2.3 Option 3: Update the system **hardware but not the software**

**Outline Description:** Update the front and rear-terminal hardware but continue to run with legacy software.

**Evaluation:** Feasible but Undesirable. Whilst there is little doubt that this option would deliver a fit for purpose mobile data solution, it would not allow the Service to meet the strategic objective of supporting people to manage their own health and wellbeing, and to become more active participants in the care and services they receive through better use of information systems. Hardware selection would be limited to a Windows-based system to support the existing software.

**Recommendation:** Reject option.

2.2.4 Option 4: Update the rear terminal **hardware and software to improve electronic patient reporting platform only**

**Outline Description:** Update the rear terminal hardware and software whilst retaining the existing hardware and software used in the front of the vehicle for allocation and mobilisation.

**Evaluation:** Feasible but Undesirable. Whilst there is little doubt that this option could deliver a fit for purpose mobile data solution, it could potentially create a more complex solution with different suppliers for the front terminal and back terminals with the requirement for an interface between them. Additional costs would also be incurred in providing new vehicles with alternative front terminal hardware to comply with Type Approval legislation.

**Recommendation:** Progress to OBC Stage. This option will be fully evaluated at the Outline Business Case stage as an alternative to the preferred solution detailed in Option 5 below. In the current financial climate, and with funding for this project yet to be secured, this alternative is likely to offer a less costly, albeit less desirable, solution for the Service.

2.2.5 Option 5: Update the **full mobile data solution within the vehicle to provide end-to-end Ambulance Telehealth solution.**

**Outline Description:** Update the front and rear-terminal hardware and software and implement true broadband and wireless communication infrastructure.

**Evaluation:** Desirable. This option would allow the Service to meet the strategic objectives of supporting people to manage their own health and wellbeing, and to become more active participants in the care and services they receive through better use of information systems and working with other public bodies whilst leveraging best value through economies of scale. By establishing the Ambulance as a wireless hub for telecommunications and introducing hardware and software built on the latest technologies, the Service will be in the best possible position to further develop technology links with medical equipment, health boards and other partners throughout the lifecycle of the product, as the technology matures, ensuring that the Service continues to provide the best possible service to patients through technology innovation.

**Recommendation:** Progress to OBC Stage. This option will be fully evaluated at the Outline Business Case stage as the preferred option.

**Section 3: Commercial Case**

The commercial strategy will ensure the Service will deliver commercial outcomes that fulfil operational requirements, provides best value for money and incorporates a continuous improvement programme that addresses both customer services and service performance.

This will be fulfilled through a defined contract structure and the adoption of an optimum procurement approach, delivered by an experienced team, informed by market knowledge and with cognisance of commercial information security and sensitivities.
3.1 Procurement Process
The SAS ICT Team and SAS Procurement team have extensive experience in managing large scare projects and will manage the tender, procurement and contract process in line with other historical projects of a similar size, scale and cost.

3.2 Potential Suppliers and Partners

3.2.1 Partners – As outlined previously, the preferred way forward for the Ambulance Telehealth Project is for the Service to remain fully engaged with the SCTT. As such, the main partners at present will be: The Scottish Centre for Telehealth and Telecare (SCTT), SFCP, NHS24, NHS National Services Scotland and territorial NHS Scotland Health Boards.

3.2.2 Potential Suppliers – The recent PTS Mobile Data Project has allowed us to gain intelligence on the suppliers who are likely to submit a tender interest in this project. The existing mobile data supplier, Terrafix Ltd, are considered very likely to submit a tender application whilst other suppliers including Samsung, BT and Medusa, who supply the SIREN ePCR solution to six of the English Ambulance Service Trusts, may also make applications to supply the mobile data contract.

Interested suppliers will be invited to submit tender applications in line with Service procurement policies.

Section 4: Financial Case

4.1 Indicative costs
Revenue costs - The revenue costs associated with current mobile data service provision is circa £1.5M. An aim of the Ambulance Telehealth programme will be to reduce, or at least contain, these costs.

One-off costs—Given that technical solutions have yet to be identified and evaluated and that there has been no assessment of possible funding models it is too early to give accurate costs however, based on similar previous projects and given the size of the organization, the service requirements and the level of integration required, it is reasonable to estimate one-off transition costs will in the region £3M - £6M.

The Service Capital Planning process has early awareness of this project and it is on this basis that an initial bid has been made to the Scottish Government for up to £6M Capital Investment to be made available to fund this work from 2014-2016 but this funding has not yet been confirmed.

4.2 Funding available
Revenue - It is anticipated that current revenue funding will continue to be available through 2016 and beyond, although value for money will require to be demonstrated
Capital – The requirement for capital has not yet been identified, but will be defined by the OBC stage.

4.3 Potential funding sources
The two main potential funding sources at present are existing Service budgets and alternative Scottish Government funding sources.

Calculating more accurate cost estimates and identifying funding sources will be key objectives during the next phase leading up to OBC.
Section 5: Management Case

5.1 Initial Project Structure and Governance Arrangements for Business Case Development

The Initial Agreement document will be presented to the Scottish Ambulance Service Executive Team for consideration in Spring 2013. If approval is granted, the IA will be presented to the SAS Board for formal approval and an Outline Business Case (OBC) will be prepared for issue to the Capital Investment group in mid 2013. The aim of the OBC is to secure funding in principle prior to development of the full Business Case which will be submitted by the end of 2013.

The key Service staff members responsible for progressing the Mobile Telehealth business case to the next stage are:

- Pamela McLauchlan – Director of Finance & Logistics and Chair of the eHealth Board
- Stuart Airey – Project Accountant
- John Baker - Interim General Manager ICT
- David Kinnaird - Head of ICT Projects
- Roslyn Scott - ICT Systems Development Officer

5.2 Formal Project Structure and Governance Arrangements for Project Implementation

The eHealth Programme Board will provide the reporting structure for the project team until such time as the project is approved to proceed. It is then envisaged that a dedicated programme board will be setup to oversee the project due to its scale and complexity. The programme board will adhere to the eHealth governance arrangements covering all ICT projects as set out by the Health & Social Care Management Board.

Section 6: Proposal

6.1 Preferred Way Forward

In order to ensure that the Service interests and requirements are addressed in an appropriate, timely and cost-effective manner, the preferred way forward is to update the front and rear-terminal hardware and software and to implement a true broadband and wireless communication infrastructure. In order to provide a balanced appraisal of the options and to ensure that if the level of funding required to achieve the preferred solution is not available, an alternative option can be adopted, options 4 and 5 as detailed above will be fully evaluated at the OBC. Option 2 will also be evaluated as a feasible minimum alternative in order to provide a baseline option for comparison. For clarity, the preferred way forward is for options 1 & 3 to be rejected and for options 2, 4 & 5 to be progressed to OBC stage.

The Service will remain engaged with the SCTT and the Centre of Excellent to share best practice and ensure that the project continues to deliver solutions in line with National Delivery Plan. We will also take cognisance of the SAS FMC Programme and SFMC Programme to identify any scope for collaboration.

6.2 Recommendation

It is recommended that the preferred way forward outlined in this Initial Agreement is endorsed and that a mandate is given to progress to the Outline Business Case (OBC) stage whilst maintaining full engagement with the SCTT.
Section 7: Special Health Board Review and Sign-off

The Initial Agreement was presented to the Scottish Ambulance Service Board on 27 March 2013 and was formally approved for submission to the Scottish Government.

Signed: ______________________________ Date:

Name: Pauline Howie
Position: Chief Executive, Scottish Ambulance Service Board
Section 8: Appendices
Appendix 1: Acknowledgements and Links to Relevant Strategy and Planning and Review Documents

It is worthy of note that the Scottish Future Communications Programme Strategic Outline Business Case document written by Keith Nicolson and Paul Sharp on behalf of the Scottish Government was utilised as a valuable template and reference source when producing this document.
Appendix 2: Links to Relevant Strategy and Planning and Review Documents

Scottish Ambulance Service Documents

- Working Together for Better Patient Care 2010-2015 -

- eHealth Strategy

- A National Delivery Plan for Telehealth & Telecare in Scotland to 2015

- HEAT Delivery Plan 2012-2013 -

- Scottish Ambulance Service Corporate Publications -
Appendix 3: Heat Targets

**Note** The **SAS** prefix below denotes a target specific to the Scottish Ambulance Service. The **NHSS** prefix denotes a target for all NHS Boards

**HEALTH**

**SAS H1:** Between 12-20% of eligible cardiac arrest patients with Return of Spontaneous Circulation (ROSC) on arrival at hospital. **SAS H2:** Reach 80% of cardiac arrest patients within 8 minutes (mainland).

**SAS H3:** Reach 75% of Category A (life-threatening) emergency incidents within 8 minutes (mainland)

**SAS H4:** Reach 95% of Category B (serious but not life-threatening) incidents within 14 19 or 21 minutes (mainland)

**SAS H5:** Reach 55% of all emergency incidents within 8 minutes (Island NHS Board areas)

**EFFICIENCY**

**NHSS E1:** NHS Boards to operate within their agreed revenue resource limit; operate within their capital resource limit; meet their cash requirement **NHSS E2:** NHS Boards to deliver a 3% efficiency saving to reinvest in frontline services

**SAS E3:** Reduce energy consumption by 2.5% per annum in line with NHSSE3

**SAS E4:** Achieve sickness absence rate of less than 5% for full year continuing direction of progress towards the national HEAT Standard of 4%

**ACCESS**

**SAS A1:** Reach 93% of 1-hour urgent calls within target time

**SAS A2:** Ensure 72% of all PTS Patients arrive at hospital 30 minutes or less before appointment time

**SAS A3:** Ensure 90% of all PTS Patients are picked up within 30 minutes of agreed time after appointment **SAS A4:** Ensure that no more than 0.5% of booked PTS journeys are cancelled by The Service

**TREATMENT**

**SAS T1:** Treat 12% of emergency incidents at scene

**SAS T2:** Convey 80% of hyper acute stroke patients to hospital within 60 minutes of receipt of call at The Service.
The tables below, provide a checkpoint, against each of the Service HEAT Targets, where the appropriate application of specific mobile voice and data solutions will support the delivery of the specific target:

### Health

<table>
<thead>
<tr>
<th>ICT Enabler</th>
<th>Supporting Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>H2</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>H3</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>H4</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>H5</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
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</tbody>
</table>

### Efficiency

<table>
<thead>
<tr>
<th>ICT Enabler</th>
<th>Supporting Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3</td>
<td>Efficient Control and Management of resources through mobile technology.</td>
</tr>
<tr>
<td>E4</td>
<td>Reduce Stress through reliable and efficient mobile communications technology.</td>
</tr>
</tbody>
</table>

### Access

<table>
<thead>
<tr>
<th>ICT Enabler</th>
<th>Supporting Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>A2</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>A3</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
</tr>
<tr>
<td>A4</td>
<td>Enabled through efficient Mobile Voice &amp; Data Communications and Telemetry.</td>
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</tbody>
</table>

### Treatment

<table>
<thead>
<tr>
<th>ICT Enabler</th>
<th>Supporting Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Enabled through deployment of efficient Mobile Broadband Technology.</td>
</tr>
<tr>
<td>T2</td>
<td>Enabled through effective communications with specialist receiving centres.</td>
</tr>
</tbody>
</table>
Glossary of Terms

A&E – Accident and emergency
ACC – Ambulance Control Centre
ECS - Emergency Care Summary
eHealth – Generic term for electronic/ ICT enabled healthcare solutions
BASICS - British Association for Immediate Care
HEAT - Health, Efficiency, Access and Treatment
IA – Initial Agreement
ICT - Information and Communications Technology
KIS – Key Information Summary
LDP – Local Delivery Plan
NHS – National Health Service
NHS24 - The Scottish 24 hour healthcare advice line service
OBC- Outline Business Case
OJEU – Official Journal of the European Union
PTS - Patient Transport Service
ROSC - Return of Spontaneous Circulation
SCTT - Scottish Centre for Telehealth & Telecare
SOBC – Strategic Outline Business Case

Definitions

"Telehealth" is the provision of health services at a distance using a range of digital and mobile technologies. This includes the capture and relay of physiological measurements from the home/community for clinical review and early intervention, often in support of self management; and "teleconsultations" where technology such as email, telephone, telemetry, video conferencing, digital imaging, web and digital television are used to support consultations between professional to professional, clinicians and patients, or between groups of clinicians.

"Telecare" is the provision of care services at a distance using a range of analogue, digital and mobile technologies. These range from simple personal alarms, devices and sensors in the home, through to more complex technologies such as those which monitor daily activity patterns, home care activity, enable 'safer walking' in the community for people with cognitive impairments/physical frailties, detect falls and epilepsy seizures, facilitate medication prompting, and provide enhanced environmental safety.