

NHSBT Board Meeting
MAY 2019

SESSION SOLUTION PROJECT BUSINESS CASE

Status: Official

1. Executive Summary

Session Solution is an investment in technology for frontline Blood Donation teams. This investment will improve donor safety, the donor experience, frontline colleague working practices and morale.

This project is designed to address outdated working practices that are predominantly paper based, which are combined with an IT system that is now 17 years old and no longer serviceable. These paper processes are prone to error, can impact on donor safety, are time-consuming, create a poor impression and negatively impact session management and the donor experience.

Session Solution was initially set up in 2015 as a workstream within the Session of the Future programme. When Core Systems Modernisation (CSM) began in 2016, Session Solution was moved into the CSM Programme. At the point that CSM was halted in 2018, a review was undertaken, and Session Solution was continued as a standalone TPB project, albeit it had not progressed far in the CSM programme.

The project will deliver new hardware to frontline teams and will improve connectivity to enable real time information to be used for donor decisions. It also provides a software application to manage the donor journey more effectively. This matches Blood Donation strategic objectives of improving the donor experience and being a great place to work.

From a donor safety perspective, in 2018, 306 quality incidents were recorded related to errors in the donor journey. These quality incidents could have been avoided with Session Solution, In the context of the Infected Blood Inquiry, Session Solution demonstrates our commitment to improving safety.

Importantly, upgrading the hardware and improving connectivity, will provide a foundation to enable further improvements. Session Solution should be viewed as being the first step of a longer programme of innovation within the Blood Supply chain. This programme would be subject to organisational prioritisation and future initiatives are detailed later in the document; however, a prime enabler would be to remove the paper DHC from session in the future.

The overall costs of the 3 year contract are £4.352m with the request for additional funding of £3.956m. This figure includes VAT, on non-managed service items, and a 15% contingency on the project set-up stage and 10% contingency on the managed service recurring costs as is usual in our business cases.

The £3.956m funding is apportioned as:

- **Project set-up costs £1.273m** (includes internal staff backfill and travel expenses, external contractor costs, early life support, 3rd party set-up, performance and penetration costs and 15% contingency on non-staffing costs)
- **Recurring costs over the three year contact £2.683m** (includes hardware leasing, helpdesk provision, infrastructure maintenance, Azure middleware provision, software support costs and 10% contingency).

A detailed breakdown can be seen in appendix one.

1.1 Recommendation; The Board is asked to approve funding to spend a further £3.956m to deliver the recommended option, subject to Department of Health and Social Care / Cabinet Office approval of the ICT expenditure involved. The recommended option includes:

- Award of the Session Solution Managed Service contract to the recommended vendor, for a three-year period, with the option to increase by a further year if required.
- Delivery of web-based software by our Pulse database partner.
- Delivery of Session Solution into live to mobile teams and donor centres, via two phased releases.

2. Business Case

2.1 Strategic case; Each year, our 1,600 frontline colleagues collect around 1.45m whole blood donations and 130k platelet donations, working in 50 mobile teams and 23 donor centres. Keeping processes simple reduces errors, improves safety and means colleagues have a better working life and more donors return.

Currently, our frontline colleagues are working with technology that was initially installed 17 years ago, albeit with minor upgrades in 2011, meaning that the information they use is out of date and the processes are heavily paper based. This does not commend us to donors especially those we are trying to attract. Furthermore, processes are time-consuming, prone to error, create a poor impression and negatively impact session management and donor experience.

Session Solution was initially set up as a workstream within the Session of the Future programme in 2015. When Core Systems Modernisation (CSM) was initiated in 2016, Session Solution moved into this programme. At the point that CSM was halted in 2018, a review was undertaken, and Session Solution was continued as a standalone project,

Although the history of this project is based on assumptions that may no longer be true, it is not envisaged that we will have a new system to replace Pulse within the lifetime of this contract and the app (with appropriate modifications) could be integrated with a different IT system in the future should this be required. Failing to invest now would still require a like for like replacement with no benefits and risk us falling even further behind the expectations of our donors and donation teams.

We are not providing our teams with the right tools for the job; a sentiment which is echoed by frontline colleagues. A recent survey, completed by 14% of frontline colleagues, asked Blood Donation teams to rate IT provision on session and highlighted a high level of dissatisfaction with the current solution, with only 16% of colleagues agreeing or strongly

agreeing that IT provision on session helps to make their job easier. Similarly, in the Our Voice survey in 2018, Blood Donation team members had the one of the lowest engagement score in the organisation (2.80) which was significantly lower than the average NHSBT score of 3.80.

In addition, we know that 15% of donor complaints are related to not being seen on time, the time it takes to give blood and being turned away. Session solution will improve the experience but more importantly provide a platform to add features such as an on-line questionnaire in the future, which will have a greater impact.

It should also be noted that within the current context of Blood Donation, the financial costs of delivering the overall service have increased due to recent changes; haemoglobin testing increasing deferrals, attracting donors from different ethnic backgrounds, avoiding team closures to sustain a national footprint and changes in the Continuous Care Model. Session Solution will further increase the cost base, but the expectation is that Blood Donation will be able to absorb this cost over the course of the project. These costs are already included in projections for the future costs of our components.

The Blood 2018-23 strategy has five objectives, session solution addresses all of these.

- **Safety, compliance and critical:** Session Solution will introduce safety checkpoints into the donation process to reduce quality incidents on session.
- **Sufficiency of supply:** Session Solution will improve connectivity on-session and enable colleagues to have a better understanding of whether walk-in donors can be accommodated.
- **Donor experience:** Session Solution will improve the donor experience by reducing the journey time, by making efficiencies in key areas of the donation process. In addition, the system provides frontline teams with better information to communicate appropriately with donors, supporting a reduction in complaints.
- **Our people:** the current IT infrastructure has prompted negative feedback from frontline teams and staff side colleagues. Session Solution will give teams the tools to perform their roles better. Teams and staff side are very keen on this project already.
- **Efficiency:** Session Solution will reduce the time spent in key areas of the donation process. This will have a positive impact on Blood Donation's overtime expenditure.

2.2 Economic case; Session Solution is an investment in donor safety, donor experience and improving frontline colleague morale. In addition, there is a pressing need to replace the current ageing hardware on session. The options detailed below were considered and the recommended option is the best balance of cost, risks and benefits.

2.2.1 Options Considered; The options provided below were considered within the framework of CSM at the start of the project. Following this programme being halted, the strategic direction was that Pulse would continue to be the system used by our teams for several years. Therefore, the option to use an off the shelf blood solution was discounted as part of CSM and then again when we agreed to use Pulse for at least the duration of this, so this was not specifically considered as an option within this project.

Table 1; Session Solution options

Description	Strengths	Weaknesses
<p>Option A Do nothing (Rejected)</p>	<ul style="list-style-type: none"> ▪ Nil 	<ul style="list-style-type: none"> ▪ Current solution is end of life, out of support and is failing too often. ▪ The fall-back of moving to paper is not a valid option as it introduces significant costs and risk into the blood donation operation.
<p>Option B Like for like replacement (Rejected)</p>	<ul style="list-style-type: none"> ▪ Addresses the technology issue by replacing the legacy IT hardware for the current solution (Session PC) with new hardware. 	<ul style="list-style-type: none"> ▪ Project and recurring cost circa £1.571m ▪ Does not address operational challenges and opportunities. ▪ Does not provide access to online information. ▪ Does not provide platform for future innovation
<p>Option C Savant develop software and contract with 3rd party supplier for infrastructure (Recommended)</p>	<ul style="list-style-type: none"> ▪ Wealth of experience in delivering similar projects at scale and able to meet timeframes for deployment ▪ Fully managed service provides extended hours service desk opening and meets business needs ▪ Provides non-financial benefits and platform for future innovation. 	<ul style="list-style-type: none"> ▪ Reliance on external organisation ▪ No financial return on investment

Session Solution introduces a robust infrastructure, together with new software across both mobile Blood Donation sessions and our Donor Centres to allow reliable connectivity, a near real-time link to the Pulse database and collection traceability.

2.2.2 Software; Savant have produced Gennaro, a piece of web-based software that manages a donor’s journey around the session, which will be used by both mobile Blood Donation teams and Donor Centres.

The decision to request Savant to develop Gennaro came from collaborative discussions that were taking place during the CSM programme. It was agreed that this work could be undertaken within the existing Pulse contract. Savant have already developed and tested the mobile blood donation team software release and will provide NHSBT with the donor centre software release at the end of July. Both releases still require performance and penetration testing, and NHSBT user acceptance testing.

Gennaro supports frontline teams by tracking a donor’s journey through a donation. The software has been designed to prompt colleagues to ensure that key safety checks have been completed and will introduce efficiencies by reducing the time it takes to complete key aspects of the donation process, such as printing a DHC when donors arrive without one.

Gennaro is ‘future-proof’ from a session process perspective. Currently, the software is aligned to the Continuous Care model. However, the expectation is that any future changes

to session processes will be incorporated into the software, via the Pulse Development Cycle. Similarly, in the future should our blood manufacturing system change, we expect to be able to continue to use the session connectivity infrastructure. Gennaro is a web application that is written with standard APIs, however it uses data that is mastered in Pulse. If future systems required changing the way the data is mastered to 'point' it to another solution, that would require work. Thus, depending on the future solution, changes may be required to keep Gennaro, however if we found that would be cost-effective it could be done. The recommendation of this project is independent of the ability to use the software beyond the lifetime of this contract.

2.2.3 Hardware; Session Solution replaces the existing hardware and improves 3/4G connectivity at session, enabling a near-real time link with the Pulse database. This includes:

- Hardware provision (on a leased basis)
- Hardware maintenance
- Telephone helpdesk available during times when blood donation sessions are running.
- Provision and support for the middleware that links the software to Pulse.

The initial contract will be for three-years, with an option to extend for a further year if required.

Table 2; Non-financial benefits

Option C Non-financial benefits	Detail
Making blood donation safer by reducing the number of quality incidents	Complete removal of QIs relating to a number of areas; (Target is zero, numbers in brackets are events in 2018) <ul style="list-style-type: none"> • Consent not taken: 2 • HB test not completed: 36 • Donation given without health screening: 72 • Donation take too soon: 19 • Donor cross linked: 13 Reduction of other QIs <ul style="list-style-type: none"> • Incorrect donation outcome: 27% reduction (94 in 2018) • Discretionary test errors: 40% reduction (70 in 2018) This will reduce the time spent in RCAs and reinvest this time in supporting the frontline.
Reducing the donor journey time	A reduction in the Donor Journey time of: <ul style="list-style-type: none"> • 1.5 minutes for a regular donor, with a DHC 3.5 minutes for a regular donor, without a DHC
Increasing donor satisfaction	<ul style="list-style-type: none"> • 2% increase on YTD Top Box Score. • 5% reduction in certain on-session complaints, including not seen at appointment time and turned away.
Improving frontline morale by providing them with the tools to perform their roles	<ul style="list-style-type: none"> • A repeat survey will be performed following implementation. The expectations are that 50% of survey responses will agree or strongly agree with statements.
Improving management information (MI)	<ul style="list-style-type: none"> • Introduction of MI data which captures key data to support improvements in service and to inform future strategy.

Enabling the future	<ul style="list-style-type: none"> • Implementation of an ICT infrastructure which enables future innovations across the Blood Supply Chain • All future innovations would be subject to approval via NHSBT's governance channels.
Creating quick wins for Manufacturing and Testing	<ul style="list-style-type: none"> • Session Solution will improve how mobile teams and Donor Centres pack donations and sample test tubes. • This will provide Manufacturing and Logistics colleagues with improved visibility of which transportation containers they should prioritise and improve access to sample tubes relating to priority donations.

2.3 Commercial case; A competitive procurement process, for the hardware, maintenance, support and Azure middleware, has been undertaken against suppliers on the CCS Technology Services 2 framework and applicants were assessed in the areas of Fitness for Solution quality and Solution cost. This has identified a preferred supplier, BT, who has the capability to provide a managed service to support frontline teams. An assessment of the cost of NHSBT internally managing Session Solution was made, however this concluded that this was not a viable business alternative.

The development of the Gennaro software was completed under our existing contract with Savant.

2.4 Financial case; The project will be funded from the transformation budget. Once Session Solution has been implemented, the recurring costs will be funded by the Blood Donation budget.

Summaries of the project costs for the implementation and running of Session Solution for the three-year contract are set out below. A breakdown of the costs can be found in appendix one:

Table 3; Costs

Option C - recommended	Total	19/20	20/21	21/22	22/23
	£	£	£	£	£
Proof of Concept	120,000				
Outline Business Case	276,000				
Project set-up cost	1,273,248	1,084,204	189,044		
Managed Service	2,683,076	212,195	889,795	903,467	677,620
Annual Cost		1,296,399	1,078,839	903,467	677,620
Total	4,352,324				
Spend to date	396,000				
Additional funding sought	3,956,324				

Table 4; Benefits

Option C – financial benefits	Total	19/20	20/21	21/22	22/23
Benefits	£	£	£	£	£
20% reduction in Blood Donation overtime budget	1,372,962	114,414	457,654	457,654	343,240
Reduction in Donor Records	124,000		45,000	45,000	34,000
Reduction in courier charges	18,000	1,500	6,000	6,000	4,500
Reduction in paper used on session	6,000	500	2,000	2,000	1,500
Total	1,520,962	116,414	510,654	510,654	383,240
Cost avoidance					
Set-up costs for like-for-like IT replacement	1,274,000	1,274,000			
Recurring costs for like-for-like replacement	297,000		99,000	99,000	99,000
Total	1,571,000	1,274,000	99,000	99,000	99,000

2.5 Management case; Session Solution is planned to be implemented across all mobile blood donation teams and Donor Centres by September 2020. All milestones in the work defined in the previous proposals (Proof of Concept and Outline Business Case) have been met and delivered within budget. A gap analysis against the lessons identified from PwC audit following the CSM programme has also been completed as well as reviews of historic synergy projects lesson learned logs (e.g. Desktop Modernisation) to ensure the project is learning from those lessons and is not at risk of repeating any similar failures.

Where any gaps have been highlighted these have been discussed and a clear action plan with owners and timescales put in place with progress tracked via a regularly held forum chaired by the Accountable Executive. To further assure the Board that we have the capabilities to deliver this project, the SRO has also commissioned the AD for Business Transformation Services to complete an OGC (Office of Government Commerce) Gateway review. A review of Gateway 3 was undertaken in May 2019 and showed good structure to the Project with planning in place. Two recommendations were made, one about the project documentation, and the other about further work required to write and set up the contract.. A further review will be scheduled after the managed service contract has been signed.

In addition, BT, as the managed service provider, have a wealth of experience of delivering similar solutions to national organisations. Recently, they have successfully implemented a very similar platform to Royal Mail.

2.5.1 Project governance; The changes required to achieve the project objectives will be delivered using the NHSBT Ascent Project Management Methodology. The supporting Tools, Templates and other Policies provided by the Transformation Programme Management Office (PMO) will be used to ensure this approach is consistent with other Projects within the Transformation Programme.

The project will be governed and managed within the Blood Donation Change Programme Portfolio (CPB). Day to day direction will be delegated via the CPB to the Project Board, which meets monthly to provide oversight and direction. A project team has been mobilised and work packages assigned to members of the team in accordance with the PID and plan. Gateway reviews have been, and will continue to be, undertaken at appropriate points throughout the project in line with Government guidelines.

Timescale tolerances have been defined, within which the Project Board may operate without the need to revert to CPB to approve an exception. The Project Board will decide on the Tolerance levels (within those delegated by the CPB) that it will delegate to the Project Manager.

2.5.2 High level plan; It is recognised that implementation of IT systems can pose a high level of risk. Therefore, contingency has been included in both the mobile team and donor centre implementation. These weeks will enable the project time to reflect upon implementation progress and adapt plans to consider any lessons learned and, if required scale down the number of teams that are implemented on a weekly basis. Consideration has also been made to avoid implementing teams during bank holiday periods, to protect sufficiency of supply. The high-level project plan can be found in appendix two.

3. Enabling future innovation

By providing sessions with improved hardware and software infrastructure, and more reliable connectivity, Session Solution creates the foundation to enable future innovations, linked to our strategic direction and should be viewed as being the first step of a programme of innovation. The enablers below are subject to organisational prioritisation but provide a list of priorities for future developments.

3.1 Electronic DHC: Session Solution enables the future design of an electronic questionnaire. The DHC has two purposes; side one records the donation information and side two contains the donor health check questionnaire. Session Solution will record the donation information into Pulse, with further development required to capture the health check information. Today's infrastructure and processes do not support colleagues to review data that would be captured via an electronic health check questionnaire without the introduction of session solution first. We will also need to work with our regulator to change our primary record of donation. However, we would expect this to remove around 3M forms posted to donors and 400k forms printed on session, this currently carries a cost of approximately £20k per week as well as the storage and retrieval costs for these forms. In addition, this would prevent donors who are ineligible to donate from wasting their time turning up to a session (7%), improve our donation efficiency, and require fewer appointments overall.

3.2 Donor self-check-in: We are all used to self-check in at GPs, hospital outpatients and airline check-in. Session Solution provides the foundation IT infrastructure to support this. This would remove workload from the front of session.

3.3 Containerisation and automation in manufacturing: Session Solution will provide quick wins for manufacturing by capturing key information directly into Pulse. However, further benefits could be delivered through a future development termed 'containerisation'.

Delivery of this would require investment in the infrastructure within manufacturing, but ultimately could lead to enhanced workstream planning and the potential introduction of an automated receipt function, and 'smart testing' according to donor characteristics with large potential savings in efficiency and cost.

3.4 Electronic component donor procedure notes: All apheresis platelet donor recruitment, appointment grids, marketing, blood results and donor records are performed by Blood Donation colleagues and stored on paper. This presents challenges in split accountability for recruitment, process improvements, and record keeping for the organisation. The introduction of handheld devices means this information can be converted to an electronic record in the future, to enable updates to the donor's pulse account at chair-side and a reduction in the space required in Donor Centres to store the multiple filing cabinets required for paper-based records. This will align our processes and procedures within donor centres and could provide economies of scale and flexibility for a marketing.

4. Delivery Approach

Following approval of this business case, the following actions will be progressed.

- **June – November '19:** external vendor to undertake steps to set-up managed service and release one software will go through the necessary user acceptance, performance and penetration testing.
- **July 2019:** software vendor due to complete the development of release two software

Session Solution will have a dedicated team of 5 WTE Implementation Managers, who over a period of eleven months will support teams to transition to the new infrastructure. Session Solution implementation will be phased (rather than a single cut-over) to minimise the risk of sufficiency and to learn from early implementation teams. This will be delivered in two phases:

- **Release one (Nov '19 – May '20):** Session Solution will prioritise mobile Blood Donation teams, as this is the area of the business that is most in need of modernisation. Following testing, Session Solution will be piloted on three teams in November, with implementation phased across January 2020 and April 2020.
- **Release two (Apr '20 – Sept '20):** Following pilot and testing of a subsequent software release, Session Solution will be implemented across Donor Centres. Unlike mobile teams, Donor Centres manage multiple procedure sessions in order to collect different types of products. Session Solution will enable the management of donors attending these sessions, within one appointment grid. This implementation phase is fixed on pre-determined Pulse release cycle times. Release two will introduce Blood Donation side Containerisation to both mobile teams and Donor Centres. This will remove the manual processes around pack segregation by introducing an automated instruction based on workstream for packing and unpacking donations.

Darren Bowen – Product Owner, Session Solution

Richard Newman – Project Manager, Session Solution

Jamie Moore - Assistant Director: Strategy and Risk, Blood Donation, Accountable Executive

Gail Mifflin – Medical and Research Director, Senior Responsible Officer

Appendix one: Session Solution future costs breakdown

Option C – project set-up costs	Total	19/20	20/21	21/22	22/23
	£	£	£	£	£
Internal staff costs	395,225	231,331	163,894	0	0
External contract staff costs	187,200	187,200	0	0	0
Project team travel and hotels	39,522	14,372	25,150	0	0
Savant project and early life support	95,611	95,611	0	0	0
BT service set-up costs	121,294	121,294	0	0	0
BT Azure set-up costs	65,746	65,746	0	0	0
BT Donor Centre deployment	24,570	24,570	0	0	0
Performance and penetration testing	174,360	174,360	0	0	0
Professional contract review	72,000	72,000	0	0	0
Other adhoc project costings	12,768	12,768	0	0	0
15% contingency (on non-staff costs)	84,952	84,952	0	0	0
Project set-up cost (non-recurring)	1,273,248	1,084,204	189,044	0	0

Option C – Recurring costs	Total	19/20	20/21	21/22	22/23
	£	£	£	£	£
Savant Support	52,350	4,363	17,450	17,450	13,088
VPN Link	3,456	288	1,152	1,152	864
Hardware (lease)	1,084,500	90,374	361,496	361,496	271,134
Hardware buffer stock	25,752	2,146	8,584	8,584	6,438
Testing and training hardware	91,725	7,644	30,575	30,575	22,931
Maintenance contract	199,451	16,620	66,481	66,481	49,869
Helpdesk	878,935	61,851	288,421	302,093	226,570
Azure	109,851	9,154	36,617	36,617	27,463
10% contingency (on managed service)	237,056	19,755	79,019	79,019	59,264
Project set-up cost (non-recurring)	2,683,076	212,195	889,795	903,467	667,620

Appendix two: High-level project plan

