SCHEDULE A

FRAMEWORK AGREEMENT SPECIFICATION

Lot 1 - Supply, installation and support of Real-Time Healthcare Tracking and Patient Flow Systems.

Real-Time Healthcare Tracking and Patient Flow Systems are defined as the software and hardware which enable a hospital to access real time data to improve patient flow. This includes tracking patients, assets and staff, and to include the status of each.

A Real-Time Healthcare Tracking and Patient Flow System is expected to provide:

- Technology to accurately and precisely track in real time patients, staff and assets to enable efficient flow of patients and use of assets.
- Highly secure data capture, transmission, storage and analysis.
- Patient information at the point of use and feedback to hospital management in the form of an electronic whiteboard, making recommendations as to the most efficient use of available resources based on a patient's condition.
- Real-time automated patient and caregiver location reporting, including technology to dispatch and direct hospital porters, domestics and housekeepers to the most efficient work flow available to them without the intervention of a manual dispatcher or help desk.
- Easy to read dashboards which reflect all the data captured. Dashboards should be customisable to each speciality or management professional.
- Easy to read reports in commonly used formats.

Systems should be user friendly and intuitive to use.

Systems will be customisable for use in various healthcare environments to meet the requirements set out in this specification and the requirement of Contracting Authorities.

General Requirements

Systems must not compromise any Contracting Authority's compliance with the NHS Data Security and Protection Toolkit (DSPT) Standard.

Systems must support role-based user access and be accessed through secure password or pass card.

Systems must provide that screens lock after a predefined period of inactivity if required and log a user out of the system on screen lock.

By default, systems must be in "private" mode or locked mode showing minimal patient information.

Users must log in to the system to access any functionality.

Systems must support the authentication of individual users and not just groups.

All user authorisation facilities must be maintained centrally and integrated across all system modules, such that user/group access profiles can be defined once and applied consistently through the system.

Systems must be capable of implementing and supporting role based access and allow different user profiles to be linked to a user's Active Directory profile.

Systems must contain controls that can ensure that individuals can be held accountable for their actions.

Systems must be compatible with all commonly used server/client anti-virus software.

The transfer of data via wireless or fixed line communications must be protected from interception, where sensitive data is being transmitted over a public network, e.g., the internet.

Data transferred and/or stored must be encrypted, with an encryption key length of 128 bits as a minimum with wireless keys.

Backup processes must not involve system down time, interruption or degradation of service.

Systems must be available to staff 24 hours per day, 7 days per week and 365 days per year (366 days in a leap year). Any system must provide for a complete disaster recovery (DR), which will require the same level of support as the normal live system.

Systems, if web-enabled, must operate properly with standard configurations of all commonly available network browsers. Any restrictions on network browsers or on versions thereof supported must be notified to the Framework Manager and to Contracting Authorities

Systems must conform to W3C DFA (Designed for all) Standards.

All products supplied in connection with the Framework Agreement must be CE certified under the relevant directive.

Suppliers must operate a defined quality management system for the design, development, manufacture, service, installation and distribution of their Real-Time Healthcare Tracking and Patient Flow Systems to the standard of EN ISO 9001:2008 or operate a quality management system to an equivalent level. Details of this quality management system will be made available to Contracting Authorities on request.

Suppliers must operate a defined quality management system for their servicing and technical support services. Details of this quality management system will be made available to Contracting Authorities on request.

Suppliers must follow a defined and documented software quality accreditation process to a level at least equivalent to that of IS EN ISO 9001:2008 (or an equivalent recognised standard).

Suppliers must operate a defined and documented information system security management system to a level at least equivalent to that of IS EN ISO 27001:2013 (or an equivalent recognised standard). Details of this information system security management system will be made available to Contracting Authorities on request.

Suppliers must hold (or commit to obtain, prior to commencement of the Framework Agreement if awarded) Cyber Security Essentials Plus accreditation.

Suppliers must provide the results of a recent comprehensive remote security assessment and penetration test (Pen test), demonstrating their system resistance to attack.

Implementation processes must follow a defined and documented project methodology (for example PRINCE2).

Suppliers must be committed to continuous product improvement with a clear development roadmap for their product/applications proposed. Suppliers must commit to provide details on expected enhancements with scheduled dates for same to Contracting Authorities.

Suppliers must be registered with the Information Commissioners Office as a Data Processer throughout the life of the Framework Agreement and the period of all Contracts called off from the Framework Agreement.

Suppliers must take full responsibility for implementing and supporting their Real-Time Healthcare Tracking and Patient Flow System regardless of whether those goods or services are delivered by the vendor or a third party(s).

Suppliers must hold, and commit to hold throughout the period of the Framework Agreement and any Contracts called off from the Framework Agreement, all necessary OEM accreditations and licences and rights to exploit any intellectual property for each element of software modules that are considered to form part of the product/application proposed.

On written request from a Contracting Authority, Suppliers must provide relevant sections of any third party contracts on which they rely to deliver their proposed Real-Time Healthcare Tracking and Patient Flow System. Such contracts, where they exist, must be of sufficient nature so as to support the requirements of the Contracting Authority.

Suppliers must agree to enter into an escrow agreement with a Contracting Authority calling off a Contract from the Framework Agreement. The escrow agreement will cover any and all system-specific software supplied as part of the Supplier's Real-Time Healthcare Tracking and Patient Flow System.

Real-Time Healthcare Tracking and Patient Flow Systems must have the functional capability to aggregate data across a multi-site hospital, across a Sustainability and Transformation Partnership / Integrated Care System footprint (in England), across a Local Health Board (in Wales), across an NHS Board (in Scotland) or across a Health and Social Care Board (in Northern Ireland) (hereafter referred to as a "healthcare group") so as to provide a group wide view of data from all associated organisations within the health and care system. This should include group wide functionality to view real-time data captured which should be displayed and reported at individual organisation level within each of the functional areas outlined throughout this specification.

Real Time Tracking and Location

Suppliers will provide tags for patients, staff, beds and other assets that enable precise location and status notification.

Suppliers will provide the appropriate hardware infrastructure (e.g. detectors, beacons and exciters) and other components (e.g. servers, middleware and end-user software) to enable precise location and status notification.

Real Time Tracking and Location systems will integrate seamlessly and effectively with the Supplier's Patient Flow System to deliver the functionality outlined in this specification.

Bed Request / Bed Booking

Systems will have a unified bed booking and requesting functionality that can facilitate either manual requesting or support electronic bed requests from other patient care applications. This functionality should support both scheduled and unscheduled patient flow requests and booking, both within a hospital and externally.

Admission

Systems will allow for the effective admission of patients from multiple admission sources for both unscheduled and scheduled care.

Bed Management

Systems will allow appropriate healthcare professionals to set the status of a bed (e.g. to Open, Close, Temporarily Close, Allocate or Suspend beds) and provide an audit trail with the reason for the change in bed status.

Systems should provide the ability to automatically re-open closed or suspended beds at a predefined time. During the period of closure, it should not be possible to admit to the bed but it may be possible to allocate a patient to the bed in anticipation of it becoming available.

Systems will provide bed capacity & demand planning functionality by analysing:

- The live operational bed capacity by maintaining the bed state within the proposed solution or via electronic interaction with the PAS system (where this data is currently held)
- The known demand for beds from the Emergency Department, planned admissions & other scheduled/unscheduled visits.

This data should be electronically captured from the PAS and any other source systems identified.

Patient Flow

Systems will support the patient flow function within scheduled and unscheduled care settings to include functionality that will at a glance display pertinent patient flow information, as outlined but not limited to the examples below:

- The number of male bed vacancies by ward/specialty
- The number of Female Bed Vacancies by Ward/Specialty
- The number of isolated Beds/Rooms available
- The number of isolated Patients in the Hospital by
    - Name
    - Patient ID
    - Condition
    - Navigational Hub Status changes
    - Ward
    - Bed
- The location of beds that are expected to become available (based on Expected Length of Stay).

- The reasons why a patient has exceeded the ELOS
- The clinical details of patients in ED
- The time patient waiting since a decision to admit was made in ED
- The infection status of admitted and incoming and current patients including infection history
- Individual patient days used to-date
- Patient historic flow enquiry

Systems will be designed to support interactive touch screen displays of ward activity, showing simple colour coded indicators to facilitate improved ward management.

Systems will provide the relevant patient flow information to support an effective handover for the multidisciplinary team.

Systems will enable healthcare professionals to check and update patient or bed status from any networked computer or mobile device to provide reliable information, improving communication and enabling better patient care.

Systems will support clinicians to accurately identify patients under their care and their location.

Relevant patient details must be searchable by, as a minimum, NHS Number, individual hospital patient identifier patient number(s), name, date of birth, ward and consultant.

Systems will have the ability to document interventions and investigations as appropriate to patient flow such as an Acuity Score (e.g. MEWS / NEWS / PEWS).

Systems will allow appropriate healthcare professionals to virtually move patients within the system using a simple touch-screen process without manual data entry or re-entry.

Systems will have the ability to display patient alerts generated by other ICT systems both within a hospital and externally or to manually store and display patient level alerts.

Systems will have the ability to manage bed level alerts to support the effective placement of a patient.

Systems will be customisable to individual user or hospital requirements to align with clinical workflow.

Systems must have the ability to be aggregated to display the status of hospitals at a group level supporting high level drilldown to individual hospital level.

Systems will have the ability to display the current status of a requested diagnostic or other intervention.

Systems will have the ability to display a list of outstanding diagnostics or interventions.

Ward Management

Systems must support operational activities within a ward environment including but not limited to;

- Visual identification of new patients to all members of the multi-disciplinary team (MDT).

- Swapping patients between beds on the application with a simple touch screen operation.
- Requesting ward transfer for patients who are outliers with a simple touch screen operation.

Systems must show each bed on the ward and the patient allocated to it.

Systems must be able to sort beds, as a minimum by:

- Bed Name
- Bed Sequence
- Hospital Patient ID
- Patient Name – Alphabetically by family name or forename
- Discharge – Based on EDD
- Consultant – Alphabetically by Consultant's family name or forename
- Team
- Specialties
- Date of Admission
- Date of Discharge

Systems will have the ability to display ward level key performance indicators, such as:

- Number of patients occupying beds on this ward
- Total available beds on this ward
- All expected discharges for today

Systems will clearly indicate whether or not the patient is on or off the ward with clear indication of where the patient is when off the ward.

Infection Control – Patient Contact Tracking

Systems must have the ability to display and/or update the infection status of a patient either through a defined HL7 interface or via an Electronic Patient Flow system.

Discharge Planning

Systems will support a hospital's discharge planning processes within a hospital setting.

Referrals / Consults

Systems should provide functionality to support internal consults and referrals including but not limited to:

- Inpatient Consults
- Theatre Referrals
- Inter-hospital consults and referrals

Reporting Analysis and Audit

Systems will support Visual Hospital / Navigational Hub processes within a hospital.

Systems will provide a "State of The Nation" / "Hospital at a Glance" live operational availability view of every bed across a single hospital and across a healthcare group of organisations.

Systems must have the ability to provide aggregate reports at healthcare group level and at single/multiple hospital level.

Systems will automatically calculate and display appropriate hospital level key performance indicators, including but not limited to:

- The occupancy status (percentage occupancy) of the hospital
- The number of beds and bed types currently available and the number currently required
- The planned admissions i.e. elective cases, that day and the following day
- The number of patients waiting in the Emergency Department awaiting admission to identified wards, with an indication of the time that they have been in that department
- The number of patients waiting for transfer to another in-patient ward
- Percentage of discharges completed for the day and for the previous weekend
- Average length of stay, filtered by: organisation, hospital, department, ward, specialty and consultant
- The current 'Bed Alert' Status.

Systems will provide statistical and analytical data on a patient's journey and bed stock utilisation.

Systems will have the ability to output to printers, screens, multi-function devices and files.

Systems must have a detailed audit trail capability.

Systems will have the ability to generate documentation from predefined customisable templates e.g. letters, forms, etc.

Systems will have the capability & functionality to conduct user/hospital/group/national audits.

Interfacing

Systems will Interface bi-directionally with hospital Systems via HL7 (examples of systems include but are not limited to; Patient Administration Systems, Laboratory Information Systems and Diagnostic Systems)

Systems will accept and display orders and results from other third party systems.

Systems will accept scanned documentation via an Electronic Document Management System or via direct scanning.

Support

Suppliers will provide support for both functional and non-functional components of their system. Support will be available for the following areas at a minimum:

- Support at Go-Live
- Post Go-Live support (including out of hours support)
- Call logging procedures and response times
- Escalation procedures
- Business Continuity and Recovery
- New Functionality / Requirements Requests

Training

Suppliers will provide comprehensive training, both on-site and on-line, to support the successful implementation of their system.

Training for key staff will be available during implementation, at go live and in the post go live period.

Training will be tailored to the needs of potential users across the hospital and or healthcare system.

Suppliers will provide Contracting Authorities with online documentation to assist the Contracting Authority in its use of the Real-Time Healthcare Tracking and Patient Flow System.

Professional Services

Suppliers will provide professional services to support the successful implementation of their system. This may include:

- Project Management
- Patient Flow Specialists
- ICT Services
- System Administration
- Implementation Services
- User & System Support
- Interface Services

Lot 2 - maintenance and support of installed Real-Time Healthcare Tracking and Patient Flow Systems.

Suppliers will provide ongoing maintenance and support services to either or both of the following:

- Real-Time Healthcare Tracking and Patient Flow Systems supplied and installed by themselves.
- Third party manufactured Real-Time Healthcare Tracking and Patient Flow Systems.

Suppliers will provide maintenance, inspections and software update services to ensure optimal equipment performance and minimise system downtime. Software updates will be included at no additional cost in all levels of maintenance plan.

Suppliers will offer a range of service and maintenance plans to fit the requirements of Contracting Authorities.

Suppliers will provide a detailed maintenance schedule at the commencement of each Contract.

Suppliers will provide system monitoring that allows remote monitoring by the Supplier to detect any faults or issues, with remote rectification of faults, where possible, undertaken by the Supplier provided that the Supplier is afforded remote access to any Software at the Authority facility or installation site that is necessary to provide such support.

Suppliers will maintain help desk support to receive technical support requests by toll-free telephone call 24 hours per day, seven (7) days per week, 365 days per year during the term of any Contract called off from the Framework Agreement.

Suppliers will provide an experienced, multi-person UK based service organisation available for maintenance and support.

The Supplier will provide guaranteed minimum response times for the attendance of a service engineer on site if required by a Contracting Authority.

General Requirements

Backup processes must not involve system down time, interruption or degradation of service.

Systems must be available to staff 24 hours per day, 7 days per week and 365 days per year (366 days in a leap year). Any system must provide for a complete disaster recovery (DR), which will require the same level of support as the normal live system.

Suppliers must operate a defined quality management system for their servicing and technical support services. Details of this quality management system will be made available to Contracting Authorities on request.

Suppliers must hold, and commit to hold throughout the period of the Framework Agreement and any Contracts called off from the Framework Agreement, all necessary OEM accreditations and licences and access to software upgrades from the time of release by the OEM for each element of software modules that they maintain under a Contract called off from the Framework Agreement.