

# NHS Scotland National Procurement

## Endoscopy Reporting System

### NHS Requirements



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# 1. Introduction

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## 1.1 Document Purpose

The purpose of this document is to describe and detail the Functional and Non-Functional requirements for a national Endoscopy Reporting System for NHS Scotland. This document forms part of the tender documentation.

## 1.2 Introduction

An electronic Endoscopy Reporting System (ERS) has been an essential component of gastrointestinal and respiratory endoscopy services for many years. However, the current age and capability of Endoscopy Reporting Systems across NHS Scotland present a number of challenges to delivering a modern, efficient endoscopy service as detailed in the Endoscopy and Urology Diagnostic: Recovery and Renewal Plan published in November 2021 by the Scottish Government (<https://www.gov.scot/publications/endoscopy-urology-diagnostic-recovery-renewal-plan/>).

The entities entitled to use the Endoscopy Reporting System are envisaged to be the 14 territorial NHS Scotland Health Boards, the Golden Jubilee National Hospital and any other NHS Scotland entity requiring an Endoscopy Reporting System (the “**Service Recipients**”).

NSS Digital and Security (DaS) Portfolio Delivery Services have been asked by the Scottish Government to manage the procurement of a new Endoscopy Reporting System for NHS Scotland. Scottish Government have agreed to fund a national project to review the available products, carry out a procurement and implement the solution. Ongoing service charges beyond implementation will be borne by individual Service Recipients. The project was endorsed by the Endoscopy and Urology Diagnostic Elective Care Group and there is also support from each Service Recipient, National eHealth and National information technology leads.

Three companies, Medilogik, HD Clinical and Olympus currently provide the Endoscopy Reporting Systems in NHS Scotland.

The drivers behind the procurement are some of NHS Scotland's current Endoscopy Reporting Systems nearing end of support, as well as issues across all Service Recipients including challenges with system interfaces, reporting issues and functionality. Also, only two Service Recipients currently have provision for electronic Cystoscopy reporting. Electronic Cystoscopy reporting and image capture are required for Cystoscopy governance and training. One Endoscopy Reporting System that covers all endoscopy specialties is required.

This contract also intends to address the following:

- Evidencing Endoscopy training experience and opportunities
- An interface with JETS for trainee and trainer reports not being available in all systems
- Limited interfacing with Patient Administration Systems
- Uploading Bowel Screening data being a manual process
- Inability to capture or store videos due to limitations of software/hardware/storage space

This procurement's aim is to provide bidders the opportunity to replace current solutions with a single solution to be available to all Service Recipients.

A national approach will be taken which will ensure that all Service Recipients have a reporting system that

- Is compatible with the National Endoscopy Database (NEDi2) to allow for Endoscopy quality data to be accessible
- Is compatible with the JETs website for training
- Can provide data to Public Health Scotland (PHS) for accurate activity and demand data and analysis
- Is designed to interface with the existing and future Patient Administration Systems using modern effective technology
- Provides an Electronic Reporting System with image capture for all Endoscopy based specialties; Gastrointestinal, Urology and Respiratory
- Enables automated and validated upload to PHS for bowel screening again using modern effective technology

## 1.3 Outline of key procurement goals

NHS Scotland wishes to procure a national Endoscopy Reporting System capable of performing electronic reporting on all key modules and compliant with governing bodies.

It is envisaged that an existing solution will best meet the requirement; however, solutions that need further development to meet requirements may also be of interest.

NHS Scotland's preference is for a solution to be made available as 'Software as a Service' which can be integrated into and accessed from the existing infrastructure services of the Service Recipients as well as over the internet.

NHS Scotland requires the bidders to bid for provision of an Endoscopy Reporting solution. A list of Service Recipients and parameters is provided in Appendix D.

The supplier should evidence their ability to

- provide a flexible solution to meet the current and evolving requirements
- be progressive in their way of working and willing to form a partnership with NHS Scotland to embrace the requirements and help with any customisations; and
- employ a flexible approach to provide implementation services to Service Recipients as required.

## 1.4 Sponsor

The sponsor of this work is Planned Care, Directorate for Performance and Delivery, Scottish Government.



## 2. Methodology

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This document contains the Functional and Non-Functional specification for a national Endoscopy Reporting System across NHS Scotland.

Discussions were held with representatives and key stakeholders from various groups either individually or in group workshops. Participants included the following main stakeholder groups to ensure the full range of requirements were covered.

- Endoscopists across GI, Respiratory and Urology community
- Patient administration staff
- eHealth and Infrastructure leads
- Public Health Scotland
- Scottish Government
- National Procurement
- Solutions Architects
- Information Governance
- Information Security
- Contract, Vendor and Service Management Team
- Central Legal Office

## 3. Requirement classification, Scores and Supplier response

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### 3.1 Definition of Priorities

A response from the supplier is required in the space under each and every requirement to provide evidence as to how each requirement will be met.

Suppliers are required to indicate using the checkboxes whether their response for each requirement is Fully Compliant, Partially Compliant or Not Compliant which are defined as follows:

#### **Fully Compliant**

- Solution fully complies with each and every part of the requirement.

#### **Partially Compliant**

- Solution meets some parts of the requirement; or
- Solution meets the requirement in a different way from that anticipated by the requirement; or
- Requirement is not fulfilled at present, but the bidder is prepared to deliver the requirement as part of their product roadmap. The response to the requirement should indicate timelines.

#### **Not Compliant**

- Solution does not meet any part of the requirement at all.

























































































Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.5.5	<p>ERS solution should support NHS Scotland in achieving a national cost-effective ERS Service.</p> <p>ERS supplier should describe how their solution, services and strategy for the future can support this.</p> <p>Please specifically consider how you will enable the following:</p> <ul style="list-style-type: none"> <li>• The opportunity to reduce costs, ensure affordability and achieve the best balance between ERS cost versus quality</li> <li>• An overall strategy that enables a fast pace of change and transformation</li> <li>• Have an innovative approach to technical partnering to ensure a mutually beneficial relationship</li> <li>• Support NHS Scotland through future business and technical change</li> </ul>	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	

## 5.6 Infrastructure

Information technology infrastructure is defined broadly as a set of information technology components that are the foundation of an IT service; typically, physical components, but also various software and network components.

Ref.	Non-Functional Requirement	Priority
5.6.1	<p>ERS supplier should provide production and non-production environments in order to support the requirements outlined in this specification.</p> <p>Non-production environments should support activities including testing of software under development, user acceptance testing, upgrades and patches, training and education and any other activities that may require separation from the production environments.</p> <p>Please describe all environments that will be made available. Also indicate whether these will be permanent or provided as temporary instances to support needed activities.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.6.2	<p>ERS should meet the National ICT Infrastructure Standard.</p> <p>Please describe how the solution complies with the National ICT Infrastructure Standard, with regards to deployment, function and integration where required with all the relevant specification detailed in <a href="https://www.digihealthcare.scot/app/uploads/2022/03/Infrastructure-Standard-2021-v1.3-1.pdf">https://www.digihealthcare.scot/app/uploads/2022/03/Infrastructure-Standard-2021-v1.3-1.pdf</a> and/or detail of how they are working towards compliance within a defined timeline, for example, but not limited to:</p> <ul style="list-style-type: none"> <li>• Directory Service and Authentication e.g., Azure Active Directory and Single Sign On</li> <li>• Application Compatibility e.g., Web Browsers, Web Components</li> <li>• Enterprise and Network Security e.g., Path Mgmt., Network Security and Boundary Firewall</li> <li>• End point device Operating Systems</li> <li>• Any other minimum standards Service Recipient client devices need to conform to, to ensure end to end support and operate with their solution</li> </ul> <p>Also detail any known conflicts or issues between supplier’s solution and end point devices. Support should be maintained continuously as new operating system and browser versions are released.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.6.3	<p>NHS Scotland requires the infrastructure supporting the ERS solution to be based on modern architectural principles allowing ease of support and strong security.</p> <p>Please supply architecture diagrams, showing services, security boundaries, ports and traffic across all production and non-production environments. This should be accompanied with a detailed written technical overview.</p> <p>Please specifically detail the following, but not limited to:</p> <ul style="list-style-type: none"> <li>• Each infrastructure component resilience and redundancy</li> <li>• Any specific network configuration (Internet, SWAN, internal network, firewall configuration, proxy configuration etc.) required to support the solution, including all detail of open ports between (if applicable) DMZ/non-DMZ network segments</li> <li>• Configuration on any appliances (physical or virtual), including but not limited to load balancers (sticky sessions, session timeout etc.)</li> <li>• Server and endpoint hardening (build (including removal of non-required services, restriction of services), patching, restricted access, documentation, verification and de-commissioning process)</li> <li>• Underlying technology and vendor specific products and versions used within the solution</li> <li>• Status of vendor supportability of all components of solution and describe how these will remain under full/mainstream vendor support</li> <li>• Hosting platform (e.g., public, private or a hybrid cloud solution)</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.6.4	<p>ERS solution should be able to operate within an enterprise environment with multiple end point operating systems and security configurations.</p> <p>Please describe how your solution would achieve this including the following, but not limited to:</p> <ul style="list-style-type: none"> <li>• Enterprise secure web gateways</li> <li>• Azure Active Directory</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.6.5	<p>NHS Scotland requires that the ERS (both software and hosting environments) are maintained (and refreshed where necessary) throughout the contract duration.</p> <p>If an environment upgrade requires a data migration to new storage at any point, then sufficient time should be allowed to accommodate a phased migration before components reach end of support.</p> <p>ERS supplier should supply their technical refresh road map including your software upgrade frequency and approach to maintaining the server environments.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.6.6	<p>NHS Scotland requires access to all data stored within the ERS along with sufficient documentation to enable understanding. (Related to functional requirement 4.4.5)</p> <p>ERS supplier should provide their data dictionary and data model.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.6.7	<p>NHS Scotland requires the ERS solution data storage to be based on modern architectural principles.</p> <p>ERS supplier should describe their proposed solutions data storage architecture and standards.</p> <p>Supplier should also confirm how associated metadata and audit data will be accommodated.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.6.8	<p>NHS Scotland requires that the ERS solution has no dependencies on 3<sup>rd</sup> party applications. e.g., MS Word, SQL etc.</p> <p>ERS supplier should describe whether and how their solution depends on any 3<sup>rd</sup> party applications.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

## 5.7 Interoperability

Interoperability is a characteristic of the system, whose interfaces are completely understood, to work with other products or systems, at present or in the future, in either implementation or access, without any restrictions.

Ref.	Non-Functional Requirement	Priority
5.7.1	<p>ERS solution should be capable of allowing peripheral devices to connect securely for electronic transfer of information.</p> <p>Please describe how and by what methods this would be achieved including the following, but not limited to:</p> <ul style="list-style-type: none"> <li>• Secure pairing</li> <li>• Transmission medium</li> <li>• Transmission protocols</li> <li>• Transmission processing (real time or cached)</li> <li>• Authentication</li> <li>• Standards</li> <li>• Encryption</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	



Ref.	Non-Functional Requirement	Priority
5.7.2	<p>NHS Scotland requires that the ERS solution is compatible with current endoscopy components. Refer to Appendix B for information on a sample of existing endoscopy hardware within NHS Scotland.</p> <p>Please detail any infrastructure and related support that will need to be provided or purchased for example if the solution is not compatible with existing endoscopy component.</p> <p>ERS supplier should provide</p> <ul style="list-style-type: none"> <li>• A compatibility matrix detailing all hardware and software components and versions supported by the solution, including associated standards supported.</li> <li>• Confirmation on whether or not the solution acknowledges any data submitted or received from connected devices.</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.7.3	<p>ERS solution should allow for API integration.</p> <p>Supplier should describe how their APIs would allow for integration and support secure access by third party systems as determined by multiple Service Recipients, and supply detailed information on existing API interfaces, access control, architectural styles and approaches used.</p> <p>ERS supplier should include detail on how the solution will make data (including audit data) available via the API, in addition to any bulk file exports. For example, a push or pull mechanism as required from NHS systems (data exchange).</p>	<b>P</b>

Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.7.4	<p>ERS solutions Application Programming Interfaces (APIs) should be based on modern web service patterns and internationally recognised open standards.</p> <p>The supplier should describe how the solution complies with but not limited to:</p> <ul style="list-style-type: none"> <li>• The OWASP Foundation API Security Top 10 critical security risks - 2019 edition <a href="https://owasp.org/www-project-api-security/">https://owasp.org/www-project-api-security/</a></li> <li>• Appropriate API standards and specifications e.g., OpenAPI3; gRPC; GraphQL</li> </ul>	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.7.5	<p>ERS solution's API integration should provide developer support.</p> <p>Please describe the developer ecosystem (e.g., developer portal) that supports their API environment, including guidance, test data, service levels and licensing arrangements.</p>	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	

Ref.	Non-Functional Requirement	Priority
5.7.6	<p>ERS solution should support policies for API rate and quota management.</p> <p>Please describe how the solution will achieve this.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.7.7	<p>ERS solution should support the structured transfer or migration of data out of the solution.</p> <p>This would be to support an exit strategy and include all data in the solution such as but not limited to patient data, users, organisations, audit, configuration etc.</p> <p>Please describe how the solution will achieve this.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.7.8	<p>ERS solution should be able to securely integrate with other systems used in NHS Scotland such as systems mentioned in the Functional Requirements Interfaces section 4.5 using standard integration methods, detailing how these are currently accessible over the internet and the Scottish Wide Area Network (SWAN), or detail how they are working towards accessibility within a defined timeline.</p> <p>Please describe how the solution will achieve this.</p>	<b>P</b>

Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.7.9	<p>ERS solution should be capable of integration with existing NHS systems.</p> <p>Please provide details of existing NHS systems your solution has integrated with. Please include the following, but not limited to:</p> <ul style="list-style-type: none"> <li>• Full descriptions</li> <li>• Communication methods</li> <li>• Authentication</li> <li>• Data formats and content</li> <li>• Encryption</li> <li>• Network (accessibility over internet / SWAN)</li> <li>• Technologies utilised</li> </ul>	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.7.10	<p>ERS supplier must make all endoscopy data captured within the system (for any test or procedure) available to NHS Scotland data and analytical platform. E.g., SEER via an API or otherwise. (Same as functional requirement 4.4.5)</p> <p>Please describe your solutions current and potential future 3rd party Business Intelligence (BI) integration capabilities, detailing the associated technologies and standards used.</p>	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	

Ref.	Non-Functional Requirement	Priority
5.7.11	<p>ERS solution must support standard integration methods.</p> <p>Please describe how the solution complies with modern digital information interoperability standards such as HL7 (v2, v3, FHIR).</p>	<b>M</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Not Compliant</p>	

## 5.8 Performance

System performance is estimated in terms of accuracy, efficiency and speed of executing user instructions.

Ref.	Non-Functional Requirement	Priority
5.8.1	<p>ERS solution should function in a fast and responsive manner which should be measurable.</p> <p>Please describe the capability of your solution to function under normal conditions and any conditions that could cause the solution to be adversely impacted and thereby result in reduced performance. Include details on metrics that are used to verify normal satisfactory operating performance.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.8.2	<p>ERS solution should be capable of monitoring aspects of its performance.</p> <p>Please describe how the solution, associated components and tools, and any third-party services are logged and monitored, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Data volumes (by percentage usage per Service Recipient)</li> <li>• Data storages (by percentage usage per Service Recipient)</li> <li>• Data ingress</li> <li>• Data egress</li> <li>• System performance</li> <li>• System activities (including API calls)</li> <li>• User volumes and ability to increase/ decrease</li> <li>• Forecast anticipated annual increase in data volume</li> </ul>	<b>P</b>

Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.8.3	ERS supplier should adopt a proactive approach to performance management of the solution including risk mitigation.  Please detail potential risk areas with regards to perceived service performance from an end-to-end service perspective. This may specifically involve factors which sit outside the supplier's solution.	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.8.4	ERS supplier should permit an independent performance test at the customer's request and participate in the process as required.	<b>S</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	

## 5.9 Recoverability

Process of creating systems of prevention and recovery to deal with potential threats to a company. In addition to prevention, the goal is to enable ongoing operations before and during execution of disaster recovery.

Ref.	Non-Functional Requirement	Priority
5.9.1	<p>ERS solution should be able to operate without significant disruption to clinicians or patients.</p> <p>Please describe your approach to Business Continuity (BC) for the solution and services. Please include details of the following areas but not limited to:</p> <ul style="list-style-type: none"> <li>• Current or proposed high level BC plans</li> <li>• Recent examples of BC exercises or tests</li> <li>• Detail any agreements with 3rd party providers for services that will be required for BC purposes</li> <li>• Detail how the integrity of information security will be preserved during any BC event</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	



Ref.	Non-Functional Requirement	Priority
5.9.2	<p>ERS supplier should be able to recover their solution and services in case of a failure.</p> <p>Please describe your approach to recovery of the solution and services. Please include details of the following areas but not limited to:</p> <ul style="list-style-type: none"> <li>• Detail the proposed technical architecture, high availability configuration, data restoration and the process and timescales to recover all components of the solution</li> <li>• Confirm the anticipated performance levels during the Recovery process</li> <li>• Current or proposed high level Recovery plans</li> <li>• Recent examples of Recovery exercises or tests</li> <li>• Detail any agreements with 3rd party providers for services that will be required for recovery purposes</li> <li>• Detail how the integrity of information security will be preserved during any incident requiring recovery</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.9.3	<p>ERS supplier should support backup and recovery for their solution's system and data.</p> <p>Please describe the following, but not limited to:</p> <ul style="list-style-type: none"> <li>• Management arrangements for backup service</li> <li>• Frequency of backups with examples of Recovery Point Objective (RPO)</li> <li>• Storage arrangements</li> <li>• Backup and recovery testing</li> <li>• How data will be preserved during any BC and / or DR event</li> <li>• Data and system recovery with examples of Recovery Time Objective (RTO)</li> </ul>	<b>P</b>

Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.9.4	ERS solution should avoid/minimise data loss.  Please describe how your solution will avoid/minimise data loss, and identify potential risk areas for data transfer e.g., between peripheral devices and the supplier solution.	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	
5.9.5	ERS supplier should demonstrate their ability to achieve the following:  Recovery Point Objective (RPO): 24 Hours Recovery Time Objective (RTO): 24 Hours	<b>P</b>
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	

## 5.10 Scalability

Is the property of a solution to handle a growing amount of work by adding resources to the solution.

Ref.	Non-Functional Requirement	Priority
5.10.1	<p>ERS solution should be scalable.</p> <p>Please define the provision for growth, elasticity and scalability capability (i.e., scale up/down and scale out/in) of your solution to accommodate and manage the following changes, but not limited to:</p> <ul style="list-style-type: none"> <li>• Organisations</li> <li>• Users</li> <li>• Data Processing &amp; Data Volume demands</li> <li>• Expand and contract for heavier and lighter workloads</li> </ul> <p>Please also include solution's maximum capacity for each component, including APIs.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.10.2	<p>Sizing of the ERS solution should be proportional to anticipated usage.</p> <p>Please describe how the sizing of your solution will be determined, detailing known limitations or assumptions.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

## 5.11 Security

Security is freedom from, or resilience against, potential harm caused by others. Information security includes protection of data confidentiality, data integrity and data availability. Included in this is Cyber Security is the practice of protecting devices, services and networks and the information on them from theft or damage.

Ref.	Non-Functional Requirement	Priority
5.11.1	<p>ERS solution should provide comprehensive Cyber Security for the protection and availability of NHS information.</p> <p>ERS supplier must complete the Cyber Security Procurement Support Tool (CSPST) using the following link and Cyber Risk Assessment Reference Number.</p> <p>ERS supplier must demonstrate the extent to which they meet the NSS minimum requirements in respect of Cyber Security for this contract by completing the relevant Supplier Assurance Questionnaire (SAQ) using the Cyber Security Procurement Support Tool (CSPST).</p> <p>A link to CSPST can be found below:  <a href="https://cyberassessment.gov.scot/">https://cyberassessment.gov.scot/</a></p> <p>Please use the link provided and enter the following unique Cyber Risk Assessment Reference Number provided for this purpose:  <b>RAR-DP3A7KXB</b></p> <p><i>It is a requirement to complete the questionnaire on the CSPST site and submit a downloadable SAQ report as part of the supplier's submission prior to the submission deadline. Failure to do so may result in the tenderer being disqualified.</i></p> <p><i><u>Important:</u> Completing a CSPST questionnaire can require time and effort, depending on (i) the risk profile of a contract and (ii) how well suppliers understand their organisation's cyber resilience arrangements. It is vital that suppliers leave sufficient time to complete the CSPST questionnaire ahead of the submission deadline.</i></p> <p><b>If all minimum requirements are not met</b>, the Supplier may provide a <b>Partially Compliant</b> response by submitting a credible <b>Cyber Implementation Plan (CIP)</b>. The template can be accessed at the link below:  <a href="#">CIP Template</a></p>	P

Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant	

## 5.12 Service Management & Operating Model

Refers to the entirety of activities – directed by policies, organised and structured in processes and supporting procedures that are performed by an organisation to design, plan, deliver, operate and control IT services that meet the needs of the business.

Ref.	Non-Functional Requirement	Priority
5.12.1	<p>Service management of the ERS should comply with ITIL or equivalent standards.</p> <p>Please describe your service operating model for the creation, delivery and continual improvement of services and how it complies with ITIL or equivalent standards.</p> <p>Please include, but not limited to, the following processes and associated timescales:</p> <ul style="list-style-type: none"> <li>• Service Continuity &amp; Availability Management</li> <li>• Capacity Management</li> <li>• Information Security Management</li> <li>• Security Management</li> <li>• Incident &amp; Service Request Management</li> <li>• Problem Management</li> <li>• Configuration Management</li> <li>• Change Management</li> <li>• Release &amp; Deployment Management</li> <li>• Patch Management</li> <li>• Service Level Management</li> <li>• Service / Performance Reporting</li> </ul>	P
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.12.2	<p>ERS supplier should ensure NHS Scotland is involved with all potential changes to the service. No change should be applied to the service by the supplier without prior consultation with NHS Scotland, approval to proceed, and agreement of a change schedule.</p> <p>With reference to the change and release management processes described in response to 5.12.1, please confirm that you will adhere to this requirement, detailing any exceptional circumstances where this might not be possible and the process that would be followed.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.12.3	<p>System availability should be 99.5% and should be monitored and measured 24x7x365 to ensure early detection of potential issues.</p> <p>Please describe how you will monitor and measure availability of all elements of the solution. This should include any elements of the solution that the supplier subcontracts to another party.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	



Ref.	Non-Functional Requirement	Priority
5.12.4	<p>ERS supplier should provide a 2nd line service desk and support services within normal business hours. The details are defined in Schedule Part 3 of the Agreement.</p> <p>The supplier should detail how it will meet this requirement. Please specifically state:</p> <ul style="list-style-type: none"> <li>• Where your helpdesk and support staff are located</li> <li>• The size of your support organisation and if this is a shared provision with your other customers</li> <li>• Technologies that will be used e.g., helpdesk systems, service management tools etc.</li> <li>• How the supplier will monitor its performance against the SLAs, detailing the escalation process within normal business hours and for high priority incidents out-with normal business hours</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.12.5	<p>The minimum requirement for this service is for the ERS supplier to provide a 2nd line service desk and support services as detailed above. However, if the supplier is able to provide a 1st line service desk and / or out of business hours service desk and support services then the supplier should provide details of their service and their proposed SLA's.</p>	<b>S</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

## 5.13 System Lifecycle

The systems development life cycle is a process for planning, creating, testing, and deploying systems and system changes.

Ref.	Non-Functional Requirement	Priority
5.13.1	<p>NHS Scotland requires the solution development processes are robust and standards based.</p> <p>Please describe the following development lifecycle attributes:</p> <ul style="list-style-type: none"> <li>• Good design practices</li> <li>• Quality management processes and procedures</li> <li>• DevOps</li> <li>• Continuous Integration / Continuous Delivery</li> </ul>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.13.2	<p>NHS Scotland requires the ERS supplier to maintain the various internal environments required to support the system development lifecycle including consideration to version control and the availability of test data.</p> <p>Please describe how you would achieve this.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.13.3	<p>ERS supplier should have and maintain a development/product roadmap for their solution. It is anticipated that it will include the following:</p> <ul style="list-style-type: none"> <li>• List of existing system defects and requests for enhancements</li> <li>• Product strategy</li> <li>• Interoperability with user technologies, 3rd party systems etc.</li> </ul> <p>Please provide a copy of the roadmap.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.13.4	<p>ERS supplier should carry out robust testing of their solution including any future fixes and releases.</p> <p>Please provide evidence of the testing carried out for the solution as it currently stands. E.g., examples of test scripts, test results, test exit reports, test statistics etc.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	

## 5.14 Training

Is an organised set of activities aimed at imparting information and/or instructions to improve the recipient's performance or to help him or her attain a required level of knowledge or skill. It can also be in the form of documentation.

Ref.	Non-Functional Requirement	Priority
5.14.1	<p>ERS supplier must provide user training in support of their solution.</p> <p>Please detail the types of training available specifically confirming if the following will be provided to all Service Recipients:</p> <ul style="list-style-type: none"> <li>• Train the trainer courses, delivered in person as classroom events on customer sites</li> <li>• Train the trainer courses, delivered in online classroom</li> <li>• Other training courses that will be available and the method of delivery (in person classroom events, online classroom and online self-study)</li> </ul>	<b>M</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Not Compliant</p>	

Ref.	Non-Functional Requirement	Priority
5.14.2	<p>ERS supplier must provide training documentation such as user guides for all user roles.</p> <p>This may be built into the application or be available separately, online, or as printable file. Please detail the full range of documentation that will be provided for the following users:</p> <ul style="list-style-type: none"> <li>• Trainers to train users of the service</li> <li>• Trainers to train trainers (i.e., NHS Scotland providing its own ‘train the trainer’ training)</li> <li>• Clinical users of the service</li> <li>• Service Administrators of the service</li> <li>• System Administrators of the service</li> <li>• Any other user roles</li> </ul> <p>Please also specify the format of the training documentation that will be provided for the users. As a minimum it should be available electronically.</p>	<b>M</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Not Compliant</p>	
5.14.3	<p>ERS supplier should maintain all training documentation as new product versions are developed and supply timeously ahead of any release.</p>	<b>P</b>
Supplier Response	<p>Please select the appropriate checkbox followed by a detailed response.</p> <p><input type="checkbox"/> Fully Compliant <input type="checkbox"/> Partially Compliant <input type="checkbox"/> Not Compliant</p>	
5.14.4	<p>ERS supplier should confirm that no live data will be used in any training examples or printed training documents.</p>	<b>M</b>

Ref.	Non-Functional Requirement	Priority
Supplier Response	Please select the appropriate checkbox followed by a detailed response. <input type="checkbox"/> Fully Compliant <input type="checkbox"/> Not Compliant	

# Appendix A – Bowel Screening Data

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Bowel Screening  
Data.docx

## Appendix B – Endoscopy Stack Info

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Below is a sample list of Endoscopy processors/scopes currently in use across NHS Scotland, but not limited to:

Fujinon 4450
Fujinon VP 3500
Fujinon VP 7000
Fujinon SP 702
Fujinon SP 900
Fujinon Sonart
Hitachi ARIETTA 850
Hitachi ARIETTA V70
Hitachi ALOKA NOBLUS
Karl Storz 11278VS
Karl Storz 11278A1
Olympus CV 170
Olympus CV 240
Olympus CV 260
Olympus CV 260SLE
Olympus CV 290
Olympus CV 1500
Olympus BF 260
Olympus BF IT260
Olympus BF UC260FW
Olympus BF UC290F
Olympus CFHQ290DL
Olympus CFH260DL
Olympus CFQ260DL
Olympus CY



Olympus CY-2
Olympus CYF-5
Olympus CYF-VH
Olympus Lucera CV 290
Olympus EVIS Lucera Elite CV 290
Olympus EVIS Lucera Elite CV 290SL
Olympus EVIS Lucera Elite CV 1500
Olympus EVIS CV 200
Olympus EVIS CV 260
Olympus EVIS CV 290
Olympus EVIS CV 1500
Olympus GIF
Olympus GIF-H260
Olympus GIF-HQ290
Olympus GIF-XP290N
Olympus OT4-S400
Olympus Q260AL
Olympus TJF 260V
Olympus X1 CLV-290SL
Olympus X1 CV 1500
Olympus X1 CV170
Pentax FB-19TV
Pentax FB-18RBS
Pentax EB15-J10
Pentax FCN-15X
Pentax EC38-I10NF
Pentax EG-3890TK
Pentax EG16-K10
Pentax EPK-i
Pentax EPK-i5000
Pentax EPK-i7000

Pentax EPK-i7010
Storz 22201020102
Storz Choledocho Fibrescope 11292DE1
Storz Flexible Fibrescope Flex X 11278A
Storz Uretero-renoscope 27000L
Stryker Pinpoint PC9001

# Appendix C – Interfaces Details

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## **National CHI** (4.5.2)



ERS CHI  
Interface.docx

## **Managed Clinical Service** (4.5.6)



NHS Scotland  
Endoscopy System fo

## Appendix D – Service Recipients Details

Service Recipient	Current ERS	Population	Average No. of Endoscopy Procedures (Per Year)	No. of Endoscopy Stacks	No. of Users
Ayrshire & Arran	HD Clinical Unisoft	370k	12000	12	642
Borders	HD Clinical Unisoft	115k	3600	4	114
Dumfries & Galloway	HD Clinical SOLUS	149k	6000	5	90
Fife	Medilogik EMS	372k	13500	11	92
Forth Valley	HD Clinical Unisoft	306k	12000	9	234
Golden Jubilee National Hospital	HD Clinical Unisoft	NA	2600	5	101
Grampian	Medilogik EMS	585k	18000	14	409
Greater Glasgow and Clyde	HD Clinical Unisoft	1175k	50000	47	1684
Highland	Medilogik EMS	322k	6200	9	489
Lanarkshire	HD Clinical Unisoft	659k	24000	12	250
Lothian	HD Clinical Unisoft	898k	23000	19	115
Orkney	Medilogik EMS	22k	850	1	72
Shetland	Olympus Endobase	23k	900	4	54
Tayside	Medilogik EMS	416k	12500	12	303
Western Isles	HD Clinical Unisoft	27k	1200	2	3

## Appendix E – List of Implementation Deliverables

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#	Deliverable	Description
1	Project Initiation Document	Document scope, approach, team structure, roles and responsibilities, risk management, quality management, communication plan etc.
2	Implementation Plan	Document implementation tasks, timeline, milestones, resource plan etc.
3	Design Document	Document configurations, customisation and/or development needed (including interfaces) to meet the implementation scope.
4	Technical Document	Document technical details of the solution in order to support Service Recipients' implementation activities including the information required in 5.6.3.
5	Test Cases Document	Document all possible test scenarios against the Design Document including traceability.
6	Test Results	Document the test results for each of the scenario in the Test Cases Document including traceability.
7	Training Documentation	Training documentation as described in 5.14 Training section.
8	Training Records	Document successful completion of the training activities including dates and courses delivered and attendance records.
9	Draft performance monitoring reports	Described in Paragraph 11.3 of Schedule Part 3 of the Agreement.
10	Helpdesk support procedures	Document the helpdesk support procedures and activities required by the Service Recipients in order to raise incidents etc.

**Note** - After first issue, deliverables 1 thru 5 will be maintained by the Contractor throughout the implementation.

## Appendix F – List of Implementation Activities

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#	Activities	Description
1	Implementation preparation	<p>Meet with and agree with the Service Recipient stakeholders</p> <ul style="list-style-type: none"> <li>• Implementation approach</li> <li>• Implementation schedule</li> <li>• Any configurations, customisation and/or development needed (including interfaces) to meet the implementation scope</li> </ul> <p>Deliverables</p> <ul style="list-style-type: none"> <li>• Project Initiation Document</li> <li>• Implementation Plan</li> <li>• Design Document</li> <li>• Technical Document</li> <li>• Test Cases Document</li> </ul>
2	Configuration and Testing	<p>Configure as per Design Document including interfaces to the extent described in Appendix G (Integration Scope).</p> <p>Test that system is operational and fit for purpose to be handed over to a Service Recipient. Includes testing of all required interfaces with endpoint systems.</p> <p>Deliverables</p> <ul style="list-style-type: none"> <li>• Functioning solution evidenced by Test Results</li> </ul>
3	Hardware configuration (if applicable)	Install, commission and test the hardware with stakeholders from Service Recipients.
4	DPIA, SSP and Clinical Safety Case support	Provide support to NSS for the development of their Data Protection Impact Assessment (DPIA), System Security Policy (SSP) and Clinical Safety Case.
5	UAT support	Provide UAT support e.g., data, environment set up, defect investigation and fixes etc.

6	Training	<p>Deliver training (in-person or online), provide system and user guides etc.</p> <p>Deliverables</p> <ul style="list-style-type: none"> <li>• Training Documentation</li> <li>• Training Records</li> </ul>
7	BAU readiness	<p>Ensure that the solution is ready for handover to the Service Recipient for production use.</p> <p>Deliverables</p> <ul style="list-style-type: none"> <li>• Functioning production solution</li> <li>• Draft performance monitoring reports</li> <li>• Helpdesk support procedures</li> </ul>
8	Early life support	<p>Provide sufficient Help Desk and support cover to address initial incidents raised by new users. Implementation will be considered complete when the system has operated for 30 days with users from at least 2 Service Recipients and no Severity Classification 1 or 2 incidents as defined in the contract.</p>

## Appendix G – Integration Scope

<b>Mandatory</b>		
1	Make data available to NHS Scotland data and analytical platform (e.g., SEER) (Unidirectional from ERS)	Implemented, tested and functioning end to end (Test and Production)
2	Interface with NHS Scotland National Integration Platform (Bidirectional)	Implemented, tested and functioning with NIP and onwards as described in the interfaces below (Test and Production)
3	Send report to repository (e.g., SCI store, Clinical portal, GP IT systems etc.) (Unidirectional from ERS)	Implemented, tested and functioning end to end via NIP and Service Recipient integration engine to more than one repository type, for more than one Service Recipient (Test and Production)
4	Receive demographic feed (Unidirectional to ERS)	Implemented, tested and functioning end to end with National CHI via the NIP (Test and Production)
<b>Primary</b>		
5	Automated transfer of data to the National Endoscopy Database (NEDi2) (Unidirectional from ERS)	Implemented, tested and functioning end to end (Test and Production)
6	Receive scheduling requests (Unidirectional to ERS)	Implemented, tested and functioning end to end (Test and Production)
7	Request pathology (Unidirectional from ERS)	Implementation of this interface will be called off from the Catalogue and a separate CCN raised when required
<b>Secondary</b>		
8	Send updates on appointments booked/changed/cancelled, procedures completed etc. (Unidirectional from ERS)	Development* and implementation of this interface will be called off from the Catalogue and a separate CCN raised when required
9	Interface with Managed Clinical Service (Bidirectional)	Development* and implementation of this interface will be called off from the Catalogue and a separate CCN raised when required



**Development\*** - There shall be no Catalogue charges for Secondary requirements where the functionality is already available in the solution.