REQUEST FOR PROPOSAL

FOR

Future Connectivity Application of Internet of Things (IoT) for the NHS

CONTENTS

1. GLOSSARY

1.1 In this Request For Proposal the following words and phrases have the following meanings:

"**Authorised Contact**" means the single point of contact within NHS England authorised to send and receive communications related to this Procurement;

"**Authority**" means NHS England, 7&8 Wellington Place, Leeds, LS1 4AP;

"**Bidder**" means a company that submits a Tender in response to the RFP;

"**Customer**" means NHS England;

"**Marking Scheme**" means the range of marks that may be given to a Bidder depending on the quality of its response to a question;

"**Procurement**" means the process used to establish a contract that facilitates the provision of the "Future Connectivity Application of IoT for the NHS RFP";

"**Request For Proposal**" or "**RFP**" means this document and all related documents published by the Authority in relation to this Procurement

"**Tender Questionnaire**" means the questionnaire set out in Annex 1 of Appendix C of this RFP;

"**Tender Questionnaire Response**" means the Bidder's response to the Tender Questionnaire;

"**Regulations**" the Public Contract Regulations 2015;

"**Services**" means the services set out in Appendix B of this RFP;

"**Supplier**" means the Bidder with whom the Authority has concluded the Contract;

"**Tender**" means the Bidder's formal offer in response to the RFP;

"**Tender Clarifications Deadline**" means the time and date set out in paragraph 4 for the latest submission of clarification questions;

"**Tender Submission Deadline**" means the time and date set out in paragraph 4 for the latest uploading of Tenders.

2. INTRODUCTION

2.1 This Procurement relates to the award of a Future Connectivity Application of IoT for the NHS contract to a sole Supplier.

2.2 This RFP contains the information and instructions the Bidder needs to participate in this Procurement.

2.3 The Authorised Contact for this Procurement is Simon Gurrey who can be contacted at simon.gurrey1@nhs.net.

3. OVERVIEW OF RFP

3.1 The following appendices accompany this RFP:

3.1.1 Appendix A – Terms of Participation

Sets out the terms of participation which apply to the Bidder and the Authority during this Procurement.

3.1.2 Appendix B – Specification

A detailed description of the Services that the Supplier will be required to supply to the Customer.

3.1.3   Appendix C – Procurement Questionnaire

The questionnaire created by the Authority, is used to test the suitability of the Bidders to meet necessary criteria in order to provide the required Services.

4.   PROCUREMENT TIMETABLE

4.1   The timetable for this Procurement is set out in the table below.

4.2   The Authority may change this timetable at any time. Bidders will be informed if changes to this timetable are necessary.

4.3   The Authority must receive all Tenders before the Tender Submission Deadline.

Tenders received on or after the Tender Submission Deadline may be rejected by the Authority to ensure that all Bidders are treated fairly. The decision whether to reject a Tender received after the Tender Submission Deadline is made entirely at the Authority's discretion.

ACTIVITY	DATE & TIME
Publication of the RFP	29 July 2024
Tender Clarifications Deadline	05 August 2024 17:00
Deadline for the publication of responses to Tender Clarifications questions	07 August 2024 17:00
Tender Submission Deadline	02 September 2024 12:00
Evaluations	03 September 2024
Final decision	10 September 2024

5.   QUESTIONS AND CLARIFICATIONS

5.1   Bidders may raise questions or seek clarification regarding any aspect of this Procurement at any time prior to the Tender Clarifications Deadline.

5.2   Bidders must submit any clarifications electronically via the Health Family eCommercial portal by the Tender Clarifications Deadline outlined in the 'Timetable' section above..

5.3   Other than the process described in this section 5, the Authority will not enter into discussions regarding the requirements of the RFP with Bidders.

5.4   To ensure that all Bidders have equal access to information regarding this Procurement, the Authority will publish all its responses to questions raised by Bidders on an anonymous basis.

5.5   Bidders should indicate if a query is of a commercially sensitive nature – where disclosure of such query and the answer would or would be likely to prejudice its commercial interests. However, if the Authority at its sole discretion does not either; consider the query to be of a commercially confidential nature or one which all Bidders would potentially benefit from seeing both the query and the Authority's response, The Authority will:

5.5.1   Invite the Bidder submitting the query to either declassify the query and allow the query along with the Authority's response to be circulated to all Bidders; or

5.5.2 request the Bidder, if it still considers the query to be of a commercially confidential nature, to withdraw the query prior to the end of the closing date and time for Bidder clarifications.

5.6 Responses will be published in a Questions and Answers document to all Bidders.

6. PRICE

6.1 The format of the pricing information required and how that information is taken into account in the evaluation are provided in Appendix C.

7. SUBMITTING A TENDER

7.1 Bidders are requested to submit their Tender electronically via the Health Family eCommercial portal by the Tender Submission Deadline outlined in the 'Timetable' section above.

7.2 A Tender must remain valid and capable of acceptance by the Authority for a period of 90 calendar days following the Tender Submission Deadline. A Tender with a shorter validity period may be rejected by the Authority at its sole discretion.

8. TENDER EVALUATION

8.1 The contract will be awarded on the basis of most economically advantageous tender ("MEAT").

8.2 Tenders will be evaluated in line with the Marking Scheme set out in Appendix C.

8.3 The total score available for each question set out in Appendix C is as follows:

QUESTION	TOTAL SCORE AVAILABLE
Company information	Information Only
Bidder Contact	Information Only
Mandatory Questions	Pass / Fail
Quality Questions	70
Price	30
TOTAL	**100**

8.4 As part of the evaluation process and at the discretion of the Authority, Bidders may be required to present their Tender to the Authority evaluation team and to address any queries that team may raise. The details of the presentation will be clearly defined by the Authority and notified to the Bidders.

8.5 Clarification questions may be raised by either party during any presentation and/or on the working day immediately following the presentation, the responses to which may be used by the Authority to inform the scoring of the evaluation process. Where clarification questions are raised, the parties will seek to close the same within 24 hours of receipt.

8.6 The Bidders will be evaluated against the following criteria:

8.6.1 All quality criteria

8.6.2 Price

9.   CONTRACT AWARD

9.1   The Bidder that achieves the highest total score will, subject to the terms set out in Appendix A, be awarded the Contract.

9.2   If two or more Bidders obtain the highest total score, the Bidder with the highest score for the Quality element of the Tender evaluation will be deemed the winner and awarded the Contract.

9.3   If the Authority receives only one Tender in relation to this Procurement, the Bidder may be awarded the contract at the Authority's sole discretion.

9.4   The Authority reserves the right not to select a Supplier or award a contract to any Bidder.

10.   SUPPLIER OUTCOME

10.1   Upon contract award, Bidders will be notified of the outcome of the RFP.

10.2   The Authority will sign a contract with the Supplier that will govern the activities to be performed involved in the production of the deliverables defined in this RFP.

10.3   The contract will be based on NHS England's standard terms & conditions which are provided separately.

APPENDIX A – TERMS OF PARTICIPATION

1.   INTRODUCTION

1.1   The Terms of the Procurement regulate the conduct of the Bidder and the Authority throughout the Procurement. These terms also grant the Authority specific rights and limit its liability.

1.2   In these Terms of the Procurement any reference to 'person' includes, but is not limited to, any person, firm, body or association, corporate or incorporate.

2.   CONDUCT

The Bidder agrees to abide by these Procurement terms and any instructions given in the RFP and agrees to ensure that any of its staff, contractors, subcontractors, consortium members and advisers involved or connected with the Procurement abide by the same.

2.1   Contact and Canvassing During the Procurement

The Bidder must not directly or indirectly canvass any Minister, public sector employee or agent regarding this Procurement or attempt to procure any information from the same regarding the Procurement (except where permitted by the RFP). Any attempt to do so may result in the Bidder's disqualification from this Procurement.

2.2   Behaviour

2.2.1   The Bidder must not (and shall ensure that your subcontractors, consortium members, advisors or companies within its Group do not):

2.2.1.1   fix or adjust any element of the Tender by agreement or arrangement with any other person;

2.2.1.2   communicate with any person other than the NHS England Authorised Contact about the value, price or rates set out in the Tender; or information which would enable the precise or approximate value, price or rates to be calculated by any other person;

2.2.1.3   enter into any agreement or arrangement with any other person, so that person refrains from submitting a Tender;

2.2.1.4   share, permit or disclose to another person access to any information relating to the Tender (or another Tender to which it is party) with any other person; or

2.2.1.5   offer or agree to pay, give or does pay, give any sum or sums of money, inducement or valuable consideration directly or indirectly to any other person, for doing or having done or causing or having caused to be done in relation to the Tender any other Tender or proposed Tender, any act or omission, except where such prohibited acts are undertaken with persons who are also participants in the Bidder's Tender, such as subcontractors, consortium members, advisors or companies within its group, or where disclosure to such person is made in confidence in order to obtain quotations necessary for the preparation of the Tender or obtain any necessary security.

2.2.2   If the Bidder breaches paragraph 2.2.1, the Authority may (without prejudice to any other criminal or civil remedies available to it) disqualify the Bidder from further participation in the Procurement.

2.2.3   The Authority may require the Bidder to put in place any procedures or undertake any such action(s) that the Authority in its sole discretion considers necessary to prevent or curtail any collusive behaviour.

3.   COMPLIANCE

The Bidder agrees that in cases where their Tender is deemed non-compliant when compared with the requirements set out within the Procurement (e.g. budget, terms and conditions) you shall be excluded from the Procurement.

4.   RIGHT TO CANCEL OR VARY THE PROCUREMENT

4.1   The Authority reserves the right:

4.1.1   to amend, clarify, add or withdraw all or any part of the RFP at any time during the Procurement;

4.1.2   to vary the timetable or deadlines set out in the RFP

4.1.3   not to conclude a contract for some or all of the services for which Tenders are invited;

4.1.4   to cancel all or part of the Procurement at any stage at any time

4.2   The Bidder accepts and acknowledges that by issuing the RFP, the Authority is not bound to accept a Tender or obliged to conclude a contract with any Bidder at all.

5.   COSTS

5.1   The Authority will not reimburse any costs incurred by a Bidder (including the costs or expenses of any subcontractors, consortium members or advisors) in connection with preparation and/or submission of a Tender, including (without limit) where:

5.1.1   This Procurement is cancelled, shortened or delayed for any reason (including where such action is necessary due to non-compliance or potential non-compliance with procurement rules and regulations);

5.1.2   all or any part of the RFP is at any time amended, clarified, added to or withdrawn for any reason;

5.1.3   a contract for the Services for which Tenders are invited is not concluded; or

5.1.4   a Bidder and/or its Tender is disqualified from participation in the Procurement for any reason.

APPENDIX B – SPECIFICATION

6. BACKGROUND TO REQUIREMENT

The purpose of NHS England is to lead the NHS in England to deliver high-quality services for all. NHS England » What we do. The Future Connectivity Programme in NHS England works with NHS organisations to address connectivity challenges, share best practice and provide guidance to ensure they are getting the best out of current and emerging technologies.

NHS IT networking is designed, managed and procured locally based on local needs, by NHS Trust and ICS organisations. This RFP is conducted by the Future Connectivity Programme on behalf of all NHS organisations in England, see NHS England » Structure of the NHS for further detail.

The topic of this RFP will support NHS research and understanding of technologies and applications to support the ongoing move to digitally mature healthcare services, where technology is embedded across clinical pathways to support better quality, more efficient and safer patient care.

The supplier must produce a guidance report that can be used by the Future Connectivity Programme and across NHS organisations to increase overall digital maturity and:

- provide an analysis of the current and future (up to 5 years) state of these technologies, to inform national and local digital strategies as well as network and connectivity infrastructure investment decisions
- provide a generic roadmap for adoption and development of IoT capabilities which promotes the benefits of medium to long term planning and the importance of implementing the appropriate infrastructure
- promote consistent understanding of the applications and benefits of IoT connectivity infrastructure technologies.

7. PURPOSE OF THIS RFP

The purpose of conducting this RFP is for an expert supplier to create meaningful and practical guidance that can be used across the NHS in a consistent way to inform and direct future planning and investment on this topic.

The supplier must produce a report for the Future Connectivity programme to provide guidance for the target audience at NHS organisations across England.

The target audience of the report is Integrated Care System (ICS) or NHS Trust Chief Information Officers and their Network, Service and Operational Estates Managers, as they will be responsible for defining, supporting, and delivering local IT strategies for IoT implementation and maintenance across NHS Trusts and ICS Partner organisations.

The focus of the report should be on how understanding IoT connectivity infrastructure and architecture requirements and investing in IoT capabilities can deliver long term cost efficiency and connectivity benefits to the NHS, supporting better quality, more efficient and safer patient care. It should also recognise increasing future digital demand that will be placed on networks, as outlined by the NHS England Future Connectivity Programme (Future Connectivity - NHS Digital).

There is no intention to create mandatory policy or standards at this stage.

8.   OVERVIEW OF REQUIREMENTS

The supplier must produce a report for the Future Connectivity programme to provide guidance that can be used by NHS organisations in England to design, plan and implement the required connectivity infrastructure to support full IoT capability.

The report must consider different NHS environments and potential benefits of IoT technology in each, for example large hospitals, medium GP surgeries and small community care sites. The final scope of environments for inclusion will be agreed with the successful bidder during delivery and finalised by M1 delivery.

See [Wireless infrastructure: Building guidance for health and care organisation - NHS England Digital](#) for further examples of NHS connectivity and infrastructure environmental considerations.

The Supplier must present the key recommendations and actions for health organisations looking to design a roadmap to showing how IoT capabilities that are generally available now could be procured and implemented in the short to medium term future (~3-5 years).

Scope

We understand that "IoT" as a term has different possible interpretations and meaning can differ between suppliers and vendors, including related terms such as IoE. For the purpose of this RFP, we have defined "IoT" as the below and will work with the successful supplier to remove any ambiguity and develop a shared understanding of technologies and capabilities in scope of this topic:

NHS owned and managed physical objects equipped with sensors, software, and other technologies that enable them to collect, exchange, and act on data with other devices and systems over the internet or other communication networks independent of human interaction.

This includes both devices with built in connectivity and those with connectivity enabled as an add on capability.

We are primarily interested in wirelessly connected IoT devices.

Whist we understand and appreciate that Real Time Location Services (RTLS) capabilities, such as asset tracking and people tracking, are a major element of IoT capabilities we ask that the supplier takes into account, and references where appropriate, the guidance already published by NHS England on this topic (Appendix D NHS England RTLS guidance V1.1) when scoping and delivering this report to avoid duplication.

The report should define and detail a minimum of 3 IoT use cases within this scope that are relevant to the NHS when addressing requirements and making recommendations. Use cases for inclusion in the final report will be agreed between the supplier and NHS England during delivery and agreed prior to M1 submission.

Given the above scope the Supplier should construct their report to address the following questions:

1. "What does full IoT deployment look like in a health care setting? Does the connectivity infrastructure and deployment significantly differ by:

a) environment, and if so, how?
b) use case, and if so, how?

2. "How do NHS organisations develop a plan to reach this state in the next 5 years to:
   a) make best use of existing infrastructure,
   b) deliver value for money for the NHS,
   c) deliver improved patient care outcomes through best use of connectivity and technology?"

The report should aim to take into account differing levels of local NHS organisations Digital Maturity (NHS England » Digital maturity assessment) and user expertise, sustainability considerations (Greener NHS (england.nhs.uk)), and how implementing and maintaining the IoT capabilities in scope could impact these outcomes.

Report requirements

The report should include, but not be limited to:

- An overview of what IoT technology is and outline of the potential healthcare applications and benefits.

- An executive summary, providing a brief outline of findings and key recommendations.

- An overview of current connectivity technologies and infrastructure that enable delivery of the IoT use cases agreed at M1
  o and overview of any supporting capabilities required for implementation of effective IoT solutions.

- Overview of a mature IoT architecture design and capability map that supports each of the IoT healthcare use cases agreed at M1, including guidance on:
  o how to design and map around existing connectivity infrastructure, and
  o how to implement new IoT infrastructure into an existing design.

- Detailed guidance on IoT connectivity infrastructure implementation requirements and considerations, with an emphasis on how NHS organisations can best plan and prepare for implementation in the next 5 years. This should include, but not be limited to:
  o Integration of Estates, IT and Clinical IoT connectivity infrastructure
  o Integration of older devices requiring add on capability for IoT, with newer Internet connected devices
  o Any specific challenges with implementation in NHS environments

- Whilst the focus should be on implementation of IoT connectivity infrastructure, some consideration should be given to the ongoing management and maintenance of IoT capabilities and their supporting infrastructure, including:
  - Any additional resource requirements;
  - Device management and refresh cycles;
  - Environmental considerations, including:
    o battery life and replacement,
    o end of life

- o secure storage and destruction.

- The supplier should engage with, and reference in the report, NHS commissioned organisations that have implemented or are implementing IoT technology.
  - o NHS England can support with suggestions of and introductions to NHS contacts as required.

- Relevant IoT case study content from health, or other relevant, organisations, with an emphasis on examples where IoT has delivered cost savings and/or efficiency benefits.
  - o Where possible case studies should be from NHS organisations the Supplier has engaged with previously, or as part of research for this report.

- How to get the best out of existing network and connectivity infrastructure, maximising value, emphasising interoperability and supporting effective planning for future IoT capability investments.

- Any key cost considerations of IoT implementation and maintenance, including:
  - o High level overview of upfront and ongoing IoT cost drivers
  - o IoT infrastructure cost considerations
  - o IoT device cost considerations

- How to understand your organisations requirements to inform IoT supplier selection and procurement.
  - o Recommended questions to ask suppliers during procurement of IoT infrastructure and capabilities
  - o How to determine if you require integrated (built in) or independent (add on) IoT capabilities.

- Organisational and end user benefits of implementing IoT, with a worked example for each use case category agreed prior to M1 submission.

- Risks and dependencies of implementing and maintaining IoT devices and networks, including any impacts to existing networks and infrastructure.

- Whilst the emphasis of the report should be on the infrastructure technology some consideration should be given to:
  - o Impacts on network security and security policies of IoT
    - ▪ Including security patching considerations as part of ongoing device and infrastructure maintenance.
  - o Adherence to relevant NHS England and UK Government Security Policies or requirements, including but not limited to:
    - ▪ Network segmentation - An introduction for health and care organisations - NHS England Digital
    - ▪ Secure by design - GOV.UK (www.gov.uk)
  - o Security and data (GDPR) considerations of implementing and maintaining and capturing any additional data from staff/patients/visitors.
  - o Open standards, interoperability and considerations when integrating IoT data with 3rd party applications and devices

To comply with NHS England's internal governance processes please note the following:

- The maximum budget for this requirement is £35k exclusive of VAT.
- Milestone 2 deliverables must be submitted to NHS England in sufficient time to be finalised 11 weeks (55 working days) after contract signature.

9.   DELIVERABLES

Milestone 1 Deliverable

There are 2 Milestone 1 Deliverables:

- Delivery plan
    - The Supplier must submit a delivery plan showing target dates for activities required for M1 and M2 submission, checkpoint meetings and workshops.
- Draft Report
    - The Supplier must produce and submit the Draft Report in MS Word format. The Draft Report should include:
        - All Section headings
        - Agreed Use Cases
        - ~25% complete content for all Sections

M2

There is 1 Milestone 2 Deliverable:

- Final Report
    - The Supplier must produce and submit a written report in Microsoft Word format addressing the Requirements.

10.   DELIVERY APPROACH

The process to present these deliverables will be as follows:

Stage	% complete	Process	Format
M1 Deliverable Workshop	20% - complete	Supplier to produce and present M1 deliverables. 1st draft of report at 25% completion submitted in advance of workshop and presented during (section headings, structure, high level technical content outlined).	Word
M2 Draft Report Workshop	60% complete	Supplier to produce and present draft M2 deliverables at 60% completion.	Word

		Draft to be submitted in advance of workshop. (Report to be ~60% complete content for all report sections)	
M2 Final Report Workshop	100% complete	Supplier to produce and present M2 deliverables.	Word PowerPoint

The workshops referred to above will either be held remotely using Microsoft Teams or will take place in NHS England's offices in Leeds. The decision will be taken jointly by NHS England and the Supplier.

11. PAYMENT SCHEDULE

To allow for end of financial year processes, payment will be split across two milestones, as per the below table. Milestone achievement will be determined by acceptance of deliverables by the Authority.

Stage	Deliverables	Payment due
Milestone 1	Project documentation including project outline and delivery plan. 1st draft of report at 25% completion (all content outlined) M1 deliverable Workshop held. NHS England acceptance of all M1 deliverables.	25% of total contract value
Milestone 2	M2 Draft Report Workshop held. M2 Final Report Workshop held. NHS England acceptance of all M2 deliverables.	75% of total contract value

APPENDIX C – PROCUREMENT QUESTIONNAIRE

1. INTRODUCTION

1.1   This Appendix C sets out the questions that will be evaluated as part of this Procurement.

1.2   The following information has been provided in relation to each question (where applicable):

1.2.1   Weighting – highlights the relative importance of the question;

1.2.2   Guidance – sets out information for the Bidder to consider when preparing a response; and

1.2.3   Marking Scheme – details the marks available to evaluators during evaluation.

1.3   This Appendix C sets out the evaluation methodology applicable to this Procurement and Potential Suppliers are advised to read this appendix before completing their Tender.

ANNEX 1 – TENDER Questionnaire

The file "Future Connectivity Application of IoT for the NHS RFP CH Smart Networks RFP Questionnaire" sets out the Tender Questionnaire and is provided separately.

2. CRITERIA AND WEIGHTINGS

2.1   Any award decision will be made based on the most economically advantageous bid using the following weightings:

- Quality questions – 70% of overall weighting

- Price –30% of overall weighting

2.2   The following weightings have been assigned to the quality questions.

Question	Title	Weighting
4.1	Key dates	15%
4.2	Previous experience	15%
4.3	Report structure	15%
4.4	Research and engagement process	15%
4.5	Future developments	10%
4.6	IoT use cases	20%
4.7	Challenges	10%

2.3   Quality scoring will be based on the following Marking Scheme

Score	Scoring explanation
0	Unsuitable: Failed to provide confidence that requirements within the question will be met and/or limited evidence of understanding of how the question relates to what is being asked. There has been a failure to cover many of the specific points. An unacceptable response with serious reservations.
25	Poor Response: A Poor response with reservations. The response lacks convincing detail with risks that the response will not be successful in meeting all the requirements. Whilst some of the individual points have been covered, others have not. The response is not clear on how the points interrelate and/or how they apply to the overall context.
50	Adequate: An Adequate response is one which just meets the requirements and/or is not particularly strong with respect to the quality of the supporting evidence. Either that and/or the response, whilst adequate, is not strong in terms of demonstrating a relevant understanding within the broader context of the overall requirement. Whilst the points highlighted in the guidance notes have been addressed to an extent, this is either weakly or not in a manner which clearly articulates how the key individual points interrelate.
75	Good: A Good response that meets the requirements with good supporting evidence. Demonstrates good understanding within the broader context of the overall requirement. The majority, but not all, of the points highlighted in the guidance notes have been covered well in a manner which demonstrates how the key individual points interrelate.
100	Excellent: An Excellent comprehensive response that meets the specific requirements very well. All the points highlighted in the guidance notes have been covered extremely well in a cohesive manner. It is considered an excellent response with detailed supporting evidence and no weaknesses, resulting in a high level of confidence.

2.4   The price will be evaluated using the following criteria:

The calculation that will be used to determine marks is as follows:
The maximum score available for price is 100
This maximum score will be awarded to the tender with the lowest price

The remaining tender responses will receive a mark based on the amount by which their price deviates from the lowest price, and which will be calculated as follows:

$$\text{Cost Score} = n\% * \frac{(\text{lowest price} * \text{Scaler}) - \text{price}}{(\text{Scaler}-1) * \text{lowest price}}$$

Where:
Scaler = 2
A negative calculation attracts a score of zero (0%)

NHS England reserves its right to seek clarification where it believes the price is abnormally low, and to reject tenders where the evidence supplied does not satisfactorily account for the low level of the price proposed.