THE NATIONAL ARCHIVES

INVITATION TO TENDER – OPEN COMPETITION

CLOUD HOSTING DESIGN, DEPLOYMENT AND SUPPORT FOR DIAGRAM (THE DIGITAL ARCHIVING GRAPHICAL RISK ASSESSMENT MODEL)

**CLOSING DATE FOR TENDER RESPONSES –
12 NOON (UK TIME), 11 MARCH 2022**

1   ABOUT US

1.1   The National Archives (TNA) is the official archive and publisher for the UK government and courts, and for England and Wales, holding official records containing 1,000 years of history. The organisation's role is to collect and secure the future of the public record, both digital and physical, to preserve it for generations to come, and to make it as accessible and available as possible. TNA is a non-ministerial department and its parent department is the Department for Culture, Media and Sport. More information on TNA can be found at www.nationalarchives.gov.uk. TNA fulfils a leadership role for the archive sector.

1.2   To become the 21st Century national archive we aim to become an inclusive, entrepreneurial and disruptive national archive.

1.3   TNA's strategic priorities for 2020 – 2024 are:

- Change the culture and approach of The National Archives so that in all we do we better reflect and represent the society we serve.
- Curate unique national moments of public inspiration and participation, including through the launch of the 1921 Census - the UK's largest ever online release of historical records.
- Create new, inclusive and exciting spaces, physical and virtual, in which people can encounter our collection afresh - partnering with The National Archives Trust to widen the public experience and understanding of archives and our history.
- Lead the archives sector to fulfil the vision set out in *Archives Unlocked*, promoting our shared values of trust, enrichment and openness.
- Generate from our collection and expertise the cutting-edge research opportunities and commercial offers that will realise value and open out more of our collection.
- Secure the future of the Government record as an essential resource for public servants and the people - providing legal certainty through legislation.gov.uk and historical perspective through our collection.
- Lead the world in reimagining archival practice for the 21st century, pioneering new and ethical approaches to appraisal and selection, description, digital preservation and access.

1.4   DiAGRAM supports the last two of the above priorities. We use it to model risks to TNA's digital records and also make it available to archives around the world to help them take a risk-led approach to managing their own digital collections. This helps archives apply their resources in the most effective way to reduce risk while balancing other factors such as energy use and climate impact. The tool was developed through a unique partnership between archive services (national, corporate, local and academic) and the Applied Statistics & Risk Unit at the University of Warwick, with funding from the National Lottery Heritage Fund and the Engineering and Physical Sciences Research Council. DiAGRAM provides an Integrated Decision Support System in the form of an online web tool driven by an underlying Bayesian Network. Backend code is written in R and communicates with the front end (HTML/JavaScript/ CSS) via an API built with the Plumber R package. The accessibility of the tool is key, both to support our aim to be the inclusive archive and to meet our legal requirements under the Public Sector Bodies Accessibility Regulations.

2   THE REQUIREMENT

2.1   We are seeking to contract a single supplier to design, implement and manage a cloud hosting environment, deploy the DiAGRAM application and provide support and maintenance for DiAGRAM. It is anticipated that hosting would comprise a serverless (containerised) environment to run the front-end (HTML/JavaScript/CSS) along with the API (R Plumber) and backend (R). These will run within a segregated area of The National Archives' existing AWS infrastructure. Deployment must be automated and reproducible (using a robust CI/CD pipeline) using infrastructure as code principles. This setup code will be acquired by The National Archives under the terms of the contract. The DiAGRAM application code will be made available as a GitHub repository by The National Archives. The supplier will:

- Design the secure AWS environment, including the integration pathway (subject to security assurance from The National Archives to ensure compliance with NCSC cloud security principles along with OWASP & CIS Benchmarks).
- Build the environment (with a preference for the use of Terraform in line with existing deployment in The National Archives' AWS infrastructure)
- Create the CI/CD pipeline for deployment of the application and manage deployment via this pipeline (with a preference for GitHub actions)
- Maintain and administer the environment for 1-3 years (see requirement 2.2), ensuring it continues to be performant, secure and optimises use of resources.
- Document all resources and provide this documentation to The National Archives
- Carry out application support:
  - Keep the application running
  - Fix bugs
  - Maintain accessibility in compliance with the Public Sector Bodies Accessibility Regulations
  - Carry out enhancements as agreed

2.2   The contract will run for a maximum period of 3 years: please provide pricing options for 1, 2, and 3 year contracts, broken down into support costs, plus any initial setup costs. As the tool will be hosted within The National Archives' AWS infrastructure then The National Archives will be directly responsible for usage charges.

2.3 The supplier must have demonstrable experience of hosting and supporting applications with a similar architecture and specifically with R and Plumber.

2.4 The supplier must have demonstrable experience of developing applications in compliance with the Public Sector Bodies Accessibility Regulations.

2.5 It is highly desirable that the supplier will have experience and a strong academic background with Integrated Decision Support Systems and Bayesian Networks.

2.6 Please note shortlisted suppliers will be interviewed on **23 and/or 24 March 2022** (see Sections 4.4 and 5 below).

3   HOW TO RESPOND

3.1   It is for you to determine what format your submission should take so as to describe your offering in a clear, comprehensive and convincing fashion; however, you should note that the information you supply may be used, in whole or in part, to populate the Contract Schedules. As such, please make clear and unambiguous statements about the commitments you are making.

3.2   If you have any clarification questions related to your Response, please submit these to procurement@nationalarchives.gov.uk by **5pm (UK time) on 28 February 2022**.

3.3   Please submit your tender response, specifying how you would meet the requirement described above to procurement@nationalarchives.gov.uk **by 12 noon (UK time) on 11 March 2022**, by telling us:

[For hosting setup:]
   • Criterion 1: experience of setting up and hosting projects with similar architecture, including R and Plumber
   • Criterion 2: suitability of technical solution, including CI/CD pipeline

[For support:]
   • Criterion 3: experience with supporting applications having similar architecture
   • Criterion 4: experience of development in compliance with the Public Sector Bodies Accessibility Regulations
   • Criterion 5: strong academic background with Integrated Decision Support Systems and Bayesian Networks

[General:]
   • Criterion 6: Your pricing structure. Please provide pricing options for 1, 2, and 3 year contracts, broken down into support costs, plus any initial setup costs.

4 EVALUATION

4.1 Tender Responses will be evaluated as follows:

	Maximum available unweighted score	Weighting	Maximum available weighted score
Criterion 1	10	1.5	15
Criterion 2	10	1.5	15
Criterion 3	10	1.5	15
Criterion 4	10	1.5	15
Criterion 5	10	1	10
Criterion 6 (price)	10	3	30

4.2 Price scores will be based on a comparison between each Potential Suppliers' price offer, as calculated above, based on the percentage difference from the lowest bid price. The lowest offered price will receive the maximum pre-weighted score of 10 points, a price which is 20% higher will receive a score of 8 (i.e. the maximum score minus 20%).

4.3 Other categories will be evaluated according to the table below:

10 Points	**Outstanding:** • Potential Supplier has provided a response that addresses all parts of the requirement • Potential Supplier has provided evidence to support all elements of their response • The evidence supplied is convincing and highly relevant to the requirement • Potential Supplier's response is clear and easy to understand • Where relevant, Potential Supplier has demonstrated a high level of capability to deliver new and innovative service approaches
7 Points	**Good:** • Potential Supplier has provided a response that addresses all parts of the requirement

	• Potential Supplier has provided evidence to support most elements of their response • The evidence supplied is good and relevant to the requirement • Potential Supplier's response is clear and easy to understand • Where relevant, Potential Supplier has demonstrated some level of capability to deliver new and innovative service approaches
4 Points	**Average:** • Potential Supplier has provided a response that addresses some parts of the requirement • Potential Supplier has provided evidence to support some elements of their response, but not all • The evidence supplied has some limited relevance to the requirement • Potential Supplier's response is not always clear and easy to understand • Where relevant, Potential Supplier has demonstrated limited capability to deliver new and innovative service approaches
1 Point	**Poor:** • Potential Supplier has provided a response that fails to address most parts of the requirement • Potential Supplier has provided little or no evidence to support most elements of their response • The evidence supplied is very weak and has very limited relevance to the requirement • Potential Supplier's response is not always clear and easy to understand • Where relevant, Potential Supplier has demonstrated little or no capability to deliver new and innovative service approaches

4.4 Following this evaluation, TNA may choose to conduct interviews and/or request presentations, either virtually or face-to face at TNA's sole discretion, following which any Potential Suppliers selected for interview will have their submission/interview re-evaluated and scores may change as a result.

5 PROCUREMENT TIMETABLE

Description	Date(s)
Deadline for receipt of clarification questions	5pm, 28 February 2022
Deadline for receipt of tender submissions	12 noon, 11 March 2022
Time box for evaluation and shortlisting	Week commencing 14 March 2022
Interviews with shortlisted potential suppliers	23/24 March 2022
TNA selects successful supplier (anticipated)	25 March 2022
Contract signed by TNA and successful supplier (anticipated)	1 April 2022
Hosting and support to start (tentative)	8 April 2022

6 CONTRACT

6.1   The Contract will be awarded under our [standard terms and conditions.](#)

6.2   The National Archives reserves the right not to award and to achieve its aims through other means.