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## 1. PURPOSE

- 1.1 This Procurement Event invites proposals from Potential Providers for short pieces of digital forensic research into Internet of Things (IoT) devices. The findings of the research would be disseminated to the wider law enforcement digital forensics community.
- 1.2 The Authority is considering the possibility of awarding up to two contracts as a result of this procurement exercise. In the event that this options is taken by the Authority the top two ranking Providers that have met the minimum score criteria for Quality and Price (Stage 1) and in the Presentation (Stage 2) will be awarded resulting contracts.
- 1.3 This outcome (as described in section 1.2) is not guaranteed and the Authority reserves the option to award the contract for Digital forensic research into Internet of Things (IoT) devices to a single Potential Provider.

## 2. BACKGROUND TO THE CONTRACTING AUTHORITY

- 2.1 CAST is a unique team of scientists and engineers at the heart of the Home Office providing expert advice, innovation and frontline support. It is the primary science and technology interface between Home Office ministers and policy makers, frontline delivery partners, and the suppliers of science and technology. Understanding the policy and operational context of Home Office business allows CAST to operate where others cannot for reasons of impartiality, national security or market failure.
- 2.2 CAST supports the full range of Home Office interests in policing and tackling crime, counterterrorism, border security and controlling immigration. CAST's extensive in-house skills and expertise, coupled with access to industrial, academic and international networks, ensures that CAST is able to provide the right advice and support, irrespective of the problem.

## 3. BACKGROUND TO REQUIREMENT/OVERVIEW OF REQUIREMENT

- 3.1 Crime scenes are increasingly likely to contain a range of sources of digital evidence and intelligence, in addition to more traditional sources such as fingerprints, DNA and trace evidence. This has an impact on those gathering evidence and carrying out forensic investigations, both in terms of a growing variety of electronic devices and in terms of the sheer quantity of data to be processed.
- 3.2 The majority of police units dealing with new devices have limited time for exploring routes to extract information. Their work tends to be targeted at meeting the needs of the current job and it is challenging to find time to share the knowledge gained.
- 3.3 CAST are in a position to conduct in-house research into new devices and push this information out to the digital forensics community. However, CAST would also like to supplement its own efforts by occasionally funding external research. These short pieces of work would have their outcomes disseminated to the wider community via CAST's Digital Forensic Bulletin.

## 4. DEFINITIONS

Expression or Acronym	Definition
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CAST	Centre for Applied Science and Technology
IoT	Internet of Things
Smart Home Device	Devices that are connected to the internet and allow users to remotely influence the home environment
Contracting Authority	CAST

## 5. SCOPE OF REQUIREMENT

- 5.1 The requirement is for the provision of digital forensic investigations into IoT, Smart Home devices to determine the extent of useful information that may be recovered from them in the context of a criminal investigation. The Potential Provider is free to propose the device to be investigated but will be expected to justify their choice during a presentation which will inform the awarding of a contract.
- 5.2 The Potential Provider shall submit a proposal for an in-depth, digital forensic examination of an IoT consumer electronic device. If their proposal passes the first stage of the assessment they will be required to present and defend their proposal before the final assessment of bids.
- 5.3 The proposal shall include a breakdown of the technical approach with anticipated timings for each stage.
- 5.4 The proposal shall include a breakdown of costs including any devices they intend to purchase.
- 5.5 It is desirable that the Potential Provider shall supply examples of relevant previous work to support their bid.
- 5.6 Each investigation must be complete by the 16<sup>th</sup> of March 2019.
- 5.7 The final deliverables shall be in a format which CAST can summarise into an electronic bulletin.
- 5.8 The Authority are looking to commission and award up to two contracts from this single Procurement event. This will mean that the top two ranking Potential Providers that have been awarded the highest Final Score and have met the minimum score criteria of 50 for Quality, Price and Presentation may be awarded contracts.

## 6. THE REQUIREMENT

- 6.1 The Potential Provider shall demonstrate that their chosen device is appropriate in terms of:
  - 6.1.1 Being within the scope of the 'Smart Home'.
  - 6.1.2 Being currently available to purchase.
  - 6.1.3 Being popular with consumers.
  - 6.1.4 Being of potential utility to a criminal investigation.

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- 6.1.5 There being limited previous work conducted on this device.
- 6.2 It is desirable that the Potential Provider shall choose a device from the general areas of home automation or home security.
- 6.3 It is expected that, as a minimum, the Potential Provider will attempt the following:
- 6.3.1 The Potential Provider shall document the details of the hardware platform on which the device is built. Annotated photographs or diagrams would be a way of doing this along with component details.
  - 6.3.2 The Potential Provider shall document the details of the software platform on which the device is built.
  - 6.3.3 The Potential Provider shall document what data the device is capable of storing. This would cover both user data and device data.
  - 6.3.4 The Potential Provider shall document where the device's data is stored. This would be both logical and physical locations.
  - 6.3.5 The Potential Provider shall identify both volatile and non-volatile data stored by the device.
  - 6.3.6 The Potential Provider shall document the format(s) in which the device is storing its data.
  - 6.3.7 The Potential Provider shall attempt the use of commercial forensic tools for acquiring data from the device.
  - 6.3.8 The Potential Provider shall identify proven or new methods to access the data on the device and document their use.
  - 6.3.9 Where applicable, the Potential Provider shall attempt retrieval of data from associated third-party applications relating to the device.
  - 6.3.10 The Potential Provider shall identify possible encryption techniques implemented by the device for data storage or transmission.
- 6.4 The Potential Provider shall verify and report their findings on a device which has been deployed in as realistic a manner as possible.

## 7. KEY MILESTONES

- 7.1 The Potential Provider should note the following project milestones that the Authority will measure the quality of delivery against:

Milestone	Description	Timeframe
1	Startup meeting at CAST's Sandridge site	Within week 1 of Contract Award – w/c 18 <sup>th</sup> December 2017.
2	Monthly progress report 1	Within week 4 of Contract

		Award
3	Monthly progress report 2	Within week 8 of Contract Award
4	Final report	Within 12 weeks of Contract Award. Must be by 16 <sup>th</sup> March 2018 at latest.
5	Supporting devices, data, and sundries	Within 12 weeks of Contract Award. Must be by 16 <sup>th</sup> March 2018 at latest.

## 8. AUTHORITY'S RESPONSIBILITIES

- 8.1 The Authority is responsible for overseeing the work package and checking that the Milestones in 7.1 are met.

## 9. REPORTING

- 9.1 The Potential Provider shall be aware that CAST will produce a summary of the work for distribution to their digital forensic contacts.
- 9.1.1 At the conclusion of the work, the Potential Provider shall supply a comprehensive report describing the work undertaken.
- 9.1.2 The report shall be in Microsoft Word format. Other formats may be acceptable if the Potential Provider can demonstrate that they still allow CAST to achieve their objective of summarising the work and passing on to the community.
- 9.1.3 Any associate imagery from the work (e.g. photographs of disassembled devices, diagrams, screenshots, videos of processes etc.) shall be provided independently of the report and at their original quality.
- 9.1.4 Any devices purchased by the Potential Provider for this work shall be the property of the Authority and will be provided to the Authority at the conclusion of the work. This includes devices which have been dismantled and may no longer function properly.
- 9.1.5 The Potential Provider shall produce monthly progress report during the work.
- 9.1.6 Depending on the approach outlined by the Potential Provider, verbal/email updates may be requested to coincide with logical stages of the approach.
- 9.1.7 Progress reports shall cover progress since the last report (or initial meeting) including significant findings or setbacks and outline the refined approach to be taken in the next month of work.

## 10. CONTINUOUS IMPROVEMENT

- 10.1 Changes to the way in which the Services are to be delivered must be brought to the Authority's attention and agreed prior to any changes being implemented.

## 11. QUALITY

- 11.1 The work shall be to a comparable quality to established peer-reviewed journals such as Elsevier's Digital Investigations. (<https://www.journals.elsevier.com/digital-investigation>)

## 12. PRICE

- 12.1 The Potential Provider shall cost each proposed device investigation as a separate bid. Prices are to be submitted via the e-Sourcing Suite Appendix E (excluding VAT).
- 12.2 As the Authority is looking to potentially commission up to two Contracts, the maximum value of each bid shall be no more than £40,000 (excl VAT) per proposal. Potential Providers are eligible to submit one proposal up to £40,000 (excl VAT).
- 12.3 Any Pricing submission (Appendix E) that exceeds the budget of £40,000 (excl VAT) may be deemed as non-compliant and may not be taken through to the Pricing Evaluation or Stage 2 (Presentation).
- 12.4 The cost of purchasing devices to be studied must be included within your Pricing submission (Appendix E).

## 13. STAFF AND CUSTOMER SERVICE

- 13.1 The Authority requires the Potential Provider to provide a sufficient level of resource throughout the duration of the Contract in order to consistently deliver a quality service to all Parties.
- 13.2 Potential Provider's staff assigned to the Contract shall have relevant qualifications and experience to deliver the Contract.
- 13.3 The Potential Provider shall ensure that staff understand the Authority's vision and objectives and will provide excellent customer service to the Authority throughout the duration of the Contract.

## 14. SERVICE LEVELS AND PERFORMANCE

- 14.1 The Authority will measure the quality of the Potential Provider's delivery by:

KPI/SLA	Service Area	KPI/SLA description	Target
1	Enquiries from the Authority to the Potential Provider	Enquiries to be resolved within 5 working days from being raised by the Authority.	100%
2	Milestones	Monthly progress reports to be delivered on time.	+/- 1 week
3	Final Report	Final report to be delivered on time.	Must be submitted by 16 <sup>th</sup> March 2018.

- 14.2 In the event that the Potential Provider does not meet the milestones and KPIs outlined in 7.1 and 15.1 the Authority has the right to terminate the contract in line with the Crown Commercial Service Terms and Conditions (Appendix C).

## **15. SECURITY REQUIREMENTS**

- 15.1 Potential Providers shall inform the Authority at least 24 hours in advance, of the name and nationality of any individual(s) who will be visiting CAST's site to ensure they have appropriate access and escort.

## **16. INTELLECTUAL PROPERTY RIGHTS (IPR)**

- 16.1 All Intellectual Property Rights (IPR) are detailed in Appendix C (Terms and Conditions).

## **17. PAYMENT**

- 17.1 Payment can only be made following satisfactory delivery of pre-agreed certified products and deliverables.
- 17.2 Before payment can be considered, each invoice must include a detailed elemental breakdown of work completed and the associated costs. Any Potential Provider asked to supply to the Home Office will be given a Purchase Order.
- 17.3 A final payment shall be made following the delivery of the final report and supporting material (milestones 4 and 5). Potential Providers may request an interim payment for delivery of the second monthly report (milestone 3).
- 17.4 All invoices must include the Home Office purchase order number and be sent to:

Home Office Shared Services, HO Box 5015, Newport, Gwent, NP20 9BB

## **18. LOCATION**

- 18.1 It is expected that investigations will be conducted using the Potential Provider's own facilities. Meetings between the Potential Provider and CAST will be either at the supplier's location or at CAST's Sandridge site depending on which is more appropriate for the meeting's purpose. The start up meeting will be at CAST's Sandridge site at Woodcock Hill, Sandridge, St Albans, AL4 9HQ.