

# IARPA-BAA-15-07 (SILMARILS) Q& A Rounds 1 & 2

1 May 2015

<p><b>Q1: Is it allowable for a company to participate under multiple teams, which might include being a Prime for one team, as well as a Subcontractor for another?</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A1:</b> As stated in IARPA FAQ: <a href="http://www.iarpa.gov/index.php/faqs">http://www.iarpa.gov/index.php/faqs</a></p> <p><b>May a subcontractor be a member of more than one offering team?</b></p> <p>Yes. However, an individual or organization associated with multiple teams must take care not to commit more resources than can be effectively applied to the program under the BAA to which they are proposing.</p>	<p>Round 1 4/22/2015</p>
<p><b>Q2: Per the screen print below, the subject BAA does not appear in the list announcement for online registration.</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A2:</b> The BAA is now available on IARPA Distribution and Evaluation System (IDEAS).</p>	<p>Round 1 4/22/2015</p>
<p><b>Q3: Regarding the SWAP metric for the Phase 3 prototype, are the constraints that the size and weight should be less than (instead of greater than) the values given in the table?</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A3:</b> There is a typographical error in Table 5. The Milestone 3 metrics for Form Factor (SWAP) should read:</p> <p>Packaged prototype for field demonstration Size: &lt; (less than) 0.06 m<sup>3</sup> / 2.25 ft<sup>3</sup> (approx. 18"x18"x12") Weight: &lt; (less than) 22 kg / 50 lb Power: 1 hour battery life</p>	<p>Round 1 4/22/2015</p>
<p><b>Q4: Regarding the metric on the scan rate for the Phase 3 prototype, does the prototype need to operate at two different standoff distances of 30-50 meters and also 5 meters? Does the prototype then need to cover two different scan area sizes, 1m<sup>2</sup> at the larger standoff plus 10 cm<sup>2</sup> at the smaller standoff? For some approaches, it is quite a challenge to design an optical system that operates over such a large range of target distances (from 5 meters to 50 meters) or that operates at two target distances that are so different.</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A4:</b> The scan rate metric for the Phase 3 prototype does require operation at 30 m with a 1 m<sup>2</sup> scan area and 15 second report time as well as operation at 5 m with a 10 cm<sup>2</sup> scan area and 30 Hz update rate. Using a modular optic set with different optics for the two standoff ranges is an allowable solution, as well as solutions which can dynamically cover the full standoff range.</p>	<p>Round 1 4/22/2015</p>

<p><b>Q5: The Phase 3 milestone for the scan rate metric, as it is currently stated in Table 5, seems to assume that the illumination is produced by a single beam that has an area of 10 cm<sup>2</sup> and that single beam is scanned over a 1m<sup>2</sup> area of the target when the target distance is 30 meters. Does the BAA want to be so restrictive on the allowable approaches for illuminating and sensing a target? It seems the key performance parameters are the 1m<sup>2</sup> overall scanned area at the designed standoff distance (which could range from 30 to 50 meters), the reporting time of 15 seconds for identifying the chemicals, and the update rate of 30 Hz for acquiring useful spectral information. Perhaps the later part of the metric could be revised to state that the update rate should be at least 30 Hz for acquiring useful spectral information on a target area of 10 cm<sup>2</sup>, at whatever target distance (no less than 5 meters) is specified by the proposer. Or, maybe, the milestone on the update rate is not needed.</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A5:</b> There are no assumptions made in Table 5 about the size of the illumination beam at either 30 m or 5 m or about the sensing approach (imaging, scanning, etc.). To meet the Phase 3 SILMARILS Milestone offerors must show a capability to provide chemical detection over a 1 m<sup>2</sup> area at 30 m standoff with a 15 second report time, and chemical detection over a 1 cm<sup>2</sup> area at 5 m standoff with a 30 Hz update rate. The details of how this is done are left to the offeror.</p>	<p>Round 1 4/22/2015</p>
<p><b>Q6: Is there a strongly preferred wavelength regime, so long as the materials of interest can be detected (with high sensitivity, stand-off, etc. parameters met)?</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A6:</b> Offerors are free to suggest appropriate wavelengths they believe will meet program goals.</p>	<p>Round 1 4/22/2015</p>
<p><b>Q7: Does the Combined Synopsis/Solicitation under solicitation number IARPABAA1507 contain requirements similar to a current contract? If possible, please provide the current contract number. Or, is this a new requirement for the government?</b></p>	<p>Round 1 4/22/2015</p>
<p><b>A7:</b> This is a new requirement for the government.</p>	<p>Round 1 4/22/2015</p>

<p><b>Q8: For contracting purposes, is Air Force Institute of Technology allowable as a teammate?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A8:</b> As stated in the SILMARILS BAA, section 3.A:</p> <p>Other Government Agencies, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), Government-Owned, Contractor-Operated (GOCO) facilities, Government Military Academies, and any other similar type of organization that has a special relationship with the Government, that gives them access to privileged and/or proprietary information or access to Government equipment or real property, are not eligible to submit proposals under this BAA or participate as team members under proposals submitted by eligible entities.</p> <p>Air Force Institute of Technology is a Government Military Academic Institution, and therefore ineligible to propose as a prime or sub under the SILMARILS BAA.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q9: For gas detection and solution requirements, a concentration threshold is specified without assumptions for path length (gas), or volume/distribution (solution) sufficient to inform analysis on path-integrated absorbance. Can the Government clarify the representative conditions under which these sensitivity requirements will be evaluated?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A9:</b> These sensitivity requirements will be evaluated under a variety of performance conditions representative of real-world concepts of operations (CONOPS) and applications. For simplified preliminary calculation purposes in proposals to the SILMARILS BAA, proposers may assume a 1 meter gas path length and a liquid film on a glass substrate formed by dropping 1 milliliter (mL) of the solution onto the substrate and allowing it to spread to a “natural” thickness.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q10: Please clarify if all information in Appendix I (Technical Approach and Performance Matrix) must be duplicated in Sections II and/or III, or if it is allowable for this table to be the sole location for performance and/or analysis details, as appropriate.</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A10:</b> Appendix I is intended to be a concise summary of important technical information with page references to the location of this information and its supporting context in the body of the proposal. Appendix I serves the dual purpose of an aid to reviewers in navigating the proposal, as well as a checklist for offerers to confirm that critical technical information is included. The proposal should be a complete document without the inclusion of Appendix I.</p>	<p>Round 2 5/1/2015</p>

<p><b>Q11: Can the Government provide guidance regarding sensor spatial resolution?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A11:</b> There are no assumptions made in Table 5 about the sensor spatial resolution or about the sensing approach (imaging, scanning, integrated return on a single bucket detector, etc.). To meet the Phase 3 SILMARILS Milestone, offerors must show a capability to provide chemical detection over a 1 m<sup>2</sup> area at 30 m standoff with a 15 second report time, and chemical detection over a 1 cm<sup>2</sup> area at 5 m standoff with a 30 Hz update rate. The details of how this is done are left to the offeror.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q12: Can the Government prioritize the relevant importance of the following performance requirements: sensitivity, SWAP, battery operation, area coverage rate, target range, and spatial resolution?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A12:</b> There is no specific prioritization of performance metrics in Table 5. Offerors are expected to develop the best solution that addresses the program performance goals as a whole. Additionally, offerors should note that spatial resolution is NOT a performance metric. Performers must meet the ultimate program sensitivity performance metric by the end of Phase 1. In Phases 1 and 2 demonstrated target range, area coverage/scan rate, SWAP, and battery performance must be traceable to the Phase 3 system, but ultimate program performance metrics in these categories do not need to be met until the end of Phase 3.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q13: Can cost tables be less than 11 point?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A13:</b> As stated in the SILMARILS BAA, section 4.A.2:  All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point and at least one-inch margins on all sides. Foldout pages shall not be used. Font size for figures and charts should not be smaller than 10 point.  Therefore, the font in cost tables should not be less than 12 point (only figures and charts may have 10 point font).</p>	<p>Round 2 5/1/2015</p>
<p><b>Q14: Would the Government consider extending the proposal due date two weeks from 18 May 2015 to 1 June 2015? Rationale: Teaming and writing are ongoing, and the added time will help in completing the administrative/financial/technical internal approvals necessary for such a comprehensive and important BAA.</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A14:</b> At this time the Government does not intend to extend the 18 May, 2015 proposal due date for the initial round of selections in the SILMARILS BAA. Offerors are reminded that the BAA closing date is 1 April 2016. Offerors are welcome to submit proposals any time prior to the closing of the BAA.</p>	<p>Round 2 5/1/2015</p>

<p><b>Q15: We have an idea of using genetically modified bacteria for chemical detection. The basic idea is to find what gene gets active/inactive for a given chemical then it is possible to attach a fluorescence gene to the gene circuit. The bacteria are embedded in microfluidic devices and then we use a camera to image the fluorescence levels. We have several algorithms to process the images. Would this be of interest for SILMARILS?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A15:</b> The intent of the SILMARILS program, as discussed at the Proposers' day and in the BAA, is to develop a true standoff detection capability for chemical detection, where there is no physical interaction between the chemicals of interest and the SILMARILS device. Systems which require sampling for insertion into a device are not of interest to the SILMARILS program.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q16: There are attachments such as the OCI and Transmittal letter which are listed as part of either Volume 1 or Volume 2, but also are separately uploaded within the web-form. Are BOTH required or is the separate upload sufficient?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A16:</b> Per section 4 of the BAA, it is sufficient to upload the required documents within Volume 1 and Volume 2 of the proposal.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q17: Solicitation Section 4.B.1.1 page 25 and 4.B.2 page 31 specify cover sheets and refer to appendices for content. The web form also has a cover sheet with substantially similar information. Are BOTH required or is the web form sufficient?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A17:</b> Both are required. One is the proposal cover sheet, the other a cover sheet for the proposal upload system.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q18: The desired solution is day/night, with a visually unobservable illumination beam. Is a solution acceptable if it primarily utilizes IR for chemical analysis but also includes a visible-spectrum camera with a visible white light (still image/flash or video/low-intensity source) for purposes such as target framing?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A18:</b> Acceptable solutions must be both Class 1M eye safe (Table 5) and not include visually observable illumination beams (section 1.B.6).</p>	<p>Round 2 5/1/2015</p>
<p><b>Q19: Table 5 – Specificity: Are the components all drawn from the 50-target library or will they include one or more targets plus other components that may be among the background compounds? If backgrounds may be included, do they need to be identified?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A19:</b> For the specificity metric, components may be drawn from the 50 target AND/OR the 500 background compound list. At least one target will be included in any given sample (but there may be more than one). All components (targets and background compounds) must be identified for the specificity metric. For the clutter metric, only target compounds must be identified.</p>	<p>Round 2 5/1/2015</p>

<p><b>Q20: Table 5 – Clutter: In phase 3, single target at 0.1% concentration with respect to background – does this mean for instance:</b></p> <ul style="list-style-type: none"> <li>- a 1 m<sup>2</sup> area at 50m, with a target compound distributed over the entire 1m<sup>2</sup> area, with a total loading such that it represents 0.1% concentration averaged over the 1m<sup>2</sup>, (0.1% * 10<sup>4</sup> cm<sup>2</sup> = 10 cm<sup>2</sup> of target scattered over 10<sup>4</sup> cm<sup>2</sup> of background), or</li> <li>- a relatively localized contaminated area (say 10cm<sup>2</sup> for concreteness) within the 1m<sup>2</sup>, with the concentration within that localized area 0.1% compared to background within that localized area, (0.1% * 10 cm<sup>2</sup> = 0.01 cm<sup>2</sup> of target scattered over 10 cm<sup>2</sup> of background, plus the rest of the 1m<sup>2</sup> with negligible target material on it) or</li> <li>- a relatively localized contaminated area (say 10 cm<sup>2</sup> for concreteness) within the 1m<sup>2</sup>, with the concentration within that localized area such that it represents about 0.1% compared to the 1m<sup>2</sup> background (0.1% * 10<sup>4</sup> cm<sup>2</sup> = 10 cm<sup>2</sup> of target, effectively completely filling a localized region 10 cm<sup>2</sup> ins area, plus the rest of the 1m<sup>2</sup> with negligible target material on it.)</li> </ul>	<p>Round 2 5/1/2015</p>
<p><b>A20:</b> All of these are potential loading situations for the clutter metric. The SILMARILS program plans to test against performance of performer systems against a variety of target loading scenarios representative of real-world CONOPS/applications.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q21: The URL below does not appear to be functional :</b> <a href="http://www.iarpa.gov/index.php/research-programs/silmarils/questions_silmarils.html">http://www.iarpa.gov/index.php/research-programs/silmarils/questions_silmarils.html</a></p>	<p>Round 2 5/1/2015</p>
<p><b>A21:</b> IARPA no longer publishes Q&amp;A responses directly on its website. All Q&amp;A responses are available on FedBizOps, linked to the SILMARILS BAA posting. The BAA has been amended to remove references to this link.</p>	<p>Round 2 5/1/2015</p>
<p><b>Q22: Are classified addendums included in the technical volume page count? Should the unclassified sections of a proposal be submitted through the regular submission portal, or submitted with any classified addendum through secure channels?</b></p>	<p>Round 2 5/1/2015</p>
<p><b>A22:</b> Classified addendums are included in the technical volume page count. Unclassified sections of the proposal should be submitted through the IDEAS system, with the pages that correspond to the classified section left blank except for the marking "please see classified addendum for this content". To arrange for submission of the classified addendum through secure channels, contact the IARPA chief of security, Terry Gillum at <a href="mailto:dni-iarpa-baa-15-07-security@iarpa.gov">dni-iarpa-baa-15-07-security@iarpa.gov</a> as soon as possible.</p>	<p>Round 2 5/1/2015</p>