



**FY 2020**

**Small Business Innovation Research  
(SBIR) Program Phase II**

**Notice of Funding Opportunity (NOFO)**

**ANNOUNCEMENT**

**FUNDING OPPORTUNITY NUMBER: 2020-NIST-SBIR-02**

Catalog of Federal Domestic Assistance (CFDA) Number:  
11.620, Science, Technology, Business and/or Education Outreach

**U.S. DEPARTMENT OF COMMERCE  
National Institute of Standards and Technology**

Opening Date of NOFO: March 27, 2020

Closing Date: May 26, 2020

<http://www.nist.gov/sbir>

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51 US DEPARTMENT OF COMMERCE  
52 NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY  
53 FY 2020 SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM  
54 PHASE II NOTICE OF FUNDING OPPORTUNITY (NOFO)  
55

56 **1.0 PROGRAM DESCRIPTION AND FEDERAL AWARD INFORMATION**

57  
58 **1.01 Introduction**

59  
60 The National Institute of Standards and Technology (NIST) invites FY 2019 NIST SBIR  
61 Phase I awardees to submit Phase II research applications under this Notice of Funding  
62 Opportunity (NOFO). Only FY 2019 NIST SBIR Phase I awardees are eligible to submit  
63 applications in response to this NOFO for Phase II of their projects.  
64

65 The Small Business Innovation Research (SBIR) program was originally established in 1982  
66 by the Small Business Innovation Development Act (P.L. 97-219), codified at 15 U.S.C. § 638.  
67 It was then expanded and extended by the Small Business Research and Development  
68 (R&D) Enhancement Act of 1992 (P.L. 102-564), and received subsequent reauthorization  
69 and extensions, the most recent of which extends the SBIR program through 2022. (P.L.  
70 114-328).  
71

72 Eleven Federal agencies implement SBIR by setting aside a portion of their extramural  
73 research and development budget each year to fund research applications from small  
74 science and technology-based firms. The statutory purpose of the SBIR Program is to  
75 strengthen the role of innovative small business concerns (SBCs) in Federally-funded  
76 research or research and development (R/R&D). Specific program goals are to:  
77 (1) stimulate technological innovation; (2) use small business to meet Federal R/R&D needs;  
78 (3) foster and encourage participation by socially and economically disadvantaged small  
79 businesses and by women-owned small businesses in technological innovation; and (4)  
80 increase private sector commercialization of innovations derived from Federal R/R&D,  
81 thereby increasing competition, productivity, and economic growth.  
82

83 The NIST FY 2020 SBIR program identifies and solicits applications in topics that fall within  
84 NIST's mission and allow collaboration between NIST scientists and the SBIR awardees  
85 whenever possible.  
86

87 When reviewing applications, NIST gives high priority to SBCs that participate in or conduct  
88 energy efficiency or renewable energy system R&D projects, consistent with Executive

89 Order (EO) 13329 (<http://www.gpo.gov/fdsys/pkg/FR-2004-02-26/pdf/04-4436.pdf>)  
90 “Encouraging Innovation in Manufacturing,” the Energy Independence and Security Act of  
91 2007 (P.L. 110-140 § 1203(e), codified at 15 U.S.C. § 638(z)), and the Small Business  
92 Administration (SBA) Small Business Innovation Research (SBIR) and Small Business  
93 Technology Transfer (STTR) Program Policy Directive, § 9, found at  
94 [https://www.sbir.gov/sites/default/files/SBIR-STTR\\_Policy\\_Directive\\_2019.pdf](https://www.sbir.gov/sites/default/files/SBIR-STTR_Policy_Directive_2019.pdf).

95  
96 For any SBIR award that requires a license to use a NIST-owned invention covered by a  
97 patent or patent application, the SBIR awardee will need to contact NIST’s Technology  
98 Partnerships Office for a license to use the NIST-owned invention. Such awardees will be  
99 granted a non-exclusive research license and will be given the opportunity to negotiate a  
100 non-exclusive or an exclusive commercialization license to the NIST-owned invention, in  
101 accordance with the Federal patent licensing regulations, set forth in 37 C.F.R. Part 404, and  
102 to the extent that such NIST-owned invention is available for licensing and has not  
103 otherwise been exclusively licensed to another party. It is the goal of this program to  
104 position the SBIR awardee to use and build upon such licensed NIST-owned invention with  
105 the awardee’s own innovation to develop a commercially viable product based on the NIST-  
106 owned invention.

## 107 108 **1.02 Three-Phase Program**

109  
110 The SBIR statute (15 U.S.C. § 638) requires the Department of Commerce to establish a  
111 three-phase SBIR program by reserving a percentage of its extramural R&D budget to be  
112 awarded to SBCs for innovation research. SBIR policy is provided by the SBA through the  
113 SBIR/STTR Policy Directive found at [https://www.sbir.gov/sites/default/files/SBIR-](https://www.sbir.gov/sites/default/files/SBIR-STTR_Policy_Directive_2019.pdf)  
114 [STTR\\_Policy\\_Directive\\_2019.pdf](https://www.sbir.gov/sites/default/files/SBIR-STTR_Policy_Directive_2019.pdf).

115  
116 The funding vehicles for NIST’s SBIR program in both Phase I and Phase II are cooperative  
117 agreements. NIST’s authority to implement its SBIR program through cooperative  
118 agreements is 15 U.S.C. § 272(b)(4). NIST programmatic authorities for the research areas  
119 listed in this NOFO are found at 15 U.S.C. § 272(b) and (c). The nature of NIST’s “substantial  
120 involvement” will generally be collaboration with the awardees in carrying out the  
121 projects’ approved scope of work. Grants and agreements administrative requirements set  
122 forth at 2 C.F.R. Part 200 will apply to NIST SBIR awards.

### 123 124 **1.02.01 Phase I - Feasibility Research**

125  
126 The purpose of Phase I is for NIST to determine the technical feasibility of the research,

127 preliminary commercialization merit of the proposed effort, and the quality of the  
128 awardee’s performance. The application should concentrate on describing research that  
129 will significantly contribute to proving the feasibility of the proposed Phase II research  
130 and commercialization potential, prerequisites to receiving further support in Phase II.  
131 Each Phase I award is for up to \$100,000 and up to a six (6) month period of  
132 performance. Up to an additional \$6,500 may be requested for Technical and Business  
133 Assistance (TABAs); see Section 5.11 for more information about TABAs.

134  
135 **This NOFO is not soliciting applications for Phase I research.**

136  
137 **1.02.02 Phase II - Research and Development**

138  
139 This NOFO provides an opportunity to all NIST FY 2019 SBIR Phase I awardees to submit a  
140 Phase II application following completion of Phase I. This NOFO provides instructions for FY  
141 2020 NIST SBIR Phase II application preparation and submission requirements.

142  
143 In Phase II, work from Phase I that exhibits potential for commercial application is further  
144 developed. Phase II is the R&D or prototype development phase. To apply for a Phase II  
145 award, each Phase I awardee will be required to submit a comprehensive application  
146 outlining the proposed research and a detailed plan to commercialize the final product.  
147 Each NIST Phase II award is for up to \$400,000 and up to a 24-month period of  
148 performance. Up to \$50,000 of the award may be proposed for Technical and Business  
149 Assistance (TABAs); see Section 5.11 for more information about TABAs. One year after  
150 completing the Phase II R&D activity, the awardee shall be required to report on its  
151 commercialization activities.

152  
153 **1.02.03 Phase III - Commercialization**

154  
155 Phase III refers to work that derives from, extends, or completes an effort made under prior  
156 SBIR funding agreements, but is funded by sources other than the SBIR Program. Phase III  
157 work is typically oriented towards commercialization of SBIR research or technology and  
158 may be for products, production, services, R/R&D or a combination thereof.

159  
160 **1.02.04 Commercialization Readiness Pilot Program**

161  
162 As allowed in Section 5123 of the SBIR/STTR Reauthorization Act of 2011, Division E of Pub.  
163 L. 112-81, codified in 15 U.S.C. § 638(gg), NIST has received authorization to establish a  
164 Commercialization Readiness Pilot Program (CRPP). NIST may provide follow-on funding (up  
165 to an additional \$100,000) to selected awardees after completion of Phase II. The funding

166 would be used to further develop Phase II technologies, to support advancement toward  
167 Phase III, and to increase the likelihood of commercialization. NIST is under no obligation to  
168 make any CRPP awards.

169  
170 **1.03 SBIR Applicant Eligibility and Limitations**

171  
172 **1.03.01 Applicant Qualifications**

173  
174 Under this NOFO, only FY 2019 NIST SBIR Phase I awardees are eligible to submit  
175 applications. Applications received from entities other than FY 2019 NIST SBIR Phase I  
176 awardees will not be reviewed or considered for award. Each applicant must qualify as an  
177 SBC for R/R&D purposes, as defined in Section 1.05 of this NOFO, at the time of award. In  
178 addition, the primary employment of the principal investigator must be with the small  
179 business at the time of the award and during the conduct of the proposed research. Primary  
180 employment means that more than one-half of the principal investigator's time is spent  
181 working with the small business. Primary employment with a small business precludes full-  
182 time employment with another organization. Occasionally, deviations from this  
183 requirement may occur, which must be approved in writing by the NIST Grants Officer after  
184 consultation with the SBIR Program Manager. Further, a small business may only replace  
185 the principal investigator on an SBIR Phase I award if the NIST Grants Officer provides prior  
186 written approval. Personnel obtained through a Professional Employer Organization or  
187 other similar personnel leasing company may be considered employees of the awardee.

188  
189 The R/R&D work must be performed in the United States. Requests for an exemption must  
190 be submitted in writing at the time of application submission. Only rare and unique  
191 circumstances will be considered for an exemption. The NIST Grants Officer must approve  
192 each exemption and its terms in writing.

193  
194 NIST has elected to not use the authority that would allow venture capital operating  
195 companies (VCOs), hedge funds or private equity firms to participate in the SBIR Program.  
196 Therefore, applications in which work would be performed by VCOs will not be  
197 considered for award.

198  
199 For Phase I, a minimum of two-thirds of the research and/or analytical effort must be  
200 performed by the awardee. The total cost for all consultant fees, facility leases, usage fees,  
201 and other subcontract/subaward or purchase agreements may not exceed one-third of the  
202 total award. For Phase II, a minimum of one-half of the research and/or analytical effort  
203 must be performed by the awardee. The total cost for all consultant fees, facility leases,  
204 usage fees, and other subcontract/subaward or purchase agreements, excluding funds



205 requested for TABA (see Section 5.11), may not exceed one-half of the total award.

206  
207 Each applicant will be required to provide certain information via [www.sbir.gov](http://www.sbir.gov) as well as  
208 other information required by the SBIR/STTR Policy Directive (see Appendices V-VI), found at  
209 [https://www.sbir.gov/sites/default/files/SBIR-STTR\\_Policy\\_Directive\\_2019.pdf](https://www.sbir.gov/sites/default/files/SBIR-STTR_Policy_Directive_2019.pdf). Each SBC  
210 applying for an award is required to update the appropriate information in the SBA database  
211 on SBIR.gov for any of its existing and prior Phase II awards.

212  
213 Applicants may not participate in the review of applications.

214  
215 The statement of work of an SBIR award awarded under this NOFO cannot overlap with the  
216 statement of work of an existing NIST Cooperative Research and Development Agreement  
217 (CRADA) with the awardee. NIST will consider the issue of any potential overlap on a case-  
218 by-case basis.

### 219 220 **1.03.02 Company Registry Requirements**

221  
222 SBA maintains and manages a Company Registry at <http://www.sbir.gov/registration> to  
223 track ownership and affiliation requirements for all companies applying to the SBIR  
224 Program. **Each Phase II applicant must register in the Company Registry prior to**  
225 **submitting an application. The applicant must save its information from the registration**  
226 **in a .pdf document and append this document to the SF-424 (R&R) form as described at**  
227 **the end of Section 8.01. of this NOFO.** All applicants are required to report and/or update  
228 their registration information in the SBA Company Registry prior to each SBIR application  
229 submission or if any information changes prior to an award.

### 230 231 232 **1.04 Contact with NIST**

233  
234  
235 Applicants may contact the NIST Hollings Manufacturing Extension Partnership  
236 (MEP) for technical assistance with application preparation. More information on  
237 obtaining technical assistance from MEP Centers for application preparation can be  
238 found in Section 5.12 of this NOFO.

239  
240 For general programmatic, electronic submission, or grants questions, please contact the  
241 appropriate individual:

242  
243

Subject Area	Point of Contact
Programmatic Questions	Mary Clague Phone: (301) 975-4188 Fax: (301) 975-3482 E-mail: <a href="mailto:mary.clague@nist.gov">mary.clague@nist.gov</a>  or  J'aime Maynard Phone: (301) 975-8408 E-mail: <a href="mailto:jmaynard@nist.gov">jmaynard@nist.gov</a>
Electronic Application Submission through Grants.gov	Grants.gov (800) 518-4726 E-mail: <a href="mailto:support@grants.gov">support@grants.gov</a>
Grant Rules and Regulations	Dean Iwasaki Phone: (301) 975-8449 Fax: (301) 975-6368 E-mail: <a href="mailto:dean.iwasaki@nist.gov">dean.iwasaki@nist.gov</a>

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**1.05 Definitions**

(a) General Definitions

Except as specifically noted by citation or reference, all definitions below are excerpted from the SBA SBIR/STTR Policy Directive, available at [https://www.sbir.gov/sites/default/files/SBIR-STTR\\_Policy\\_Directive\\_2019.pdf](https://www.sbir.gov/sites/default/files/SBIR-STTR_Policy_Directive_2019.pdf).

Applicant – The organizational entity that qualifies as an SBC at all pertinent times and that submits a contract proposal or a grant application for a funding agreement under the SBIR/STTR Programs.

257 Awardee – The organizational entity that receives an SBIR or STTR Phase I, Phase II, or  
258 Phase III award. An “SBIR/STTR Awardee.”

259  
260 Commercialization - The process of developing products, processes, technologies, or  
261 services and the production and delivery (whether by the originating party or others) of the  
262 products, processes, technologies, or services for sale to or use by the Federal government  
263 or commercial markets.

264  
265 Contract, 2 CFR §200.22 - A legal instrument by which a non-Federal entity purchases  
266 property or services needed to carry out the project or program under a Federal award.  
267 The term as used in this part does not include a legal instrument, even if the non-Federal  
268 entity considers it a contract, when the substance of the transaction meets the definition  
269 of a Federal award or subaward (see §200.92 Subaward).

270  
271 Cooperative Agreement, 2 CFR §200.24 - A legal instrument of financial assistance between a  
272 Federal awarding agency or pass-through entity and a non-Federal entity that, consistent  
273 with 31 U.S.C. 6302-6305:

274 (a) Is used to enter into a relationship the principal purpose of which is to transfer anything of  
275 value from the Federal awarding agency or pass-through entity to the non-Federal entity to  
276 carry out a public purpose authorized by a law of the United States (see 31 U.S.C. 6101(3));  
277 and not to acquire property or services for the Federal Government or pass-through entity's  
278 direct benefit or use;

279 (b) Is distinguished from a grant in that it provides for substantial involvement between the  
280 Federal awarding agency or pass-through entity and the non-Federal entity in carrying out  
281 the activity contemplated by the Federal award.

282  
283 Essentially Equivalent Work - Work that is substantially the same research, which is  
284 proposed for funding in more than one contract proposal or grant application submitted to  
285 the same Federal agency, or submitted to two or more different Federal agencies for  
286 review and funding consideration; or work where a specific research objective and the  
287 research design for accomplishing the objective are the same or closely related to another  
288 proposal or award, regardless of the funding source.

289  
290 Funding Agreement - Any contract, grant, or cooperative agreement entered into between  
291 any Federal agency and any SBC for the performance of experimental, developmental, or  
292 research work, including products or services, funded in whole or in part by the Federal  
293 Government.

294

295 Joint Venture – See 13 C.F.R. § 121.103(h).

296

297 Research or Research and Development (R/R&D) - Any activity that is:

298 (1) a systematic study directed toward greater knowledge or understanding of the  
299 subject studied;

300 (2) a systematic study directed specifically toward applying knowledge and  
301 innovation to meet a recognized but unmet need; or

302 (3) a systematic application of knowledge and innovation toward the production of  
303 useful materials, devices, and systems or methods, including design, development,  
304 and improvement of prototypes and new processes to meet specific requirements.

305

306 Small Business Concern (SBC) – A concern that meets the SBIR/STTR program eligibility  
307 requirements set forth in 13 C.F.R.121.702, “What size and eligibility standards are applicable  
308 to the SBIR and STTR programs?” (available at [https://gov.ecfr.io/cgi-bin/text-  
309 idx?SID=d617ae64d7222b2ac946ffe72549ac14&mc=true&node=se13.1.121\\_1702&rgn=div8](https://gov.ecfr.io/cgi-bin/text-idx?SID=d617ae64d7222b2ac946ffe72549ac14&mc=true&node=se13.1.121_1702&rgn=div8))  
310

311 Socially and Economically Disadvantaged SBC (SDB) - See 13 C.F.R. Part 124, Subpart B.

312

313 Socially and Economically Disadvantaged Individual - See 13 C.F.R. §§ 124.103 and 124.104.

314

315 Subaward, 2 CFR §200.92 - An award provided by a pass-through entity to a subrecipient for  
316 the subrecipient to carry out part of a Federal award received by the pass-through entity. It  
317 does not include payments to a contractor or payments to an individual that is a beneficiary  
318 of a Federal program. A subaward may be provided through any form of legal agreement,  
319 including an agreement that the pass-through entity considers a contract.

320

321 Women-Owned Small Business (WOSB) - An SBC that is at least 51% owned by one or more  
322 women, or in the case of any publicly owned business, at least 51% of the stock is owned by  
323 women, and women control the management and daily business operations.

324

325 (b) Definitions related to rights in data developed under the SBIR program. These  
326 definitions are also included in Section 5.04.02 of this NOFO.

327

328 All definitions below are excerpted from the SBA SBIR/STTR Policy Directive, available at  
329 [https://www.sbir.gov/sites/default/files/SBIR-STTR\\_Policy\\_Directive\\_2019.pdf](https://www.sbir.gov/sites/default/files/SBIR-STTR_Policy_Directive_2019.pdf).

330

331 Computer Database - A collection of data recorded in a form capable of being processed by a  
332 computer. The term does not include Computer Software.

333  
334 Computer Programs - A set of instructions, rules, or routines recorded in a form that is  
335 capable of causing a computer to perform a specific operation or series of operations.  
336  
337 Computer Software - Computer programs, source code, source code listings, object code  
338 listings, design details, algorithms, processes, flow charts, formulae, and related material  
339 that would enable the software to be reproduced, recreated, or recompiled. Computer  
340 Software does not include Computer Databases or Computer Software Documentation.  
341  
342 Computer Software Documentation - Owner's manuals, user's manuals, installation  
343 instructions, operating instructions, and other similar items, regardless of storage medium,  
344 that explain the capabilities of the Computer Software or provide instructions for using the  
345 software.  
346  
347 Data - All recorded information, regardless of the form or method of recording or the  
348 media on which it may be recorded. The term does not include information incidental  
349 to contract or grant administration, such as financial, administrative, cost or pricing or  
350 management information.  
351  
352 Form, Fit, and Function Data - Data relating to items, components, or processes that are  
353 sufficient to enable physical and functional interchangeability, and data identifying  
354 source, size, configuration, mating and attachment characteristics, functional  
355 characteristics, and performance requirements. For Computer Software it means data  
356 identifying source, functional characteristics, and performance requirements, but  
357 specifically excludes the source code, algorithms, processes, formulas, and flow charts  
358 of the software.  
359  
360 Government Purpose - Any activity in which the United States Government is a party,  
361 including cooperative agreements with international or multi-national defense  
362 organizations or sales or transfers by the United States Government to foreign  
363 governments or international organizations. Government Purposes include competitive  
364 procurement, but do not include the rights to use, modify, reproduce, release, perform,  
365 display, or disclose Technical Data or Computer Software for commercial purposes or  
366 authorize others to do so.  
367  
368 Operations, Maintenance, Installation, or Training Purposes (OMIT) Data - Data that is  
369 necessary for operation, maintenance, installation, or training purposes (but not  
370 including detailed manufacturing or process data).  
371

372 SBIR/STTR Computer Software Rights - The Federal Government's rights during the  
373 SBIR/STTR Protection Period in specific types of SBIR/STTR Data that are Computer  
374 Software.

375  
376 (1) The Federal Government may use, modify, reproduce, release, perform, display, or  
377 disclose SBIR/STTR Data that are Computer Software within the Government. The  
378 Federal Government may exercise SBIR/STTR Computer Software Rights within the  
379 Government for:

- 380
- 381 (i) Use in Federal Government computers;
  - 382
  - 383 (ii) Modification, adaptation, or combination with other Computer Software,  
384 provided that the Data incorporated into any derivative software are subject to the  
385 rights in § 3(ee) of the SBIR/STTR Policy Directive and that the derivative software is  
386 marked as containing SBIR/STTR Data;
  - 387
  - 388 (iii) Archive or backup; or
  - 389
  - 390 (iv) Distribution of a computer program to another Federal agency, without further  
391 permission of the Awardee, if the Awardee is notified of the distribution and the  
392 identity of the recipient prior to the distribution, and a copy of the SBIR/STTR  
393 Computer Software Rights included in the Funding Agreement is provided to the  
394 recipient.

395  
396 (2) The Federal Government shall not release, disclose, or permit access to SBIR/STTR  
397 Data that is Computer Software for commercial, manufacturing, or procurement  
398 purposes without the written permission of the Awardee. The Federal Government  
399 shall not release, disclose, or permit access to SBIR/STTR Data outside the  
400 Government without the written permission of the Awardee unless:

- 401
- 402 (i) The non-Governmental entity has entered into a non-disclosure agreement  
403 with the Government that complies with the terms for such agreements  
404 outlined in § 8 of the SBIR/STTR Policy Directive; and
  - 405
  - 406 (ii) The release or disclosure is—
    - 407
    - 408 (A) To a Federal Government support service contractor or their subcontractor  
409 for purposes of supporting Government internal use or activities, including  
410 evaluation, diagnosis and correction of deficiencies, and adaptation,

411 combination, or integration with other Computer Software provided that  
412 SBIR/STTR Data incorporated into any derivative software are subject to the  
413 rights in § 3(ee) of the SBIR/STTR Policy Directive; or

414  
415 (B) Necessary to support certain narrowly-tailored essential Government  
416 activities for which law or regulation permits access of a non-Government entity  
417 to a contractors' data developed exclusively at private expense, non-SBIR/STTR  
418 Data, such as for emergency repair and overhaul.

419  
420 SBIR/STTR Data - All Data developed or generated in the performance of an SBIR or  
421 STTR award, including Technical Data and Computer Software developed or  
422 generated in the performance of an SBIR or STTR award. The term does not include  
423 information incidental to contract or grant administration, such as financial,  
424 administrative, cost or pricing or management information.

425  
426 SBIR/STTR Data Rights - The Federal Government's license rights in properly marked  
427 SBIR/STTR Data during the SBIR/STTR Protection Period are as follows: SBIR/STTR  
428 Technical Data Rights in SBIR/STTR Data that are Technical Data or any other type of  
429 Data other than Computer Software; and SBIR/STTR Computer Software Rights in  
430 SBIR/STTR Data that is Computer Software. Upon expiration of the protection  
431 period for SBIR/STTR Data, the Federal Government has a royalty free license to use,  
432 and to authorize others to use on its behalf, these data for Government Purposes,  
433 and is relieved of all disclosure prohibitions and assumes no liability for  
434 unauthorized use of these data by third parties, except that any such data that is  
435 also protected under a subsequent SBIR/STTR award shall remain protected through  
436 the protection period of that subsequent award. The Federal Government receives  
437 Unlimited Rights in Form Fit, and Function Data, OMIT Data, and all unmarked  
438 SBIR/STTR Data.

439  
440 SBIR/STTR Protection Period - The period of time during which the Federal  
441 Government is obligated to protect SBIR/STTR Data against unauthorized use and  
442 disclosure in accordance with SBIR/STTR Data Rights. The SBIR/STTR Protection  
443 Period begins at award of an SBIR/STTR Funding Agreement and ends not less than  
444 twenty years from that date (See § 8(b)(4) of the SBIR/STTR Policy Directive).

445  
446 SBIR/STTR Technical Data Rights - The Federal Government's rights during the  
447 SBIR/STTR Protection Period in SBIR/STTR Data that are Technical Data or any other  
448 type of Data other than Computer Software.

449

450 (1) The Federal Government may, use, modify, reproduce, perform, display,  
451 release, or disclose SBIR/STTR Data that are Technical Data within the  
452 Government; however, the Government shall not use, release, or disclose the  
453 data for procurement, manufacturing, or commercial purposes; or release or  
454 disclose the SBIR/STTR Data outside the Government except as permitted by  
455 paragraph (B) below or by written permission of the Awardee.

456  
457 (2) SBIR/STTR Data that are Technical Data may be released outside the  
458 Federal Government without any additional written permission of the  
459 Awardee only if the non-Governmental entity or foreign government has  
460 entered into a non-disclosure agreement with the Federal Government that  
461 complies with the terms for such agreements outlined in § 8 of the SBIR/STTR  
462 Policy Directive and the release is:

463  
464 (i) Necessary to support certain narrowly-tailored essential Government  
465 activities for which law or regulation permits access of a non-Government  
466 entity to a contractors' data developed exclusively at private expense, non-  
467 SBIR/STTR Data, such as for emergency repair and overhaul;

468  
469 (ii) To a Government support services contractor in the performance of a  
470 Government support services contract for internal Government use or  
471 activities, including evaluation, diagnosis or modification, provided that  
472 SBIR/STTR Technical Data incorporated into any derivative Data are subject to  
473 the rights in § 3(ii) of the SBIR/STTR Policy Directive, and the release is not for  
474 commercial purposes or manufacture;

475  
476 (iii) To a foreign government for purposes of information and evaluation if  
477 required to serve the interests of the U.S. Government; or

478  
479 (iv) To non-Government entities or individuals for purposes of evaluation.

480  
481 Technical Data - Recorded information, regardless of the form or method of the  
482 recording, of a scientific or technical nature (including Computer Software  
483 Documentation and Computer Databases). The term does not include Computer  
484 Software or financial, administrative, cost or pricing, or management information, or  
485 other data incidental to contract or grant administration. The term includes recorded  
486 Data of a scientific or technical nature that is included in Computer Databases.

487  
488 Unlimited Rights - The Government's rights to access, use, modify, prepare derivative



489 works, reproduce, release, perform, display, disclose, or distribute Data in whole or in  
490 part, in any manner and for any purpose whatsoever, and to have or authorize others  
491 to do so.

492

### 493 **1.06 Fraud, Waste and Abuse**

494

495 As defined in the SBIR/STTR Policy Directive section 9(f), fraud includes any false  
496 representation about a material fact or any intentional deception designed to deprive the  
497 United States unlawfully of something of value or to secure from the United States a  
498 benefit, privilege, allowance, or consideration to which an individual or business is not  
499 entitled. Waste includes extravagant, careless, or needless expenditure of Government  
500 funds, or the consumption of Government property, that results from deficient practices,  
501 systems, controls, or decisions. Abuse includes any intentional or improper use of  
502 Government resources, such as misuse of rank, position, or authority or resources.  
503 Examples of fraud, waste, and abuse relating to the SBIR/STTR Program include, but are  
504 not limited to:

505

506 (i) misrepresentations or material, factual omissions to obtain, or otherwise receive funding  
507 under, an SBIR/STTR award;

508

509 (ii) misrepresentations of the use of funds expended, work done, results achieved, or  
510 compliance with program requirements under an SBIR/STTR award;

511

512 (iii) misuse or conversion of SBIR/STTR award funds, including any use of award funds while  
513 not in full compliance with SBIR/STTR Program requirements, or failure to pay taxes due on  
514 misused or converted SBIR/STTR award funds;

515

516 (iv) fabrication, falsification, or plagiarism in applying for, carrying out, or reporting results  
517 from an SBIR/STTR award;

518

519 (v) failure to comply with applicable federal costs principles governing an award;

520

521 (vi) extravagant, careless, or needless spending;

522

523 (vii) self-dealing, such as making a sub-award to an entity in which the Principal Investigator  
524 (PI) has a financial interest;

525

526 (viii) acceptance by agency personnel of bribes or gifts in exchange for grant or contract

527 awards or other conflicts of interest that prevents the Government from getting the best  
528 value; and

529  
530 (ix) lack of monitoring, or follow-up if questions arise, by agency personnel to ensure that  
531 awardee meets all required eligibility requirements, provides all required certifications,  
532 performs in accordance with the terms and conditions of the award, and performs all work  
533 proposed in the application.

534  
535 Report any allegations of fraud, waste and abuse using the online Department of Commerce  
536 Office of Inspector General Complaint Form, available at  
537 <https://www.oig.doc.gov/Pages/Hotline.aspx#complainthotline>. Contact information for  
538 the Office of Inspector General is available at: [https://www.oig.doc.gov/pages/Contact-](https://www.oig.doc.gov/pages/Contact-U.s.aspx)  
539 [Us.aspx](https://www.oig.doc.gov/pages/Contact-U.s.aspx). Please do not include Personally Identifiable Information (PII) through the website.  
540 PII is considered to be items containing Social Security numbers, dates of birth, credit card  
541 and passport numbers, or other personally identifying information that could adversely  
542 affect an individual. Should you desire to provide this information, it is strongly  
543 recommended that you contact the Hotline by telephone at the number listed below.

544  
545 **Phone:**  
546 Toll Free 800-424-5197

547  
548 **Mail:**  
549 Office of Inspector General Hotline  
550 HCHB 7709  
551 1401 Constitution Avenue, N.W.  
552 Washington, DC 20230

## 553 554 **1.07 Other Information**

### 555 556 **1.07.01 Personal and Business Information**

557  
558 The applicant acknowledges and understands that information and data contained in  
559 applications for financial assistance, as well as information and data contained in financial,  
560 performance and other reports submitted by applicants, may be used by the Department of  
561 Commerce in conducting reviews and evaluations of its financial assistance programs. For  
562 this purpose, applicant information and data may be accessed, reviewed and evaluated by  
563 Department of Commerce employees, other Federal employees, and also by Federal agents  
564 and contractors, and/or by non-Federal personnel, all of whom enter into appropriate

565 conflict of interest and confidentiality agreements covering the use of such information. As  
566 may be provided in the terms and conditions of a specific financial assistance award,  
567 applicants are expected to support program reviews and evaluations by submitting required  
568 financial and performance information and data in an accurate and timely manner, and by  
569 cooperating with Department of Commerce and external program evaluators. In accordance  
570 with 2 C.F.R. § 200.303(e), applicants are reminded that they must take reasonable  
571 measures to safeguard protected personally identifiable information and other confidential  
572 or sensitive personal or business information created or obtained in connection with a  
573 Department of Commerce financial assistance award.

574  
575 In addition, Department of Commerce regulations implementing the Freedom of  
576 Information Act (FOIA), 5 U.S.C. § 552, are found at 15 C.F.R. Part 4, Public Information.  
577 These regulations set forth rules for the Department regarding making requested materials,  
578 information, and records publicly available under the FOIA. Applications submitted in  
579 response to this Notice of Funding Opportunity may be subject to requests for release  
580 under the Act. In the event that an application contains information or data that the  
581 applicant deems to be confidential commercial information that should be exempt from  
582 disclosure under FOIA, that information should be identified, bracketed, and marked as  
583 Privileged, Confidential, Commercial or Financial Information. In accordance with 15 CFR §  
584 4.9, the Department of Commerce will protect from disclosure confidential business  
585 information contained in financial assistance applications and other documentation  
586 provided by applicants to the extent permitted by law.

## 587 588 589 **2.0 CERTIFICATIONS**

### 590 591 **2.01 Funding Agreement Certification**

592  
593 Awardees will be required to certify size, ownership and other SBIR Program requirements  
594 at the time of award and during the funding agreement life cycle using the SBIR Funding  
595 Agreement Certification and the SBIR Funding Agreement Certification – Life-Cycle  
596 Certification, which are provided in Appendix B of this NOFO.

### 597 598 **2.02 Research Activities Involving Human Subjects, Human Tissue, Data or Recordings** 599 **Involving Human Subjects Including Software Testing**

600  
601 Any application that includes research activities involving human subjects, human  
602 tissue/cells, or data or recordings from or about human subjects, must satisfy the  
603 requirements of the Common Rule for the Protection of Human Subjects (“Common Rule”),

604 codified for the Department of Commerce at 15 C.F.R. Part 27. Research activities involving  
605 human subjects that fall within one or more of the classes of vulnerable subjects found in 45  
606 C.F.R. Part 46, Subparts B, C and D must satisfy the requirements of the applicable subpart(s).  
607 In addition, any such application that includes research activities on these subjects must be in  
608 compliance with all applicable statutory requirements imposed upon the Department of  
609 Health and Human Services (DHHS) and other Federal agencies, all regulations, policies and  
610 guidance adopted by DHHS, the Food and Drug Administration (FDA), and other Federal  
611 agencies on these topics, and all Executive Orders and Presidential statements of policy on  
612 applicable topics. (Regulatory Resources:  
613 <http://www.hhs.gov/ohrp/humansubjects/index.html> which includes links to FDA  
614 regulations, but may not include all applicable regulations and policies).

615  
616 NIST uses the following Common Rule definitions for research and human subjects research:

617  
618 *Research:* A systematic investigation, including research development, testing and  
619 evaluation, designed to develop or contribute to generalizable knowledge. Activities which  
620 meet this definition constitute research for purposes of this policy, whether or not they are  
621 conducted or supported under a program which is considered research for other purposes.  
622 For example, some demonstration and service programs may include research activities.

623  
624 *Human Subject:* A living individual about whom an investigator (whether professional or  
625 student) conducting research: (i) Obtains information or biospecimens through intervention  
626 or interaction with the individual, and uses, studies, or analyzes the information or  
627 biospecimens; or (ii) Obtains, uses, studies, analyzes, or generates identifiable private  
628 information or identifiable biospecimens.

- 629  
630 (1) *Intervention* includes both physical procedures by which information or  
631 biospecimens are gathered and manipulations of the subject or the subject's  
632 environment that are performed for research purposes.
- 633  
634 (2) *Interaction* includes communication or interpersonal contact between investigator  
635 and subject.
- 636  
637 (3) *Private information* includes information about behavior that occurs in a context in  
638 which an individual can reasonably expect that no observation or recording is  
639 taking place, and information which has been provided for specific purposes by an  
640 individual and that the individual can reasonably expect will not be made public  
641 (for example, a medical record). Private information must be individually  
identifiable (i.e., the identity of the subject is or may readily be ascertained by the

642 investigator associated with the information) in order for obtaining the information  
643 to constitute research involving human subjects.

644  
645 (4) *Identifiable biospecimen* includes a biospecimen for which the identity of the  
646 subject is or may readily be ascertained by the investigator or associated with the  
647 biospecimen.

648  
649 See 15 C.F.R. § 27.102 (Definitions).

650  
651 1) Requirement for Federalwide Assurance. If the application is accepted for [or  
652 awarded] funding, organizations that have an Institutional Review Board (IRB) are  
653 required to follow the procedures of their organization for approval of exempt and  
654 non-exempt research activities that involve human subjects. Both domestic and  
655 foreign organizations performing exempt research requiring limited IRB review or  
656 non-exempt research activities involving human subjects will be required to have  
657 protocols approved by a cognizant, active IRB currently registered with the Office  
658 for Human Research Protections (OHRP) within the DHHS that is linked to the  
659 engaged organizations. All engaged organizations must possess a currently valid  
660 Federalwide Assurance (FWA) on file from OHRP. Information regarding how to  
661 apply for an FWA and register an IRB with OHRP can be found at  
662 <http://www.hhs.gov/ohrp/assurances/index.html>. See 15 C.F.R. § 27.103. NIST  
663 relies only on OHRP-issued FWAs and IRB Registrations for both domestic and  
664 foreign organizations for NIST supported research involving human subjects. NIST  
665 will not issue its own FWAs or IRB Registrations for domestic or foreign  
666 organizations.

667  
668 2) Administrative Review. The NIST Research Protections Office (RPO) reserves the  
669 right to conduct an administrative review<sup>1</sup> of all applications that potentially  
670 include research involving human subjects and were approved by an authorized  
671 non-NIST institutional entity (an IRB or entity analogous to the NIST RPO) under 15  
672 C.F.R. § 27.112 (Review by Institution). If the NIST RPO determines that an  
673 application includes research activities that potentially involve human subjects, the  
674 applicant will be required to provide additional information to NIST for review and

---

<sup>1</sup> Conducting an “administrative review” means that the NIST RPO will review and verify the performing institution’s determination for research not involving human subjects or exempt human subjects research. In addition, for exempt research requiring limited IRB review and non-exempt human subjects research, the NIST RPO will review and confirm that the research and performing institution(s) are in compliance with 15 C.F.R. Part 27, which means RPO will 1) confirm the engaged institution(s) possess, or are covered under a Federalwide Assurance, 2) review the research study documentation submitted to the IRB and verify the IRB’s determination of level of risk and approval of the study for compliance with 15 C.F.R. Part 27, 3) review and verify IRB-approved substantive changes to an approved research study before the changes are implemented, and 4) review and verify that the IRB conducts a continuing review at least annually, as appropriate.

675 approval. The documents required for funded proposals are listed in each section  
676 below. Most documents will need to be produced during the proposal review  
677 process; however, the Grants Officer may allow final versions of certain required  
678 documents to be produced at an appropriate designated time post-award.  
679 Research involving human subjects may not start until the NIST Grants Officer  
680 issues an award explicitly authorizing such research. In addition, all amendments,  
681 modifications, or changes to approved research and requests for continuing review  
682 and closure will be reviewed by the NIST RPO.

683  
684 3) Required documents for proposal review. All applications involving human subjects  
685 research must clearly indicate, by separable task, all research activities believed to  
686 be exempt or non-exempt research involving human subjects, the expected  
687 institution(s) where the research activities involving human subjects may be  
688 conducted, and the institution(s) expected to be engaged in the research activities.

689  
690 a. **Not research determination.** If an activity/task involves human subjects as defined in the  
691 Common Rule, but the applicant participant(s) indicates to NIST that the activity/task is not  
692 research as defined in the Common Rule, the following information may be requested for  
693 that activity/task:

- 694  
695 (1) Justification, including the rationale for the determination and such additional  
696 documentation as may be deemed necessary by NIST to review and/or support a  
697 determination that the activity/task in the application is not research as defined in the  
698 Common Rule.  
699 (2) If the applicant participant(s) used a cognizant IRB that provided a determination that  
700 the activity/task is not research, a copy of that determination documentation must be  
701 provided to NIST. The applicant participant(s) is not required to establish a relationship  
702 with a cognizant IRB if they do not have one.

703  
704 NIST will review the information submitted and may coordinate further with the applicant  
705 before determining whether the activity/task will be defined as research under the  
706 Common Rule in the applicable NIST financial assistance program or project.

707  
708 b. **Research not involving human subjects.** If an activity/task is determined to be research  
709 and involves human subjects, but is determined to be *not human subjects research (or*  
710 *research not involving human subjects)* under the Common Rule, the following information  
711 may be requested for that activity/task:

- 712  
713 (1) Justification, including the rationale for the determination and such additional

714 documentation as may be deemed necessary by NIST to review and/or support a  
715 determination that the activity/task in the application is not research as defined in the  
716 Common Rule.

717 (2) If the applicant participant(s) used a cognizant IRB that provided a determination that  
718 the activity/task is research not involving human subjects, a copy of that determination  
719 documentation must be provided to NIST. The applicant participant(s) is not required  
720 to establish a relationship with a cognizant IRB if they do not have one.

721  
722 c. **Exempt research determination with no IRB.** If the application appears to NIST to include  
723 exempt research activities that do not meet the criteria for requiring a limited IRB review,  
724 and the performer of the activity or the supplier and/or the receiver of the information or  
725 biospecimens from human subjects does not have a cognizant IRB to provide an exemption  
726 determination, the following information may be requested during the review process so  
727 that NIST can evaluate whether an exemption under the Common Rule applies (*see* 15  
728 C.F.R. § 27.104(b) and (d)):

- 729  
730 (1) The name(s) of the institution(s) where the exempt research will be conducted.  
731 (2) The name(s) of the institution(s) providing the biospecimens or information from  
732 human subjects.  
733 (3) A copy of the protocol for the research to be conducted; and/or the biospecimens or  
734 information from human subjects to be collected/provided, not pre-existing samples  
735 (*i.e.*, will proposed research collect only information without personal identifiable  
736 information, will biospecimens or information be de-identified and when and by whom  
737 was the de-identification performed, how were the materials or data originally  
738 collected).  
739 (4) For pre-existing biospecimens or information from human subjects, provide copies of  
740 the consent forms used for collection and a description of how the biospecimens or  
741 information were originally collected and stripped of personal identifiers. If copies of  
742 consent forms are not available, explain.  
743 (5) Any additional clarifying documentation that NIST may deem necessary in order to  
744 make a determination whether the activity/task or use of biospecimens or information  
745 from human subjects is exempt under the Common Rule.

746  
747 d. **Research review with an IRB.** If the application appears to NIST to include research  
748 activities (exempt or non-exempt) involving human subjects, and the proposed performer  
749 of the activity has a cognizant IRB registered with OHRP, and linked to their Federalwide  
750 Assurance, the following information may be requested during the review process:

- 751  
752 (1) The name(s) of the institution(s) where the research will be conducted.

- 753 (2) The name(s) and institution(s) of the cognizant IRB(s), and the IRB registration  
754 number(s).
- 755 (3) The FWA number of the applicant linked to the cognizant IRB(s).
- 756 (4) The FWAs associated with all organizations engaged in the planned research  
757 activity/task, linked to the cognizant IRB.
- 758 (5) If the IRB review(s) is pending, the estimated start date for research involving human  
759 subjects.
- 760 (6) The IRB approval date (if currently approved for exempt or non-exempt research).
- 761 (7) If any of the engaged organizations has applied for or will apply for an FWA or IRB  
762 registration, those details should be clearly provided for each engaged organization.
- 763

764 If the application includes research activities involving human subjects to be performed in the first  
765 year of an award, additional documentation may be requested by NIST during pre-award review  
766 for those performers, and may include the following for those research activities:

767

- 768 (1) A copy of each applicable final IRB-approved protocol.
- 769 (2) A signed and dated approval letter from the cognizant IRB(s) that includes the name of  
770 the institution housing each applicable IRB, provides the start and end dates for the  
771 approval of the research activities, and any IRB-required interim reporting or  
772 continuing review requirements.
- 773 (3) A copy of any IRB-required application information, such as documentation of approval  
774 of special clearances (*i.e.*, biohazard, HIPAA, etc.) conflict-of-interest letters, or special  
775 training requirements.
- 776 (4) A brief description of which portions of the IRB submitted protocol are specifically  
777 included in the application submitted to NIST, if the protocol includes tasks not  
778 included in the application, or if the protocol is supported by multiple funding sources.  
779 For protocols with multiple funding sources, NIST will not approve the study without a  
780 non-duplication-of-funding letter indicating that no other federal funds will be used to  
781 support the tasks proposed under the proposed research or ongoing project.
- 782 (5) If a new protocol will only be submitted to an IRB if an award from NIST is issued, a  
783 draft of the proposed protocol.
- 784 (6) Any additional clarifying documentation that NIST may request during the review  
785 process to perform the NIST administrative review of research involving human  
786 subjects. (*See* 15 C.F.R. § 27.112 (Review by Institution)).
- 787

788 This clause reflects the existing NIST policy and requirements for Research Involving Human  
789 Subjects. Should the policy be revised prior to award, a clause reflecting the policy current at time  
790 of award may be incorporated into the award.

791



792 If the policy is revised after award, a clause reflecting the updated policy may be incorporated into  
793 the award.

794  
795 For more information regarding research projects involving human subjects, contact Anne  
796 Andrews, Director, NIST Research Protections Office (e-mail: [anne.andrews@nist.gov](mailto:anne.andrews@nist.gov); phone:  
797 (301) 975-5445).

### 798 799 **2.03 Research Applications Involving Live Vertebrate Animals or Pre-Existing Cell** 800 **Lines/Tissues from Vertebrate Animals**

801  
802 Any application that proposes research activities involving live vertebrate animals that are to be  
803 cared for, euthanized, or used by award recipients to accomplish research goals, teaching, or  
804 testing must meet the requirements of the Animal Welfare Act (AWA) (7 U.S.C. § 2131 et seq.),  
805 and the AWA final rules (9 C.F.R. Parts 1, 2, and 3), and if appropriate, the Good Laboratory  
806 Practice for Nonclinical Laboratory Studies (21 C.F.R. Part 58). In addition, such research  
807 activities should be in compliance with the *“U.S. Government Principles for Utilization and Care*  
808 *of Vertebrate Animals Used in Testing, Research, and Training”* (Principles). The Principles and  
809 guidance on these Principles are available in the National Research Council's *“Guide for the Care*  
810 *and Use of Laboratory Animals,”* which can be obtained from National Academy Press, 500 5<sup>th</sup>  
811 Street, N.W., Department 285, Washington, DC 20055, or as a free PDF online at  
812 <http://www.nap.edu/catalog/12910/guide-for-the-care-and-use-of-laboratory-animals-eighth>.

813  
814 **1) Administrative Review.** NIST reserves the right to conduct an administrative review<sup>2</sup> of all  
815 applications that potentially include research activities that involve live vertebrate animals,  
816 or custom samples from, or field studies with live vertebrate animals. If the application  
817 includes research activities, field studies, or custom samples involving live vertebrate  
818 animals, the applicant will be required to provide additional information for review and  
819 approval. In addition, NIST will verify the applicant’s determination(s) of excluded samples  
820 from vertebrate animals. The documents required for funded proposals are listed in each  
821 section below. Some may be requested for a pre-review during the proposal review process;

---

<sup>2</sup> Conducting an “administrative review” means that the NIST RPO will review and verify the performing institution’s IACUC’s approval of research with live vertebrate animals, and confirm that the research and performing institution(s) have an appropriate assurance and are in compliance with applicable regulations. RPO will 1) confirm the engaged institution(s) possess, or are covered under an applicable assurance, 2) review the research study documentation submitted to the IACUC and verify the IACUC’s determination of level of risk and approval of the study for compliance with applicable regulations, 3) review and verify IACUC-approved substantive changes to an approved research study before the changes are implemented, and 4) review and verify that the IACUC receives an annual report for the study and conducts an appropriate continuing review at least every three years.

822 however, the Grants Officer may allow final versions of certain required documents to be  
823 produced at an appropriate designated time post-award. If an award is issued, no research  
824 activities involving live vertebrate animals shall be initiated or costs incurred for those  
825 activities under the award until the NIST Grants Officer issues written approval. In addition,  
826 all re-approvals, amendments, modifications, changes, annual reports and closure will be  
827 reviewed by NIST.

828

829 **2) Required documents for NIST proposal review. *The applicant should clearly indicate in the***  
830 ***application, by separable task, all research activities believed to include research involving***  
831 ***live vertebrate animals and the institution(s) where the research activities involving live***  
832 ***vertebrate animals may be conducted. In addition, the applicant should indicate any***  
833 ***activity/task that involves an excluded or custom collection from vertebrate animals, or a***  
834 ***field study with animals.***

835

836 a) **Excluded Collections from Vertebrate Animals:** The requirements for review and  
837 approval by an Institutional Animal Care and Use Committee (IACUC) do not apply to  
838 proposed research using preexisting images of animals or to research plans that do not  
839 include live animals. These regulations also do not apply to obtaining stock or pre-  
840 existing items from animal material suppliers (*e.g.*, tissue banks), such as pre-existing cell  
841 lines and tissue samples, or from commercial food processors, where the vertebrate  
842 animal was euthanized for food purposes and not for the purpose of sample collection.

843

844 For pre-existing cell lines and tissue samples originating from vertebrate animals, NIST  
845 requires that the proposer provide documentation or the rationale for the determination  
846 that the cell line or tissue is pre-existing and not a custom collection from live vertebrate  
847 animals for an activity/task within the proposal. NIST may require additional  
848 documentation to review and/or support the determination that the cells and/or tissues  
849 from vertebrate animals are excluded from IACUC review.

850

851 b) **Custom Collections Harvested from Live Vertebrate Animals:** NIST requires  
852 documentation for obtaining custom samples from live vertebrate animals from animal  
853 material suppliers and other organizations (*i.e.*, universities, companies, and government  
854 laboratories, etc.). Custom samples includes samples from animal material suppliers,  
855 such as when a catalog item indicates that the researcher is to specify the characteristics  
856 of the live vertebrate animal to be used, or how a sample is to be collected from the live  
857 vertebrate animal.

858

859 c) **Field Studies of Animals:** Some field studies of animals may be exempt under the Animal

860 Welfare Act from full review and approval by an animal care and use committee, as  
861 determined by each institution. Field study is defined as “... a study conducted on free-  
862 living wild animals in their natural habitat...”. 9 C.F.R. § 1.1. However, this term excludes  
863 any study that involves an invasive procedure or that harms or materially alters the  
864 behavior of an animal under study. Field studies, with or without invasive procedures,  
865 may also require obtaining appropriate federal or local government permits (marine  
866 mammals, endangered species, etc.). If the applicant’s institution requires review and  
867 approval by an animal care and use committee, NIST will require that documentation to  
868 be provided as described below.

869

870 **d) For custom collections or studies with live vertebrate animals that require review and**  
871 **approval by an animal care and use committee the following documentation is**  
872 **required:**

873

874 (1) Requirement for Assurance. An applicable assurance for the care and use of the live  
875 vertebrate animal(s) to be used in the proposed research is required. NIST may  
876 request documentation to confirm an assurance, if adequate confirmation is not  
877 available through an assuring organization’s website. The cognizant IACUC where  
878 the research activity is located may hold one or more assurances applicable to the  
879 research activity that are acceptable to NIST. These four assurances are:

- 880 i. Animal Welfare Assurance from the Office of Laboratory Animal Welfare  
881 (OLAW) indicated by the OLAW assurance number, *i.e.*, A-1234;
- 882 ii. USDA Animal Welfare Act certification indicated by the certification number,  
883 *i.e.*, 12-R-3456;
- 884 iii. Association for the Assessment and Accreditation of Laboratory Animal Care  
885 (AAALAC) indicated by providing the organization name accredited by  
886 AAALAC as listed in the AAALAC Directory of Accredited Organizations; and
- 887 iv. Letter of Assurance of compliance with the Animal Welfare Act, the U.S.  
888 Government Principles, and National Marine Fisheries Service (NMFS) IACUC  
889 policy that is valid for five years and provided by a NMFS Regional IACUC for  
890 activities with marine mammals or sea turtles (NMFS Policy Directive 04-  
891 112).

892

893 (2) Documentation of Research Review by an IACUC: If the applicant’s application  
894 appears to include research activities, field studies, or custom sample collections  
895 involving live vertebrate animals the following information regarding review by an  
896 applicable IACUC may be requested during the application review process:

897

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916
1. The name(s) of the institution(s) where the research involving live vertebrate animals will be conducted and/or custom samples collected.
  2. The assurance type and number, as applicable, for the cognizant Institutional Animal Care and Use Committee (IACUC) where the research activity is located. [For example: Animal Welfare Assurance from the Office of Laboratory Animal Welfare (OLAW) should be indicated by the OLAW assurance number, i.e. A-1234; an USDA Animal Welfare Act certification should be indicated by the certification number i.e. 12-R-3456; and an Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC) should be indicated by AAALAC.]
  3. The IACUC approval date for the Animal Study Protocol (ASP) (if currently approved).
  4. If the review by the cognizant IACUC is pending, the estimated start date for research involving vertebrate animals.
  5. If any assurances or IACUCs need to be obtained or established, that should be clearly stated.
  6. If any special permits are required for field studies, those details should be clearly provided for each instance, or indicated as pending.

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If the application includes research activities involving vertebrate animals to be performed in the first year of an award, additional documentation may be requested by NIST during pre-award review for those performers, and may include the following for those research activities, which may also include field studies, custom sample collections involving live vertebrate animals:

- 923  
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931  
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933
1. A copy of the IACUC approved ASP.
  2. Documentation of the IACUC approval indicating the approval and expiration dates of the ASP.
  3. If applicable, a non-duplication-of-funding letter if the ASP is funded from several sources.
  4. If a new ASP will only be submitted to an IACUC if an award from NIST is issued, a draft of the proposed ASP may be requested.
  5. Any additional clarifying documentation that NIST may request during review of applications to perform the NIST administrative review of research involving live vertebrate animals.

934  
935

This clause reflects the existing NIST policy for Research Involving Live Vertebrate Animals. Should the policy be revised prior to award, a clause reflecting the policy current at time of

936 award may be incorporated into the award.

937  
938 If the policy is revised after award, a clause reflecting the updated policy may be  
939 incorporated into the award.

940  
941 For more information regarding research projects involving live vertebrate animals,  
942 contact Linda Beth Schilling, Senior Analyst (e-mail: [linda.schilling@nist.gov](mailto:linda.schilling@nist.gov); phone: 301-  
943 975-2887).

#### 944 945 **2.04 Certifications Regarding Federal Felony and Federal Criminal Tax Convictions, Unpaid** 946 **Federal Tax Assessments and Delinquent Federal Tax Returns**

947  
948 In accordance with Federal appropriations law, an authorized representative of the selected  
949 applicant(s) may be required to provide certain pre-award certifications regarding federal  
950 felony and federal criminal tax convictions, unpaid federal tax assessments, and delinquent  
951 federal tax returns.

### 952 953 **3.0 APPLICATION PREPARATION INSTRUCTIONS AND REQUIREMENT**

#### 954 955 **3.01 Phase II Application Requirements**

956  
957 **Only FY 2019 NIST SBIR Phase I awardees are eligible to submit FY 2020 Phase II**  
958 **applications in response to this NOFO. Phase I applications are not being accepted**  
959 **under this NOFO.**

960  
961 The application must provide sufficient information to demonstrate that the proposed  
962 work represents a sound approach to the investigation of an important scientific or  
963 engineering innovation worthy of support. The application must sufficiently identify and  
964 address a specific NIST technical program area that falls within one of the research areas  
965 described in Section 9 or a NIST-patented technology available for licensing. The research  
966 must be directed towards development of a commercial product or service in the NIST  
967 program area. The application must be self-contained and written with all the care and  
968 thoroughness of a scientific paper submitted for publication. It should indicate a  
969 thorough knowledge of the current status of research area addressed by the application.  
970 Each application should be checked carefully by the applicant to ensure inclusion of all  
971 essential material needed for a complete evaluation (see Sections 4.02 and 8.01).

972  
973 The application must serve as the basis for technological innovation and lead to a new

974 commercial product, process, or service that benefits the public.

975

976 NIST reserves the right to not submit an application for merit review if NIST determines  
977 the application has insufficient scientific and technical information, fails to comply with  
978 the administrative procedures as outlined in the applicable Screening Criteria in Section  
979 4.02, or is missing any of the required forms and documents listed in Section 8.01.

980

981 All applicants are required to provide information for SBA's database ([www.sbir.gov](http://www.sbir.gov)). The  
982 following are examples of the data to be entered by applicants into the database:

- 983 • Any business concern or subsidiary established for the commercial application of a  
984 product or service for which an SBIR award is made.
- 985 • Revenue from the sale of new products or services resulting from the research  
986 conducted under each Phase II award.
- 987 • Additional investment from any source, other than Phase I or Phase II awards, to  
988 further the research and development conducted under each Phase II award.
- 989 • Updated information in the SBA Tech-Net database on [sbir.gov](http://sbir.gov) for any prior award  
990 received by the SBC. The SBC may apportion sales or additional investment  
991 information relating to more than one Phase II award among those awards, if it  
992 notes the apportionment for each award.

993

994 Each Phase II awardee is required to update appropriate information on the award in the  
995 database upon completion of the last program objective under the funding agreement and  
996 is requested to voluntarily update the information in the database annually thereafter for a  
997 minimum period of 5 years.

998

### 999 **3.02 Phase II Application**

1000

1001 A complete application must include a Technical Proposal (described below) and all other  
1002 forms and documents listed in Section 8.01.

1003

1004 The Cover Sheet and Technical Content portion of the Technical Proposal, is **limited to 15**  
1005 **pages**. Additional pages beyond the 15-page limit will not be considered in the evaluation  
1006 process. Pages should be of standard size (8 1/2" x 11"; 21.6 cm x 27.9 cm) with margins of  
1007 2.5 cm and type at least 10-point font. All units of measurement should be presented in  
1008 metric units.

1009

1010 **The Technical Proposal portion of the application requires the following:**

1011 **(a) Cover Sheet (3.02.01) pages 1 and 2,**

1012 (b) Technical Content (3.02.02) pages 3 through 15,  
1013 (c) Commercialization Plan (3.02.03), and  
1014 (d) Phase I Final Report (3.02.04).

1015  
1016 The listing of all forms and documents needed to complete the application is given in  
1017 Section 8.01 of this NOFO. The additional required forms and documents in Section 8.01  
1018 are not included in the 15-page count.

1019  
1020 See Section 6.0 for information on the submission of applications in response to this NOFO.

1021  
1022 **3.02.01 Cover Sheet**

1023  
1024 A completed Cover Sheet (see Appendix A of this NOFO) is a required part of the Technical  
1025 Proposal. The Cover Sheet is counted as pages 1 and 2 of the Technical Proposal.

1026  
1027 If an applicant checks ‘Yes’ on #11, the applicant’s contact information will be provided to  
1028 the NIST Hollings Manufacturing Extension Partnership (MEP). Such applicants may be  
1029 contacted by your local MEP Center to explore a wide range of services and initiatives to  
1030 help identify potential opportunities to accelerate and strengthen growth and  
1031 competitiveness in the global marketplace for small and medium-sized manufacturers,  
1032 including business-related support services that could potentially benefit the applicant’s  
1033 proposed project.

1034  
1035 The applicant must provide in the space available on the Cover Sheet an abstract (limited to  
1036 200 words) and summary of potential commercial application of the research results  
1037 (limited to 100 words). Each applicant’s abstract and summary of potential commercial  
1038 applications will be provided to the SBA and should not contain proprietary information.  
1039 Each awardee’s abstract and summary of potential commercial applications will be  
1040 published on the NIST SBIR website ([www.nist.gov/tpo/small-business-innovation-research-](http://www.nist.gov/tpo/small-business-innovation-research-program)  
1041 [program](http://www.nist.gov/tpo/small-business-innovation-research-program)) and [www.sbir.gov](http://www.sbir.gov).

1042  
1043 **3.02.02 Technical Content**

1044  
1045 Beginning on page 3 of the Technical Proposal, include the following items with headings as  
1046 shown:

1047  
1048 **(1) Identification and Significance of the Problem or Opportunity.** Make a clear statement  
1049 of the specific research problem or opportunity addressed, its innovativeness, commercial  
1050 potential, and why the research is important. Explain how it applies to the specific

1051 research area in Section 9 that was utilized in Phase I.

1052  
1053 **(2) Phase II Technical Objectives.** State the specific objectives of the Phase II effort, including  
1054 the technical questions it will try to answer, to determine the feasibility of the proposed  
1055 approach.

1056  
1057 **(3) Phase II Work Plan.** Include a detailed description of the Phase II feasibility research  
1058 plan. The plan should indicate what will be done, where it will be done, and how the  
1059 research will be carried out. The method(s) planned to achieve each objective or task  
1060 should be discussed in detail.

1061  
1062 **(4) Related R/R&D.** Describe significant R/R&D that is directly related to the application,  
1063 including any conducted by the principal investigator or by the proposing SBC. Describe how  
1064 it relates to the proposed effort and describe any planned coordination with outside  
1065 sources. The applicant must persuade evaluators of his or her awareness of key, recent  
1066 R/R&D conducted by others in the specific topic area.

1067  
1068 **(5) Key Individuals and Bibliography of Related Work.** Identify key individuals involved in  
1069 Phase II, including their related education, experience, and publications. Where vitae are  
1070 extensive, summaries that focus on the most relevant experience and publications are  
1071 desired and may be necessary to meet application size limitations.

1072  
1073 **(6) Relationship with Future R/R&D.** Discuss the significance of the Phase II effort in  
1074 providing a foundation for a Phase III R/R&D effort. Also state the anticipated commercial  
1075 results of the proposed approach.

1076  
1077 **(7) Facilities and Equipment.** A description, availability, and location of  
1078 instrumentation and physical facilities proposed for Phase II should be  
1079 provided.

1080  
1081 **(8) Consultants, Contracts, and Subawards.** The purpose of this section is to show that any  
1082 third-party research assistance would materially benefit the proposed effort and that  
1083 arrangements for such assistance are in place at time of application submission.

1084  
1085 For Phase II, a minimum of one-half of the research and/or analytical effort must be  
1086 performed by the awardee. Outside involvement in the project is encouraged where it  
1087 strengthens the conduct of the research. Outside involvement is not a requirement of this  
1088 program and is limited to no more than one-half of the research and/or analytical effort in



1089 Phase II. The total cost for all consultant fees, facility leases, usage fees, and other  
1090 subcontract/subaward or purchase agreements, excluding funds requested for TABA – see  
1091 Section 5.11, may not exceed one-half of the total award.

1092  
1093 No individual or entity may serve as consultant, contractor, or subrecipient if they have  
1094 been the recipient of any NIST information related to the research area that is not generally  
1095 available to the public.

1096  
1097 The applicant must also include Letters of Commitment from any participating consultants,  
1098 subrecipients, or subcontractors. The Letters of Commitment are separate from the  
1099 Technical Proposal and do not count against the page limit. See Section 8.01.16.

1100  
1101 **(9) Cooperative Research and Development Agreements (CRADA).** State if the applicant is  
1102 a former or current CRADA partner with NIST, or with any other Federal agency, naming the  
1103 agency, title of the CRADA, and any relationship with the proposed work. The statement of  
1104 work of an SBIR award awarded under this NOFO cannot overlap with the statement of  
1105 work of an existing CRADA with any federal agency, including NIST. NIST will consider  
1106 whether there is any overlap on a case by case basis.

1107  
1108 **(10) Guest Researcher.** State if the applicant or any of its consultants, contractors, or  
1109 subrecipients or their employees is a domestic or foreign guest researcher at NIST (see  
1110 <http://www.nist.gov/tpo/collaborations/guestresearchers.cfm>), naming the sponsoring  
1111 laboratory.

1112  
1113 **(11) Cost Sharing.** Cost sharing is not required and is not considered during the evaluation  
1114 process for Phase II applications.

1115  
1116 **(12) Similar Applications or Awards. WARNING --** While it is permissible to submit identical  
1117 applications or applications containing a significant amount of essentially equivalent work  
1118 for consideration under numerous Federal program funding announcements, **it is unlawful**  
1119 **to enter into a funding agreement requiring essentially equivalent work to an SBIR award**  
1120 **(see 15 U.S.C. § 638(bb)(3)).** If there is any question concerning this, it must be disclosed to  
1121 the soliciting agency or agencies before award.

1122  
1123 If an application submitted in response to this NOFO is substantially the same as another  
1124 application that has been funded, is now being funded, or is pending with another Federal  
1125 Agency, the applicant must provide the following information:

1126  
1127 (a) Names and addresses of agencies to which an application was submitted or from which

- 1128 an award was received.  
1129  
1130 (b) Date of application submission or date of award.  
1131  
1132 (c) Title, number, and date of NOFO(s) under which an application was submitted or award  
1133 received.  
1134  
1135 (d) Specific applicable research topic(s) for each application submitted or award received.  
1136  
1137 (e) Title of research projects for each application submitted or award received.  
1138  
1139 (f) Name and title of principal investigator or project manager for each application  
1140 submitted or award received.  
1141

1142 If no equivalent application is under consideration or award for equivalent work received, a  
1143 statement to that effect **must** be included in this section of the technical content area of the  
1144 application.  
1145

### 1146 **3.02.03 Commercialization Plan**

1147 Attach a copy of your commercialization plan that follows the guidelines below.  
1148

1149 An important criterion for selection of NIST Phase II awards is the potential for commercial  
1150 applications of the research, as evidenced by one or more of the following:  
1151

- 1152 • The SBC's record of commercializing SBIR and other research;
- 1153 • The existence of Phase III follow-on funding commitments from the private sector or non-  
1154 SBIR Government funding sources; and
- 1155 • Other indicators of the concept's commercial potential.  
1156  
1157  
1158

1159 There are no page limits (upper or lower) for the commercialization plan because each  
1160 project is distinct and each company's vision for deploying its technology into the  
1161 marketplace is unique.  
1162

1163 The commercialization plan should provide information directly related to bringing the  
1164 anticipated research results to market. For more information on preparing a  
1165 commercialization plan, please visit the Small Business Administration website, Writing a  
1166

1167 Business Plan: [http://www.sba.gov/category/navigation-structure/starting-managing-](http://www.sba.gov/category/navigation-structure/starting-managing-business/starting-business/how-write-business-plan)  
1168 [business/starting-business/how-write-business-plan](http://www.sba.gov/category/navigation-structure/starting-managing-business/starting-business/how-write-business-plan). The commercialization plan should  
1169 indicate how the Phase II research results are to be carried out in Phase III and should  
1170 address the following areas:

1171  
1172 **Company Information** – Focused objectives/core competencies; specialization area(s);  
1173 products with significant sales, and history of previous Federal and nonfederal funding,  
1174 regulatory experience, and subsequent commercialization.

1175  
1176 **Commercial Applications** - A clear description of the product/service/process you plan on  
1177 providing as a result of your Phase II research and the potential commercial application or  
1178 use.

1179  
1180 **Customers and Competition** – Clear description of key technology objectives, current  
1181 competition, and advantages compared to competing products or services; description of  
1182 hurdles to acceptance of the innovation.

1183  
1184 **Market** – Milestones, target dates, analyses of market size, and estimated market share  
1185 after first year sales and after 5 years, explanation of plan to obtain market share

1186  
1187 **Intellectual Property** – Patent status, technology lead, trade secrets or other demonstration  
1188 of a plan to achieve sufficient protection to realize the commercialization state and attain at  
1189 least a temporal competitive advantage.

1190  
1191 **Financing** – Plans for securing necessary funding in Phase III.

1192  
1193 **Assistance and Mentoring** - Plans for securing needed technical or business assistance  
1194 through mentoring, partnering, or through arrangements with state assistance programs,  
1195 Small Business Development Centers (SBDCs), Hollings Manufacturing Extension Partnership  
1196 Centers, or other assistance providers.

1197  
1198 Each SBC applying for a Phase II award is required to update its Commercialization  
1199 information on [www.SBIR.gov](http://www.SBIR.gov) for all of its prior Phase II awards.

1200

### 1201 **3.02.04 Phase I Final Report**

1202  
1203 Attach a copy of your Phase I Final Report. The Phase I Final Report does not count toward  
1204 the Technical Proposal 15 page limit.

1205

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## 4.0 METHOD OF SELECTION AND EVALUATION CRITERIA

### 4.01 Introduction

All applications will be evaluated and judged on a competitive basis. Applications will be initially screened to determine eligibility, completeness, and responsiveness to this NOFO (see Sections 4.02 and 8.01). Applications passing the initial screening will be evaluated in accordance with the evaluation criteria (see Section 4.03). Each application will be judged on its own merit.

NIST is under no obligation to fund any application or any specific number of applications in a given topic. NIST may elect to fund several or none of the applications for the same research area. If an application is submitted that requires a license to use a NIST-owned invention covered by a patent or patent application and such NIST-owned invention has become unavailable for licensing prior to the close of this NOFO in the field of use relevant to the application, NIST has the sole discretion to deem the application ineligible.

### 4.02 Phase II Screening Criteria

Please carefully read the entire NOFO and review the following Phase II Screening Criteria to assure that your application meets NIST requirements. Phase II applications that do not clearly satisfy all seven (7) of the screening criteria will be eliminated from the review and selection process and not receive further consideration. However, NIST, in its sole discretion, may continue the review process for an application that is missing minor non-substantive information, the absence of which may easily be rectified.

The screening criteria are:

- (1) The application must be received by NIST before the deadline specified in Section 6.01.
- (2) The proposing firm must qualify as eligible according to the criteria provided in Section 1.03.
- (3) The Phase II application must include all required forms and documents listed in Section 8.01:
  - i) SF-424 (R&R), Application for Federal Assistance

- 1244 ii) Research and Related Budget
- 1245 iii) SF-424B, Assurances – Non-Construction Programs, (if applicable)
- 1246 iv) CD-511, Certification Regarding Lobbying
- 1247 v) Research and Related Other Project Information
- 1248 vi) SF-LLL – Disclosure of Lobbying Activities (if applicable)
- 1249 vii) Technical Content – see Section 3.02
  - 1250 a. Cover Sheet – see Section 3.02.01
  - 1251 b. Technical Proposal – see Section 3.02.02
  - 1252 c. Commercialization Plan – see Section 3.02.03
  - 1253 d. Phase I Final Report – see Section 3.02.04
- 1254 viii) Budget Narrative and Justification – see Section 8.01.8
- 1255 ix) Indirect Cost Rate Agreement – see Section 8.01.9
- 1256 x) SBA Company Registry Form – see Section 8.01.10
- 1257 xi) Data Management Plan -see Section 8.01.11
- 1258 xii) Subaward Budget Form - see Section 8.01.12
- 1259 xiii) Research and Related Personal Data – see Section 8.01.13
- 1260 xiv) Current and Pending Support Form – see Section 8.01..14
- 1261 xv) Compliance with SBIR Program Requirements, Applicant Fraud Awareness Training -  
1262 Certificate of Training Completion – see Section 8.01.15
- 1263 xvi) Letters of Commitment – see Section 8.01.16

1264  
1265 (4) The Cover Sheet and Technical Proposal portions of the Technical Content must not  
1266 exceed 15 pages.

1267  
1268 (5) The Phase II total proposed project budget must not exceed \$400,000. Up to \$50,000  
1269 of the award may be requested for TABA. For Phase II, a minimum of one-half of the  
1270 research and/or analytical effort must be performed by the awardee. The total cost for all  
1271 consultant fees, facility leases, usage fees, and other subcontract/subaward or purchase  
1272 agreements, excluding funds requested for TABA – see Section 5.11, may not exceed one-  
1273 half of the total award (Section 1.03).

1274  
1275 (6) The duration of R/R&D for the Phase II project must not exceed 24 months.

1276  
1277 (7) If an application is submitted that requires a license to use a NIST-owned invention  
1278 covered by a patent or patent application, the relevant NIST-owned invention must be  
1279 available for licensing prior to the close of this NOFO in the field of use relevant to the  
1280 application.

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#### 4.03 Phase II Evaluation Criteria

Phase II applications that satisfy the screening criteria in Section 4.02 will proceed to a scored merit review process.

**Merit Review.** The applications will be evaluated by at least three (3) reviewers composed of NIST staff or non-federal personnel in accordance with the following equally-weighted criteria for a maximum of 100 points. Reviewers may discuss the applications with each other, but scores will be determined on an individual basis. The reviewers will evaluate:

- (1) The soundness of the technical approach to the proposed research.
- (2) The likelihood the proposed effort will yield significant results leading to a product within the technical area as described in the commercialization plan.
- (3) The likelihood the proposed approach will contribute to the field of study in the technical area.
- (4) Qualifications of the proposed principal/key investigators, supporting staff, and consultants as they relate to accomplishing the proposed research effort.

Applicants should be specific and clear when writing their applications and not assume information not clearly spelled out can be inferred by the reviewer. No technical clarifications may be made after application submission.

#### 4.04 Phase II Award Selections

Final selection decisions will be made by the Selecting Official, the Director of the NIST Technology Partnerships Office, or designee, considering the following selection factors:

- (1) Scores and comments provided by the Merit reviewers;
- (2) Diversity across NIST program areas;
- (3) Proposed projects that include SBIR high priority areas of manufacturing and energy efficiency research;
- (4) Proposed projects that include participation by women and socially and economically disadvantaged SBCs, and SBCs from HUBZones or underserved-states;
- (5) Possible duplication of other federally-funded research; and
- (6) Availability of funding.

1322  
1323 NIST may select some, all, or none of the applications, or part(s) of any particular  
1324 application. Prior to issuing an award, NIST may ask for supplemental information and may  
1325 negotiate the scope and amount of the award. The final approval of selected applications  
1326 and issuance of awards will be by the NIST Grants Officer. The award decisions of the NIST  
1327 Grants Officer are final.

1328  
1329 **4.04.01 Federal Awarding Agency Review of Risk Posed by Applicants**

1330  
1331 After applications are proposed for funding by the selecting official, the NIST Grants  
1332 Management Division (GMD) performs administrative reviews, which may include a review  
1333 of the financial stability of an applicant, the quality of the applicant’s management systems,  
1334 the history of performance, and/or the applicant’s ability to effectively implement  
1335 statutory, regulatory, or other requirements imposed on non-Federal entities. Upon review  
1336 of these factors, if appropriate, specific conditions that correspond to the degree of risk  
1337 may be applied to an award.

1338  
1339 Upon completion of the pre-award risk assessment, the Grants Officer will make a  
1340 responsibility determination concerning whether the applicant is qualified to receive the  
1341 subject award and, if so, whether appropriate specific conditions that correspond to  
1342 the degree of risk posed by the applicant should be applied to an award.

1343  
1344 **4.04.02 Release of Proposal Review Information**

1345  
1346 After final award decisions have been announced, the merit evaluations of applications that  
1347 passed the screening criteria will be provided to the applicant with written notification of  
1348 award/non-award. The identity of the reviewers will not be disclosed.

1349  
1350 **5.0 CONSIDERATIONS**

1351  
1352 **5.01 Awards**

1353  
1354 Through 2 C.F.R. § 1327.101, the Department of Commerce adopted **Uniform**  
1355 **Administrative Requirements, Cost Principles, and Audit Requirements for Federal**  
1356 **Awards** at 2 C.F.R. Part 200, which apply to awards in this program. Refer to  
1357 <http://go.usa.gov/SBYh> and <http://go.usa.gov/SBg4>.

1358  
1359 The Department of Commerce will apply to all awards made under this NOFO the **Financial**  
1360 **Assistance Standard Terms and Conditions** in effect on the date of award. The current

1361 version, dated April 30, 2019, is accessible at  
1362 [http://www.osec.doc.gov/oam/grants\\_management/policy/default.htm](http://www.osec.doc.gov/oam/grants_management/policy/default.htm).  
1363

1364 **The Department of Commerce Pre-Award Notification Requirements for Grants and**  
1365 **Cooperative Agreements**, 79 FR 78390 (December 30, 2014), are applicable to this NOFO  
1366 and are available at <http://go.usa.gov/hKkR>.  
1367

1368 Contingent upon availability of funds, NIST anticipates making a total number of  
1369 approximately eight (8) Phase II awards with a project budget of no more than  
1370 \$400,000 each. Up to \$50,000 of the award may be included in each application for TABA.  
1371 The total performance period shall be no more than 24 months beginning on the  
1372 agreement start date. A period of one (1) month is allotted after the 24 month R&D  
1373 duration for the awardee to prepare and submit a final report. One year after completing  
1374 the R&D activity, the awardee shall be required to report on its commercialization  
1375 activities.  
1376

1377 The funding vehicles for NIST's SBIR program in both Phase I and Phase II are  
1378 cooperative agreements.  
1379

1380 To provide for an in-depth review of the Phase I final report and the Phase II application,  
1381 Phase II awards will be made approximately 4 months after the completion of Phase I,  
1382 contingent upon availability of funds.  
1383

1384 In no event will NIST or the Department of Commerce be responsible for application  
1385 preparation costs. This NOFO does not obligate NIST or the Department of Commerce to  
1386 make any awards under either Phase I or Phase II. Furthermore, NIST will not fund any costs  
1387 incurred by the applicants before awards are made. Publication of this NOFO does not  
1388 oblige NIST or the Department of Commerce to award any specific project or to obligate any  
1389 available funds.  
1390

## 1391 **5.02 Reporting Requirements**

1392

1393 Phase II awardees will be required to submit Research Performance Progress Reports  
1394 (RPPR) including a final report. RPPRs are generally due 30 days after the end of the 6th,  
1395 12th, 18th, and 24th month of the period of performance.  
1396

1397 The RPPR should include a response to each of the metric questions that address the  
1398 technical details regarding the research conducted up to that point in the project, detailed  
1399 plans for the next stages of the project, results obtained, estimates of technical feasibility, a



1400 description of TABA services provided, and the benefits and results of TABA services  
1401 provided for those awardees who requested and were approved for TABA services.  
1402 Consideration will be given to changes from the solicited and proposed milestones if results  
1403 from experimentation warrant a deviation from the plan. Inclusion of proprietary  
1404 information within the RPPRs may be necessary in order to effectively communicate  
1405 progress and gain appropriate consultation from NIST experts regarding next steps. All such  
1406 proprietary information must be marked by the awardee according to instructions provided  
1407 in Section 5.04.02.(d)(1).

1408  
1409 A commercialization report is due 12 months after the end of the period of performance.  
1410 The commercialization report must include an abstract appropriate for posting on the NIST  
1411 SBIR website. To help assess the effectiveness of our program in meeting programmatic  
1412 and SBIR objectives, NIST may periodically request information from small businesses about  
1413 progress taken towards commercialization of the technology after the completion of Phase  
1414 I and II awards.

1415

### 1416 **5.03 Payment Schedule**

1417

1418 Cooperative agreements will include an award term with electronic payment system  
1419 information. Pursuant to 2 C.F.R. § 200.305 awardees are to be paid in advance, provided  
1420 they maintain or demonstrate the willingness to maintain: written procedures that  
1421 minimize the time elapsing between the transfer of funds and disbursement by the  
1422 recipient, and financial management systems that meet the standards for fund control and  
1423 accountability as established in 2 C.F.R. § 200.302. Advances of funds to a recipient  
1424 organization shall be limited to the minimum amounts needed and be timed to be in  
1425 accordance with the actual, immediate cash requirements of the recipient organization in  
1426 carrying out the purpose of the approved program or project.

1427

1428 The Department of Commerce policy requires that in the usual case, non-Federal entities  
1429 time advance payment requests so that Federal funds are on hand for a maximum of three  
1430 calendar days before being disbursed by the non-Federal entity for eligible award costs. In  
1431 no case should advances exceed the amount of cash required for a 30-day period.

1432

### 1433 **5.04 Innovations, Inventions and Patents**

1434

#### 1435 **5.04.01 Proprietary Information Contained in Proposals**

1436

1437 Information contained in unsuccessful applications will remain the property of the applicant.  
1438 The Federal Government may, however, retain copies of all applications. Public release of

1439 information in any application submitted will be subject to existing statutory and regulatory  
1440 requirements. Applicants are discouraged from submitting proprietary information unless  
1441 the information is deemed essential for proper evaluation of the application. If proprietary  
1442 information provided by an applicant in a proposal, which constitutes a trade secret,  
1443 proprietary commercial or financial information, confidential personal information, or data  
1444 affecting national security, it will be treated in confidence to the extent permitted by law,  
1445 provided that the proposal is clearly marked by the applicant as follows:

1446  
1447 (A) The following legend must appear on the title page of the proposal:

1448  
1449 This proposal contains information that shall not be disclosed outside the Federal  
1450 Government and shall not be duplicated, used, or disclosed in whole or in part for any  
1451 purpose other than evaluation of this proposal, unless authorized by law. The Government  
1452 shall have the right to duplicate, use, or disclose the data to the extent provided in the  
1453 resulting award if award is made as a result of the submission of this proposal. The  
1454 information subject to these restrictions are contained on all pages of the proposal except  
1455 for pages [insert page number or other identification of pages that contain no restricted  
1456 information.]

1457  
1458 (End of Legend); and

1459  
1460 (B) The following legend must appear on each page of the proposal that contains information  
1461 the applicant wishes to protect:

1462  
1463 Use or disclosure of information contained on this sheet is subject to the restriction on the  
1464 title page of this proposal.

1465  
1466 The use of any other legend is unacceptable to the Government and may constitute grounds  
1467 for removing the application from further consideration without assuming any liability for  
1468 inadvertent disclosure.

#### 1469 1470 **5.04.02 Rights in Data Developed Under SBIR Funding Agreements**

1471  
1472 In lieu of [the Department of Commerce Financial Assistance Standard Terms and](#)  
1473 [Conditions](#), Section C.03, Intellectual Property Rights, the following terms and conditions  
1474 will apply to and be included in all SBIR awards issued under this NOFO:

1475  
1476 (a) Definitions. All definitions below are excerpted from the SBA SBIR/STTR Policy  
1477 Directive, available at <https://www.sbir.gov/sites/default/files/SBIR->

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[STTR Policy Directive 2019.pdf](#).

(1) Computer Database. A collection of data recorded in a form capable of being processed by a computer. The term does not include Computer Software.

(2) Computer Programs. A set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(3) Computer Software. Computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae, and related material that would enable the software to be reproduced, recreated, or recompiled. Computer Software does not include Computer Databases or Computer Software Documentation.

(4) Computer Software Documentation. Owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the Computer Software or provide instructions for using the software.

(5) Data. All recorded information, regardless of the form or method of recording or the media on which it may be recorded. The term does not include information incidental to contract or grant administration, such as financial, administrative, cost or pricing or management information.

(6) Form, Fit, and Function Data. Data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, and data identifying source, size, configuration, mating and attachment characteristics, functional characteristics, and performance requirements. For Computer Software it means data identifying source, functional characteristics, and performance requirements, but specifically excludes the source code, algorithms, processes, formulas, and flow charts of the software.

(7) Government Purpose. Any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations or sales or transfers by the United States Government to foreign governments or international organizations. Government Purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose Technical Data or Computer Software for commercial purposes or authorize others to do so.

(8) Operations, Maintenance, Installation, or Training Purposes (OMIT) Data. Data that is necessary for operation, maintenance, installation, or training purposes (but not

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including detailed manufacturing or process data).

(9) SBIR/STTR Computer Software Rights. The Federal Government’s rights during the SBIR/STTR Protection Period in specific types of SBIR/STTR Data that are Computer Software.

(1) The Federal Government may use, modify, reproduce, release, perform, display, or disclose SBIR/STTR Data that are Computer Software within the Government. The Federal Government may exercise SBIR/STTR Computer Software Rights within the Government for:

(i) Use in Federal Government computers;

(ii) Modification, adaptation, or combination with other Computer Software, provided that the Data incorporated into any derivative software are subject to the rights in § 3(ee) of the SBIR/STTR Policy Directive and that the derivative software is marked as containing SBIR/STTR Data;

(iii) Archive or backup; or

(iv) Distribution of a computer program to another Federal agency, without further permission of the Awardee, if the Awardee is notified of the distribution and the identity of the recipient prior to the distribution, and a copy of the SBIR/STTR Computer Software Rights included in the Funding Agreement is provided to the recipient.

(2) The Federal Government shall not release, disclose, or permit access to SBIR/STTR Data that is Computer Software for commercial, manufacturing, or procurement purposes without the written permission of the Awardee. The Federal Government shall not release, disclose, or permit access to SBIR/STTR Data outside the Government without the written permission of the Awardee unless:

(i) The non-Governmental entity has entered into a non-disclosure agreement with the Government that complies with the terms for such agreements outlined in § 8 of the SBIR/STTR Policy Directive; and

(ii) The release or disclosure is—

(A) To a Federal Government support service contractor or their subcontractor

1557 for purposes of supporting Government internal use or activities, including  
1558 evaluation, diagnosis and correction of deficiencies, and adaptation,  
1559 combination, or integration with other Computer Software provided that  
1560 SBIR/STTR Data incorporated into any derivative software are subject to the  
1561 rights in § 3(ee) of the SBIR/STTR Policy Directive; or

1562  
1563 (B) Necessary to support certain narrowly-tailored essential Government  
1564 activities for which law or regulation permits access of a non-Government entity  
1565 to a contractors' data developed exclusively at private expense, non-SBIR/STTR  
1566 Data, such as for emergency repair and overhaul.

1567  
1568 (10) SBIR/STTR Data. All Data developed or generated in the performance of an SBIR  
1569 or STTR award, including Technical Data and Computer Software developed or  
1570 generated in the performance of an SBIR or STTR award. The term does not include  
1571 information incidental to contract or grant administration, such as financial,  
1572 administrative, cost or pricing or management information.

1573  
1574 (11) SBIR/STTR Data Rights. The Federal Government's license rights in properly  
1575 marked SBIR/STTR Data during the SBIR/STTR Protection Period are as follows:  
1576 SBIR/STTR Technical Data Rights in SBIR/STTR Data that are Technical Data or any  
1577 other type of Data other than Computer Software; and SBIR/STTR Computer  
1578 Software Rights in SBIR/STTR Data that is Computer Software. Upon expiration of  
1579 the protection period for SBIR/STTR Data, the Federal Government has a royalty  
1580 free license to use, and to authorize others to use on its behalf, these data for  
1581 Government Purposes, and is relieved of all disclosure prohibitions and assumes no  
1582 liability for unauthorized use of these data by third parties, except that any such  
1583 data that is also protected under a subsequent SBIR/STTR award shall remain  
1584 protected through the protection period of that subsequent award. The Federal  
1585 Government receives Unlimited Rights in Form Fit, and Function Data, OMIT Data,  
1586 and all unmarked SBIR/STTR Data.

1587  
1588 (12) SBIR/STTR Protection Period. The period of time during which the Federal  
1589 Government is obligated to protect SBIR/STTR Data against unauthorized use and  
1590 disclosure in accordance with SBIR/STTR Data Rights. The SBIR/STTR Protection  
1591 Period begins at award of an SBIR/STTR Funding Agreement and ends not less than  
1592 twenty years from that date (See § 8(b)(4) of the SBIR/STTR Policy Directive).

1593  
1594 (13) SBIR/STTR Technical Data Rights. The Federal Government's rights during the  
1595 SBIR/STTR Protection Period in SBIR/STTR Data that are Technical Data or any other

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type of Data other than Computer Software.

(1) The Federal Government may, use, modify, reproduce, perform, display, release, or disclose SBIR/STTR Data that are Technical Data within the Government; however, the Government shall not use, release, or disclose the data for procurement, manufacturing, or commercial purposes; or release or disclose the SBIR/STTR Data outside the Government except as permitted by paragraph (B) below or by written permission of the Awardee.

(2) SBIR/STTR Data that are Technical Data may be released outside the Federal Government without any additional written permission of the Awardee only if the non-Governmental entity or foreign government has entered into a non-disclosure agreement with the Federal Government that complies with the terms for such agreements outlined in § 8 of the SBIR/STTR Policy Directive and the release is:

(i) Necessary to support certain narrowly-tailored essential Government activities for which law or regulation permits access of a non-Government entity to a contractors' data developed exclusively at private expense, non-SBIR/STTR Data, such as for emergency repair and overhaul;

(ii) To a Government support services contractor in the performance of a Government support services contract for internal Government use or activities, including evaluation, diagnosis or modification, provided that SBIR/STTR Technical Data incorporated into any derivative Data are subject to the rights in § 3(ii) of the SBIR/STTR Policy Directive, and the release is not for commercial purposes or manufacture;

(iii) To a foreign government for purposes of information and evaluation if required to serve the interests of the U.S. Government; or

(iv) To non-Government entities or individuals for purposes of evaluation.

(14) Technical Data. Recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including Computer Software Documentation and Computer Databases). The term does not include Computer Software or financial, administrative, cost or pricing, or management information, or other data incidental to contract or grant administration. The term includes recorded Data of a scientific or technical nature that is included in Computer Databases.

1635  
1636 (15) Unlimited Rights. The Government's rights to access, use, modify, prepare  
1637 derivative works, reproduce, release, perform, display, disclose, or distribute Data in  
1638 whole or in part, in any manner and for any purpose whatsoever, and to have or  
1639 authorize others to do so.

1640  
1641 (b) Allocation of SBIR/STTR Data Rights.

1642  
1643 (1) An SBC retains ownership of all SBIR/STTR Data it develops or generates in the  
1644 performance of an SBIR/STTR award. The SBC retains all rights in SBIR/STTR Data that  
1645 are not granted to the Federal Government in accordance with the SBIR/STTR Policy  
1646 Directive. These rights of the SBC do not expire.

1647  
1648 (2) During the SBIR/STTR Protection Period, the Federal Government receives  
1649 SBIR/STTR Technical Data Rights in appropriately marked SBIR/STTR Data that is  
1650 Technical Data or any other type of Data other than Computer Software; and  
1651 SBIR/STTR Computer Software Rights in appropriately marked SBIR/STTR Data that is  
1652 Computer Software.

1653  
1654 (3) After the protection period, the Federal Government may use, and authorize  
1655 others to use on its behalf, for Government Purposes, SBIR/STTR Data that was  
1656 protected during the SBIR/STTR Protection Period. Awards issued by the U.S.  
1657 Department of Energy are subject to Unlimited Rights after the expiration of the  
1658 SBIR/STTR Protection Period.

1659  
1660 (4) The Federal Government receives Unlimited Rights in Form Fit, and Function Data,  
1661 OMIT Data, and all unmarked SBIR/STTR Data.

1662  
1663 (c) Identification and Delivery of SBIR/STTR Data. Any SBIR/STTR Data delivered by the  
1664 Awardee, and in which the Awardee intends to limit the Federal Government's rights to  
1665 SBIR/STTR Data Rights, must be delivered with restrictive markings. The Federal  
1666 Government assumes no liability for the access, use, modification, reproduction, release,  
1667 performance, display, disclosure, or distribution of SBIR/STTR Data without markings.  
1668 The Awardee or its subcontractors or suppliers shall conspicuously and legibly mark all  
1669 such SBIR/STTR Data with the appropriate legend.

1670  
1671 (1) The authorized legend shall be placed on each page of the SBIR/STTR Data. If only  
1672 portions of a page are subject to the asserted restrictions, the SBIR/STTR Awardee  
1673 shall identify the restricted portions (e.g., by circling or underscoring with a note or

1674 other appropriate identifier). With respect to SBIR/STTR Data embodied in Computer  
1675 Software, the legend shall be placed on: (1) the printed material or media containing  
1676 the Computer Software; or (2) the transmittal document or storage container. The  
1677 legend shall read as follows:

1678 "SBIR/STTR DATA RIGHTS

Funding Agreement No.	
Award Date	
SBIR/STTR Protection Period	
SBIR/STTR Awardee	
SBIR/STTR Awardee Address	

1680  
1681 This is SBIR/STTR Data (or is Computer Software or a Prototype that embodies or  
1682 includes SBIR/STTR Data) to which the SBIR/STTR Awardee has SBIR/STTR Data Rights  
1683 and to which the Federal Government has received SBIR/STTR Technical Data Rights  
1684 (or SBIR/STTR Computer Software Rights) during the SBIR/STTR Protection Period and  
1685 rights of use for Government Purposes after the SBIR/STTR Protection Period, as  
1686 those terms are defined in the SBIR/STTR Funding Agreement. Awards issued by the  
1687 U.S. Department of Energy are subject to Unlimited Rights after the SBIR/STTR  
1688 Protection Period, as that term is defined in the SBIR/STTR Funding Agreement. Any  
1689 reproduction of SBIR/STTR Data or portions of such data marked with this legend  
1690 must also reproduce the markings."

1691 (End of Legend)

1692  
1693 (2) Data submitted without correct or appropriate markings may be corrected within  
1694 6 months from the date the data is delivered.

1695  
1696 (d) Relation to patents. Nothing regarding SBIR/STTR Data Rights in this clause shall imply  
1697 a license to or imply a requirement to license to the Federal Government any patent to a  
1698 Subject Invention (as defined under the Bayh-Dole Act implemented at 37 CFR 401) made  
1699 under an SBIR/STTR award.

1700  
1701 (e) *Copyright.*

1702  
1703 (1) *Data first produced in the performance of this award.*

1704 (i) Except as otherwise specifically provided in this award, the Awardee may assert  
1705 copyright subsisting in any data first produced in the performance of this award.



1706 (ii) When asserting copyright, the Awardee shall affix the applicable copyright notice  
1707 of 17 U.S.C. § 401 or § 402 and an acknowledgment of Government sponsorship  
1708 (including award number).  
1709 (iii) For data other than computer software, the Awardee grants to the Government,  
1710 and others acting on its behalf, a paid-up nonexclusive, irrevocable, worldwide  
1711 license to reproduce, prepare derivative works, distribute copies to the public, and  
1712 perform publicly and display publicly, by or on behalf of the Government. For  
1713 computer software, the Awardee grants to the Government, and others acting on its  
1714 behalf, a paid-up, nonexclusive, irrevocable, worldwide license in such copyrighted  
1715 computer software to reproduce, prepare derivative works, and perform publicly  
1716 and display publicly, by or on behalf of the Government.  
1717

1718 (2) *Data not first produced in the performance of this award.* The Awardee shall not, without  
1719 prior written permission of the Grants Officer, incorporate in data delivered under this award  
1720 any data that are not first produced in the performance of this award unless the Awardee: (i)  
1721 identifies such data; and (ii) grants to the Government, or acquires on its behalf, a license of  
1722 the same scope as set forth in subparagraph (c)(1) of this clause.  
1723

1724 (3) *Removal of copyright notices.* The Government will not remove any copyright notices  
1725 placed on data pursuant to this paragraph (c)) and will include such notices on all  
1726 reproductions of the data.  
1727

1728 (End of Clause)  
1729  
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### 1731 **5.04.03 NIST-Owned Inventions**

1732 Awardees will not have any automatic rights to make, use or sell products or services  
1733 incorporating NIST-owned inventions. For any SBIR award that requires a license to use a  
1734 NIST-owned invention covered by a patent or patent application, the SBIR awardee will be  
1735 required to contact NIST's Technology Partnerships Office for a patent license for research  
1736 or for commercial use.  
1737

1738 To the extent that such NIST-owned invention is available for licensing and has not  
1739 otherwise been exclusively licensed to another party, the SBIR awardee will be granted a  
1740 non-exclusive research license and will be given the opportunity to negotiate a non-  
1741 exclusive or an exclusive commercialization license to the NIST-owned invention, in  
1742 accordance with the Federal patent licensing regulations, set forth in 37 C.F.R. Part 404.  
1743

### 1744 **5.04.04 Patent Rights**

1745  
1746 Normally, SBCs may retain worldwide patent rights to any invention developed with  
1747 Federal support. The specific requirements governing the development, reporting, and  
1748 disposition of rights to inventions and patents resulting from Federal awards are described  
1749 in more detail in 37 C.F.R. Part 401, which implements 35 U.S.C. § 202 through 204 and  
1750 includes standard patent rights clauses in 37 C.F.R. § 401.14, which are incorporated by  
1751 reference into all awards.

1752  
1753 **5.04.05 Invention Reporting**

1754  
1755 SBIR awardees must report inventions to the NIST SBIR Program Office within 2 months of  
1756 the inventor’s report to the awardee. Inventions must also be reported through the iEdison  
1757 Invention Reporting System at [www.iedison.gov](http://www.iedison.gov).

1758  
1759 **5.05 Cost Sharing**

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1761 Cost sharing is permitted for applications under this program NOFO; however, cost sharing  
1762 is not required and will not be considered in evaluation of applications.

1763  
1764 **5.06 Profit or Fee**

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1766 A reasonable profit or fee not to exceed 7% of the sum of the direct and indirect costs is  
1767 allowed.

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1769 **5.07 Joint Ventures or Limited Partnerships**

1770  
1771 Joint ventures and limited partnerships are eligible provided the entity created qualifies as an  
1772 SBC as defined in this NOFO.

1773  
1774 **5.08 Research and Analytical Work**

1775  
1776 For Phase II, a minimum of one-half of the research and/or analytical effort, per Section  
1777 1.03, must be performed by the applicant. The total cost for all consultant fees, facility  
1778 leases, usage fees, and other subcontract/subaward or purchase agreements, excluding  
1779 funds requested for TABA – see Section 5.11, may not exceed one-half of the total award.

1780  
1781 **5.09 Awardee Commitments**

1782  
1783 Upon award of a funding agreement, the awardee will be required to make certain legal

1784 commitments through acceptance of numerous Specific Award Conditions (SAC) in the  
1785 funding agreement. Awards also will be governed by the Department of Commerce  
1786 Financial Assistance Standard Terms and Conditions (April 30, 2019 or successor version);  
1787 the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for  
1788 Federal Awards at 2 C.F.R. Part 200, adopted by the Commerce Department through 2  
1789 C.F.R. § 1327.101; when applicable, 48 C.F.R. Subpart 31.2, Contracts with Commercial  
1790 Organizations; and the Department of Commerce Pre-Award Notification Requirements for  
1791 Grants and Cooperative Agreements, 79 FR 78390 (December 30, 2014).

1792  
1793 Section 5.10 describes the types of terms and conditions to which the awardee would  
1794 commit. This list is not a complete list of terms and conditions to be included in Phase I and  
1795 Phase II funding agreements and is not the specific wording of such terms and conditions.

### 1796 **5.10 Summary Statements**

1797  
1798  
1799 The following statements apply to Phase I and Phase II awards and are examples of some of  
1800 the topic areas that will be addressed in the award terms and conditions.

1801  
1802 (1) Access to Records. Government officials have the right of timely and unrestricted access  
1803 to records of awardees, including access to personnel for discussion related to the records.  
1804 See 2 C.F.R. § 200.336, available at [www.gpo.gov/fdsys/pkg/CFR-2017-title2-vol1/pdf/CFR-](http://www.gpo.gov/fdsys/pkg/CFR-2017-title2-vol1/pdf/CFR-2017-title2-vol1-sec200-336.pdf)  
1805 [2017-title2-vol1-sec200-336.pdf](http://www.gpo.gov/fdsys/pkg/CFR-2017-title2-vol1/pdf/CFR-2017-title2-vol1-sec200-336.pdf).

1806  
1807 (2) Termination. Awards may be terminated (a) by the NIST Grants Officer, if an awardee  
1808 materially fails to comply with the terms and conditions of an award, or for cause; (b) by the  
1809

1810 NIST Grants Officer with the consent of the awardee, in which case the two parties shall  
1811 agree upon the termination conditions, including the effective date and, in the case of  
1812 partial termination, the portion to be terminated; (c) by the awardee upon sending to the  
1813 NIST Grants Officer written notification setting forth the reasons for such termination, the  
1814 effective date, and, in the case of partial termination, the portion to be terminated. See 2  
1815 C.F.R. §§ 200.338-342 available at [www.gpo.gov/fdsys/granule/CFR-2014-title2-vol1/CFR-](http://www.gpo.gov/fdsys/granule/CFR-2014-title2-vol1/CFR-2014-title2-vol1-sec200-338)  
1816 [2014-title2-vol1-sec200-338](http://www.gpo.gov/fdsys/granule/CFR-2014-title2-vol1/CFR-2014-title2-vol1-sec200-338).

1817  
1818 (3) Non-Discrimination. The awardee will be required to comply with statutory and other  
1819 non-discrimination requirements. No person in the United States shall, on the ground of  
1820 race, color, national origin, handicap, age, religion, or sex, be excluded from participation  
1821 in, be denied the benefits of, or be subject to discrimination under any program or activity  
1822 receiving Federal financial assistance. See Section G.02 of the [Department of Commerce](#)

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[Financial Assistance Standard Terms and Conditions \(April 30, 2019\).](#)

(4) Audit Requirements. Government officials may conduct an audit of an award at any time. Unless otherwise specified in the award, for-profit organizations that expend \$750,000 or more in Department of Commerce funds during their fiscal year must have an audit conducted for that year in accordance with Section D.01.c of the Department of Commerce Financial Assistance Standard Terms and Conditions (April 30, 2019).

(5) Codes of Conduct. Codes of Conduct. Pursuant to the certification in Form SF-424B, paragraph 3, the awardee must maintain written standards of conduct to establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain in the administration of the award. See Section F.01 of the Department of Commerce Financial Assistance Standard Terms and Conditions (April 30, 2019).

(6) Officials Not To Benefit. No Federal Government official may benefit personally, to include financial and/or profession gain, from the SBIR/STTR Funding Agreement.

(7) Duplication of Effort. The funding agreement shall not support the duplication of other federally-funded research.

(8) Scheduling and Use of Federal Agency Facilities and Equipment. The Awardee must schedule, reserve, and complete usage within the period of performance of the Funding Agreement.

**5.11 Additional Information**

This NOFO reflects current planning. If there is any inconsistency between the information contained herein and the terms of any resulting SBIR funding agreement, the terms of the funding agreement are controlling.

Before award of a SBIR funding agreement, the Government may request the applicant to submit certain organizational, management, personnel, and financial information to assure responsibility of the applicant.

The Government is not responsible for any funds expended by the applicant before award of any funding agreement.

This program NOFO is not an offer by the Government and does not obligate the

1862 Government to make any specific number of awards. Also, awards under the SBIR Program  
1863 are contingent upon the availability of funds.

1864  
1865 The SBIR Program is not a substitute for existing unsolicited application mechanisms.  
1866 Unsolicited applications will not be accepted under the SBIR Program in either Phase I or  
1867 Phase II.

1868  
1869 If an award is made pursuant to an application submitted under this SBIR Program NOFO, a  
1870 representative of the awardee will be required to certify that the concern has not previously  
1871 been, nor is currently being, paid for essentially equivalent work by any Federal agency.

1872  
1873 The responsibility for the performance of the principal investigator, and other  
1874 employees or consultants who carry out the proposed work, including those of  
1875 subrecipients or contractors, lies with the management of the organization receiving an  
1876 award.

1877  
1878 NIST is committed to the goal of commercialization of the results of SBIR projects and will  
1879 provide funding for TABA to Phase I and Phase II awardees as authorized by 15 U.S.C. §  
1880 638(q). The NIST TABA program assists in the successful commercialization of products,  
1881 services, or technologies developed in association with the NIST SBIR Program. The NIST  
1882 TABA program provides funding for vendors to guide and mentor awardees in topics such  
1883 as assessing small business commercialization needs; planning, developing, and assisting in  
1884 the preparation of a commercialization plan; and identifying markets and developing entry  
1885 strategies. Allowable services include assistance with product sales, intellectual property  
1886 protections, market research, market validation, and development of regulatory plans and  
1887 manufacturing plans, or access to technical and business literature available through on-  
1888 line databases.

1889  
1890 Applicants may propose to use up to \$50,000 of Phase II funding for TABA services.  
1891 Funding for TABA counts toward the maximum \$400,000 award limit. To include TABA  
1892 services as part of a Phase II award, provide amount and vendor information in the budget  
1893 justification that demonstrates the provider can provide the services needed and include a  
1894 letter of commitment from the provider (see Section 8.01 for additional information). NIST  
1895 may disapprove a proposed TABA provider. TABA requests must be part of the application  
1896 submission and may not be requested subsequent to award. Reimbursement is limited to  
1897 services received that comply with 15 U.S.C. § 638(q).

1898  
1899 **5.12 Technical Assistance for Application Preparation and Project Conduct**

1900

1901 Applicants may wish to contact the NIST Hollings Manufacturing Extension Partnership  
 1902 (MEP), a nationwide network of locally managed extension centers whose sole purpose is to  
 1903 provide small- and medium-sized manufacturers with the help they need to succeed. The  
 1904 centers provide guidance to high-technology companies seeking resources and teaming  
 1905 relationships. To be referred to an MEP center for technical assistance, call 1-800-MEP-4-  
 1906 MFG (1-800-637-4634) or visit MEP’s website at <http://www.nist.gov/mep>.  
 1907  
 1908 MEP Centers are also prepared to provide referrals to state and local organizations offering  
 1909 resources and technical assistance to all NIST SBIR applicants after awards have been  
 1910 announced. If you would like your local MEP Center to contact you, please respond  
 1911 affirmatively to the statement (#11) about MEP on the Cover Sheet.

## 1912 6.0 SUBMISSION OF APPLICATIONS

### 1913 6.01 Deadline for Applications

1914  
 1915 Phase II applications must be received no later than 11:59 p.m. Eastern Time, Tuesday,  
 1916 May 26, 2020. Only electronic applications submitted via Grants.gov will be accepted.

1917  
 1918 **Applicants should be aware, and factor in their application submission planning, that**  
 1919 **the Grants.gov system is expected to be closed for routine maintenance at these times:**

From 12:01 A.M. Eastern Time	To 6:00 A.M. Eastern Time
Saturday	Monday
April 18, 2020	April 20, 2020
May 16, 2020	May 18, 2020

1920  
 1921  
 1922  
 1923 Applicants are cautioned to be careful of unforeseen delays that can cause late arrival of  
 1924 applications, with the result that they **will not** be forwarded for evaluation.

1925  
 1926 Applications not received by the specified due date and time, as recorded by Grants.gov, or  
 1927 that do not adhere to the other requirements of this NOFO (see Section 4.02 Screening  
 1928 Criteria and Section 8.01 Required Forms and Documents) will not be considered.

1929  
 1930 NIST strongly recommends that applicants do not wait until the last minute to submit an  
 1931 application. NIST will not make allowance for any late submissions. To avoid any potential  
 1932 processing backlogs due to last minute Grants.gov registrations, applicants are highly  
 1933

1934 encouraged to begin their Grants.gov registration process early. No extensions will be  
1935 granted.

1936  
1937 When developing your submission timeline, please keep in mind that (1) all applicants are  
1938 required to have current registrations in the System for Award Management (SAM.gov) and  
1939 Grants.gov; (2) the free annual registration process in the electronic System for Award  
1940 Management (SAM.gov) (see Section 6.03.1.b) of this NOFO) generally takes between three  
1941 and five business days but can take more than two weeks; and (3) applicants will receive a  
1942 series of e-mail messages from Grants.gov over a period of up to two business days before  
1943 learning whether a Federal agency's electronic system has received its application. **Please**  
1944 **note that a federal assistance award cannot be issued if the designated recipient's**  
1945 **registration in the System for Award Management (SAM.gov) is not current at the time of**  
1946 **the award.**

1947  
1948 **Applicants will find instructions on registering with SAM.gov as part of the Grants.gov**  
1949 **process at: [http://www.grants.gov/web/grants/applicants/organization-](http://www.grants.gov/web/grants/applicants/organization-registration.html)**  
1950 **[registration.html](http://www.grants.gov/web/grants/applicants/organization-registration.html).**

1951

## 1952 **6.02 Standard Application Package**

1953 The standard application package, consisting of the standard forms, i.e., SF-424 (R&R),  
1954 Research & Related Budget, SF- 424B (if applicable), CD-511, Research and Related Other  
1955 Project Information, SF-LLL (if applicable), and Research & Related Subaward Budget is  
1956 available at [www.grants.gov](http://www.grants.gov).

1957

1958 **Please see Section 8.01 for a complete list of required forms and documents.**

1959

## 1960 **6.03 Application Submission**

1961

1962 Applications must be submitted electronically through Grants.gov at [www.grants.gov](http://www.grants.gov). Paper  
1963 applications or applications submitted by other electronic means will not be accepted.  
1964 Supplementary material, revisions, substitutions, audio or video tapes, or computer storage  
1965 media or devices will **not** be accepted. While applicants may not submit replacement pages  
1966 or missing documents once an application has been submitted, an applicant may submit a  
1967 complete, new application including such information by the required deadline.  
1968 Applications are limited to one proposal per SBC. The last application received in  
1969 Grants.gov will be used for evaluation.

1970

1971 (1) Applications must be submitted via Grants.gov at [www.grants.gov](http://www.grants.gov), under  
1972 announcement 2020-NIST-SBIR-02.

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a) Applicants should carefully follow specific Grants.gov instructions to ensure the attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicating an application is received does not provide information about whether attachments have been received. For further information or questions regarding the electronic application process for the 2020-NIST-SBIR-02 announcement, e-mail at [grants@nist.gov](mailto:grants@nist.gov).

b) Applicants are strongly encouraged to start early and not wait until the approaching due date before logging on and reviewing the instructions for submitting an application through Grants.gov. The Grants.gov registration process must be completed before a new registrant can apply. If all goes well, the registration process takes three (3) to five (5) business days. If problems are encountered, the registration process can take three (3) weeks or more. Applicants must have a valid unique entity identifier number and must maintain a current registration in the Federal government’s primary registrant database, the System for Award Management (<https://www.sam.gov/SAM/>), as explained on the Grants.gov website. See also Section 8.03 of this NOFO. After registering, it may take several days or longer from the initial log-on before a new Grants.gov system user can submit an application. Only authorized individuals(s) will be able to submit an application, and the system may need time to process a submitted application. Applicants should save and print the proof of submission they receive from Grants.gov. If problems occur while using Grants.gov, the applicant is advised to (a) print any error message received and (b) call Grants.gov directly for immediate assistance. If calling from within the United States or from a U.S. territory, please call 800-518-4726. If calling from a place other than the United States or a U.S. territory, please call 606-545-5035. Assistance from the Grants.gov Help Desk will be available around the clock every day, with the exception of Federal holidays. Help Desk assistance will resume at 7:00 a.m. Eastern Time the day after Federal holidays. For assistance using Grants.gov, you may also contact [support@grants.gov](mailto:support@grants.gov).

c) To find instructions on submitting an application on Grants.gov, Applicants should refer to the “Applicants” tab in the banner just below the top of the <http://www.grants.gov> home page. Clicking on the “Applicants” tab produces two exceptionally useful sources of information, Applicant Actions and Applicant Resources, which applicants are advised to review.

Applicants will receive a series of e-mail messages over a period of up to two business days before learning whether a Federal agency’s electronic system has received its application. Closely following the detailed information in these subcategories will increase the likelihood of acceptance of the application by the Federal agency’s electronic system.



2012  
2013 Applicants should pay close attention to the guidance under “Applicant FAQs,” as it contains  
2014 information important to successful submission on Grants.gov, including essential details on  
2015 the naming conventions for attachments to Grants.gov applications.

2016  
2017 The [Grants.gov Online Help](#) site provides vital information on checking the status of  
2018 applications. See especially the “Check Application Status” option, found by clicking first on  
2019 Applicants, and then by clicking on Grant Applications.

2020  
2021 The application must be both received and validated by Grants.gov. The application is  
2022 “received” when Grants.gov provides the applicant a confirmation of receipt and an  
2023 application tracking number. If an applicant does not see this confirmation and tracking  
2024 number, the application has not been received. After the application has been received, it  
2025 must still be validated. During this process, it may be “validated” or “rejected with errors.”  
2026 To know whether the application was rejected with errors and the reasons why, the  
2027 applicant must log in to Grants.gov, select “Applicants” from the top navigation, and select  
2028 “Track my application” from the drop-down list. If the status is “rejected with errors,” the  
2029 applicant may still seek to correct the errors and resubmit your application before the  
2030 deadline. If the applicant does not correct the errors, the application will not be forwarded  
2031 to NIST by Grants.gov.

2032  
2033 NIST uses the Tracking Numbers assigned by Grants.gov and does not issue Agency Tracking  
2034 Numbers.

2035  
2036 ***Applicants should be aware that adequate time must be factored into applicants’***  
2037 ***schedules for delivery of their application. Submitters are advised that volume on***  
2038 ***Grants.gov may be extremely heavy leading up to the deadline date.***

2039  
2040 Refer to important information in Section 6.01 Deadline for Applications, to help ensure  
2041 your application is received on time.

2042  
2043 Any amendments to this NOFO will be announced through Grants.gov. Applicants can sign  
2044 up for Grants.gov NOFO amendments or may request copies from J’aime Maynard by  
2045 telephone at 301- 975-8408, or by e-mail to [jmaynard@nist.gov](mailto:jmaynard@nist.gov).

2046

## 2047 **7.0 SCIENTIFIC AND TECHNICAL INFORMATION SOURCES**

2048  
2049 Background information related to the NIST research programs referenced within the

2050 research areas may be found within the NIST website at: [www.nist.gov](http://www.nist.gov). The NIST Research  
2051 Library, <https://www.nist.gov/nist-research-library>, may also provide valuable scientific and  
2052 technical information resources. A listing of NIST developed technologies is available on the  
2053 Federal Laboratory Consortium's (FLC) website ([https://www.federallabs.org/labs/national-](https://www.federallabs.org/labs/national-institute-of-standards-and-technology-nist-0)  
2054 [institute-of-standards-and-technology-nist-0](https://www.federallabs.org/labs/national-institute-of-standards-and-technology-nist-0)).  
2055  
2056

## 2057 **8.0 SUBMISSION FORMS AND CERTIFICATIONS**

### 2058 **8.01 Required Forms and Documents**

2059 Applicants should review the following list carefully to ensure the proposal includes all  
2060 required forms and documents. **Failure to include any of the applicable listed forms and/or**  
2061 **documents will result in rejection of the proposal without consideration.** All required  
2062 forms and documents must be complete. Please also review Section 4.02 Phase II  
2063 Screening Criteria. Guidelines provided below are based on frequently asked questions and  
2064 are not intended to be comprehensive – all forms must be fully completed.  
2065 A complete application contains the following forms and documents:  
2066  
2067

- 2068
- 2069 **1. SF-424 (R&R), Application for Federal Assistance.** 2020The SF-424 (R&R) must be  
2070 signed by an authorized representative of the applicant organization.  
2071 For SF-424 (R&R), items 5, 14, and 19, use the Zip Code +4 format (##### - ####) when  
2072 addresses are called for.  
2073 For SF-424 (R&R), item 16, the NIST SBIR Program is not covered by that Executive  
2074 Order.  
2075 For SF-424 (R&R), item 17, the list of certifications and assurances is contained in the  
2076 SF-424B (item 2. below).  
2077 For SF-424 (R&R), item 18, if the SF-LLL, Disclosure of Lobbying Activities form (item 4.  
2078 below) is acceptable, attach it to field 18.  
2079 Instructions for filling in the SF-424 (R&R) can be found in the 2020-NIST-SBIR-02  
2080 Application Instructions document found on Grants.gov, as well as  
2081 [Instructions SF424 \(R&R\) Application for Federal Assistance.](#)  
2082

- 2083 **2. Research & Related Budget (Total Fed + Non-Fed).** The budget  
2084 should reflect anticipated expenses for the full term of the project, considering all  
2085 potential cost increases, including cost of living adjustments.  
2086

2087 The budget should be detailed in these categories:

- 2088 A. Senior/Key Person;
- 2089 B. Other Personnel;
- 2090 C. Equipment Description;
- 2091 D. Travel;
- 2092 E. Participant/Trainee Support Costs (not relevant to this competition);
- 2093 F. Other Direct Costs;
- 2094 G. Direct Costs (automatically generated);
- 2095 H. Indirect Costs;
- 2096 I. Total Direct and Indirect Costs (automatically generated);
- 2097 J. Fee;
- 2098 K. Total Costs and Fee (automatically generated);
- 2099 L. Budget Narrative and Justification document (item 8. below) should be
- 2100 attached to field L.

2101 Instructions for completing the Research & Related Budget (Total Fed + Non-Fed) form  
2102 can be found in the 2020-NIST-SBIR-02 Application Instructions document on  
2103 Grants.gov, as well as at [Instructions R&R Budget \(Total Fed + Non-Fed\) Budget](#).

2104 **3. SF-424B, Assurances - Non-Construction Programs (if applicable).** The SF-424B is  
2105 required for all applicants that have not updated their System for Award Management  
2106 (SAM.gov) entity registration since February 2, 2019 to include the Federal financial  
2107 assistance certifications and representations (certs and reps). If an applicant has  
2108 updated their SAM.gov entity registration since February 2, 2019 to include the  
2109 certifications and representations, then the SF-424B is not required.

2110 **4. CD-511, Certification Regarding Lobbying.** Enter “2020-NIST-SBIR-02” in the Award  
2111 Number Field. Enter the title of the application used in field 11 of the SF-424 (R&R),  
2112 or an abbreviation of that title, in the Project Name field.

2113 **5. Research and Related Other Project Information.** Answer the highlighted  
2114 questions and use this form to attach the Cover Sheet and Technical Proposal (item  
2115 (7) below), the Indirect Cost Rate Agreement (item (9) below), the SBA Company  
2116 Registry Form (item 10 below), the Data Management Plan (item (11) below), the  
2117 Research & Related Personal Data Form (item 13 below), the Current and Pending  
2118 Support Form (item 14 below), the Compliance with SBIR Certificate of Training  
2119 Completion (item 15 below), and Letters of Commitment (item 16 below).

2120 Instructions for completing the Research and Related Other Project Information can  
2121 be found in the 2020-NIST-SBIR-02 Application Instructions document on Grants.gov,  
2122 as well as at

2123 [Instructions R&R Other Project Information](#). Please note that the Project  
2124 Summary/Abstract is not relevant to this competition. However, Grants.gov requires  
2125 an attachment to field 7 of the Research and Related Other Project Information form  
2126 to successfully pass through Grants.gov. Please attach a document to field 7 stating,  
2127 “A Project Summary/Abstract is not relevant to this competition”.

2128  
2129 **6. Disclosure of Lobbying Activities (if applicable).**

2130  
2131 **7. Cover Sheet and Technical Proposal.** Read Section 3.02 of this NOFO very carefully,  
2132 and in its entirety, for directions on completing this section of the application. The  
2133 Cover Sheet and Technical Content portion of the Technical Proposal is limited to 15  
2134 pages – see Section 3.02. The Commercialization Plan and Phase I Final Report  
2135 portions of the Technical Proposal do not count against the page limit – see  
2136 Sections 3.02.03 and 3.02.04.

2137  
2138 **8. Budget Narrative and Justification.** There is no set format for the Budget Narrative  
2139 and Justification; however, further explanation must be provided for the specific  
2140 cost categories and line items identified in the [Instructions Research & Related](#)  
2141 [Budget \(Total Fed + Non-Fed\) – Budget](#), as well as any other information you deem  
2142 necessary for NIST’s consideration. The Budget Narrative and Justification must be  
2143 attached to the Research & Related Budget (Total Fed + Non-Fed). If requested,  
2144 include TABA funds (see Section 5.11) in the Budget Narrative and Justification.

2145  
2146 The written justification should include the necessity and the basis for the cost.  
2147 Proposed funding levels must be consistent with the project scope, and only allowable  
2148 costs should be included in the budget. Information on cost allowability is available in  
2149 the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for  
2150 Federal Awards at 2 C.F.R. Part 200 (<http://go.usa.gov/SBYh>), which apply to awards in  
2151 this program.

2152  
2153 The Budget Narrative and Justification does not count against the 15-page limit of the  
2154 Technical Proposal.

2155  
2156 Information needed for each category is as follows:

- 2157  
2158 (a) **Senior/Key Person** – At a minimum, the budget justification should include the  
2159 following: name, job title, commitment of effort on the proposed project in  
2160 terms of average number of hours per week or percentage of time, salary rate,  
2161 total direct charges on the proposed project, description of the role of the

2162 individual on the proposed project, and the work to be performed.  
2163  
2164 Fringe benefits should be identified separately from salaries and wages and based  
2165 on rates determined by organizational policy. The items included in the fringe  
2166 benefit rate (e.g., insurance, parking, etc.) should not be charged under another  
2167 cost category.  
2168  
2169 (b) **Other Personnel** – Data is requested at the project role level, and not at the  
2170 individual level for Other Personnel. The budget justification should include the  
2171 following: job title, commitment of effort on the proposed project in terms of  
2172 average number of hours per week or percentage of time, salary rate, total direct  
2173 charges on the proposed project, description of the role of the position on the  
2174 proposed project and the work to be performed.  
2175  
2176 Fringe benefits should be identified separately from salaries and wages and based  
2177 on rates determined by organizational policy. The items included in the fringe  
2178 benefit rate (e.g., health insurance, parking, etc.) should not be charged under  
2179 another cost category.  
2180  
2181 (c) **Equipment Description** – Equipment is defined as an item of property that has an  
2182 acquisition cost of \$5,000 or more (unless the organization has established lower  
2183 levels) and an expected service life of more than one year. The budget justification  
2184 should list each piece of equipment, the cost, and a description of how it will be  
2185 used and why it is necessary to the successful completion of the proposed  
2186 project. Please note that any general use equipment (computers, etc.) charged  
2187 directly to the award should be allocated to the award according to expected  
2188 usage on the project (i.e. prorated cost). Applicants should provide at least two  
2189 (2) quotes, if available, for equipment costing \$25,000 or more. If two (2) quotes  
2190 are not available, please provide a statement as to why two (2) quotes are not  
2191 available.  
2192  
2193 Any items that do not meet the threshold for equipment can be included under  
2194 the Materials and Supplies line item in Section F, Other Direct Costs.  
2195  
2196 (d) **Travel** — For all travel costs, required by the recipient to complete the project,  
2197 including attendance at any relevant conferences, the budget justification for  
2198 travel should include the following: destination; names or number of people  
2199 traveling; dates and/or duration; mode of transportation, lodging and

2200 subsistence rates; and description of how the travel is directly related to the  
2201 proposed project. For travel that is yet to be determined, please provide best  
2202 estimates based on prior experience. If a destination is not known, an  
2203 approximate amount may be used with the assumptions given for the location  
2204 of the meeting.

2205  
2206 (f) **Other Direct Costs** – For costs that do not easily fit into the other cost categories,  
2207 please list the cost, and the breakdown of the total costs by quantity or unit of  
2208 cost. Include the necessity of the cost for the completion of the proposed project.  
2209 Only allowable costs can be charged to the award.

2210  
2211 Each subaward or contractual cost should be treated as a separate item in the  
2212 Other Direct Costs category. Describe the services to be provided and the necessity  
2213 of the subaward or contract to the successful performance of the proposed  
2214 project. Contracts are for obtaining goods and services. Subawardees perform part  
2215 of the project scope of work. For each subaward, applicants must provide budget  
2216 detail justifying the cost of the work performed on the project.

2217  
2218 (h) **Indirect Costs** – Commonly referred to as Facilities & Administrative Costs, Indirect  
2219 Costs are defined as costs incurred by the applicant organization that cannot  
2220 otherwise be directly assigned or attributed to a specific project. For more details,  
2221 see Section 8.01.9 of this NOFO.

2222  
2223 (j) **Fee** – Profit or fee not to exceed 7% of the sum of the direct and indirect costs must  
2224 be listed in this cost category if included in the proposed budget.

2225  
2226 **9. Indirect Cost Rate Agreement.** If indirect costs are included in the proposed budget,  
2227 include the cost computation in the budget narrative, and provide a copy of the  
2228 current, approved negotiated agreement if this rate was negotiated with a cognizant  
2229 Federal audit agency. Attach this document to the Research and Related Other  
2230 Project Information form as described in Section 8.01.5.

2231  
2232 If a rate has not been established, provide a statement to this effect and a  
2233 computation for the cost in the budget narrative. Applicants without an established  
2234 rate may propose estimated indirect costs at a rate not to exceed 40 percent of the  
2235 total direct costs and will not be required to provide further justification if selected  
2236 for an award. Applicants without an established rate who propose a rate exceeding  
2237 40% may request negotiation of an indirect cost rate agreement. Any profit or fee  
2238 requested is not considered a direct cost for the purpose of the indirect cost base

2239 calculation.

2240

2241 **10. SBA Company Registry Form.** SBA maintains and manages a Company Registry at  
2242 <http://www.sbir.gov/registration> to track ownership and affiliation requirements for all  
2243 companies applying to the SBIR Program. The SBIR/STTR Policy Directive requires each  
2244 Phase II applicant to register in the Company Registry prior to submitting an application.  
2245 The applicant must save its information from the registration in a .pdf document. Attach  
2246 this document to the Research and Related Other Project Information form as described  
2247 in Section 8.01.5.

2248

2249 **11. Data Management Plan.** In accordance with NIST Policy 5700.00<sup>3</sup>, *Managing Public*  
2250 *Access to Results of Federally Funded Research*, and NIST Order 5701.00<sup>4</sup>, *Managing*  
2251 *Public Access to Results of Federally Funded Research*", applicants must include a Data  
2252 Management Plan (DMP).

2253

2254 The DMP is a supplementary document of not more than two pages that must include,  
2255 at a minimum, a summary of proposed activities that are expected to generate data, a  
2256 summary of the types of data expected to be generated by the identified activities, a  
2257 plan for storage and maintenance of the data expected to be generated by the  
2258 identified activities, and a plan describing whether and how data generated by the  
2259 identified activities will be reviewed and made available to the public. As long as the  
2260 DMP meets these NIST requirements, it may take the form specified by the applicant's  
2261 institution or some other entity (e.g., the National Science Foundation<sup>5</sup> or the National  
2262 Institutes of Health<sup>6</sup>).

2263

2264 All applications for activities that will generate scientific data using NIST funding are  
2265 required to adhere to a DMP or explain why data sharing and/or preservation are not  
2266 within the scope of the project.

2267

2268 For the purposes of the DMP, NIST adopted the definition of "research data" at 2 C.F.R.  
2269 § 200.315(e)(3) (available at <http://go.usa.gov/3sZvQ>).

2270

2271 Reasonable costs for data preservation and access may be included in the application.

2272

---

<sup>3</sup> [https://www.nist.gov/system/files/documents/2018/06/19/final\\_p\\_5700.pdf](https://www.nist.gov/system/files/documents/2018/06/19/final_p_5700.pdf)

<sup>4</sup> [https://www.nist.gov/system/files/documents/2018/06/19/final\\_p\\_5700.pdf](https://www.nist.gov/system/files/documents/2018/06/19/final_p_5700.pdf)

<sup>5</sup> <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>

<sup>6</sup> [https://grants.nih.gov/grants/policy/data\\_sharing/data\\_sharing\\_guidance.htm](https://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm)

2273 The sufficiency of the DMP will be considered as part of the administrative review (see  
2274 Section 4.02. of this NOFO); however, the DMP will not be evaluated against any  
2275 evaluation criteria. Attach this document to the Research and Related Other Project  
2276 Information form as described in Section 8.01.55.

2277  
2278 **12. Subaward Budget Form.** The Research & Related Subaward Budget Attachment  
2279 Form is required if sub-recipients and contractors are included in the application  
2280 budget.

2281  
2282 Instructions for completing subaward budget forms are available by visiting the [R & R](#)  
2283 [Family section](#) of the Grants.gov Forms Repository and scrolling down to the R & R  
2284 Subaward Budget Attachment(s) Form and selecting “Instructions.”

2285  
2286 **13. Research & Related Personal Data.** Complete and print the form available at  
2287 <https://www.grants.gov/web/grants/forms/r-r-family.html#sortby=1>. Attach this  
2288 document to the Research and Related Other Project Information form as  
2289 described in Section 8.05.

2290  
2291 **14. Current and Pending Support Form.** Any application that includes  
2292 investigators, researchers, and key personnel must identify all sources of current  
2293 and potential funding, including this proposal. Any current project support (e.g.,  
2294 Federal, state, local, public or private foundations, etc.) must be listed on this  
2295 form. The proposed project and all other projects or activities requiring a portion  
2296 of time of the Principal Investigator (PI), co-PI, and key personnel must be  
2297 included, even if no salary support is received. The total award amount for the  
2298 entire award period covered, including indirect costs, must be shown as well as  
2299 the number of person-months per year to be devoted to the project, regardless  
2300 of the source of support. Similar information must be provided for all proposals  
2301 already submitted or that are being submitted concurrently to other potential  
2302 funders.

2303  
2304 Applicants must complete the Current and Pending Support Form, using multiple  
2305 forms as necessary to account for all activity for each individual identified in the  
2306 PI, co-PI and key personnel roles. A separate form should be used for each  
2307 identified individual.

2308  
2309 Applicants must download the Current and Pending Support Form from the NIST website  
2310 at <https://www.nist.gov/oaam/grants-management-division/current-and-pending-support>  
2311 and reference the guidance provided as it contains information to assist with accurately



2312 completing the form.

2313

2314 **15. Compliance with SBIR Program Requirements, Applicant Fraud Awareness Training**

2315 - **Certificate of Training Completion.** Complete the training at:

2316 <https://www.nist.gov/file/384881>). After completion, print and fill out the last page of

2317 the training presentation. Attach this document to the Research and Related Other

2318 Project Information form as described in Section 8.05.

2319

2320 **16. Letters of Commitment.** Letters must be submitted by all funded and unfunded  
2321 entities that will have an active role in executing the activities outlined in the Project  
2322 Narrative. Letters of Commitment must address the level of participation, qualifications of  
2323 the personnel who will be actively involved, and how successful completion of this project  
2324 would positively impact their profession or community. Letters of Commitment must also  
2325 specify any voluntary committed cost-share, including the specific services and/or products  
2326 to be used in the project. Letters of Commitment must be signed by an individual with  
2327 authority to legally bind the organization to its commitment. Letters of commitment do not  
2328 count against the specified page limits.

2329

2330 **8.02 Attachment of Required Application Documents**

2331

2332 Items 8.01.1 through 8.01.5 above are part of the standard application package in Grants.gov  
2333 and can be completed through the download application process.

2334

2335 Item 8.01.6, the SF-LLL, Disclosure of Lobbying Activities form, is an optional application form  
2336 which is part of the standard application package in Grants.gov. If item 8.01.5, the SF-LLL,  
2337 Disclosure of Lobbying Activities form is applicable to this proposal, attach it to field 18 of the  
2338 SF-424 (R&R), Application for Federal Assistance.

2339

2340 Item 8.01.7, the Cover Sheet and Technical Proposal, should be attached to field 8 (Project  
2341 Narrative) of the Research and Related Other Project Information form by clicking on "Add  
2342 Attachment".

2343

2344 Item 8.01.8, the Budget Narrative and Justification, should be attached to field L (Budget  
2345 Justification) of the Research and Related Budget (Total Fed + Total Non-Fed) form by clicking  
2346 on "Add Attachment".

2347

2348 Items 8.01.9, the Indirect Cost Rate Agreement; 8.01.10, the SBA Company Registry Form;  
2349 8.01.11, the Data Management Plan; 8.01.13, the Research & Related Personal Data; 8.01.14,  
2350 the Current and Pending Support Form; 8.01.15, the SBIR Applicant Fraud Awareness Training

65

2351 Certificate of Training Completion; and 8.01.16 Letters of Commitment, must be attached by  
2352 clicking on “Add Attachments” found in item 12 (Other Attachments) of the Research and  
2353 Related Other Project Information form.

2354  
2355 Item 8.01.12, the Subaward Budget Form(s), if applicable to the submission, should be  
2356 attached to the Research & Related Subaward Budget (Total Fed + Non-Fed) Attachment(s)  
2357 Form in the application package.

2358  
2359 Following these directions will create zip files which permit transmittal of the documents  
2360 electronically via Grants.gov.

2361  
2362 **8.03 Verifying the Submission and Tracking the Application**

2363  
2364 Applicants should carefully follow specific Grants.gov instructions at [www.Grants.gov](http://www.Grants.gov) to  
2365 ensure the attachments will be accepted by the Grants.gov system. A receipt from  
2366 Grants.gov indicates only that an application was transferred to a system. It does not  
2367 provide details concerning whether all attachments (or how many attachments)  
2368 transferred successfully. Applicants will receive a series of e-mail messages over a period  
2369 of up to two business days before learning whether a Federal agency’s electronic system  
2370 has received its application.

2371  
2372 Applicants are strongly advised to use Grants.gov’s “Download Submitted Forms and  
2373 Applications” option to check that their application’s required attachments were  
2374 contained in their submission.

2375  
2376 After submitting the application, check the status of your application here: [CHECK](#)  
2377 [APPLICATION STATUS](#). If any, or all, of the required attachments are absent from the  
2378 submission, follow the attachment directions found above, resubmit the application, and  
2379 check again for the presence of the required attachments.

2380  
2381 If the directions found at  
2382 <https://www.grants.gov/help/html/help/index.htm#t=GetStarted%2FGetStarted.htm> are  
2383 not effective, please contact the Grants.gov Help Desk immediately. If calling from within  
2384 the United States or from a U.S. territory, please call 800-518-4726. If calling from a place  
2385 outside the United States or a U.S. territory, please call 606-545-5035. E-mails should be  
2386 addressed to [support@grants.gov](mailto:support@grants.gov). Assistance from the Grants.gov Help Desk will be  
2387 available around the clock every day, with the exception of Federal holidays. Help Desk  
2388 service will resume at 7:00 a.m. Eastern Time the day after Federal holidays.

2389

2390 Applicants can track their submission in the Grants.gov system by following the  
2391 procedures at the Grants.gov site (<http://go.usa.gov/cjamz>). It can take up to two  
2392 business days for an application to fully move through the Grants.gov system to NIST.  
2393 NIST uses the Tracking Numbers assigned by Grants.gov, and does not issue Agency  
2394 Tracking Numbers.

2395

#### 2396 **8.04 Unique Entity Identifier and System for Award Management (SAM)**

2397 Pursuant to 2 C.F.R. Part 25, applicants and recipients (as the case may be) are required to:  
2398 (i) be registered in SAM before submitting its application; (ii) provide a valid unique entity  
2399 identifier in its application; and (iii) continue to maintain an active SAM registration with  
2400 current information at all times during which it has an active Federal award or an  
2401 application or plan under consideration by a Federal awarding agency, unless otherwise  
2402 excepted from these requirements pursuant to 2 C.F.R. § 25.110. NIST will not make a  
2403 Federal award to an applicant until the applicant has complied with all applicable unique  
2404 entity identifier and SAM requirements and, if an applicant has not fully complied with the  
2405 requirements by the time that NIST is ready to make a Federal award pursuant to this  
2406 NOFO, NIST may determine that the applicant is not qualified to receive a Federal award  
2407 and use that determination as a basis for making a Federal award to another applicant.  
2408

2409

### 2409 **9.0 RESEARCH AREAS**

2410

2411 The NIST research programs work at the frontiers of measurement science to ensure that  
2412 the U.S. system of measurements is firmly grounded in sound scientific and technical  
2413 principles. Today, the NIST laboratories address increasingly complex measurement  
2414 challenges, ranging from the very small (nanoscale devices for advanced computing) to the  
2415 very large (vehicles and buildings), and from the physical (resilient infrastructure) to the  
2416 virtual (cybersecurity and data science). As new technologies develop and evolve, NIST's  
2417 measurement research and services remain central to national defense, homeland security,  
2418 trade and innovation.

2419

2420 NIST's research activities provide industry, academia and other federal agencies with world-  
2421 class research capabilities in measurement science that form the foundation of the global  
2422 system of weights and measures and enable innovation. NIST provides measurement tools  
2423 and standards to strengthen U.S. competitiveness and security in the following areas:

2424

#### 2425 **Advanced Communications, Networks and Scientific Data Systems**

2426

2427 NIST's Advanced Communications, Networks and Scientific Data Systems activities enable  
2428 secure, reliable, high-speed wireless and wireline communications critical to U.S. economic

2429 competitiveness, safety and security. NIST measurement science research and support for  
2430 the development of standards accelerates the deployment of next-generation  
2431 communication technologies needed for commercial- scale use of connected vehicles,  
2432 “internet of things” (IoT) applications, drones and future artificial intelligence/machine  
2433 learning-based systems. NIST is committed to helping solve the measurement and  
2434 validation challenges of these fast-moving fields to help the U.S. achieve and maintain  
2435 global leadership in these areas.

2436

### 2437 **Advanced Manufacturing and Material Measurements**

2438

2439 NIST has partnered with the U.S. manufacturing sector for more than a century and has a  
2440 proven track record of delivering useful tools and technical assistance existing  
2441 manufacturers and aspiring start-ups need. NIST's Advanced Manufacturing and Material  
2442 Measurements activities provide industry with precision measurement technologies, tests,  
2443 protocols and world-class scientific and engineering knowledge through targeted research  
2444 across a broad portfolio, including advanced materials development, advanced sensing,  
2445 biomanufacturing and smart manufacturing systems. NIST’s efforts in advanced  
2446 manufacturing and material measurements rely on three major mechanisms: partnerships  
2447 with manufacturers, development of physical and information standards, and development  
2448 of new measurement capabilities.

2449

### 2450 **Cybersecurity and Privacy**

2451

2452 NIST’s Cybersecurity and Privacy activities strengthen the security of the digital  
2453 environment through a portfolio bridging foundational and applied cybersecurity research,  
2454 and through the development of publicly available standards and technical guidance. NIST’s  
2455 sustained outreach efforts support the effective application of standards and best practices  
2456 enabling the adoption of practical cybersecurity and privacy. Through internal research and  
2457 collaboration with the private sector, academia, standards development organizations,  
2458 other government agencies and national and international stakeholders, NIST addresses the  
2459 nation’s current and future measurement science needs and is responsive to Congressional  
2460 mandates and Executive Orders.

2461

### 2462 **Fundamental Measurement, Quantum Science and Measurement Dissemination**

2463

2464 At the heart of NIST’s mission is the dissemination of the fundamental units of  
2465 measurement (the International System of Units, or SI). NIST determines the definitive  
2466 methods for nearly every kind of measurement employed in commerce and research,  
2467 provides NIST-traceable calibrations, and disseminates standards and best practices

2468 throughout the nation. Staying ahead of the increasingly challenging demands of U.S.  
2469 industry requires that NIST push the frontiers of measurement science by devising new  
2470 tools and techniques—especially at the quantum scale where the rules of classical physics  
2471 do not apply. Through balanced and coordinated programs, NIST leads the world in  
2472 disseminating the fundamental units of measurement. This leadership in metrology  
2473 advancement directly impacts NIST’s relevance and leadership in measurement services.  
2474

### 2475 **Health and Biological Systems Measurements**

2476  
2477 NIST provides a solid foundation of measurement assurance enabling reproducibility of  
2478 biomedical research results and confidence in clinical decision-making and ensuring the  
2479 efficacy and safety of treatments. As a nonregulatory agency, NIST’s research plays an  
2480 essential role in health and bioscience innovations, including in precision medicine,  
2481 engineering biology, medical imaging, regenerative medicine and our understanding of the  
2482 microbiome and how it affects health. New and improved measurement capabilities  
2483 advance our understanding of biology and provide the basis for industries to harness this  
2484 information for future medical technologies.  
2485

### 2486 **Physical Infrastructure and Resilience**

2487  
2488 NIST’s Physical Infrastructure and Resilience activities support the safety, interoperability  
2489 and resilience of the nation’s infrastructure at the component, structure and system levels.  
2490 NIST’s research supports the development of building codes making the built environment  
2491 healthier for occupants, more resilient against hazards, and safer for both residents and first  
2492 responders. In collaboration with policymakers, building officials and planning groups, NIST  
2493 produces guides to help communities integrate resilience into their economic development,  
2494 zoning, mitigation and other local planning activities impacting buildings, public utilities and  
2495 infrastructure systems.  
2496

### 2497 **Exploratory Measurement Science**

2498  
2499 NIST’s mission requires deep expertise in a broad range of disciplines. To best position NIST  
2500 to support U.S. technological interests well into the future, it is essential that NIST maintain  
2501 a portfolio of exploratory measurement science research programs. NIST invests in higher-  
2502 risk and potentially transformative measurement science research to stay on the cutting  
2503 edge of technology trends.  
2504  
2505  
2506

2507  
2508  
2509

**Appendix A. COVER SHEET**

(A fillable version of the Cover Sheet is available at <http://www.nist.gov/sbir>)

<b>Application to National Institute of Standards and Technology (NIST) Small Business Innovation Research (SBIR) Program Phase II 2020-NIST-SBIR-02 (May 26, 2020) Cover Sheet</b>			
<b>Name &amp; Address of Submitting Firm:</b>			
<b>Project Title</b>			
<b>Principal Investigator (PI) Name</b>		<b>PI Title</b>	
<b>PI Phone #</b>		<b>PI E-mail</b>	
NIST may verify the following responses with information provided elsewhere in your application or by independent sources.			
<b>THE APPLICANT CERTIFIES THAT:</b>			
1.	It is a small business concern (SBC) and meets the definition as stated in this Notice of Funding Opportunity (NOFO).	<input type="checkbox"/>	Yes <input type="checkbox"/> No
2.	The primary employment of the PI will be with the SBC at the time of award and during the conduct of research.	<input type="checkbox"/>	Yes <input type="checkbox"/> No
3.	A minimum of either two-thirds for Phase I or one-half for Phase II of the research will be performed by the SBC as determined by data provided in the Budget Narrative. See NOFO Section <b>1.03.01</b> for details on funding determination.	<input type="checkbox"/>	Yes <input type="checkbox"/> No
4.	The applicant and/or PI <input type="checkbox"/> has/ <input type="checkbox"/> has not submitted applications for essentially equivalent work under other Federal program FFOs and <input type="checkbox"/> has / <input type="checkbox"/> has not received other Federal awards for essentially equivalent work. If "has", what agency? <a href="#">Click here to enter text.</a> See NOFO Section 3.02.02(14) for additional details that must be provided.		
5.	The applicant qualifies as a socially and economically disadvantaged SBC and meets the definition as stated in this NOFO.	<input type="checkbox"/>	Yes <input type="checkbox"/> No
6.	The applicant qualifies as a woman-owned SBC and meets the definition as stated in this NOFO.	<input type="checkbox"/>	Yes <input type="checkbox"/> No
7.	The applicant qualifies as a HUBZone-owned SBC and meets the SBA's definition (see <a href="http://www.sba.gov/hubzone">http://www.sba.gov/hubzone</a> ).	<input type="checkbox"/>	Yes <input type="checkbox"/> No
8.	Year SBC founded:	<a href="#">Click here to enter text.</a>	
9.	Number of Employees:	<a href="#">Click here to enter text.</a>	
<b>STATEMENTS:</b>			
10.	The applicant will permit the Federal Government to disclose name, address, and telephone number of the corporate official of your concern, if your application does not result in an award, to appropriate local and State-level economic development organizations that may be interested in contacting you for further information.	<input type="checkbox"/>	Yes <input type="checkbox"/> No
11.	The applicant authorizes contact information and project title to be provided to the NIST Manufacturing Extension Partnership (MEP) after awards have been announced. If 'Yes' your contact information will be provided to NIST MEP. If so, you will be contacted by your local MEP to explore business-related support services that could benefit the potential of the project you proposed.	<input type="checkbox"/>	Yes <input type="checkbox"/> No

Signature of Company Official and typed name, title, address, telephone number, and date	
Signature of Principal Investigator and typed name, title, address, telephone number, and date	
<b>TECHNICAL ABSTRACT (limit to 200 words):</b>	
<b>POTENTIAL COMMERCIAL APPLICATION OF THE RESEARCH: (limit to 100 words)</b>	
<b>OTHER INFORMATION:</b>	
<p>Information contained in unsuccessful applications will remain the property of the applicant. The Federal Government may, however, retain copies of all applications. Public release of information in any application submitted will be subject to existing statutory and regulatory requirements. Applicants are discouraged from submitting proprietary information unless the information is deemed essential for proper evaluation of the application. If proprietary information provided by an applicant in a proposal constitutes trade secret, proprietary commercial or financial information, confidential personal information, or data affecting national security, it will be treated in confidence to the extent permitted by law, provided that the proposal is clearly marked by the applicant as follows:</p> <p>(A) The following legend must appear on the title page of the proposal:  This proposal contains information that shall not be disclosed outside the Federal Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than evaluation of this proposal, unless authorized by law. The Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting award if award is made as a result of the submission of this proposal. The information subject to these restrictions are contained on all pages of the proposal except for pages [insert page number or other identification of pages that contain no restricted information.]</p> <p style="text-align: center;">(End of Legend); and</p> <p>(B) The following legend must appear on each page of the proposal that contains information the applicant wishes to protect:  Use or disclosure of information contained on this sheet is subject to the restriction on the title page of this proposal.  The use of any other legend is unacceptable to the Government and may constitute grounds for removing the application from further consideration without assuming any liability for inadvertent disclosure.</p>	

2510 This collection of information contains Paperwork Reduction Act (PRA) requirements approved by the Office of Management and Budget  
2511 (OMB). Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to a penalty for  
2512 failure to comply with, a collection of information subject to the requirements of the PRA unless that collection of information displays a  
2513 currently valid OMB control number. Public reporting burden for this collection is estimated to be 30 minutes per response, including the time  
2514 for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the  
2515 collection of information. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions  
2516 for reducing this burden, to the National Institute of Standards and Technology, Attn: Mary Clague, 100 Bureau Dr., MS 2200, Gaithersburg, MD  
2517 20899.

**OMB Control No. 0693-0072**  
**Expiration Date: 12/31/2020**

2518  
2519  
2520  
2521

Appendix B. CERTIFICATIONS

**SBIR Funding Agreement Certification (at time of award)**

All small businesses that are selected for award of an SBIR funding agreement must complete this certification at the time of award and any other time set forth in the funding agreement that is prior to performance of work under this award. This includes checking all of the boxes and having an authorized officer of the awardee sign and date the certification each time it is requested.

Please read carefully the following certification statements. The Federal government relies on the information to determine whether the business is eligible for a Small Business Innovation Research (SBIR) Program award. A similar certification will be used to ensure continued compliance with specific program requirements during the life of the funding agreement. The definitions for the terms used in this certification are set forth in the Small Business Act, SBA regulations (13 C.F.R. Part 121), the SBIR/STTR Policy Directive and also any statutory and regulatory provisions referenced in those authorities.

If the funding agreement officer believes that the business may not meet certain eligibility requirements at the time of award, they are required to file a size protest with the U.S. Small Business Administration (SBA), who will determine eligibility. At that time, SBA will request further clarification and supporting documentation in order to assist in the verification of any of the information provided as part of a protest. If the funding agreement officer believes, after award, that the business is not meeting certain funding agreement requirements, the agency may request further clarification and supporting documentation in order to assist in the verification of any of the information provided.

Even if correct information has been included in other materials submitted to the Federal government, any action taken with respect to this certification does not affect the Government's right to pursue criminal, civil or administrative remedies for incorrect or incomplete information given in the certification. Each person signing this certification may be prosecuted if they have provided false information.

The undersigned has reviewed, verified and certifies that (all questions must be responded to by checking the appropriate box):

The Awardee business concern meets the ownership and control requirements set forth in 13 C.F.R. § 121.702.

Yes  No



2561 (2) If a corporation, all corporate documents (namely: articles of incorporation and any  
2562 amendments, articles of conversion, by-laws and amendments, shareholder meeting minutes  
2563 showing officer elections, organizational meeting minutes, all issued stock certificates, stock  
2564 ledger, buy-sell agreements, stock transfer agreements, voting agreements, and documents  
2565 relating to stock options, including the right to convert non-voting stock or debentures into  
2566 voting stock) must include evidence that the corporation meets the ownership and control  
2567 requirements set forth in 13 C.F.R. § 121.702.

2568  Yes  No  N/A Explain why N/A:  
2569

2570 (3) If a partnership, the partnership agreement evidences that it meets the ownership and  
2571 control requirements set forth in 13 C.F.R. § 121.702.

2572  Yes  No  N/A Explain why N/A:  
2573

2574 (4) If a limited liability company, the articles of organization and any amendments, and  
2575 operating agreement and amendments, evidence that it meets the ownership and  
2576 control requirements set forth in 13 C.F.R. § 121.702.

2577  Yes  No  N/A Explain why N/A:  
2578

2579  
2580 (5) The birth certificates, naturalization papers, or passports show that any individuals it relies  
2581 upon to meet the eligibility requirements are U.S. citizens or permanent resident aliens in the  
2582 United States.

2583 Yes  No  N/A Explain why N/A:  
2584

2585  
2586 (6) The Awardee business concern has no more than 500 employees, including the employees of  
2587 its affiliates.

2588  Yes  No  
2589

2590 (7) SBA has not issued a size determination currently in effect finding that this business  
2591 concern exceeds the 500 employee size standard.

2592  Yes  No  
2593

2594 (8) During the performance of the award, the principal investigator will spend more than  
2595 one half of his/her time (based on a 40 hour workweek) as an employee of the awardee or  
2596 has requested and received a written deviation from this requirement from the funding  
2597 agreement officer.

2598 Yes No Deviation approved in writing by funding agreement officer: \_\_\_\_\_%

2599

2600 (9) All, essentially equivalent work, or a portion of the work proposed under this project  
2601 (check the applicable line):

2602  **Has not** been submitted for funding to this agency or another Federal agency.

2603  **Has** been submitted for funding to this agency or another Federal agency **but has not** been  
2604 funded under

2605 any other grant, contract, subcontract or other transaction.

2606  A portion has been funded by another grant, contract, or subcontract as described in detail  
2607 in the application and approved in writing by the funding agreement officer.

2608

2609 (10) During the performance of award, the Awardee will perform the applicable percentage of  
2610 work unless a deviation from this requirement is approved in writing by the funding  
2611 agreement officer (check the applicable line and fill in if needed):

2612  SBIR Phase I: at least two-thirds (66 2/3%) of the research.

2613  SBIR Phase II: at least half (50%) of the research.

2614  Deviation approved in writing by the funding agreement officer: \_\_\_\_\_%

2615

2616 (11) During performance of award, the research/research and development will be performed  
2617 in the United States unless a deviation is approved in writing by the funding agreement  
2618 officer.

2619 Yes No Waiver has been granted

2620

2621 (12) During performance of award, the research/research and development will be  
2622 performed at the Awardee's facilities with the Awardee's employees, except as otherwise  
2623 indicated in the SBIR application and approved in the funding agreement.

2624 Yes No

2625

2626 (13) The SBIR Awardee has registered itself on SBA's database as majority-owned by venture  
2627 capital operating companies, hedge funds or private equity firms.

2628 Yes No N/A Explain why N/A:  
2629 \_\_\_\_\_  
2630

2631 (14) The SBIR Awardee is a Covered Small Business Concern (a small business concern that:(a)  
2632 was not majority-owned by multiple venture capital operating companies (VCOCs), hedge funds, or  
2633 private equity firms on the date on which it submitted an application in response to an SBIR solicitation;  
2634 and (b) on the date of the SBIR award, which is made more than 9 months after the closing date of the  
2635 solicitation, is majority-owned by multiple venture capital operating companies, hedge funds, or private

2636 equity firms).  
2637 Yes No

2638  
2639 (15) The SBIR Awardee will notify this agency immediately if all or a portion of the work  
2640 authorized and funded under this award is subsequently funded by another Federal agency.  
2641 Yes No

2642  
2643  
2644 (16) I understand that the information submitted may be given to Federal, State and  
2645 local agencies for determining violations of law and other purposes.  
2646 Yes No

2647  
2648 (17) I am an officer of the business concern authorized to represent it and sign this  
2649 certification on its behalf. By signing this certification, I am representing on my own behalf,  
2650 and on behalf of the business concern that the information provided in this certification, the  
2651 application, and all other information submitted in connection with this application, is true  
2652 and correct as of the date of submission. I acknowledge that any intentional or negligent  
2653 misrepresentation of the information contained in this certification may result in criminal, civil  
2654 or administrative sanctions, including but not limited to: (1) fines, restitution and/or  
2655 imprisonment under 18  
2656 U.S.C. § 1001; (2) treble damages and civil penalties under the False Claims Act (31 U.S.C. §  
2657 3729 *et seq.*); (3) double damages and civil penalties under the Program Fraud Civil Remedies  
2658 Act (31 U.S.C. § 3801 *et seq.*); (4) civil recovery of award funds, (5) suspension and/or  
2659 debarment from all Federal procurement and nonprocurement transactions (FAR Subpart 9.4  
2660 or 2 C.F.R. Part 180); and (6) other administrative penalties including termination of SBIR/STTR  
2661 awards.

2662  
2663  
2664 **Signature** \_\_\_\_\_ **Date** \_\_\_\_/\_\_\_\_/\_\_\_\_  
2665

2666 **Print Name (First, Middle, Last)**  
2667 \_\_\_\_\_  
2668

2669 **Title**  
2670 \_\_\_\_\_  
2671

2672 **Business Name**  
2673 \_\_\_\_\_  
2674

2675 **SBIR Funding Agreement Certification (Life-Cycle Certification)**

2676  
2677 All SBIR Phase I and Phase II awardees must complete this certification at all times set forth in  
2678 the funding agreement (see §8(j) of the SBIR/STTR Policy Directive). This includes checking all of  
2679 the boxes (unless otherwise directed) and having an authorized officer of the awardee sign and  
2680 date the certification each time it is requested.

2681  
2682 Please read carefully the following certification statements. The Federal government relies on  
2683 the information to ensure compliance with specific program requirements during the life of the  
2684 funding agreement. The definitions for the terms used in this certification are set forth in the  
2685 Small Business Act, the SBIR/STTR Policy Directive, and also any statutory and regulatory  
2686 provisions referenced in those authorities.

2687  
2688 If the funding agreement officer believes that the business is not meeting certain funding  
2689 agreement requirements, the agency may request further clarification and supporting  
2690 documentation in order to assist in the verification of any of the information provided.

2691  
2692 Even if correct information has been included in other materials submitted to the Federal  
2693 government, any action taken with respect to this certification does not affect the  
2694 Government’s right to pursue criminal, civil, or administrative remedies for incorrect or  
2695 incomplete information given in the certification. Each person signing this certification may be  
2696 prosecuted if they have provided false information.

2697  
2698 The undersigned has reviewed, verified and certifies that (all questions must be responded to by  
2699 checking the appropriate box):

2700  
2701 (1) The principal investigator spent more than one half of his/her time (based on a 40 hour  
2702 workweek) as an employee of the awardee or the awardee has requested and received a  
2703 written deviation from this requirement from the funding officer.

2704  Yes       No       Deviation approved in writing by funding agreement officer: \_\_\_\_\_%

2705  
2706 (2) All, essentially equivalent work, or a portion of the work performed under this project  
2707 (check applicable line):

2708  **Has not** been submitted for funding to this agency or another Federal agency.

2709  **Has** been submitted for funding to this agency or another Federal agency but **has not**  
2710 been funded under any other grant, contract, subcontract or other transaction.

2711  A portion has been funded by another grant, contract, or subcontract as described in detail in  
2712 the proposal and approved in writing by the funding agreement officer.

2713

2714 (3) Upon completion of the award the awardee will have performed the applicable  
2715 percentage or work, unless a deviation from this requirement is approved in writing by the  
2716 funding agreement officer (check the applicable line and fill in if needed):

- 2717  SBIR Phase I: at least two-thirds (66 2/3%) of the research.  
2718  SBIR Phase II: at least half (50%) of the research.  
2719  Deviation approved in writing by the funding agreement officer: \_\_\_\_\_%

2720  
2721 (4) The work is completed and the small business awardee has performed the applicable  
2722 percentage of work, unless a deviation from this requirement is approved in writing by the  
2723 funding agreement officer (check the applicable line and fill in if needed):

- 2724  SBIR Phase I: at least two-thirds (66 2/3%) of the research.  
2725  SBIR Phase II: at least half (50%) of the research.  
2726  Deviation approved in writing by the funding agreement officer: \_\_\_\_\_%  
2727  N/A because work is not completed.

2728  
2729 (5) The research/research and development is performed in the United States unless a  
2730 deviation is approved in writing by the funding agreement officer.

- 2731  Yes     No     Waiver has been granted

2732 (6) The research/research and development is performed at the awardee's facilities by the  
2733 awardee's employees, except as otherwise indicated in the SBIR application and approved in  
2734 the funding agreement.

- 2735  Yes     No

2736  
2737 (7) I will notify the Federal agency immediately if all or a portion of the work authorized and  
2738 funded under this award is subsequently funded by another Federal agency.

- 2739  Yes     No

2740  
2741 (8) I understand that the information submitted may be given to Federal, State and local  
2742 agencies for determining violations of law and other purposes.

- 2743  Yes     No

2744  
2745 (9) I am an officer of the awardee business concern authorized to represent it and sign this  
2746 certification on its behalf. By signing this certification, I am representing on my own behalf,  
2747 and on behalf of the business concern, that the information provided in this certification, the  
2748 application, and all other information submitted in connection with the award, is true and  
2749 correct as the date of submission. I acknowledge that any intentional or negligent  
2750 misrepresentation of the information contained in this certification may result in criminal, civil  
2751 or administrative sanctions, including but not limited to: (1) fines, restitution and/or

2752 imprisonment under 18 U.S.C. § 1001; (2) treble damages and civil penalties under the False Claims  
2753 Act (31 U.S.C. § 3729 *et seq.*); (3) double damages and civil penalties under the Program Fraud Civil  
2754 Remedies Act (31 U.S.C. § 3801 *et seq.*); (4) civil recovery of award funds, (5) suspension and/or  
2755 debarment from all Federal procurement and nonprocurement transactions (FAR Subpart 9.4 or 2  
2756 C.F.R. Part 180); and (6) other administrative penalties including termination of SBIR/STTR awards.

2757  
2758  Yes  No

2759  
2760 **Signature** \_\_\_\_\_ **Date** \_\_\_/\_\_\_/\_\_\_

2761  
2762 **Print Name (First, Middle, Last)**  
2763 \_\_\_\_\_

2764  
2765 **Title**  
2766 \_\_\_\_\_

2767  
2768 **Business Name**  
2769 \_\_\_\_\_