**Request for Approval under the "Generic Clearance for Improving Customer Experience:
OMB Circular A-11, Section 280 Implementation"
(OMB Control Number: 2700-0181)**

TITLE OF INFORMATION COLLECTION: NASA Small Business Innovation
Research/Small Business Technology Transfer (SBIR/STTR) Program Service Design Small
Business Customer Research

PURPOSE OF COLLECTION:
*What are you hoping to learn / improve? How do you plan to use what you learn? Are there
artifacts (user personas, journey maps, digital roadmaps, summary of customer insights to
inform service improvements, performance dashboards) the data from this collection will feed?*

The NASA SBIR/STTR Program hopes to learn about its customers' experiences with the
Program's various service offerings and to leverage those learnings to further investigate and
substantiate potential redesigns of those services. As an establishing activity for the Program's
service design practice, this research will help the Program (a) uncover the aspirations, goals,
behaviors, problems, and complexities for SBIR/STTR customers that affect the technology
transition pipeline and its achievement and (b) discover enablers and inhibitors of technology
transition in the NASA SBIR/STTR ecosystem.

TYPE OF ACTIVITY: (Check one)

[X] Customer Research (Interview, Focus Groups)
[ ] Customer Feedback Survey
[ ] User Testing

ACTIVITY DETAILS

1. How will you collect the information? (Check all that apply)

   [ ] Web-based or other forms of Social Media
   [ ] Telephone
   [ ] In-person
   [ ] Mail
   [X] Other, Explain: video- or teleconference plus virtual whiteboard

2. Who will you collect the information from?
*Explain who will be interviewed and why the group is appropriate for the Federal program /
service to connect with. Please provide a description of how you plan to identify your potential
group of respondents and if only a sample will be solicited for feedback, how you will select
them(e.g., anyone who provided an email address to a call center rep, a representative sample of
Veterans who received outpatient services in May 2019, do you have a list of customers to reach
out to (e.g., a CRM database that has the contact information, intercept interviews at a
particular field office?)*

   The NASA SBIR/STTR Program will solicit voluntary participation (a) from all users who
   began an SBIR or STTR proposal in the Program's proposal submission platform, the
   Electronic Handbook (EHB), in the past three years and (b) from all registrants for the

Program's Innovation and Opportunity Virtual Conferences (IOCs) and schedule interviews with all or a subset of volunteers, depending on response rates. The voluntary participants include representatives of small businesses, research institutions, large primes or other matching investors, and other technology transfer experts.

3. How will you ask a respondent to provide this information?
(e.g., after an application is submitted online, the final screen will present the opportunity to provide feedback by presenting a link to a feedback form / an actual feedback form)

The NASA SBIR/STTR Program will contact participants via email to schedule real-time interviews.

4. What will the activity look like?
Describe the information collection activity – e.g. what happens when a person agrees to participate? Will facilitators or interviewers be used? What's the format of the interview/focus group? If a survey, describe the overall survey layout/length/other details? If User Testing, what actions will you observe / how will you have respondents interact with a product you need feedback on?

We will conduct semi-structured interviews of 45 to 60 minutes in length over video. The semi-structured interviews may include activities like card sorts and sacrificial concepts, which may be mediated through Mural. SBIR team members will serve as interviewers or facilitators.

5. Please provide your question list.
Paste here the questions or prompts presented to participants in your activity. If you have an interview / facilitator guide, that can be attached to the submission and referenced here.

Please make sure that all instruments, instructions, and scripts are submitted with the request.

> ### *a.* **Small Business Interview Script**

Materials *(see attached)*

- Simple customer journey map
- Issue cards for Phase 2 question
- Card sort

Intro

Hey there. My name's [researcher]. And my partner is [let them introduce themselves]. We're researchers working with a team in the NASA Small Business Innovation Research and Small Business Technology Transfer programs (SBIR/STTR).

As we mentioned in our initial email or phone call or meeting, NASA is currently working to better understand the experiences of small businesses who are trying to commercialize their space-applicable technology or infuse their technology into NASA. We're doing this research to

learn best how to improve and redesign the NASA SBIR/STTR program so that it serves its customers – small businesses and research institutions – better.

During this interview, we'll talk for about 45-60 minutes. We'll ask you questions about your role, background, the flow of your day, and your experiences with NASA and commercializing or infusing technologies created by your company. Before we get started, I want to confirm that you received a consent form, that you've had a chance to review it and ask any questions, and that you've returned a signed copy back to us (or at least that you verbally agree to what it says). Is that correct? I can answer any questions you have. Is it okay for us to videorecord this call?

- Thanks for your willingness to be open and to share with us. We will anonymize all the interview data so no names will be attached to it.
- We'll also happily stop recording or note-taking for any specific comments you want unrecorded.
- For the questions in this interview, I'd like you to answer them directly from your own experience. We will interview a variety of people to hopefully capture different experiences, so we are specifically interested in hearing your own story, perspective, and experience.
- It is completely fine if some questions do not pertain to you or you have no answer or experience with some questions.

Context

- What's the name of your company?
- Where is your company located?
- What does your company do?
- How many employees does your company have?
- What is your role in your company?
- Where are you located?
- What did you do yesterday at work?
- How many employees are in your company?
- How would you categorize your company? [Over 51% women-owned, vet-owned, service-disabled vet owned, minority-owned, or a HUBZone company]

Go Broad

- What does success look like for the project or technology that you spend the most time on?
- What is the definition of success for your company?
- How does success on your project affect the success of your company?
- What fears, concerns, or challenges do you face as you try to pursue success?
  - And how are you overcoming them?

Probe Deep

- [REQUIRED] How much experience have you had with the NASA SBIR/STTR program?
  - Which programs has your company participated in the past (SBIR, STTR, or both)?

- o How many times has your company submitted a proposal and how many times has it won an award? [never proposed, first time proposer right now, proposed in the past and never won, won at least one award]
    - ▪ [If they have won an award] What is the highest phase award including NASA infusion, your company has won? [won Phase I only, Phase II and nothing higher, post-Phase II and no infusion, infusion into NASA project/program]
        - • [If they have won at least a Phase II award] What type of post-phase II investment have you won, a NASA investor/award or a post-Phase commercial investor?
  - o How many times has your company applied for and won an I-Corps award? [eligible and didn't apply, applied never won, won at least one I-Corps award]
- • Will you describe your company's journey from first being aware of the SBIR/STTR program to actually submitting a proposal [attention, interest, desire, submission/action, onboarding, retention]?
- • What was your role in interacting with the SBIR/STTR program?
- • What has it been like to work with us?
- • <Take out the customer journey map> How does this map compare to your journey through the program?
  - o Would you please rate each step in the journey from –2 to +2. With +2 being excellent, zero being neutral, and –2 being poor
    - ▪ Can you tell me about <Step X> being rated highly and why?
    - ▪ Can you tell me about <Step Y> being rated poorly and why?
    - ▪ Can you tell me about <Step Z> being neutral and why?
  - o Can you tell me how each of these parts contributed or inhibited your success?
- • If you had the power to change the process, what are the top three changes you would make?
- • The Phase I application period has a window of 60 days. If we were trying to make the submissions process easier, would you prefer that we extend the submissions period to 90 days, or have rolling submissions?
  - o Why?
- • [ISSUE CARDS] Phase II proposals are currently due when the Phase I period of performance ends. Which would you prefer?
    - ▪ 6 additional weeks for Phase II submissions after the Phase I ends receiving Phase II funds later
    - ▪ Current deadline of the last day of the Phase 1 period of performance, receiving Phase II funds sooner?
  - o Why?
- • [CARD SORT] Take a look at these different SBIR/STTR changes. Will you please put these in order of what you must prefer, assuming nothing else about the program changes?
    - ▪ Larger, longer Phase 1 award
    - ▪ Smaller, shorter two-month Phase 1 award
    - ▪ Shorter technical proposal
    - ▪ Shorter application time with Google Forms
    - ▪ Faster time-to-award
    - ▪ Less paperwork
    - ▪ No required deliverables
  - o Why?

- What experience do you have applying for funding from other government agencies?
    - What tool(s) do they use for applying or submitting?
    - How do those tools compare to NASA SBIR/STTR's Electronic Handbook (EHB)?

Wind down (close)

- Is there anything else important that you would like to us to know that we haven't covered?
- Are there any other people you think we should talk to?
- Thank you for your time. We'll be in touch with the results of your participation and this research.

b. <u>Research Institution Interview Script</u>

Materials *(see attached)*

- RI Customer Journey
- Issue Cards
- Card Sort

Intro

Hey there. My name's [researcher]. And my partner is [let them introduce themselves]. We're researchers working with a team in the NASA Small Business Innovation Research and Small Business Technology Transfer programs (SBIR/STTR).

As we mentioned in our initial email or phone call or meeting, NASA is currently working to better understand the experiences of small businesses and research institutions who are trying to commercialize their space-applicable technology or infuse their technology into NASA. We're doing this research to learn best how to improve and redesign the NASA SBIR/STTR program so that it serves its customers – small businesses and research institutions – and employees better.

During this interview, we'll talk for about 45-60 minutes. We'll ask you questions about your role, background, the flow of your day, and your experiences with NASA and commercializing or infusing technologies created by your research institution. Before we get started, I want to confirm that you received a consent form, that you've had a chance to review it and ask any questions, and that you've returned a signed copy back to us (or at least that you verbally agree to what it says). Is that correct? I can answer any questions you have. Is it okay for us to videorecord this call?

- Thanks for your willingness to be open and to share with us. We will anonymize all the interview data so no names will be attached to it.
- We'll also happily stop recording or note-taking for any specific comments you want unrecorded.
- For the questions in this interview, I'd like you to answer them directly from your own experience. We will interview a variety of people to hopefully capture different

experiences, so we are specifically interested in hearing your own story, perspective, and experience.

- It is completely fine if some questions do not pertain to you or you have no answer or experience with some questions.

Context

- What's the name of your Research Institution?
- Where is your RI located?
- Is your RI public or private?
- What is your role at your RI?
- Where are you located?
- What did you do yesterday at work?
- How would you categorize your RI? [MSI? (if so, what type? E.g., Historically Black College/University, Hispanic Serving Institution, Women's College, Tribal College/University)]
  - o Is it a university, federally-funded research and development center or something else?

Go Broad

- What does success look like for your role?
- What does success look like for your research lab/team/group/program?
- What does success look like for your research institution?
- How does the success of your research lab/team/group/program contribute to the success of your research institution?
- How do you measure success in your role?
- What fears, concerns, or challenges do you face as you try to pursue success?
  - o And how are you overcoming them?

Probe Deep

- How much experience have you had with the NASA SBIR/STTR program?
- Will you describe you or your research lab/team/group's journey from first being aware of the STTR program to actually submitting a proposal [attention, interest, desire, submission]?
- What was your role in interacting with the program?
- What has it been like to work with us?
- What small businesses have you partnered with?
- How did you meet the small business(es) and decide to work together to submit an STTR? How do you normally meet small businesses (if you have done this more than once)?
- <Take out the customer journey map> How does this map compare to your journey through the program?
  - o Would you please rate each step in the journey from –2 to +2. With +2 being excellent, zero being neutral, and –2 being poor
    - ▪ Can you tell me about <Step X> being rated highly and why?
    - ▪ Can you tell me about <Step Y> being rated poorly and why?
    - ▪ Can you tell me about <Step Z> being neutral and why?

- o Can you tell me how each of these parts contributed or inhibited your success?
- If you had the power to change the process, what are the top three changes you would make?
- The Phase I application period has a window of 60 days. If we were trying to make the submissions process easier, would you prefer that we extend the submissions period to 90 days, or have rolling submissions?
  - o Why?
- [ISSUE CARDS] Phase II proposals are currently due when the Phase I period of performance ends. Which would you prefer?
  - 6 additional weeks for Phase II submissions after the Phase I ends receiving Phase II funds later
  - Current deadline of the last day of the Phase 1 period of performance, receiving Phase II funds sooner?
  - o Why?
- [CARD SORT] Take a look at these different SBIR/STTR changes. Will you please put these in order of what you must prefer, assuming nothing else about the program changes? <interviewers: notate their order or read it aloud for recording>
  - Larger, longer Phase 1 award
  - Smaller, shorter six-month Phase 1 award
  - Shorter technical proposal
  - Shorter application time with Google Forms
  - Faster time-to-award
  - Less paperwork
  - No required deliverables
  - o Why?
- What experience do you have applying for funding from other government agencies?
  - o What tool(s) do they use for applying or submitting?
- How do those tools compare to NASA's SBIR/STTR Electronic Handbook (EHB)?

Wind down (close)

- What else would like to us to know that we haven't covered?
- Who else do you think we should talk to?
- Thank you for your time. We'll be in touch with the results of your participation and this research.

c. **Large Prime/Matching Investor Interview Script**

Materials *(none)*

Intro

Hey there. My name's [researcher]. And my partner is [let them introduce themselves]. We're researchers working with a team in the NASA Small Business Innovation Research and Small Business Technology Transfer programs (SBIR/STTR).

As we mentioned in our initial email or phone call or meeting, NASA is currently working to better understand the experiences of small businesses and research institutions who are trying to commercialize their space-applicable technology or infuse their technology into NASA. We're

doing this research to learn best how to improve and redesign the NASA SBIR/STTR program so that it serves its customers – small businesses and research institutions – and employees better.

During this interview, we'll talk for about 45-60 minutes. We'll ask you questions about your role, background, the flow of your day, and your experiences with NASA and or experiences working with small businesses. Before we get started, I want to confirm that you received a consent form, that you've had a chance to review it and ask any questions, and that you've returned a signed copy back to us (or at least that you verbally agree to what it says). Is that correct? I can answer any questions you have. Is it okay for us to videorecord this call?

- Thanks for your willingness to be open and to share with us. We will anonymize all the interview data so no names will be attached to it.
- We'll also happily stop recording or note-taking for any specific comments you want unrecorded.
- For the questions in this interview, I'd like you to answer them directly from your own experience. We will interview a variety of people to hopefully capture different experiences, so we are specifically interested in hearing your own story, perspective, and experience.
- It is completely fine if some questions do not pertain to you or you have no answer or experience with some questions.

Context

- What is the name of your company?
- What is your role at your company?
- How long have you been at that role?
- Will you please describe a typical day and week in your job?
- How would you define success for your role?
- What fears, concerns, or challenges do you face in your work?

Go Broad

- How does your company engage with small businesses?
- What are the ways in which your company is introduced to new small businesses?
- How would you define success for a typical small business that your company might work with?
- What are the characteristics of a successful engagement with a small business?
- How do you prioritize the projects/initiatives where you'd engage with small businesses?

Probe Deep

- How would you describe your experience with SBIR/STTR Programs?
    - o [if they have experience] How would you describe your experience with the NASA SBIR/STTR Program in particular?
- What are the characteristics of a successful SBIR/STTR program?
- What type of solicitation cycle (rolling or yearly) would you say best supports the needs of small businesses and agencies with SBIR programs?

- What is your engagement like with small businesses as they apply for SBIR/STTR awards?
- During which part of the technology development process do you prefer to engage with small businesses?
- How can small businesses better position themselves to work with large primes such as yours?
- What experience do you have with the tools that agencies use to take in SBIR/STTR proposals?
    - [if they have experience] What feedback do you have based on other agencies' tools, if any?

Wind Down

- What else would you like to us to know that we haven't asked or covered?
- Who else do you think we should talk to?
- Thank you for your time. We'll be in touch with the results of your participation and this research.

6. When will the activity happen?
Describe the time frame or number of events that will occur (e.g., We will conduct focus groups on May 13,14,15, We plan to conduct customer intercept interviews over the course of the Summer at the field offices identified in response to #2 based on scheduling logistics concluding by Sept. 10th, or "This survey will remain on our website in alignment with the timing of the overall clearance.")

We plan to schedule and conduct interviews through the end of fiscal year (FY) 2021.

d. Technology Transfer Expert Interview Script

Materials *(none)*

Intro

Hey there. My name's [researcher]. And my partner is [let them introduce themselves]. We're researchers working with a team in the NASA Small Business Innovation Research and Small Business Technology Transfer programs (SBIR/STTR).

As we mentioned in our initial email or phone call or meeting, NASA is currently working to better understand the experiences of small businesses and research institutions who are trying to commercialize their space-applicable technology or infuse their technology into NASA. We're doing this research to learn best how to improve and redesign the NASA SBIR/STTR program so that it serves its customers – small businesses and research institutions – better. The ultimate goal of our redesign work and the SBIR/STTR service is to improve the tech transfer rate – whether infusions into NASA missions or commercialization in the world.

During this interview, we'll talk for about 45-60 minutes. We'll ask you questions about your role, background, flow of your day, and your experiences, opinions, and advice with technology transfer. *Before we get started, I want to confirm that you received a consent form, that you've had a chance to review it and ask any questions, and that you've returned a signed copy back to*

us (or at least that you verbally agree to what it says). Is that correct? I can answer any questions you have. Is it okay for us to videorecord this call?

- Thanks for your willingness to be open and to share with us. We will anonymize all the interview data so no names will be attached to it.
- We'll also happily stop recording or note-taking for any specific comments you want unrecorded.
- For the questions in this interview, I'd like you to answer them directly from your own experience. We will interview a variety of people to hopefully capture different experiences, so we are specifically interested in hearing your own story, perspective, and experience.
- It is completely fine if some questions do not pertain to you or you have no answer or experience with some questions.

Context

- What's the name of your company/companies or organization(s)?
- Where is your company/organization located?
- What does your company/organization do?
- How many employees does your company/organization have?
- What is your role in your company/organization?
- What did you do yesterday at work? ("Friday," if today is Monday; "the last day you were working," if they were off or on vacation)
  What does a typical week look like for you? How often do you spend your time in various activities (meetings, planning, speaking, project work, travel, etc.)?

Ecosystem

- What is your definition of technology transfer or transition?
  o How do you compare infusion to commercialization? Which do you prefer? (You may need to define the difference between infusion into NASA and commercialization into the world)
  o How do suggest we measure infusion and commercialization?
- What are biggest technology transfer successes in the small business ecosystem? What is going well?
- What are the biggest systemic challenges or needs of the small business ecosystem for the maturing and transfer of technology?
  o What role does government have to play in that?
  o What role should non-governmental agencies (like foundations, VCs, and corporate investors) play in that?
- If you could only change 1 or 2 things to the small business technology ecosystem, what would you change to make it work better and increase transfer rates, and why?

Individual Small Businesses

- What are the biggest needs an individual small business has when trying to mature and transfer their technology?
  o Will you please arrange those needs you listed from most important to least important?

- o How does your answer change for the small business space ecosystem (space technology business)?
- If you could only provide 2 of those needs directly to an individual small business, without knowing anything else about them, which would provide?
  - o Why?
- Think of the most successful technology transfer examples you can remember? What did each of those have in common?
- If you wanted to ensure that a small business is never able to transition their technology they are developed, what would you do to ensure it never matures and is transferred?
- What do you think is the proper balance for the SBIR/STTR program between trying to offer services to infuse small business technology into NASA programs (and ultimately missions) and services to help commercialize the technology? Currently we focus much more on infusion.
  - o What percentage of our investment should be spent on design services for commercialization (like facilitating meetings with private investors) if the goal is transfer whether by infusion or commercialization?
- We sent you a description of our SBIR/STTR program and service as well as all the different offerings and types of awards. What do you think is missing? What should be removed, improved, or offered if our goal is to increase technology transitions (infusions or commercialization)?

Wind Down

- What else would you like to us to know that we haven't asked or covered?
- Who else do you think we should talk to?
- Thank you for your time. We'll be in touch with the results of your participation and this research.

7. Is an incentive (e.g., money or reimbursement of expenses, token of appreciation) provided to participants?

[ ] Yes [X] No

BURDEN HOURS

Category of Respondent	No. of Respondents	Participation Time	Burden Hours
Small Business	69	60 minutes	69 hrs
Research Institute	48	60 minutes	48 hrs
Large Prime/Matching Investor	5	60 minutes	5 hrs
Technology Transfer Expert	5	60 minutes	5 hrs
Totals	**127**	60 minutes	**127 hrs**

CERTIFICATION:

I certify the following to be true:
1. The collections are voluntary;

2. The collections are low-burden for respondents (based on considerations of total burden hours or burden-hours per respondent) and are low-cost for both the respondents and the Federal Government;
3. The collections are non-controversial and do not raise issues of concern to other Federal agencies;
4. Any collection is targeted to the solicitation of opinions from respondents who have experience with the program or may have experience with the program in the near future;
5. Personally identifiable information (PII) is collected only to the extent necessary and is not retained;
6. Information gathered is intended to be used for general service improvement and program management purposes
7. Upon agreement between OMB and the agency aggregated data may be released as part of A-11, Section 280 requirements only on performance.gov. Summaries of customer research and user testing activities may be included in public-facing customer journey maps.
8. Additional release of data will be coordinated with OMB.

Name: Eric Smith

All instruments used to collect information must include:
OMB Control No. 2700-0181
Expiration Date: 11/30/2023

HELP SHEET
(OMB Control Number: 2700-0181)

TITLE OF INFORMATION COLLECTION: Provide the name of the collection that is the subject of the request. (e.g. Comment card for soliciting feedback on xxxx)

PURPOSE: Provide a brief description of the purpose of this collection and how it will be used. If this is part of a larger study or effort, please include this in your explanation.

TYPE OF COLLECTION: Check one box. If you are requesting approval of other instruments under the generic, you must complete a form for each instrument.

CERTIFICATION: Please read the certification carefully. If you incorrectly certify, the collection will be returned as improperly submitted or it will be disapproved.

Personally Identifiable Information: Agencies should only collect PII to the extent necessary, and they should only retain PII for the period of time that is necessary to achieve a specific objective.

BURDEN HOURS:
Category of Respondents: Identify who you expect the respondents to be in terms of the following categories: (1) Individuals or Households;(2) Private Sector; (3) State, local, or tribal governments; or (4) Federal Government. Only one type of respondent can be selected per row.
No. of Respondents: Provide an estimate of the Number of respondents.
Participation Time: Provide an estimate of the amount of time required for a respondent to participate (e.g. fill out a survey or participate in a focus group)
Burden: Provide the Annual burden hours: Multiply the Number of responses and the participation time and divide by 60.