Dear Charles,
Here is the copy of the Project Pitch with reference number : **00036569** submitted to the **Internet of Things (I)** on **6/13/2021**.

1. Submitter Name

   Charles

2. Submitter Email

   paymentsdl@suborbital-systems.com

3. Submitter Phone

   8182807059

4. Company Name

   Suborbital Systems Development Company LLC

5. Zip Code

   78660

6. Corporate Website

   https://www.turnsys.com

7. SBIR/STTR topic that best fits your projects technology area

   Internet of Things (I)

8. Is this Project Pitch for a technology or project concept that was previously submitted as a full proposal by your company to the NSF SBIR/STTR Phase I Program – and was not awarded ?

   No

9. Has your company received a prior NSF SBIR or STTR award?

   No

10. Does your company currently have a full Phase I SBIR or STTR proposal under review at NSF?

    No

11. Briefly Describe the Technology Innovation?

We are working on creating a industrial scale manufacturing process for high altitude balloons to carry a wide variety of cubesat payloads. Specifically we are working to reproduce the work done by http://tt7hab.blogspot.com/2017/04/the-superpressure-balloons.html . We have extensively researched the CONUS digital divide and the core issue is middle mile (backhaul) connectivity. Currently high altitude super pressure (fixed altitude) balloons use manual, highly labor intensive , fragile , non uniform processes. We want to create an industrial scale process and US based manufacturing process. We have been working with the global high altitude ballooning community since a talk at Texas Linux Fest 2013 by Ron Sparks https://hackaday.io/txNgineer after forming a 501c3 non profit (Free Network Foundation) in 2011. We have been working on the problem of the digital divide for a long time .

12. Briefly Describe the Technical Objectives and Challenges?

The core deliverable in phase I is reproducing the work done by http://tt7hab.blogspot.com/2017/04/the-superpressure-balloons.html and then scaling it to a reproducible prototype. We fully intend to progress to phase II and full commercialization. Without a scalable manufacturing process, the product / market doesn't work.

13. Briefly Describe the Market Opportunity?

* Intelligence, surveillance, reconnaissance* Search and rescue* Internet* Airborne sensors (WMD detection)

14. Briefly Describe the Company and Team?

We are a Texas LLC, pre funding / revenue. We formed this entity specifically with the intent of pursuing federal grants and contracts. We have been working earnestly on this problem since 2018.we have off the shelf hardware (pis, seedunio boards, lora radios, software defined radio transceiver, wifi adapters etc).we have a full EE bench , tools equipment etcwe are actively building out the proof of concept from off the shelf parts We have as LLC members:* Mark - EE . Handling board making based on the blog posts of TT7* Scott - Embedded SwEng working on the RTOS and flight computer (raspberry pi) bits* Mike - Marketing/sales/graphics/UI/UX* Charles - CTO/CEO and sole funder of the enterprise We also have an independent board of directors. We have a team, we have tools/equipment and a workspace , We have lots of supporting infrastructure setup already.

15. How did you first hear about our program?

My network (personal or professional contact sent information)

NSF SBIR/STTR Phase I Eligibility Information:

In addition to receiving an invitation to submit a full proposal from the NSF SBIR/STTR Phase I Program based upon the review of their submitted Project Pitch,potential proposers to the program must also qualify as a small business concern to participate in the program (see SBIR/STTR Eligibility Guidefor more information).
The firm must be in compliance with the SBIR/STTR Policy Directive(s) and the Code of Federal Regulations (13 CFR 121).

- Your company must be a small business (fewer than 500 employees) located in the United States. Please note that the size limit of 500 employees includes affiliates.
- At least 50% of your company's equity must be owned by U.S. citizens or permanent residents, and all funded work needs to take place in the United States (including work done by consultants and contractors).
- The project's Principal Investigator (technical project lead) must be legally employed for a full-time work week to be 40 hours and considers employment elsewhere of greater than 19.6 hours per week to be in conflict with this requirement.
- The Principal Investigator needs to commit to at least one month (173 hours) of effort to the funded project, per six months of project duration.

For more detailed information, please refer to the SBIR/STTR Eligibility Guide by using https://www.sbir.gov/sites/default/files/elig_size_compliance_guide.pdf. Please note that these requirements need to be satisfied at the time an SBIR/STTR award is made, and not necessarily when the proposal is submitted.