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SBIR Process Description and Brainstorming

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TSD SBIR / STTR Call for Ideas Kick-off Meeting

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What is an SBIR (Small Business Innovative Research) & STTR (Small Business Technology Transfer) ?

- From: <https://www.sbir.gov/> :
 - The SBIR and STTR programs fund a diverse portfolio of **startups and small businesses** across technology areas and markets to stimulate technological innovation, meet Federal research and development (R&D) needs, and increase commercialization to transition R&D into impact.
- About 3% of what is appropriated for DOE HEP is siphoned off to fund SBIR.
- By suggesting topics useful to fulfilling our lab's mission, we can potentially benefit from the work performed by outside entities.

The Process:

- We identify technology that would assist us in fulfilling the lab's work that does not already commercially exist by suggesting SBIR topics.
- DOE (if they concur) include our ideas into to the SBIR topic list and request outside companies offer proposals to develop this technology.
 - Outside companies may or may not choose to partner with the lab when tendering proposals
 - If they do, a CRADA (cooperative research and development agreement) is created between the company and FRA if the DOE awards a grant for the company to perform the work they propose.
 - FRA is limited to about 15% of the grant value (about \$30k).

The Process (more):

- A successful proposal receives a Phase 1 grant
 - Duration = 1 year, value, ~ \$200k
 - If includes a CRADA with FRA, the duration of FRA work is about 9 months since it takes 3 months to get a CRADA fully approved.
- After the phase 1 work is completed, DOE evaluates it:
 - DOE may grant a phase 2 grant (usually more \$ and longer time duration).
 - DOE may choose not to fund a phase 2 grant.
- A completed phase 2 grant may provide the technology you (we) need **and** has established a small business opportunity to provide this technology

An Example:

- Need: Develop a 3D printing technology to fabricate low quantities of large aluminum parts with material properties similar or better than wrought material properties.
- FNAL Application: LBNF horn conductor parts
- Phase 1 FRA CRADA deliverable: CAD Geometry, specifications, testing.
- Phase 1 deliverable: Proof of concept with a large simple part created and material properties measured
- Phase 2 deliverable: Horn A inner conductor capable prototype machine
- Market Analysis:
 - Potential to provide cost effective production of low volume, high value parts (flow optimized custom intake manifolds for '63 Nova hot rods, custom aluminum flower pots, aerodynamic custom sized bicycle frames, etc.).
 - Not likely to be cost effective for high volume production of transmission cases, outdoor lighting fixtures, engine blocks, etc.
- This last criteria is very important as the goal is to build business opportunities.

Your likely Time Commitment:

- Idea: a few minutes to hours (this week) due by Friday.
- Working with potential responders in developing proposals (0 to 8 hours per potential responder in writing and reviewing proposal, a couple more hours in working with AD/HQ staff to develop potential cost estimate for a CRADA
 - Not all potential SBIR responders will want FRA participation
 - Work done for one responder is potentially very similar to that for another responder (likely multiple variations of the same spreadsheet).
 - Occurs during submittal of proposal
- Finalize CRADA if SBIR is awarded for your topic: Few hours Occurs in the first month after award.
- Executing FRA scope (this depends on what is in the CRADA). Might be 8 hours, might be 80, unlikely to be more than 120 based on limit of 15% of \$200k.

Cautions:

- Be careful in what scope of work you commit to.
- Be even more careful if the scope of work to be performed by others as part of a CRADA. Especially if they are not your direct reports.
- Be careful about committing to use existing lab hardware, tools or infrastructure unless you are sure of its operational status and have another source of funds to replace or repair if problems develop.

- Questions?

Brainstorming