

# Considerations on Phase II Application and Commercialization Outcomes

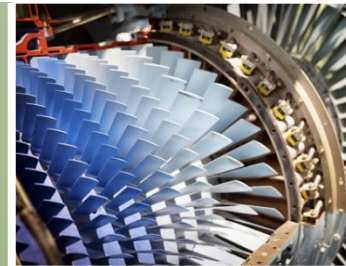
*Claudia Cantoni*

*[claudia.cantoni@science.doe.gov](mailto:claudia.cantoni@science.doe.gov)*



U.S. DEPARTMENT OF  
**ENERGY**

SBIR/STTR  
Programs Office



# Commercialization is a statutory goal of the SBIR/STTR programs

- *Increase private sector commercialization of innovations derived from Federal R-R&D, thereby increasing competition, productivity and economic growth.*
- Agencies are required to evaluate the commercial potential of R&D conducted under SBIR/STTR.
- “Commercialization” encompasses different aspects of early commercial activity: product launch, licensing, patenting, raising non-SBIR capital.



# Overview

- **Phase II Proposal Review: The Commercialization Plan**
- **The Commercialization Assistance Program (CAP)**
- **Examples of commercialization strategies from previous awardees**



# Phase II Proposal Review

## Criteria

Technical Merit

Ability to Carry Out the Project

Impact/Commercialization Potential

## Reviews

External peer review  
(3+ reviewers)

Business consultant  
(CP)



# CP evaluation is an important part of the review process

- Awarded proposals are strong in all criteria.
- The likelihood that a strong technical proposal be awarded with a non-promising CP is historically very low ~6%.
- Your CP needs to show that you have a plan for moving from concept to the market place. Year of first revenue can be well into the future.
- CP can expand on markets and revenues that will open up later on as your technology further develops.



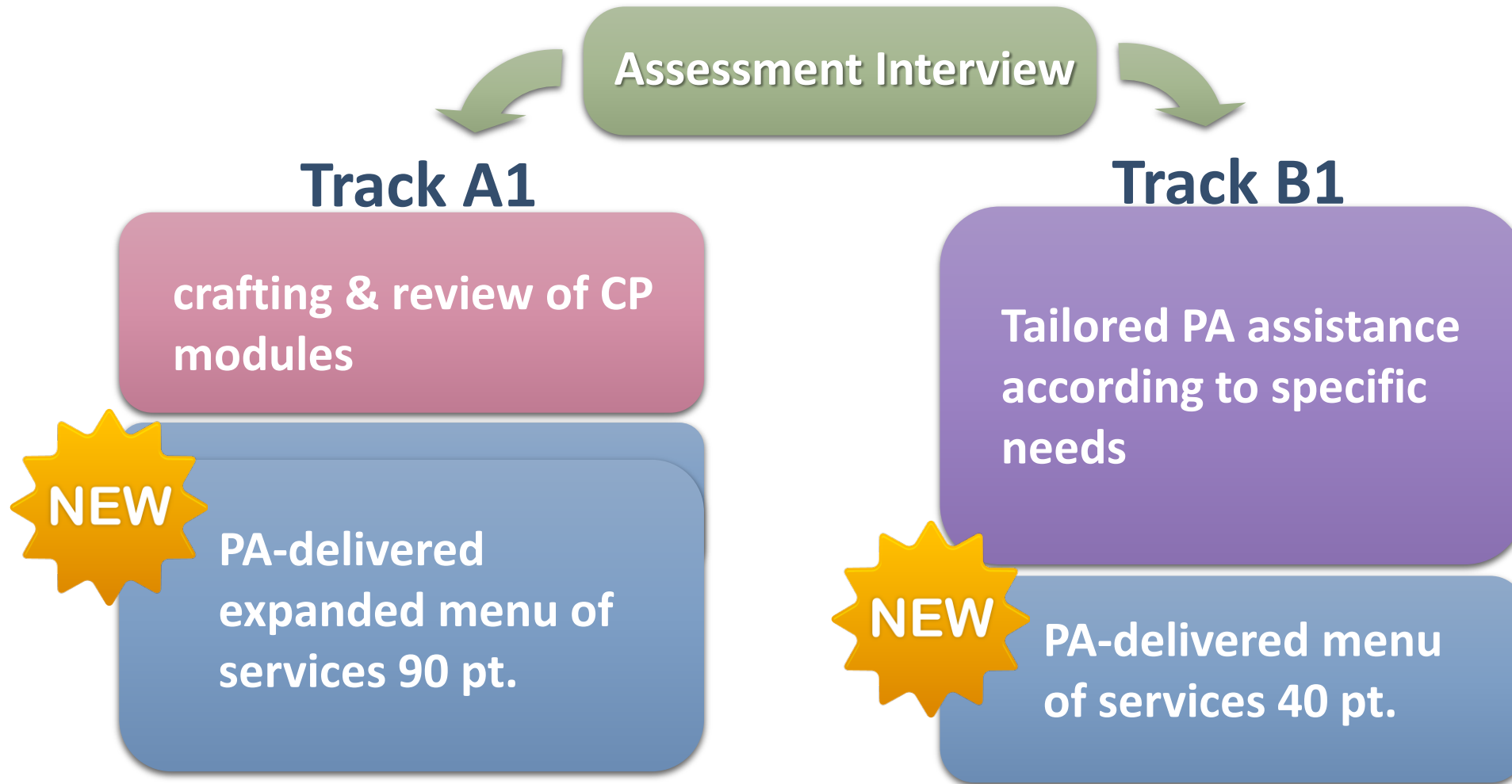
# 2019 CAP Upgrade

Following the FY19 National Defense Authorization Act signed by the President in August 2018, DOE has increased funds for commercialization assistance or TABA.

- Phase I support is \$6,500, 30% more. Phase II support is \$50,000, 5 x larger than before.
- TABA amounts are in addition to the award amount. TABA funds can be used for: product sales, IP protections, market research, market validation, certifications and regulatory plans, manufacturing plans.
- Awardees can choose to spend TABA using their own vendor(s) or use the CAP.
- TABA funds are for third party vendors or a federal entity issuing patents, certifications or regulatory approvals.



# The new Phase I CAP






- Access to PAs, commercialization professionals who have experience with awardee industry and target markets. Connections with Larta's network of stakeholders.





# Phase III Preference

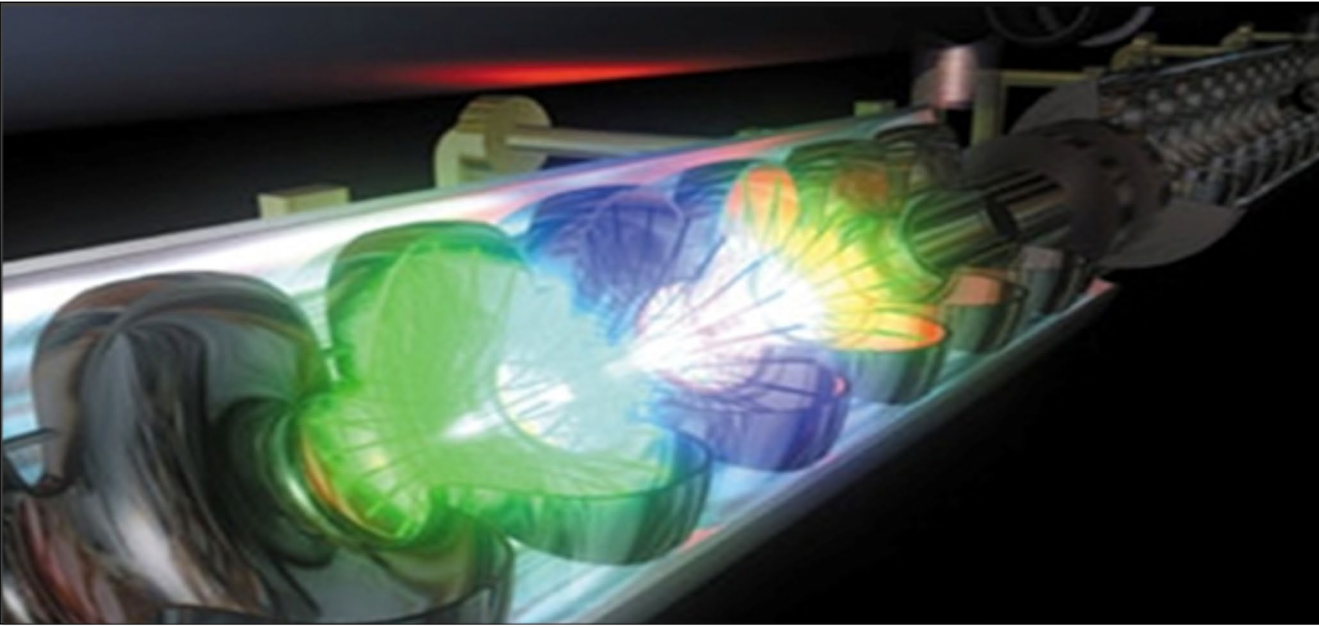
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- A photograph showing a worker in a red shirt and white hard hat on an orange scissor lift. The worker is positioned in a large industrial facility, possibly a laboratory or manufacturing plant, working on a large, complex structure made of metal panels. The structure has a central hub with several arms extending outwards. The background shows various pipes, cables, and industrial equipment.
- Case studies have identified a weak link in National Labs procurement process for technologies developed under the SBIR/STTR.
  - DOE National Laboratories should give preference to SBIR/STTR firms that developed the technology to the greatest extent practicable.
  - DOE Headquarters memo reminds Office of Science National Laboratories of such preference. <https://science.osti.gov/sbir/Awardee-Resources>



# Successful SBIR/STTR commercialization strategies

<https://science.osti.gov/sbir/SBIR-STTR-Success-Stories>





## **Deep Tech Company: Multiple SBIR/STTRs and additional grants/federal seed funding are needed.**

- Developing disruptive technical solutions with potential to create new markets as opposed to refinement or delivery of more mature technologies. Long commercialization timelines.
- Have a product in mind. Leverage SBIR grants that can advance the development of your prototype. Aim at market applications independent of SBIR topics.





**DOE PROGRAMS:** Basic Energy Sciences (BES), High Energy Physics (HEP).

**TECHNOLOGY:** femtosecond pulsed x-ray lasers. Nano-metrology, time-resolved spectroscopy, bio-imaging.

**TIMELINE:** SBIR support starting in 2002 with a DOD grant and 6 DOE SBIR Phase II since 2007.

**ROI:** \$14M in product sales; >\$13M in two rounds of investments by Intel Capital, Kairos Ventures and Colorado Impact Fund.

**TAKEAWAY MESSAGE:** commercialization success originating from fundamental physics research with initial demand from the scientific community.





**DOE OFFICES:** Advanced Scientific Computing Research (ASCR).

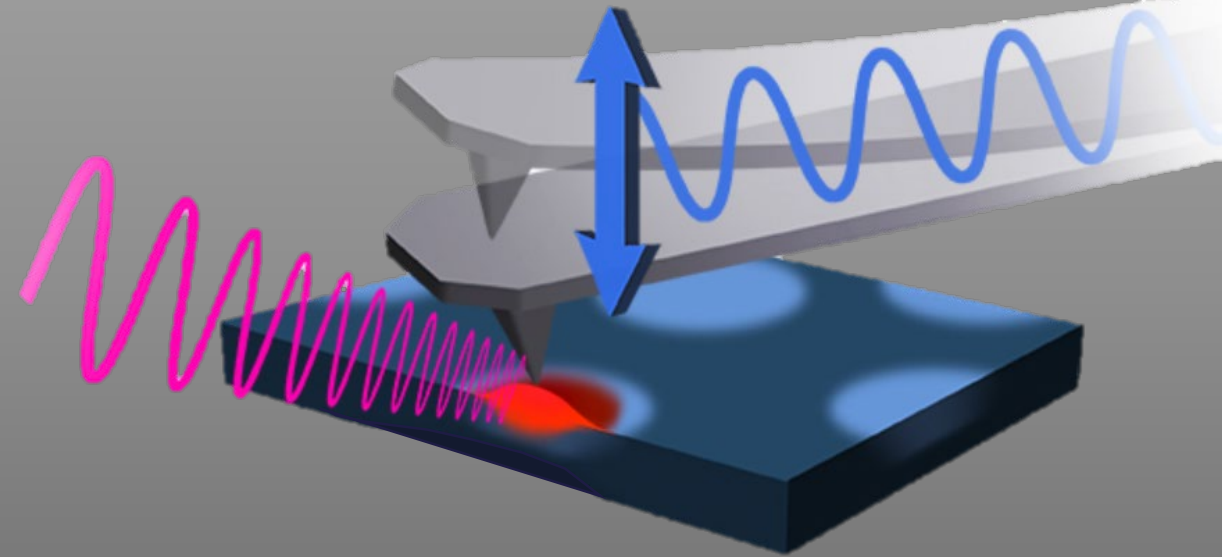
**TECHNOLOGY:** Fiber optic interconnects.

**TIMELINE:** 3 DOE SBIR Phase II awards and a Phase IIB since 2010. First Phase II lead to significant Angel Investments.

**ROI:** \$5M in product sales rapidly growing. \$15M in Angel Investments. 36 employees. Deployed in 15 large data centers. Customers include Verizon. 38+ patents.

**TAKEAWAY MESSAGE:** Game-changing technology born from a String Theory mathematical representation.





**DOE OFFICES:** Basic Energy Sciences (BES).

**TECHNOLOGY:** Nanoscale IR spectroscopy through AFM.

**TIMELINE:** 5 DOE SBIR Phase II awards in 2010 - 2017. Critical to validate a large potential market.

**ROI:** By 2018 Anasys' growing sales made the acquisition by Bruker possible .

**TAKE-AWAY MESSAGE:** Intensive multi-disciplinary R&D with significant advances in multiple disciplines like IR lasers, optics, AFM probes, mechanics, and electronics.





adelphi  
TECHNOLOGY, INC.



**DOE OFFICES:** Basic Energy Sciences (BES), Nuclear Energy (NE), Nuclear Physics (NP).

**TECHNOLOGY:** compact neutron generators.

**TIMELINE:** 4 DOE Phase II were leveraged to develop the technology before significant sales were achieved in 2016.

**ROI:** \$12M in revenue from sales of customized neutron generators. Reached a total revenue of \$4M/year in 2017. 3 R&D100 Awards, 10+ patents.

**TAKE-AWAY MESSAGE:** Innovations in fundamental science and technology can open up new and unforeseen applications.



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# Thank you!

We value your feedback to help us improve the SBIR/STTR Programs

Contact me for questions or to share your opinion at  
[claudia.cantoni@science.doe.gov](mailto:claudia.cantoni@science.doe.gov)

