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Commercializing SBIR Technologies: Six Paths to Wealth

David P. Metzger, Partner
Government Contracts Group
Arnold & Porter LLP
Presented: March 13, 2013
CIT Advanced SBIR Workshop
Herndon, Virginia

Methods and Tactics for Commercializing Phase III Innovations

- Small Business Concern (SBC) entrepreneurs are achievers: They want to see their products enhance lives, accomplish missions, improve efficiencies, and make a difference.
- SBIR products are:
  - Helping the military locate IEDs
  - Saving lives on aircraft carriers with non-skid surfaces
  - Preventing foot ulcers and amputations for diabetics
  - Detecting cancer through improved screening technologies
  - Accomplishing many other objectives

What SBIR Entrepreneurs Seek

- In addition to having their innovations make a difference, however, SBC entrepreneurs would like to monetize their innovations and convert them to wealth.
- The monetary pay-off to innovation lies in commercialization of technologies.
- This presentation looks at six paths to commercializing SBIR innovations and essential elements of each of them.

Methods and Tactics for Commercializing Phase III Innovations

- There are six major models for commercializing Phase III SBIRs:
  - Model 1: Selling directly to the government;
  - Model 2: Selling to primes as a subcontractor;
  - Model 3: Selling the SBC to a prime contractor, which inherits Phase III rights;
  - Model 4: Selling a product line or business unit to a prime contractor, which inherits Phase III rights to that product line;
  - Model 5: Licensing the product to another entity; or
  - Model 6: Obtaining financing and pursuing direct selling in the private marketplace.

The First Model – Selling Direct

- **First Model:** Selling SBIR innovations directly to the Government or consumers
- A proven model – the one most SBIR firms prefer
- Works well in selling to the private marketplace and Government
- SBC owners like it because they profit directly, own and control their products, and maintain independence.
- The major disadvantage: This is **not** the model the Government prefers – it generally wants to buy through existing contracts with its largest prime contractors – hence, after Phases I and II, the goal turns to winning Phase IIIs, which many times are subcontracts to primes

The Second Model – Subcontracting

- **Second Model:** Subcontracting and selling products through a prime contractor or other large firm
- Teaming: Large business is prime and SBC is subcontractor.
- Advantages: This model aligns more with the Government's preference for doing business with its largest contractors.
  - Large firms have marketing capabilities SBCs do not have.
  - They also have the resources to test and help commercialize products

The Second Model – Subcontracting (cont'd)

- Disadvantages:
  - Large contractors don't want to be resellers of SBC's products and may have a "Not Invented Here" attitude -- SBCs face the large firm's desire to make the technology its own and the potential for intense negotiations, paperwork, costs, and intellectual property/technical data rights disputes.
  - The subcontract agreement is complex, large firms tend to over-negotiate them, making the process expensive and burdensome to small firms.
    - For instance, indemnification, intellectual property ownership, work-share, etc. can lead to extensive/expensive negotiations for the SBC.
    - Large firms need to understand that SBCs cannot afford extensive process.
  - The "hole" in the SBIR technology:
    - When the **SBIR firm subcontracts** development of its technology, the subcontractor owns the data it develops because the SBIR clause is a mandatory flow-down (must be included in the subcontract) and creates a reverse effect on the SBC from what it is used to in its prime SBIR contracts. This creates a "hole" in the SBIR firm's ownership of its own technology.

The Second Model – Subcontracting (cont'd)

- The mainstay of "teaming" is the "Teaming Agreement," an agreement premised on the bargain that the subcontractor helps draft the proposal in exchange for a subcontracted portion of the work.
- For the subcontractor (many times the SBC), the Teaming Agreement should specifically state the work to be performed and compensation (not "TBD"), state a duration of the Teaming Agreement, and that the prime *shall subcontract* to the Subcontractor if the prime receives the prime contract – not that they will negotiate in "good faith."
- The subcontractor does not want to settle only for "good faith negotiations" if the prime receives the award.

The Third Model – Being Acquired

- **Third Model:** Acquisition of the SBC
- Advantages: The acquirer gains control of the SBC and its products, has become a "successor in interest" to the SBC, gains the advantages of the Phase III, and products are now "invented here."
  - As a "successor in interest," the acquirer inherits sole-source procurement rights to the federal government.
  - The acquirer also inherits SBIR technical data rights to the SBIR developed technology, if preserved by the SBIR firm.
- Disadvantages: SBIR entrepreneur has to sell the entire SBC, and acquirer buys the entire SBC, including unwanted technology lines.
- This purchase of unwanted technology lines depresses valuation.

Marking Deliverables Accumulates Wealth

- Value is enhanced and/or retained under this model by vigorously protecting the SBIR technical data and trade secrets that the SBIR law prohibits the Government from disclosing.
- Consistently and accurately marking SBIR deliverables (with the SBIR legend) preserves value in the technology.
- The only way competitors and potential buyers can gain access to all of the SBC's SBIR technical data and trade secrets if marking is observed is to buy the company.
- This is the essence of wealth accumulation in SBIR firms.

The Fourth Model – Selling a Product Line

- **Fourth Model:** Selling a product line or business unit to a prime contractor
- It is the least utilized and least understood of all of the potential Phase III business models.
- Involves an asset purchase of a single technology line.
- Acquirer usually acquires assets – instead of the whole business – patents, trade secrets, data, know-how, people, licenses to other technology that may be necessary for commercialization but are not for sale *and* Phase III rights to sell that technology or product sole-source to the Government, or commercially.

The Fourth Model – Selling a Product Line

- Understanding *why this works* requires an understanding of how SBIR Phase III works.
  - Phases I and II development focuses on two players: 1) the SBC developer and 2) the Government agency sponsoring the research.
  - Phase III involves *commercialization* and sale of actual technologies, and therefore, inevitably also involves:
    - Government program customers;
    - Large primes who sell to the Government program customers; and
    - Private marketplace customers.

The Fourth Model – Selling a Product Line

- An end user customer doesn't need "nifty" technologies that work reasonably well in the laboratory but are not tested, dependable or ruggedized for customer use.
  - Customers in any marketplace need proven, tested Phase III technologies and products.
  - These products:
    - **Must** work
    - Must be susceptible of warranties for performance
    - Must be beyond prototype or lab stage and be ready for use

The Fourth Model – Selling a Product Line

- Fourth Model works best when the SBC has invested time, resources and capital to create working products.
- Incompletely developed products diminish valuation.
  - Highest value will be paid for products that have been sold in the private sector market or to Government customers and have a good performance record.
- All rights, patents, ownership, and Phase III benefits will be assigned to the large prime as "successor in interest."
  - Prime contractor markets and produces product meeting Government requirements.
  - SBC continues as an independent company to develop other innovative products.
  - Existing Phase I or II contracts are novated; completed contracts, technical data, Phase III eligibility rights are assigned.

The Fourth Model – Selling a Product Line

- How and why the Fourth Model works:
  - Phase III definition is very broad. It focuses on the Phase III product, not on the SBIR developer.
  - A Phase III is any "work that derives from, extends or completes prior Phase III work and is funded with non-SBIR funds."
  - There is no mention of the firm, agency, or size in the definition.
  - The Directive expressly allows novation of contracts and successors in interest to SBCs.
  - The Directive also suspends the 500-employee size standard for Phase III.
  - The law and Directive provide for sole-source contracting for SBIR products, regardless of size or firm, because of the "successor in interest" provision, the suspension of the size standard for Phase III, and the broad definition of a Phase III.

The Fourth Model – Selling a Product Line (cont'd)

- Advantages to Phase III SBCs or firms that purchase them:
  - No limit on duration of the funding agreement
  - No limit on the type of funding agreement – *i.e.*, grant, contract, cooperative agreement, "other transaction," or subcontract
  - No limit on dollar value
  - Phase III may be funded by different agency or agencies that funded Phases I or II

The Fourth Model – Selling a Product Line

- Advantages to Phase IIIs (cont'd):
  - Firms that purchase SBIR firms inherit their SBIR advantages, including sole-source and technical data rights.
  - Acquirers inherit technical data rights, which, if protected, provide real value to the acquirer.
  - Nondisclosure to end of protection period (4 years civilian; 5 years military) *and* protection period is rolled over to 4 or 5 years subsequent to the end of the last SBIR contract received.
  - Ultimately, this period of technical data rights protection from date of Phase I award can exceed the patent protection period.
  - If the acquirer receives Phase III awards, those contracts receive SBIR rights and "roll-over" data protection periods even further

The Fourth Model

- This paradigm encourages SBCs to keep innovating.
  - This process will not reward as well the "one-trick pony" as it will the company that keeps getting Phase Is and starts new product lines
  - Consumers/end users need tested products – not just "nifty" technologies.
  - Large firms that purchase a Phase III product can inherit Phase III advantages and make the product their own.
  - Government helps to facilitate this SBIR Phase III insertion process by purchasing the products and recognizing these purchases as Phase IIIs.
  - The acquirer can sell sole-source to the Government.

The Fifth Model – Licensing

- **Fifth Model** for commercializing Phase III innovations: Licensing
- A license leaves ownership of the technology with the SBC.
- An "exclusive" license is really one that transfers all rights to develop the SBIR Phase III to the licensee (usually a larger firm) and excludes even the SBC licensor from using the Phase III thereafter.
- A "nonexclusive" license allows both the licensee and the SBC licensor (or others) to use the Phase III, and allows the SBC to license it further.
- A license that allows the SBC to use the Phase III, but allows no other firm but the licensee (large firm) to use it, is most accurately a "nonexclusive exclusive" license.
- This model is common and spares the SBC significant manufacturing capability development costs.

The Fifth Model – Licensing (cont'd)

- Licensing makes most sense when the cost of final product development is prohibitive for the smaller firm and within reach for the larger licensee.
- Larger licensees many times have established engineering and marketing capabilities, product testing, and assembly lines.
- License agreements should ideally focus on royalties based upon gross sales, and not upon profits, since accountants will be in charge of deciding the latter, while simple invoices can establish gross sales.
- The difference is simply made up in adopting different levels of royalties.

The Fifth Model – Licensing (cont'd)

- There are no "standard royalties" for innovative products.
- A royalty rate is best arrived at by deciding how much money the SBC wants to make on the product, estimating how many products will be sold, and setting the royalty amount per product sold to achieve the desired total return.
- Negotiations based upon such rationales, in conjunction with accurate market estimates, are more likely to be successful than those based on numbers picked from the air
- Licensors generally want exclusivity to the market, while SBIR licensees generally want enforceability of collection of royalties, and recovery of collection costs if not paid.
- Other license terms tend to be more standard.

The Fifth Model – Licensing (cont'd)

- Disadvantages of licensing:
  - The SBC must enforce collection of royalties.
  - A license cannot convey Phase III rights.
    - Under a license, the SBC continues to own the technology and has Phase III rights to it -- Phase III rights cannot be in two places at once because of the sole-source rights.
    - Something cannot be available on a sole-source basis and yet be available from two sources.
  - The licensing SBC loses control of its technology if it licenses it on an exclusive basis, even against the SBC.
  - Allocation of intellectual property rights – particularly to changes or improvements -- can lead to expensive and prolonged negotiations.

The Sixth Model – Obtaining Financing

- **Sixth Model:** Obtaining Financing
- This involves the SBC's own attempt to establish a non-government commercial market for its products.
- This is most often accompanied by the need for financing.
- Venture capital (VC) financing involves trading stock and involvement of new owners in exchange for required capital.

The Sixth Model – Obtaining Financing (cont'd)

- The new SBIR law and size eligibility regulations favor financing of SBIR firms by hedge funds, venture capital operating companies, and private equity groups.
  - A defined investor can own up to 49% of an SBIR firm – and multiple investors can own up to 49% of a single SBIR firm – but not STTRs.
  - Investment Companies can now safely less than 40% of an SBIR firm without fear of affiliation – absent other factors.
  - NIH, DOE, and NSF can award not-to-exceed 25% of SBIR funds to majority-owned SBIR firms.
  - The SBIR size rule now has its own favorable affiliation rule.
  - Much of the same definitions still apply to SBIR and STTRs – but now STTRs are defined differently.

Summary

- Select an appropriate model carefully.
- Not all technologies accommodate the same model.
- Five models involve collaboration with some other entity.
- Four models promote continuation of SBIR eligibility:
  - Selling directly to agencies under prime contracts;
  - Selling through primes as a subcontractor;
  - Selling a product line; and
  - Licensing a Phase III technology.
- Two models can end continued SBIR eligibility for the SBC:
  - Sale of the entire SBC business; and
  - VC financing if any VC purchases in excess of 49% of an SBC.

Summary (cont'd)

- Choose a Model that works as soon as possible.
- Preserve data rights at all times, regardless of model. Such protection increases value.
  - "Mark it or lose it“: Place the SBIR legend on SBIR deliverables.
- Combine models: Sell a product line to a large company that licensed several of your technologies, and they may eventually buy your entire business, or finance it.
- Assess markets: The market for an NIH product may be the Department of Veterans Affairs, the military, or NASA.
- SBCs *and* Large firms can profit from SBIR Phase IIIs.

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Please send questions or comments to:

David P. Metzger, Esq.
+1 (703) 720-7017
David.Metzger@aporter.com

Arnold & Porter LLP
1600 Tysons Blvd., Suite 900
McLean, VA 22102