

Developing the Business of Technology



**Entrepreneurial
Training & Consulting**

Essentials of SBIR/STTR Commercialization Planning

August 2019



Presenter:
Jerry Hollister
Principal Consultant
517-230-7417
jerry@bbcetc.com
bbcetc.com / @BBC_etc



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DEVELOPING THE BUSINESS OF TECHNOLOGY

About BBC Etc

BBCetc works with technology-based entrepreneurs and companies on strategies to advance R&D efforts to commercialization. We are nationally recognized for our success in helping clients win federal funding through the SBIR/STTR programs and use it tactically to propel growth. Services include training courses and one-on-one counseling in:

- ❑ Commercialization Planning
- ❑ SBIR/STTR and Other Research Grant Assistance
- ❑ SBIR/STTR and Commercialization Training
- ❑ Grants/Contracts Management
- ❑ Tech-Based Economic Development Programs



SBIR/STTR Goals

PHASE I = **FEASIBILITY**



PHASE II = **FURTHER R&D**



COMMERCIALIZATION

SBIR/STTR Grants: Commercialization Plans



Assumption #1:

A good idea is necessary...
but not sufficient.



Assumption #2:

SBIR/STTR does not fund “science fair projects”



Assumption #3



You will need a combination
of technical AND
business expertise

e.g.

(e.g., “You can not possibly
know everything”)

Assumptions #4a and 4b:

A Market *Analysis* is NOT a *Commercialization Plan*



Large Market \neq Commercialization

Assumption #5:

There is no such thing as the
“Build it and they will come”
Business Model



What is Commercialization?

Ability to provide a solution to a problem in exchange for money

- Targeted and Differentiated Solution
- Important Problem
- Viable Business Model



Most Common Pitfalls

	Year 1	Year 2	Year 3	Year 4
Product Development	→	→		
Business Development			→	→

Naïve Planning process

	Year 1	Year 2	Year 3	Year 4
Product Development	→	→		
Business Development	→	→		

Product Development and Business Development go hand in hand

Knowing your customer helps develop both simultaneously



What is an Elevator Pitch?

- Imagine you are in an elevator with someone who is important to your business.
- You have from the time you both get on until the time he/she gets out to convince that person that yours is a great business opportunity and warrants that person's involvement.
- Typically, elevator pitches are < 60 seconds in length.



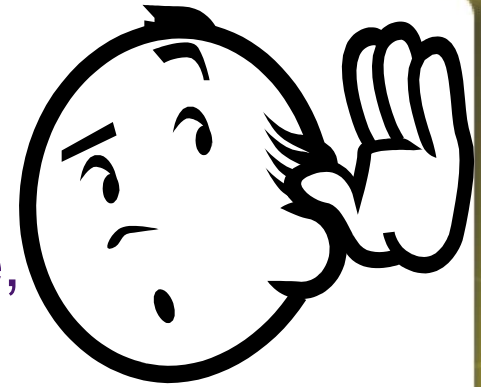
Who are you talking to?



- Investor
- Customer
- Business partner
- Key politician
- Someone who can help you network
- Any other person who may be useful to help you realize your business opportunity, including
 - SBIR/STTR Program Manager
 - Technical Point of Contact (TPOC)
 - Topic Author

The goal

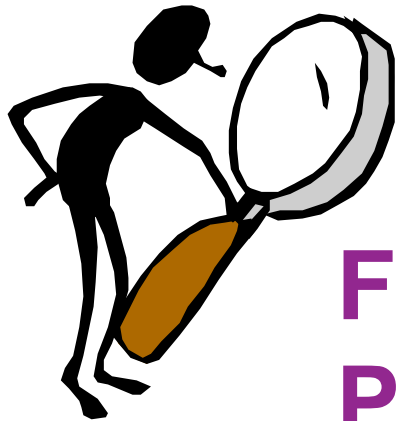
- Your goal is to intrigue and engage, not sell
- No one will “write a check” after hearing your elevator pitch
- A successful elevator pitch results in a request for more information, an invitation to talk/meet later, a RFP or a request to see your business plan/technology/project proposal.



The Planning Process

- Describe the problem
- Identify the “target” customer
- Define the market (e.g., size, growth rate, distribution)
- List alternative solutions (i.e., competition)
- Define the “value proposition”
- Describe the business model

What's the Opportunity?



**Focus on the
Problem...
Not the Solution!**



The Planning Process

Important Problem

Who has the Problem?

Customer

How do they deal with it?

Competition

How do we compare?

Value Proposition

How many with the problem?

Market

Business Plan

- Covers ALL products/services
 - Defines the business model
 - Provides extensive financials & assumptions
 - Identifies milestones and risks for the company
 - May be a request for funding
- or--
- May be an internal 'operating' guide



SBIR Commercialization Plan

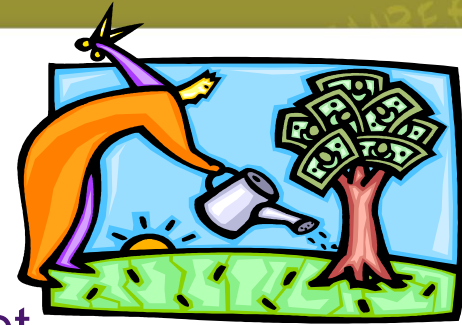
- Plan will include:
 - Competitive analysis (both companies & products)
- Plan may include:
 - Research, development & engineering plans
 - Product specifications; alpha, beta testing, in vitro, in vivo (animal/clinical) studies
 - Regulatory plans
 - FDA, labeling, clinical trials, ISO, GMP, CE mark
 - Production (how, where, who?)
 - Marketing, distribution, service



Value of the SBIR/STTR Project, Expected Outcomes and Impact

- Lay description of proposed project and key technology objectives
 - (Don't forget to clearly define the product and the innovation)
- Need addressed
 - Specify weakness in current approaches to meet the need
- What are the potential commercial applications of the research and the innovation?
 - Be sure to specify:
 - 1) potential societal, educational, and scientific benefits;
 - 2) Non-commercial impacts to the overall significance of the project
- Advantages compared to competing products, technologies or services
- How does project integrate into Company business plan?

Commercial Plan Elements



- Describe Market & Addressable Market
 - Market drivers and business economics
- How have you validated the opportunity?
 - Letters of support from THIRD parties
- Describe your customers and your business model
 - Customers vs End Users
 - Direct Sales? License? Distributor?
- Describe the competition
 - Be realistic about competitor strengths and weaknesses
 - Intellectual Property concerns
 - Market risks
- Outside resources and partners
 - Plan and timetable to secure this support
- Finance Plan
 - Pro-forma revenue projection

Commercialization Plan Elements

Market & Addressable Market



What you need to know...



The Market

- Market size and growth
- Customer profile
- Sales and market share projections
- Pricing and margin analysis
- Competitors
- Market trends

Market Definition



- Adopt standard definitions used by the leading companies and by market analysts
 - Compare and contrast with your own definition of the market
 - Estimating sizes of specific market segments will be easier using standard definitions
- If possible, always size your market in terms of units, before projecting to dollar sizes
 - Search government reports, trade associations, and professional societies for relevant numbers



Do your homework (a.k.a. – *MARKET RESEARCH*)



For the computer savvy



For the socially
adept



Market intelligence....



- For the computer savvy:
- Associations
- Third-party health insurance carriers
- Industry reports
 - Stock analysts
 - Commercial market research (Frost & Sullivan (\$))



Sources of Market Information



- Market Research Reports
- Industry Trade Associations
- Industry Trade Publications
- Government Agencies
- Non-Profit Organizations
- Corporate 10K Reports to SEC
- Investor Presentations
 - Sometimes downloadable from website
 - Presentations at Venture Capital conferences

Corporate 10K Reports to SEC



- Often contain sales by market segment, product line and geography
 - Analyze reports over a 5-6 year period to develop an overview of the Company's sales history, pricing strategy, and market trends
 - For larger companies it might be difficult to extract detailed data on specific products unless they represent a significant fraction of the total business
- Note report of new strategic alliances or equity investments that might signal new business initiatives

Investor Presentations



- For public companies...they often contain more detail than annual reports
 - PPTs often downloadable from the company's investor website
- For private companies these presentations might be the only source of detailed product information
 - Search for presentations made at Venture Capital conferences



Trade Publications



- From public company websites, get the names of the stock analysts that cover their industry
 - Search for articles in trade publications by these analysts
- Look for “year-in-review” issues that rank-list the top companies in the market
 - Use these rankings to target additional searches

Market Research Reports - TofC



- Chemical Sensors to 2008 : Liquid, Gas & Biosensors - Market Size, Market Share, Market Leaders, Demand Forecast, Sales, Company Profiles, Market Research, Industry Trends
- [Bharat Book Bureau](#)

The screenshot displays the Bharat Book Bureau website. The header includes navigation links (Home, About Us, Blog, Contact Us), social media icons, and user options (Log In, Register). The main navigation bar features a search bar and a list of product categories: MARKET REPORTS, COUNTRY REPORTS, COMPANY REPORTS, NEWSPAPERS & MAGAZINES, ONLINE DATABASES, and DISCOUNTED REPORTS. Below this, three vertical dropdown menus are shown, each listing various industry sectors such as Consumer Goods, Energy & Utility, Food & Beverages, Industry & Mfg, Life Sciences, Service Industry, and Technology & Media. The Technology & Media category is highlighted in the first dropdown, and the Alternative & Renewable category is highlighted in the second dropdown.

Market Intelligence....



- For the socially adept:
 - End users and customers
 - Trade shows
 - Scientific meetings



Market Analysis



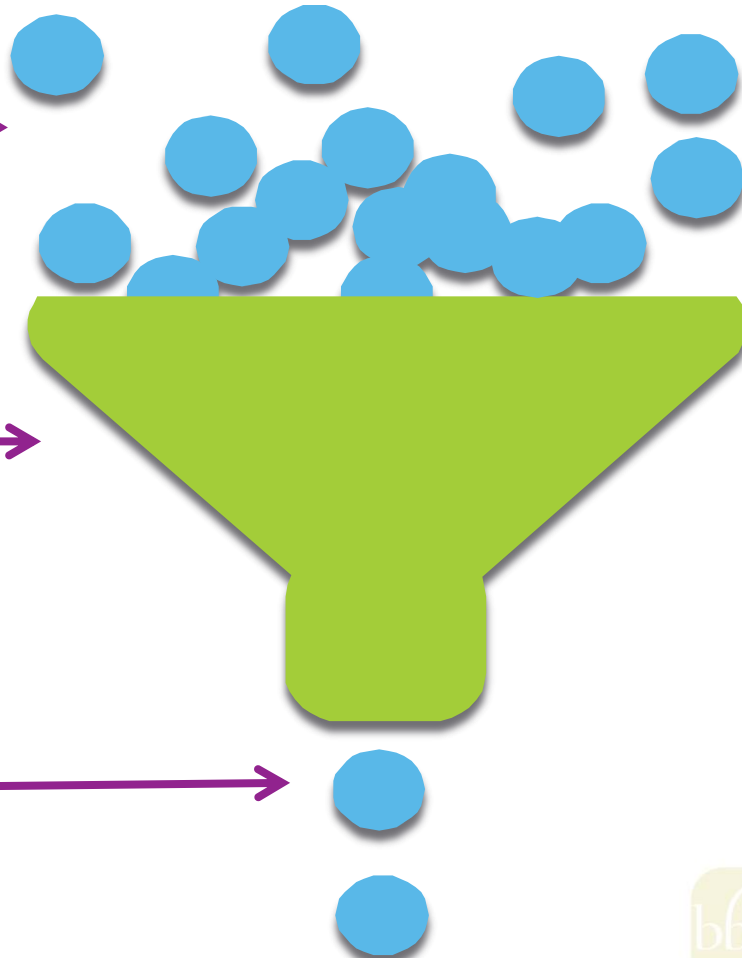
Potential



Addressable



Accessible



Opportunity Assessment



■ Confirm the Problem

- Validate Customer Need
 - Talk to prospects
 - Test assumptions (pain, alternatives)
- Product or Service
 - What kind of solution does the customer prefer?

Market Analysis



To Verify the Problem...Complete These Steps

- Test your understanding of the problem
- Write your description of the problem and its costs
 - Talk to more people
 - Modify your description as needed
 - Ask them what else they need
- List their needs...Rank them

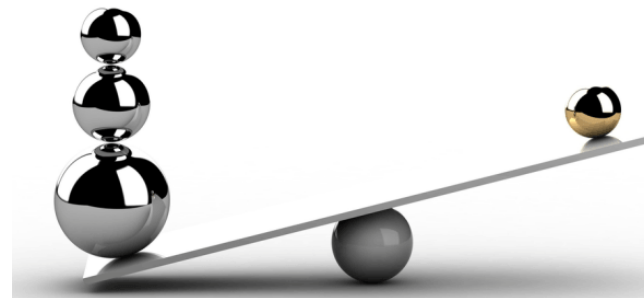


Market Analysis



Now for the Solution...

- What are the customer's current alternatives to solve the problem?
 - Include doing nothing
- How does your solution compare?
 - Performance, convenience, price
 - Cost of switching



Market Validation



Everyone has a great story

- **Your opportunity to show OTHERS believe your story!**
- **Tells reviewers two important things:**
 - You have begun the customer development process
 - You are validating the customer need
- **THIRD PARTY Validation**
 - Not from your own organization

Most Common Pitfalls (REMEMBER?)



	Year 1	Year 2	Year 3	Year 4
Product Development	→	→		
Business Development			→	→

Naïve Planning process

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Market Validation--Letters of Support



- Should be from knowledgeable stakeholders (e.g., prospective investors, strategic partners, customers)
- Validates the commercial opportunity
- Demonstrates that applicant has initiated dialog with market players
- Letters must contain affiliation and contact information for the signatory
- *Recommendation: Write the letter for the stakeholder & have them edit and place on their own letterhead*

Phase I Letters of Support – Template

Single page

Use official letterhead

Addressed to the Principal Investigator



- Paragraph #1: Description of the author or the organization
 - Who/what are they?
 - Why/how are they knowledgeable about this market sector?
- Paragraph #2: How do they view the problem?
 - Why is it significant?
 - Why does it present a commercial opportunity?
- Paragraph #3: What would be the impact of a viable solution?
 - Who would benefit and how?
 - What are they willing to do? (Beta test site?)

For Phase II, add what is specifically being committed by the writer and any contingencies for that commitment



Commercialization Plan Elements

Customers and Business Model



Customers



- Customer profile
- Positioning (ie – product advantages)
- Hurdles to overcome to gain acceptance (ie – barriers to entry)
- Strategic alliances, partnerships, licensing agreements
 - To get regulatory approval
 - To market and sell
- Marketing and sales strategy
- Competitive analysis
 - Current landscape
 - Future potential competitors



Target Customer

■ Who is the customer?

- Describe their attributes
 - Location, institution, position, specialty, application, budget
- Develop a customer profile
- End user? Influencer? Buyer? Decision maker?
 - Prime contractor vs. DoD?
- Purchasing entity/financial buyer



Customer



- Who is the initial target customer?
 - Who is most accessible? Influential
 - Where is the biggest opportunity?
 - Who has the greatest need?
 - Who is the best fit?
 - Where does the company have most access?

Who is most likely to write
you the first check?

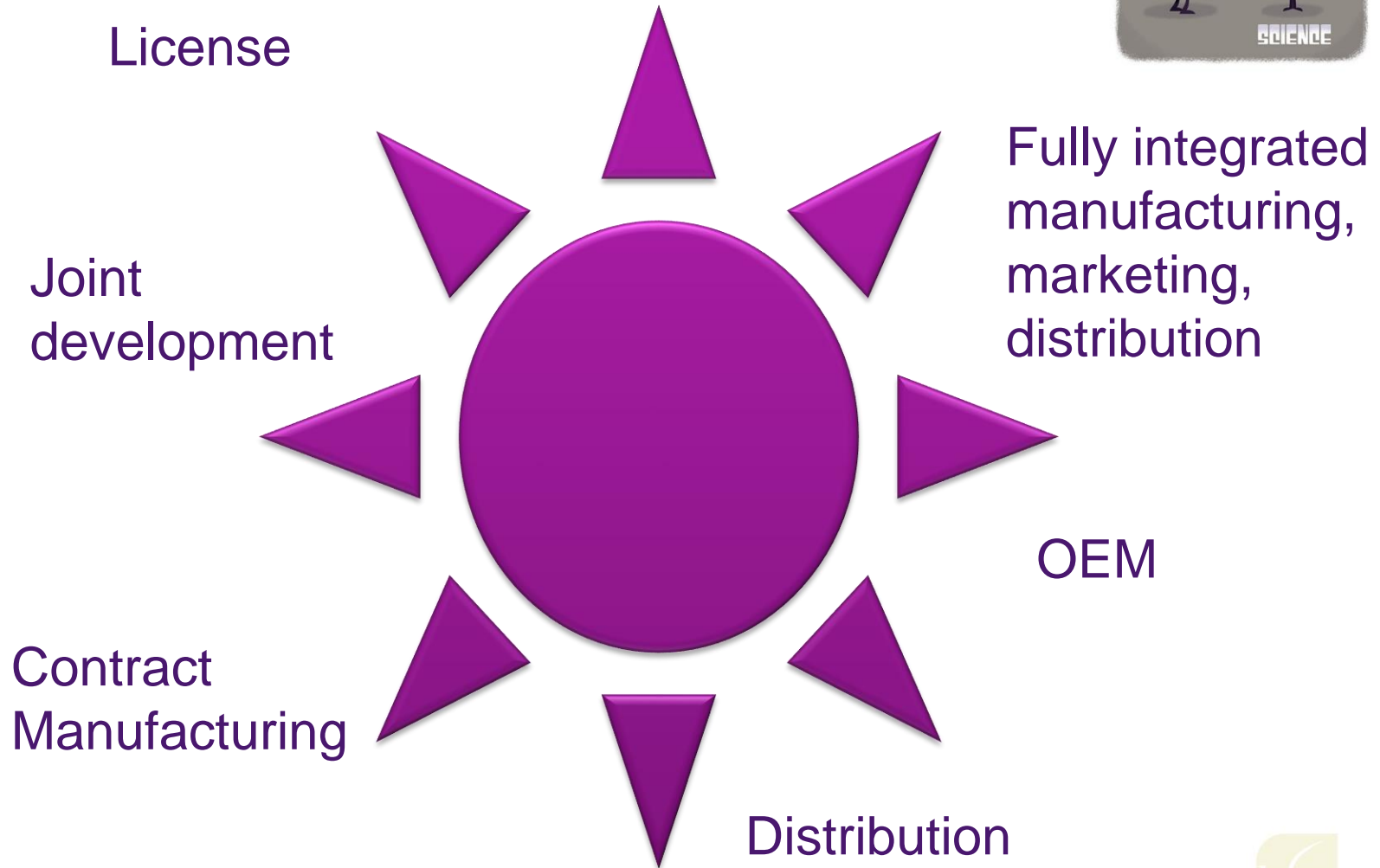
Are you a “real” company?



- Do you have marketing and business expertise?
- If not, how and when will you bring it into the company

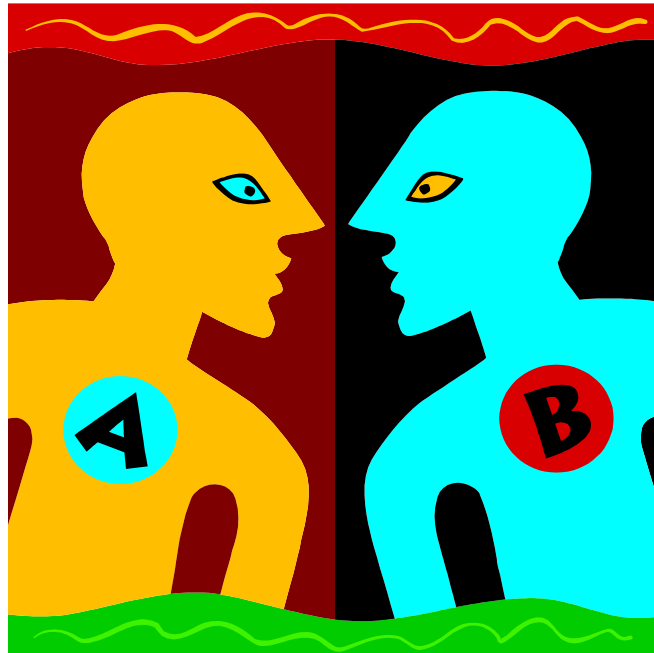


Business Models

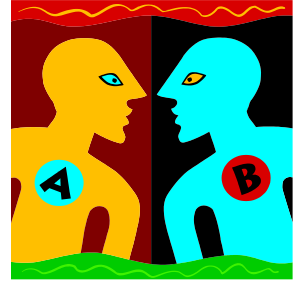


Commercialization Plan Elements

Competitive Analysis



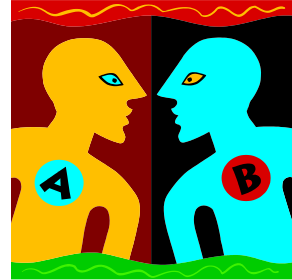
Competitive Products



- What are the alternatives?
- How are these products sold now?
- What is their price?
- How big is their market share?
- What is their intellectual property position?



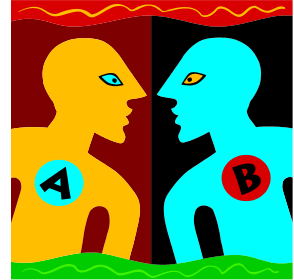
Competition



- Consider previous SBIR/STTR awardees
- Analyze competition on two levels
 - Alternative approaches to a solution
 - Companies offering alternatives
- Special focus on “public companies”
 - Information available readily
 - SEC filings, annual reports, investor presentations



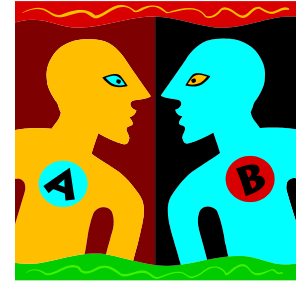
The Value Proposition



- Incremental improvements
 - Better, faster, cheaper
- “Disruptive” advances
 - Completely new approach
 - Provides unique capabilities



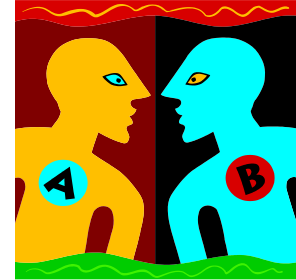
Competitive Analysis



	Company A	Company B	Our Company
Product Feature	Zephyr®	Innovant®	Scan DS™
Capacity	✓		✓
Speed	✓	✓	✓
Price			✓

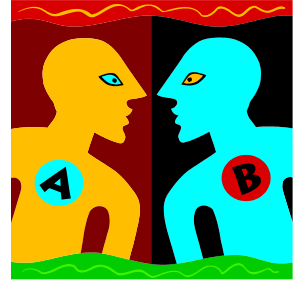
**Be accurate about your competition—
But toot your own horn!**

Intellectual Property Protection



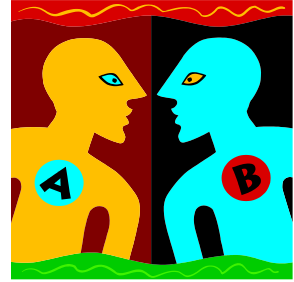
- How will you protect IP that results from this innovation
- What actions might you consider that will constitute at least a temporal barrier to others aiming to provide a similar solution
- Existing IP
 - List and describe importance to THIS project
 - Clearly explain the company's right to use the intellectual property
 - Discuss how the IP fits into the broader base of IP in the competitive landscape
- HOW DOES YOUR IP ENABLE YOUR BUSINESS STRATEGY??

“Rights” to Commercialize



- If you are an academic or employed elsewhere:
 - READ and KNOW your institution’s Intellectual Property Rights Policy
 - Assume the institution owns the IP unless proven otherwise
 - Beware of public disclosure
 - Beware of conflict of interest issues
- Transfer is based on negotiation and a viable business opportunity

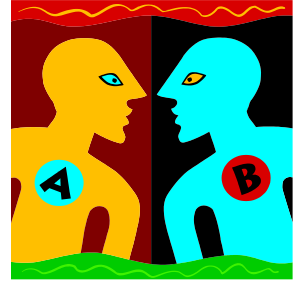
“Rights” to Commercialize



Two other pieces of good advice:

- Hire a good attorney
- Read the Bayh-Dole Act
 - The Bayh-Dole Act requires a grantee institution to disclose an invention to the granting agency
 - Read NOT-95-003: A "20-20" VIEW OF INVENTION REPORTING TO THE NATIONAL INSTITUTES OF HEALTH
 - <http://grants1.nih.gov/grants/guide/notice-files/not95-003.html>

Your Market Risks



- Typical market risks / barriers
 - Technology risks
 - Infrastructure barriers
 - IP barriers
 - “Rights” to commercialize when working with subcontractors
 - Capital barriers
- “No market risks / barriers” = NAIVE

Commercialization Plan Elements

Outside Resources



Funding for Commercialization

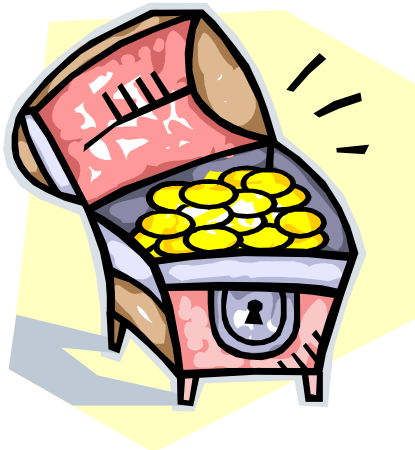


Debt:

- \$ Corporate investment
- \$ Banks
- \$ SBA Loans

Equity:

- \$ Angel investment
- \$ Venture capital
- \$ Corporate investment



Follow-on Funding Commitments

- Internal resources (i.e. – revenue)
- Friends, family, fools
- Debt
- Angel investors
- Venture capital
- Corporate investment



HOW DO YOU DECIDE??
BE THE CUSTOMER!

Management Team

- Executive Officers
- Scientific Advisory Board
- Board of Directors
- Business Advisors
- Regulatory Experience
- Recruiting Plans



Commercialization Plan Elements

Revenue Stream



Finance Plan



- Describe necessary fundraising to commercialize the product, process or service
 - Plans to raise requisite financing to launch into Phase II and begin revenue stream
 - Fundraising timeline
- Demonstrate through:
 - Letters of commitment of funding
 - Letters of intent or evidence of negotiations
 - Letter of support and/or in-kind commitment
 - Specific steps to secure Phase II funding



Typical Reviewer Questions



Financing & Revenue Model

- Does the proposal demonstrate adequate knowledge of the level of financial resources needed to take the innovation to market?
- Is there a plan to bring reasonable resources to bear to get the innovation to market?
- How and how soon will the innovation generate revenue?

Revenue Stream



- How will you bring in \$\$ to the company upon successful completion of project?

Examples include (but are not limited to):

- Manufacture and direct sell
 - Sales through resellers or distributors
 - Joint venture
 - Licensing
 - Service
- How will your staffing change to meet revenue projections?

Sales Financials



Product sales and margin projections, to include:

- Income:
 - Revenue from sale of product
 - Related licensing revenue
- Expenses:
 - Cost of Goods
 - Other sales expenses
- Bottom line in gross margin dollars and percent



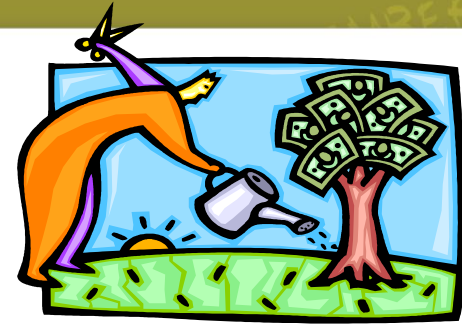
Revenue Model



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Grant revenue	115,000	43,000	677,000	227,000			
Licensing fees		10,000	25,000	25,000	20,000	20,000	20,000
Milestone payments			75,000	40,000	150,000	200,000	
Product sales					66,000	225,000	480,000
Royalties				13,000	47,000	128,000	238,000
Total Revenue	\$115,000	\$53,000	\$777,000	\$305,000	\$283,000	\$573,000	\$738,000

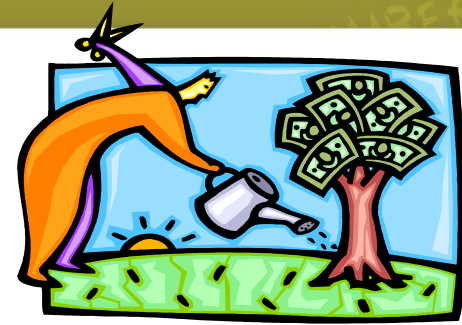
<u>Item</u>	<u>Assumption</u>
Grant Revenue	One Phase I & one Phase II SBIR
License fees	\$10k upfront; \$5k/yr thereafter
Milestone payments	Pre-negotiated
Product Sales	Average selling price X # units
Royalties	5% of licensee's net sales

Commercialization Plan Overview



Activity	Year 1	Year 2	Year 3	Year 4	Year 5
Conduct Phase II R&D Project	xxxxxxxx	xxxxxxxx			
Execute a joint development agreement		*			
Jointly complete product development			xxxxxxxx	xxxxxx	
Execute a licensing agreement			*		
Identify prospective investors		xxxx	xxxxxxxx	xxx	
Close Series A financing				*	
Recruit marketing manager			xxxx	xxx*	
Identify contract manufacturer				xxxx*	
Sign up international distributors				xxxx	xxxx
Launch product internationally					*

What is Commercialization?



- Ability to provide a solution to a problem in exchange for money
 - Targeted and Differentiated Solution
 - Important Problem
 - Viable Business Model



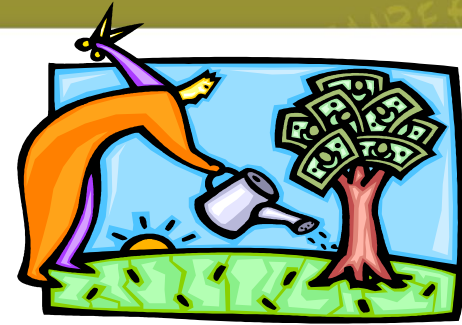
Take Home Lessons



Commercialization Plans are not Developed over a Weekend

- Start the planning process early
- Focus on the problem
 - To identify the target customer and market
- Validate assumptions
- Develop relationships that will result in letters of support and/or commitment

Final Words....



- Remember why the SBIR/STTR program is funding your company!
 - Agency is an Important Customer!
 - Facilitate commercialization of technology
 - Create jobs
 - Encourage collaboration
 - Justify your assumptions
 - Be persuasive
 - Why is this product important?
- Be realistic
- Develop your Commercialization Plan with the same scrutiny you give your Research Plan

But more importantly....

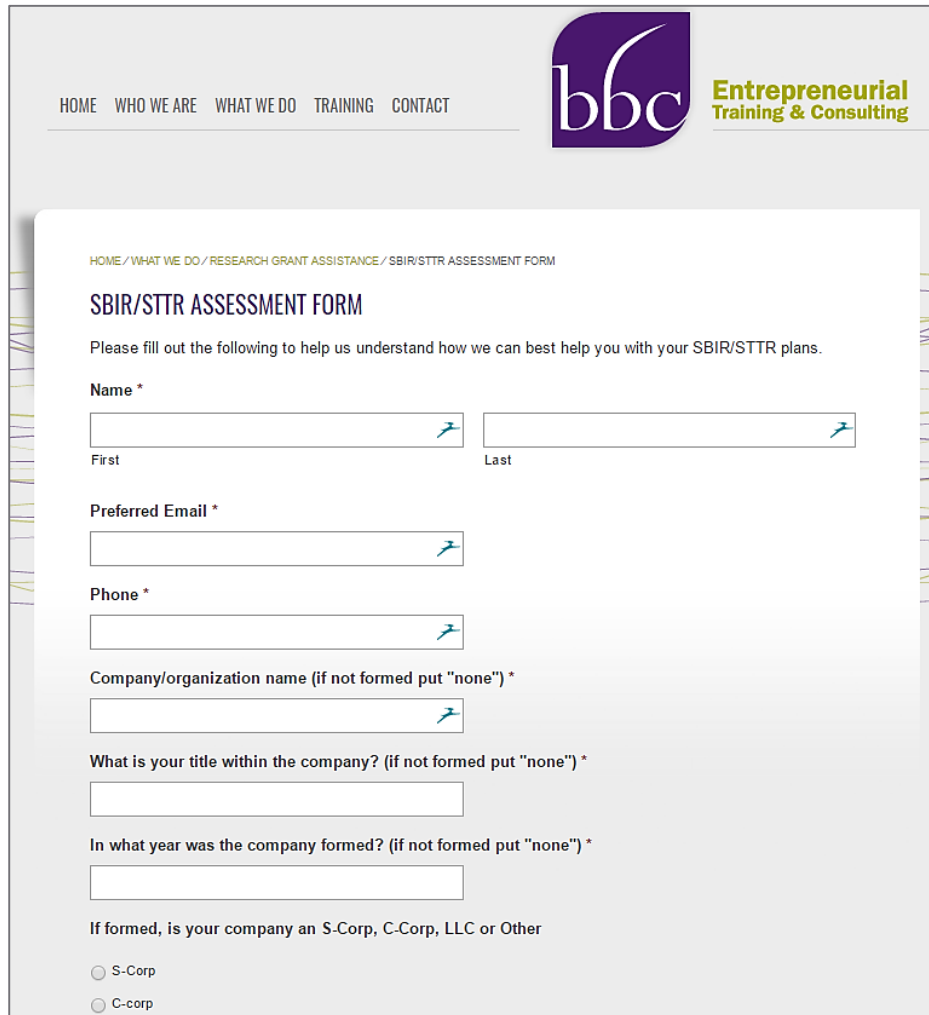
Remember that you are running a company!



Working with BBCetc

START HERE

<http://bit.ly/bbcasmt>



HOME WHO WE ARE WHAT WE DO TRAINING CONTACT

bbc Entrepreneurial Training & Consulting

HOME / WHAT WE DO / RESEARCH GRANT ASSISTANCE / SBIR/STTR ASSESSMENT FORM

SBIR/STTR ASSESSMENT FORM

Please fill out the following to help us understand how we can best help you with your SBIR/STTR plans.

Name *

First Last

Preferred Email *

Phone *

Company/organization name (if not formed put "none") *

What is your title within the company? (if not formed put "none") *

In what year was the company formed? (if not formed put "none") *

If formed, is your company an S-Corp, C-Corp, LLC or Other

☐ S-Corp

☐ C-corp

- Complete and submit our online Assessment Form.
- We'll set up a call to chat about your project, your SBIR/STTR eligibility and next steps.





YOUR FEEDBACK MATTERS

In <  minutes

answer just  questions



And let us know how we did!

<http://bit.ly/sbirgrants>

THANKS!

Contact Us

info@bbcetc.com

734.930.9741

www.bbcetc.com

Social:



@BBC_etc



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