BOSTON ENGINEERING™

The Fast Track to Product Success

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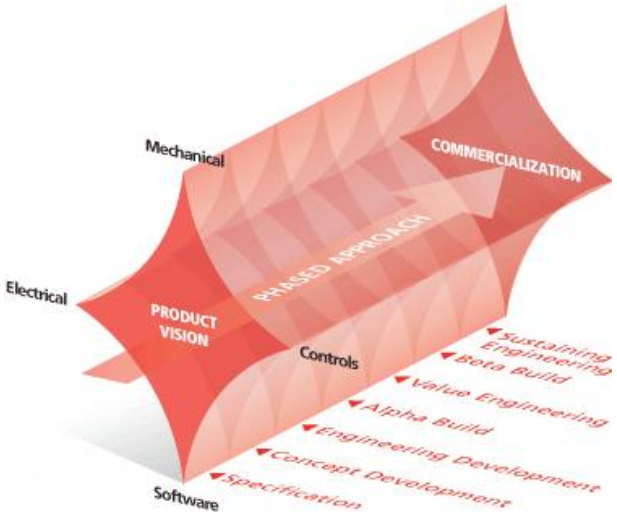
Boston Engineering – What is Being Discussed Today

- Brief Company Overview and Samples of Service
- Management Vision and Where SBIR / STTR Fits
- What is Small Business Innovation Research (SBIR)?
- The SBIR Process
- Using SBIR the Right Way
- Increasing the Odds of Winning SBIR Grant $
- Example: SBIR Process Mapped Out for an ONR SBIR Project
- Boston Engineering SBIR Statistics
- SBIR Cascading Leading the Efficiency of Efforts
- Boston Engineering – Historical Boot Strapped Timeline

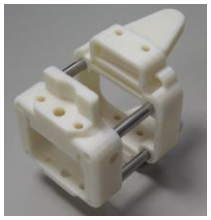
Company OVERVIEW

- Founded in 1995 Part-time; Full-time 1997 as Bootstrap operation
- Electro-mechanical products and systems development
- Strong relationships with technology and manufacturing partners

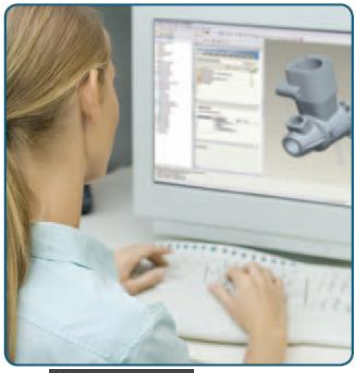


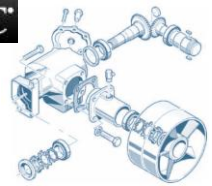
DEVELOPMENT SERVICE
(Product Development)

RAPID PROTOTYPING
(FlexStack™ and 3D Printing)



INTERNAL R&D
(Autonomous Systems)





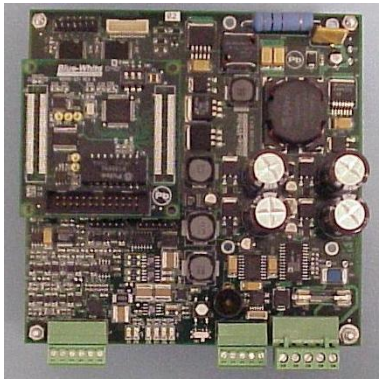
TOOLS EXPERTISE
(Value-Added Reseller)

Pro|ENGINEER WILDFIRE 5.0

Windchill®

Mathcad®

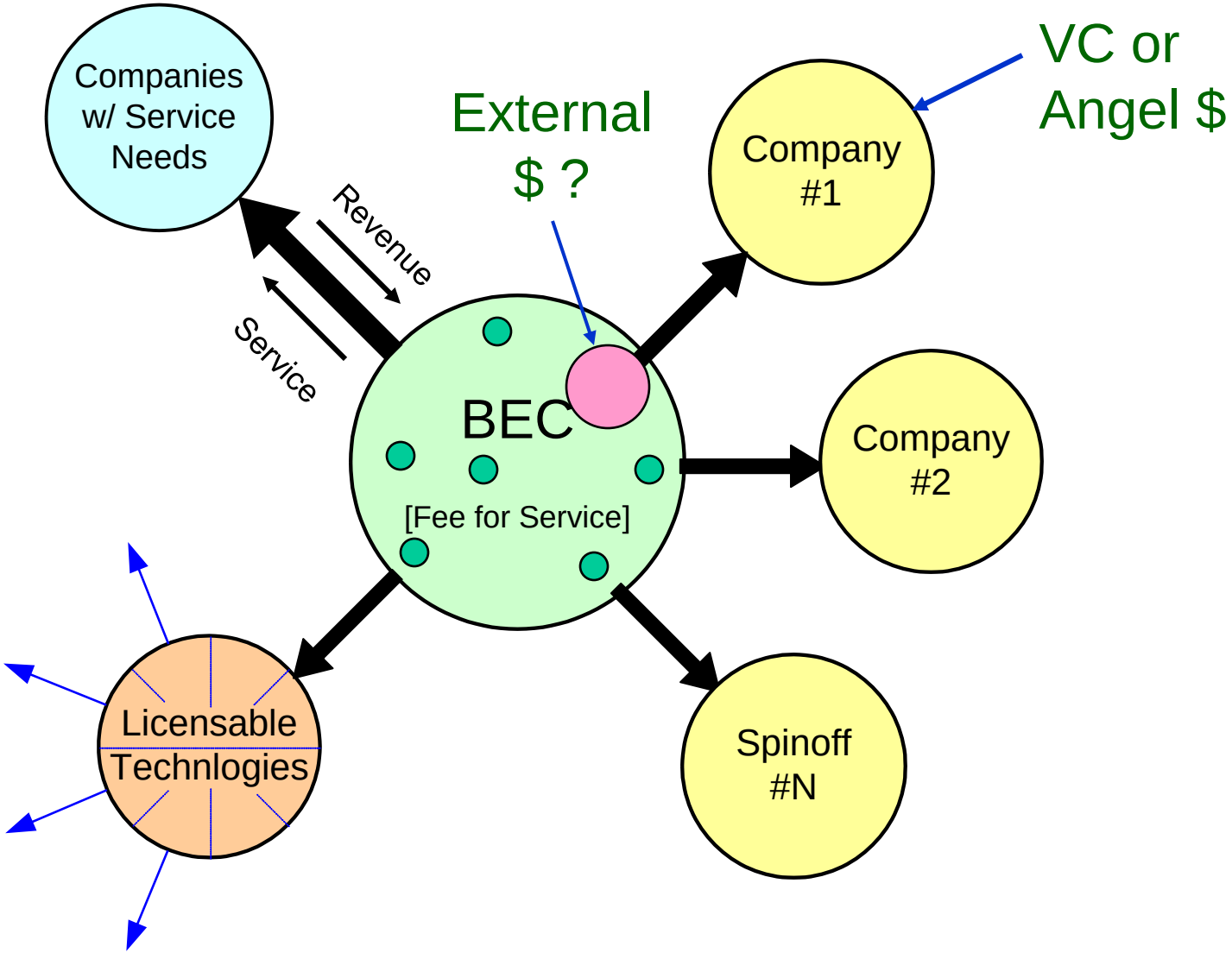
Electro-mechanical System SOLUTIONS



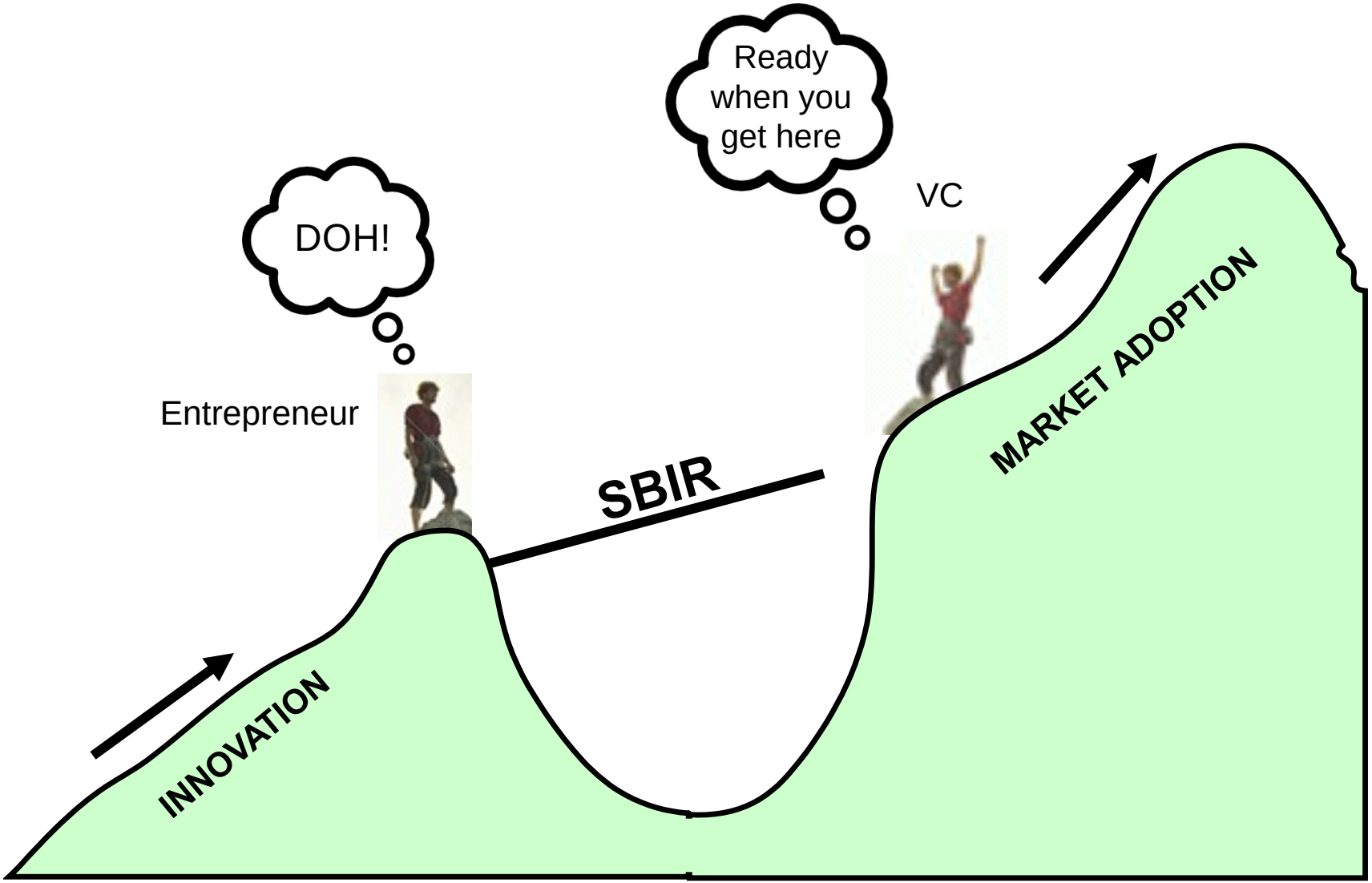
How Did It All START?

- ❑ Two Engineers – One ME and one EE
- ❑ Working at an R&D Service Company Together
- ❑ Dreaming of Starting a Company; Maybe SBIR?
- ❑ Both Go to a Capital Equipment Company to Learn Mfg'ing
- ❑ Attend Many SBIR Seminars and Think of Many Ideas
- ❑ However, Not Enough Hours in the Day!
- ❑ Determine that "Cold Turkey" is the Way to Go – Set Date
- ❑ "Chicken Out" – Join an Industrial Design Firm as a Team
- ❑ After 1 Year 3 Months and 5 Days – Launch BEC; Aug 1997
- ❑ Sitting in Same Seats for First Year of Operation

Management VISION



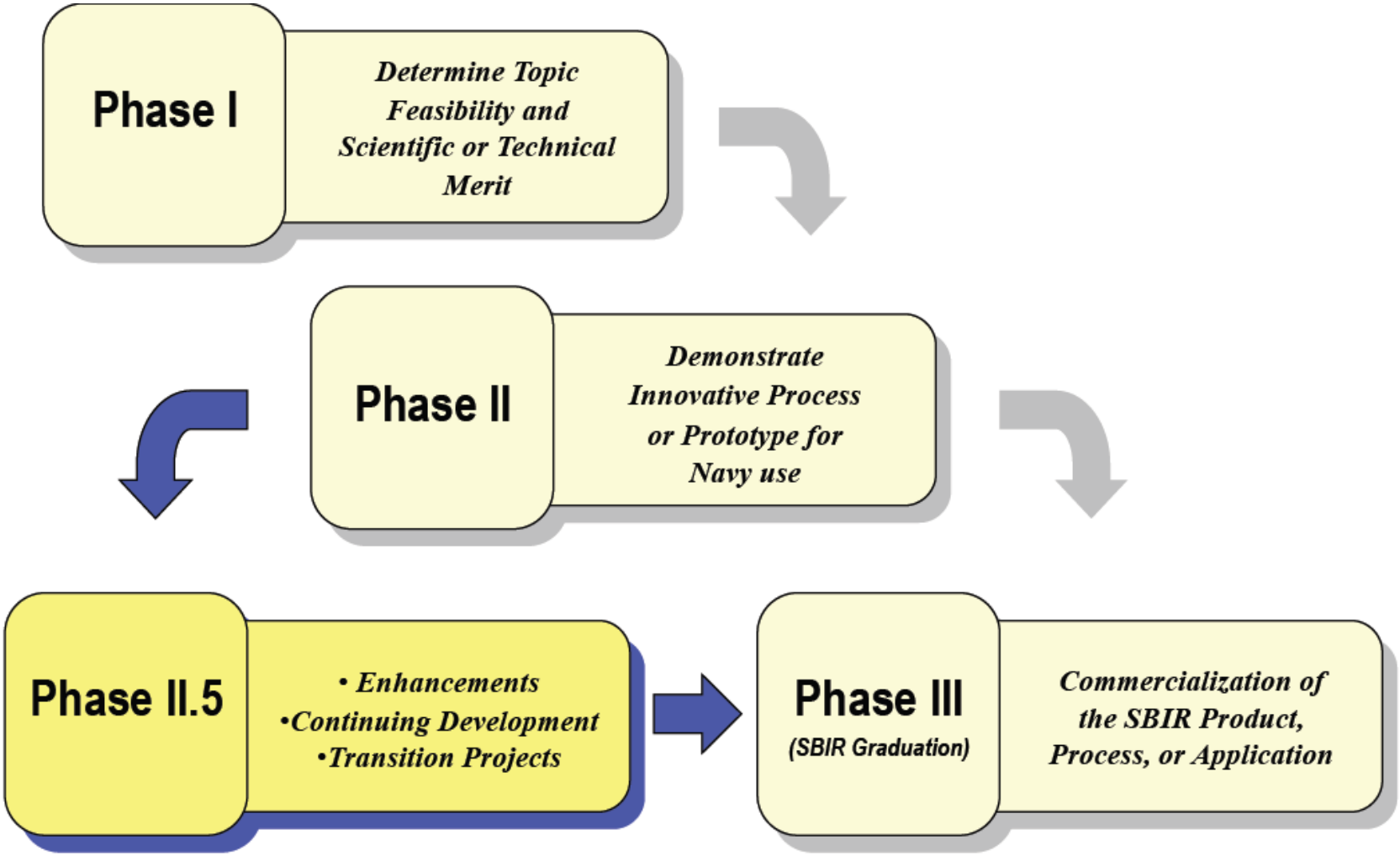
The Funding Gap – One Way to Overcome It



SBIR Funding – What is It? Who Gets It?

- R&D Funding for Small Companies / Individuals (500 People)
- Money is a Grant – Not Paid Back Regardless of Success
- Certain % of Government Funds by Law
- Solicitations Posted Publicly by the Different Agencies
- Solicitations Occur 1-3 Times Each Year
- Proposals are 25-50 Pages Depending on Agency
- Sample Agencies - DoD, NIH, DoE, DoT, DHS
- SBIR and STTR (w/ Academic Partner) Versions
- The Resulting IP is Yours – But government has right to use

SBIR Funding – A Phased Approach (ONR SBIR)



SBIR Funding – How it Works / The Process

- Government Agency Posts Topics of Interest
  (One way to search http://www.zyn.com/)
- Proposal Generation: 100-150 Hours of Time Investment
- Phase I: Proof of Concept Development (ex. $150K)

  (Request by POC for a Phase II Proposal)
- Phase II – Feasibility Prototype (ex. $750K)
- Phase II.5 – "Bridge Funding" for Some Agencies (ex. $750K)

  (Non-SBIR Matching Funds Required in Many Cases)
- Phase III – Non-SBIR Sales, including Government

SBIR Funding – Using it the Right Way

- One good way to obtain R&D funding
- Usually, a longer development timeline
- Intent is to commercialize solutions
- Should NOT be the foundation for a business
- Should augment with additional effort
- Demonstrate your commitment

"Government has invested in you or your company. Return the favor through above average investment of time into both the technology and the business and you should see a positive response"

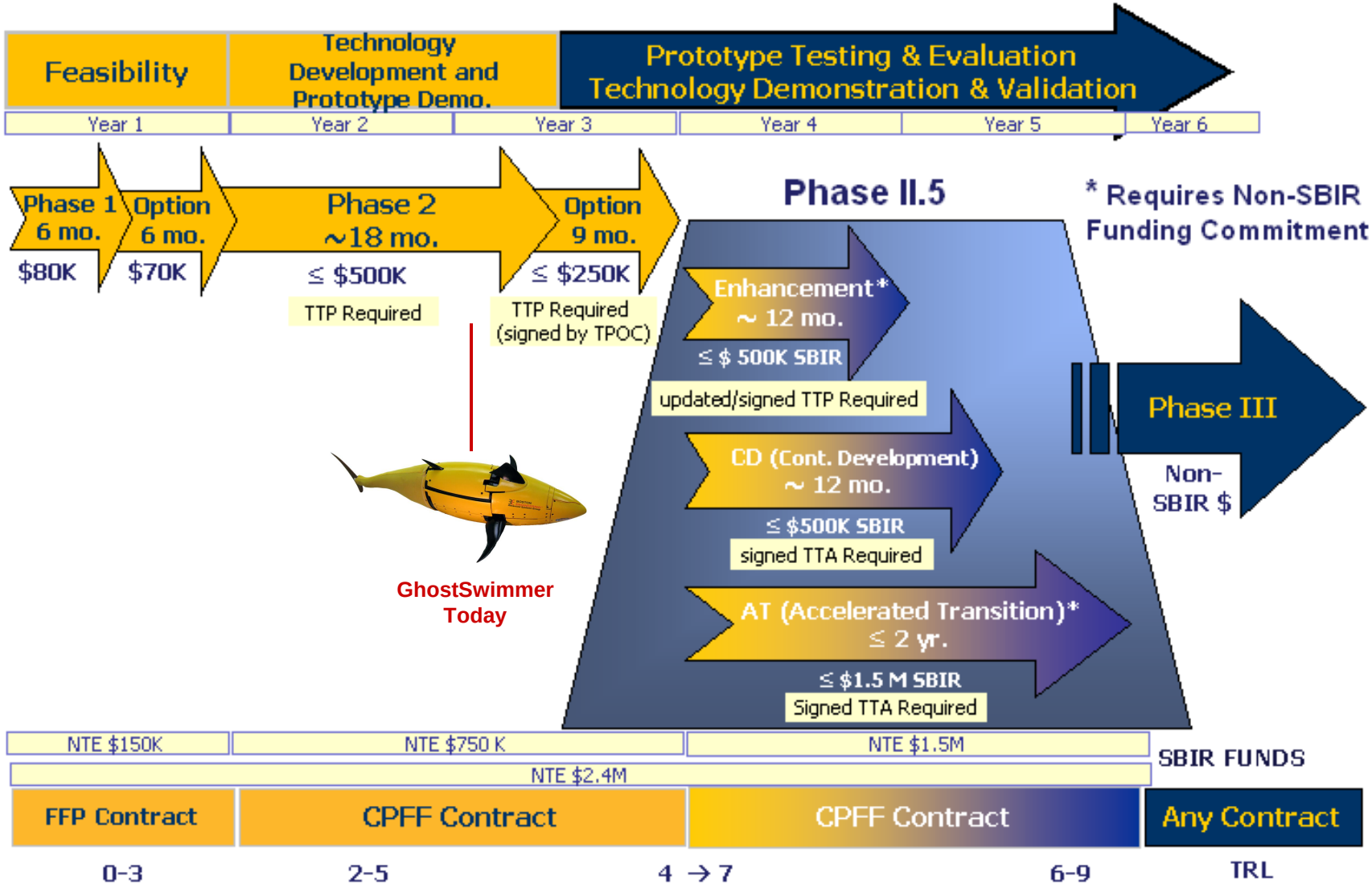
SBIR Funding – Increasing the Odds

- Understand the Problem Through Research – Be or Get “Smart”
- Develop a Good Idea / Concept Solution – Pictures = 1000 words
- Great Team – Expertise in both Technology and Market Area
- Involve Academia Where Possible (government likes that)
- Good Commercialization Plan – How you intend to achieve success
- Integration Partner(s) – Leveraging the power of an existing Prime
- Going Above and Beyond – **invest your time** like an entrepreneur

STATISTICS to NOTE

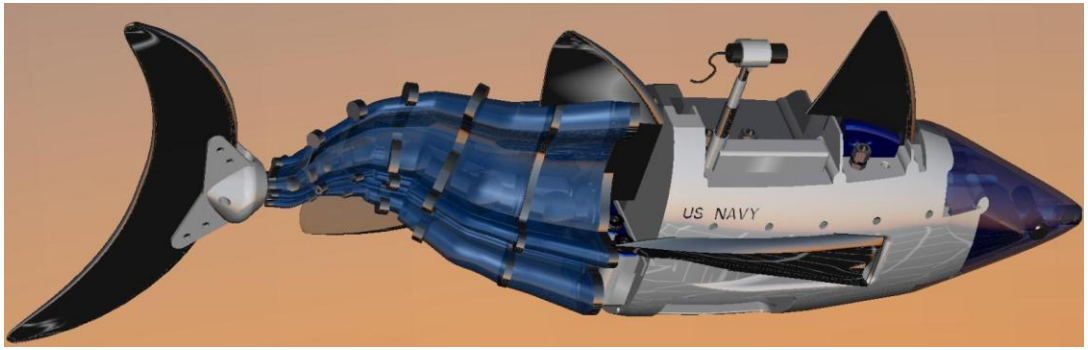
- Phase I award average approximately 10% probability
- Phase II award average approximately 30% probability

SBIR Funding – Example of Office of Naval Research



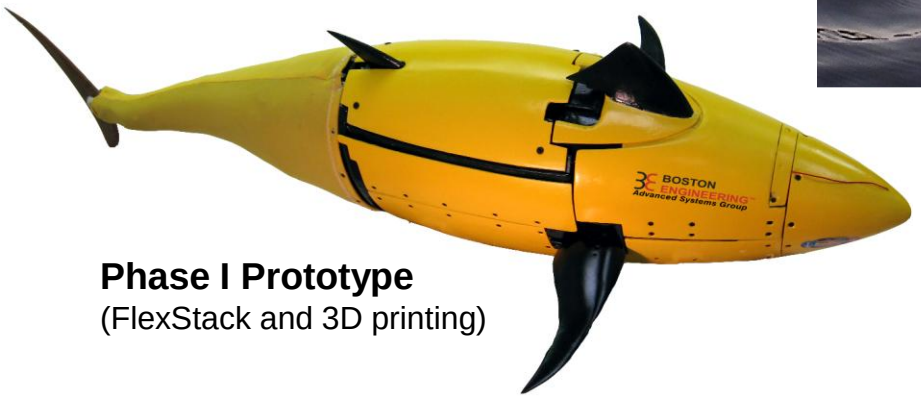
Boston Engineering – Statistics

- 14 Phase I SBIR Proposals since 2007
- 6 Phase I Awards (43%)
- 2 Phase II, Awaiting Contract for a 3rd, and request for a 4th (68%)



Concept CAD – Partner with Olin College (Dr. David Barrett)

Phase II Efforts Ongoing



Phase I Prototype
(FlexStack and 3D printing)

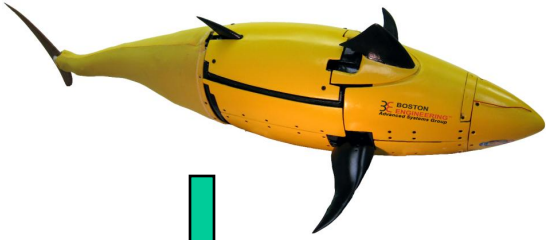
All SBIR Data Rights Apply per Contract # N00014-08-M-0294

SBIR Cascading – Leveraging Past Success

ONR STTR PII – GhostSwimmer™

Project to develop highly efficient, highly maneuverable, biomimetic fish robot

All SBIR Data Rights Apply per Contract # N00014-08-M-0294



DHS SBIR PII – BIOSwimmer™

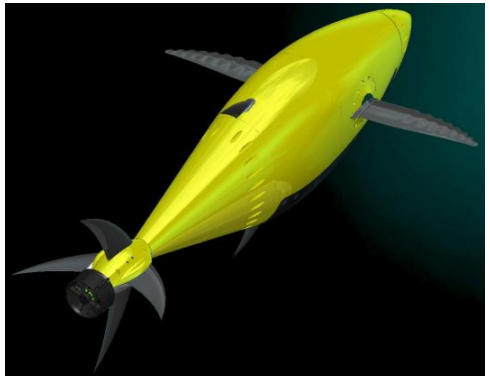
All SBIR Data Rights Apply per Contract # NBCHC090049

Project to develop an in-liquid inspection vehicle for oil tankers

NAVSEA SBIR PI Option – MANEUVER

All SBIR Data Rights Apply per Contract # N65538-10-M-0054

Project to develop new high performance control surfaces for underwater vehicles



Boston Engineering – Boot Strapping Towards a Vision

Apr 1995
Start
Part-time

Jan 1996
"Going Cold Turkey!"

Aug 1997
Full-time!
2 engineers

$56K

Sept 2000
Riding High
32 people

Dec 2000
Oh No!

Sept 11, 2001
Tragic News

SEMI Market Crashing Hard!

Jun 2003
Retrench into Smaller Office
13 people

July 2004
Strategic Partnership with National Staffing Firm

End Dec 2003 $1.8M

End Dec 2005 $3.5M

Mar 2006
Become a VAR for PTC
Selling Software

End Dec 2006 $3.9M

Jun 2007
BEC Wins First SBIR (STTR)

Mar 2008
BEC Launches FlexStack™

July 2008
BEC Wins 2nd SBIR (STTR)

Tough Year Begins!

All Future Unknown

End Dec 2008 $4.9M

Sept 2010
Largest Booking Qtr in History $1.65M (39%)

End Dec 2009 $5.0M

End Dec 2010 Proj $5.5M

Future is Bright on all Fronts

CHICKEN OUT!

May 1996

Join Industrial Design Firm

On Pace to Hit $3.9 Million!

In New 10K SF Office Space

The Rebuilding Process Begins

Diversification

Learning How to Sell

Bank #1 – Earn out!

Bank #2 + Mass Economic Stabilization Trust

BEC Learning Selling Techniques

Modular Set of Electronic Boards for Navy Countermeasure

ANALOG DEVICES

NATIONAL INSTRUMENTS