

# SBIR/STTR Overview

Karen West

MTI SBIR/STTR Consultant

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# SBIR/STTR Program

## ➤ What is the SBIR/STTR Program?

- A \$2.5B+ early stage R&D funding resource for early-stage, high-risk innovative technology leading to commercialization – currently for small businesses only

## ➤ Three Phase Effort:

- Phase I: Feasibility
- Phase II: Prototype Development
- Phase III: Commercialization

# SBIR/STTR Program

- **For Small Businesses that are:**
- **Independently owned and operated**
  - **Organized for-profit**
  - **Principal place of business is in the USA**
  - **51% + ownership by US citizens/permanent residents**
  - **500 or less employees, including affiliates**
  - **Principal Investigator (PI) leading the effort must be more than 50% employee of the business**

# SBIR/STTR Program

## Is SBIR/STTR Program Right for My Company?

### ➤ Do you have an idea for a technology that is:

- Revolutionary not evolutionary, or a novel application of an existing technology
- Improves the social, medical or other aspects of a person's life

### ➤ Advances the existing state of science

- Once commercialized, provides jobs, benefits & taxes
- Want to start a business or keep your company growing

# SBIR/STTR Program

- **SBIR: Small Business Innovation Research**
  - **Small business performs 66% of work, subcontracts balance remainder**
- **STTR: Small Business Technology Transfer**
  - **Small business performs 40-60% of work, MUST partner with research institution and negotiate allocation of IP rights**
- **11 Federal Agencies participate**
  - **Solicitations issued with topics of interest**
- **Companies submit ~25 page proposal**
- **Technical Competition – not cost**

# SBIR/STTR Program

## How does the SBIR/STTR program work?

### Phase I – Feasibility Study

- **Will your idea work?**
- **Submit ~25 page proposal**
- **Performance period – 6-9 months**
- **Funding level – Up to \$150,000**
- **Average success rate 10% - 13%**

# SBIR/STTR Program

## How does the SBIR/STTR program work?

### Phase II – Prototype Development

- **Bench level – develop commercialization potential**
- **General submission from Ph I typically**
- **Submit ~25-50 page proposal**
- **Performance period – 2 years**
- **Funding level – Up to \$1,000,000**
- **Average success rate 40-50%**

# SBIR/STTR Program

## How does the SBIR/STTR program work?

### **Phase III – Commercialization**

- **No SBIR/STTR funding, but other Federal funding may be available**
- **MTI Development Loans or Equity Capital Funding**
- **Three “F’s”, Angels, Venture Capital**



# SBIR/STTR Agencies

## ➤ **Department of Defense**

Army, Navy, Air Force, Defense Advanced Research Projects Agency, Defense Technical Information Center, Defense Threat Reduction Agency, Missile Defense Agency, National Geospatial-Intelligence Agency, Special Operations Command

## ➤ **National Institutes of Health**

## ➤ **National Aeronautics & Space Administration**

## ➤ **Department of Energy**

## ➤ **National Science Foundation**

## ➤ **SBIR Only:**

- **Department of Homeland Security**
- **U.S. Dept. of Agriculture**
- **Department of Education**
- **Environmental Protection Agency**
- **Department of Transportation**

## • **Department of Commerce:**

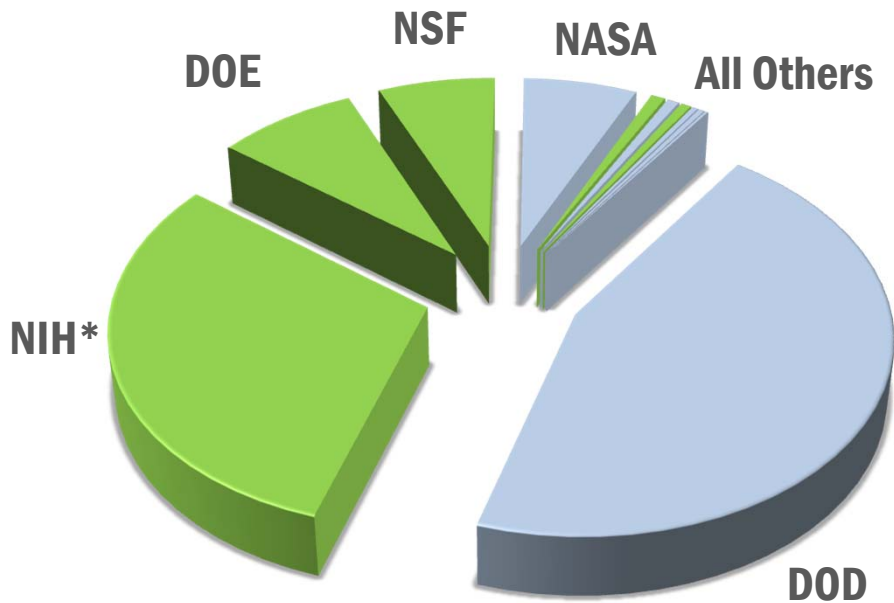
- **National Institute of Standards & Technology**
- **National Oceanic and Atmospheric Administration**

# Agency Differences

## Award Type, Size & Structure – Grant vs. Contract

	GRANTS	CONTRACTS
Topics	Broader, investigator initiated	Focused, agency establishes requirements
Financial and Project Flexibility	More	Less
Primary Deliverable	Technical Report	Prototype
Primary Customer	Commercial Markets	Federal Government
Agency Phase III Funding	Limited	Available

# SBIR/STTR Budgets by Agency, FY 2013



~\$2.3B in FY13 across all agencies

Grants ■  
 Contracts ■

*\*NIH and ED also issue contracts; Within DOC, NIST issues grants and NOAA issues contracts*

Agencies with SBIR & STTR Programs	Budget
Department of Defense (DOD)	\$ 1.0 B
Department of Health and Human Services (HHS): National Institutes of Health (NIH)*	\$697.0 M
Department of Energy (DOE), including Advanced Research Projects Agency (ARPA-E)	\$183.9M
National Science Foundation (NSF)	\$153.0 M
National Aeronautics and Space Administration (NASA)	\$ 148.8 M
Agencies with SBIR Programs	Budget
U.S. Department of Agriculture (USDA)	\$18.4M
Department of Homeland Security (DHS): Science and Technology Directorate (S&T) and Domestic Nuclear Detection Office (DNDO)	\$15.7 M
Department of Education (ED)*	\$13.4 M
Department of Transportation (DOT)	\$7.6 M
Department of Commerce (DOC): National Oceanic and Atmospheric Administration (NOAA) and National Institute of Standards and Technology (NIST)*	\$7.4 M
Environmental Protection Agency (EPA)	\$3.8 M

# Which should YOU use?

- **Depends on several variables:**
  - **Does the agency offer STTR?**
  - **Where was the idea originated?**
  - **What are small business capabilities?**
    - **People**
    - **Facilities**
  - **Is it Tech Transfer?**
  - **IP Ownership?**
- **Don't Decide by Yourself!**
  - **Talk to the agency topic manager**
  - **Call MTI**

# What's new?

- **Companies may switch between STTR & SBIR:**
  - Phase I STTR to SBIR Phase II
  - Phase I SBIR to STTR Phase II
- **Direct to Phase II**
  - Allows companies that are ready for Phase II development to bypass Phase I Feasibility
- **Fast Track**
  - Allows companies to submit Phase I & II together
- **Technical Assistance**
  - Guides commercialization efforts in both Phase I & II
- **Matching Programs**
  - Phase IB and Phase IIB offer additional agency funding
  - Requires outside funding match

# The Good News

- **Evaluation is based on scientific and technical merit, firms' qualifications, commercial potential and societal benefits**
- **Requires NO REPAYMENT of monies received – grant or contract**
- **Requires NO EQUITY sacrifice**
- **Intellectual property rights remain with small business**
- **Follow-on Phase III awards are sole source up to 4 years from date of last SBIR/STTR award**

# SBIR/STTR Reality

- **Highly Competitive – Requires excellence in all aspects of competition process**
- **Funding generally NOT CONTINUOUS between Phase I and Phase II**
- **A credible project team must be assembled**
- **A viable commercialization plan is critical**
- **You need to submit an excellent and compelling proposal that excites reviews, is complete and is innovative**

# The Process

- **SBIR/STTR is a PROCESS that takes time:**
  - **Submit a proposal**
  - **4 to 6 month review process by internal or external panel of reviewers**
  - **1-2 month award process**
  - **6-9 month period of performance for Phase I**
  - **Submit Phase II proposal**
  - **4 month review process**
  - **2 year period of performance for Phase II**
  - **Commercialization**

**On average a 3-4 year program but uses OPM (other people's money)!**



# How to Begin

## **Understand where your technology is in the market**

- **Search the literature**
- **Conduct market research**
- **Talk to others**
- **Understand what differentiates your approach and technology from others**
- **Begin establishing your team**
- **Research topics and determine fit**
- **Talk to agency Program Manager**

# Identify Agencies and Topics

## ➤ Search Agency Solicitations

- Agency websites [www.sbir.gov/agency-contacts](http://www.sbir.gov/agency-contacts)
- SBIR.gov [www.sbir.gov/solicitations](http://www.sbir.gov/solicitations)
- Grants.gov [www.grants.gov](http://www.grants.gov)
- FBO.gov [www.fbo.gov](http://www.fbo.gov)
- SBIR Gateway [www.zyn.com/sbir/sbres/sbcss.htm](http://www.zyn.com/sbir/sbres/sbcss.htm)
- Follow up with agency personnel listed with individual topics

## ➤ Attend SBIR Conferences

- National, Regional and State conferences
- One-on-One meetings with agency program managers

# How to Access Information

## ➤ [www.sbir.gov](http://www.sbir.gov)

- Information on SBIR and STTR programs
- Handbook for proposal preparation
- State award information
- Agency contacts & more!

## ➤ [www.zyn.com/sbir](http://www.zyn.com/sbir)

- Links to agency SBIR/STTR sites
- Agency solicitation release/proposal due dates
- Key word search on topics – open & closed solicitations
- Conference information

# The Registration Process

- **Register with:**
  - **the business with the IRS and receive a Taxpayer Identification Number**
  - **Dun & Bradstreet at <http://fedgov.dnb.com/webform> (free, 1 day)**
  - **System for Award Management (SAM) at <https://www.sam.gov>**
  - **SBA Registry at [www.sbir.gov](http://www.sbir.gov)**
- **Depending on the Agency:**
  - **register at [www.grants.gov](http://www.grants.gov),**
  - **the DOD Submission site - <http://www.dodsbir.net/submission/SignIn.asp>,**
  - **the Nat'l Science Foundation (NSF) Fastlane site - <https://www.fastlane.nsf.gov/index.jsp> and**
  - **National Institute of Health (NIH's) eRA Commons - <https://public.era.nih.gov/elf/jsp/commons/login.jsp>**
  - **Department of Homeland Security portal - <https://sbir2.st.dhs.gov>**

**If no problems at any point, registration can occur within a week, if problems up to 4 weeks**

# Elements of a Proposal

## ➤ **Abstract**

## ➤ **Project Narrative**

- **Identification/Significance of problem or opportunity**
- **Background & Phase I Technical Objectives**
- **Phase I Research plan**
- **Commercial potential**

# Elements of a Proposal (con'td.)

## ➤ Other Requirements

- **Budget – you can take up to 7% profit (~\$10,500)**
- **Biographies of key personnel**
- **Facilities, Equipment & Other resources**
- **Bibliography & References**
- **Other attachments:**
  - **Consultants & Subawards/Subcontracts**
  - **Letters of Support**

**Keep in mind: each agency has its nuances!**

**Never judge an agency by its name!**

# It's all about Commercialization

- **Since the SBIR and STTR programs were created, there has been emphasis on increasing positive commercialization outcomes from awards**
- **The 2011 Reauthorization mandated changes:**
  - **Implementation of transition rate metrics**
  - **Increased flexibility for Technical/Commercialization assistance**
  - **Sequential Phase II awards**
  - **Commercialization Readiness Pilot Program for Civilian Agencies**

*All discussion for another day!*

# SBIR/STTR Awards

FY	\$	All Awards	Ph I	Ph II	Awards by Federal Agency through 2012														
					DOD	DOE	NIH	NSF	USDA	All Other									
1997	\$ 1,579,525	5		2															
1998	\$ 1,408,815	10	8	2															
1999	\$ 3,849,105	23	17	6															
2000	\$ 2,019,382	14	10	4															
2001	\$ 5,749,774	14	10	4															
2002	\$ 3,013,144	22	18	4															
2003	\$ 6,716,457	31	21	10															
2004	\$ 8,076,585	30	19	11															
2005	\$ 6,541,183	28	20	8															
2006	\$ 14,243,351	30	16	14															
2007	\$ 3,813,384	15	7	8															
2008	\$ 5,019,484	20	12	8															
2009	\$ 5,947,519	24	15	9															
2010	\$ 6,163,346	22	15	7															
2011	\$ 5,323,201	20	15	5															
2012	\$ 5,415,747	14	8	6															
2013	\$ 3,078,749	11	8	3															
2014	\$ 419,639	3	3	0															
<b>Totals</b>	<b>\$ 88,378,390</b>	<b>336</b>	<b>225</b>	<b>111</b>	<b>93</b>	<b>9</b>	<b>61</b>	<b>41</b>	<b>46</b>	<b>32</b>									



# Impact to Maine

- **Over 100 small businesses have won awards**
- **Businesses in all 16 Maine counties have received awards**
- **Maine's small businesses have received \$88M since 1997**
- **Small businesses have received \$68M since MTI's inception in 1999**
- **With MTI support, companies tend to have a *higher* success rate than going it alone!**

# Success Stories

## Sea & Reef Aquaculture

- **2009: Received USDA SBIR Phase I award**
- **Period of performance: 6 months**
- **Award amount: ~\$80K**
- **Commercialized following award!**



# Success Stories

## Eldertide, LLC & Maine Medicinals

- Received three USDA Phase I/II awards – Small and Mid-Size Farms
- MTI KickStarter, Seed Grant, & Development Awards
- 2014 Tibbetts Awardee – only one in New England



# Success Stories

## Ocean Renewable Power Company

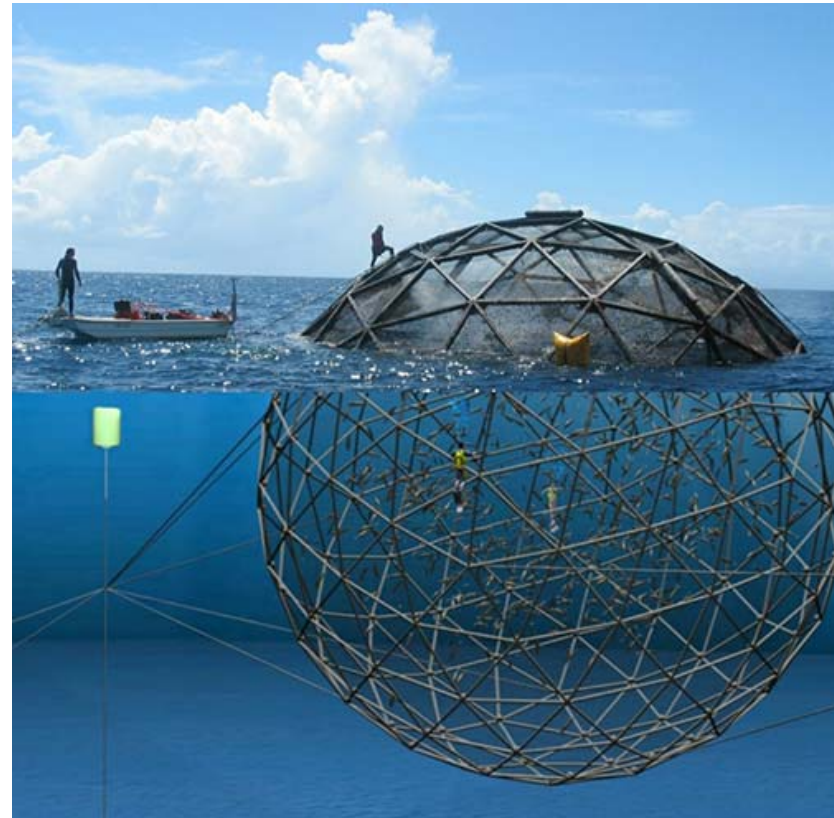
**2 ARRA STTR awards  
From Department of  
Energy  
Tidal Turbine –  
Eastport, ME**



# Success Stories

## Ocean Farm Technology, Inc.

- **Four SBIR NOAA awards for Aquapod open ocean farming technology**
- **MTI Seed Grants & Development Awards**



# Success Stories

## Tex-Tech Industries

- **Six SBIR and STTR awards for textile fire barrier development and textiles for penetration resistance**
- **MTI Seed Grants & Development Awards**
- **2006 Tibbetts Awardee**



# Summary

- **SBIR and STTR are large federal programs designed to foster technological innovation and technology transfer for small businesses**
- **These programs allow you to patent technologies you develop and provide periods of protection for data you develop**
- **Applying for SBIR or STTR awards requires you to learn about the individual programs at each agency**
- **Receiving an SBIR or STTR award carries with it the responsibility to comply with federal regulations and the expectation to commercialize your innovations**

## **Just a reminder...**

**Since 1999, over 100 Maine companies have received more than 300 SBIR/STTR awards totaling over \$88 million.**

**Starting with this workshop, your company could be the next!**



# FINALLY...

**“If we knew what we were doing, it wouldn’t be called research, would it?”**

-Albert Einstein

**“Trust that little voice in your head that says  
“Wouldn’t it be interesting if...” – and then do it.”**

-Duane Michals

**“You do not really understand something unless you can explain it to your grandmother.”**

-Albert Einstein

# How MTI can help?

**SBIR/STTR Technical Assistance Program**

**Phase 0 KickStarter Grants**

**Business Accelerator Grants  
Phase I up to \$15,000**

**Business Accelerator Grants  
Phase II or BAA up to \$50,000**

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**TechStart Grants | Seed Grants**

**Development Loan | Equity Capital Fund**

# SBIR/STTR Technical Assistance Program

- ▶ Purpose of the program
  - Provide outreach, education and guidance to those interested in participating in the SBIR/STTR program
  - Assist entrepreneurs and small businesses in preparing competitive proposals
  - Provide networking/partner-team opportunities between non-profit research institutes, large and small businesses, expert professionals
- ▶ Goal is to increase the amount of federal research and development dollars into Maine creating new jobs and increasing tax revenue.

# SBIR/STTR Technical Assistance Program

**Intro to SBIR/STTR Program and Federal Agencies. SBIR/STTR workshops and seminars.**

**Proposal strategy and planning meetings. Critical technical editing and proposal reviews**

**MTI's TAP Team**

**Government accounting assistance in preparing indirect rate, budget and justification. Accounting system setup upon award.**

**Market research into market, customers, competition. Commercialization plan strategy and development**

# Phase 0 KickStarter

- ▶ **Support for preparing SBIR/STTR and Broad Agency Announcement (BAA) proposals**
  - Up to \$5,000 for external resource support
    - Consultants, i.e. grant writers, subject matter experts, etc.
    - Purchase market reports
    - Other activities as approved by MTI
  - Must submit SBIR/STTR proposal
  - Must work with the MTI TAP team
  - Cash match not required/company labor is contribution
  - Applications accepted on a rolling basis with decision in one week

# Business Accelerator Grant

- ▶ **Business development activities related to project**
  - Commercialization partnering activities
  - Website development
  - Marketing activities
  - Other activities as approved by MTI
- Phase I up to \$15K, Phase II / BAA up to \$50K
- May be used for both internal and external costs
- Match is the SBIR/STTR Phase I or II or BAA award
- Must meet with MTI prior to submitting application

**Idea not ready for SBIR/STTR?**

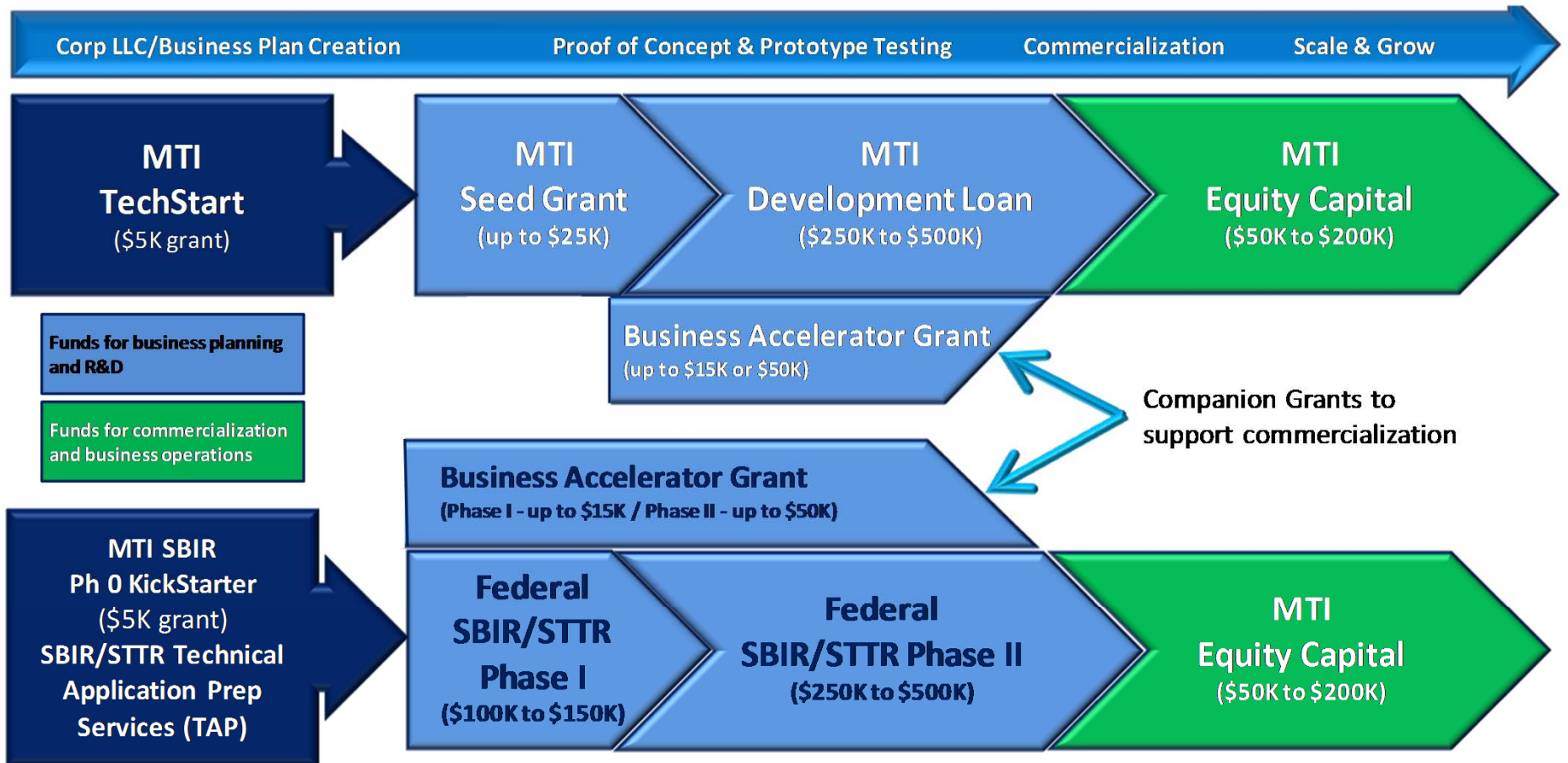
**MTI may have a program to  
help.**

# What does MTI do?

**We **fund** Maine entrepreneurs, companies and organizations who engage technology to develop innovative products and **connect** them to resources to help them **grow** profitable enterprises.**



# Business Innovation Program



Note: Please refer to the MTI Web site at [www.mainetechnology.org](http://www.mainetechnology.org) for current information about

# TechStart Grant

**up to \$5,000**

- Offered monthly
- 6 month project
- Can apply for/receive 2 in 12 month period
- For initial business groundwork
  - Business plan development
  - Market research
  - IP filings

# TechStart Grant Eligible Activities

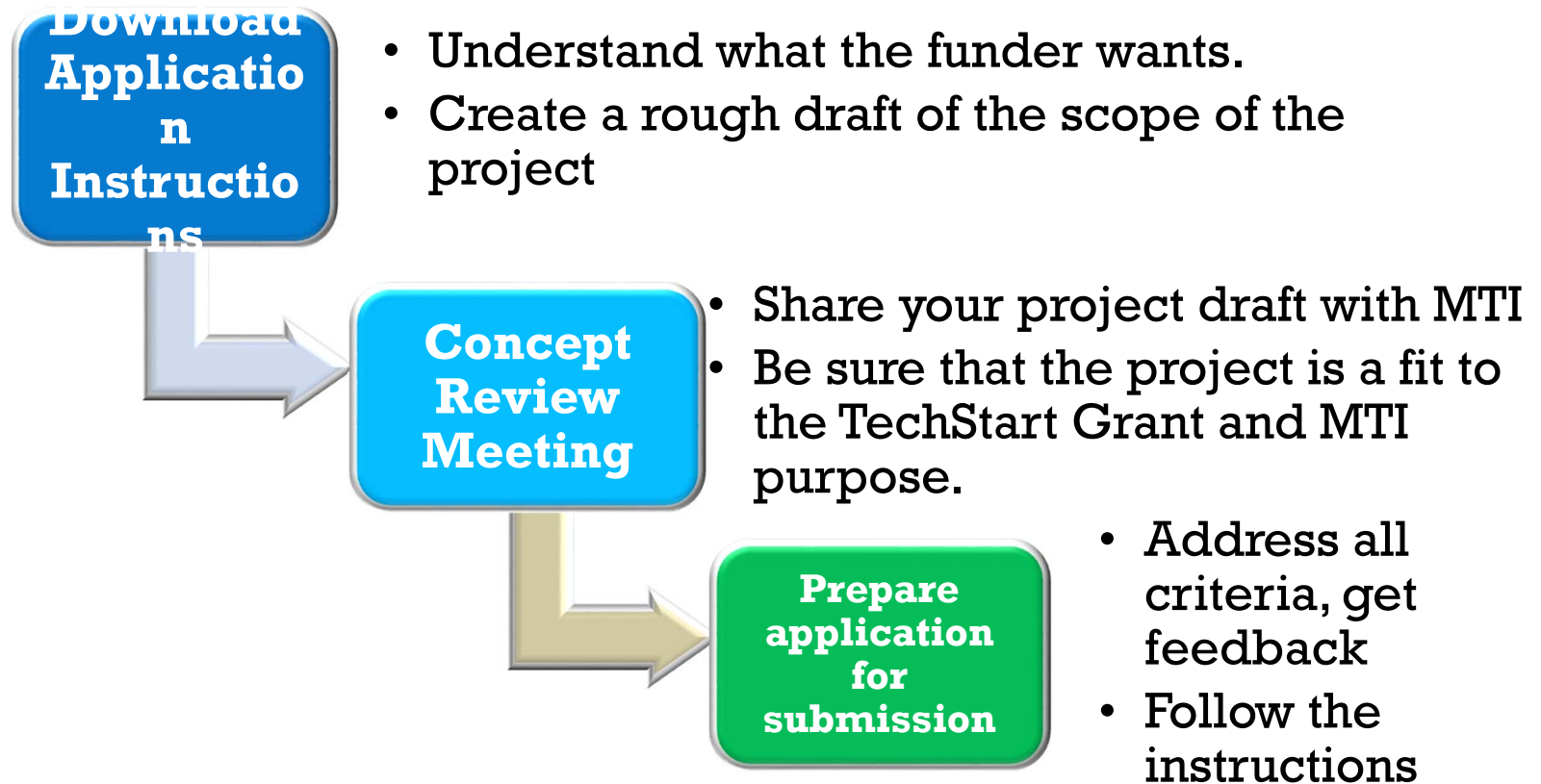
## Eligible Activities

- ▶ Market analysis
- ▶ Business plan development
- ▶ Intellectual property filings
- ▶ Activities relating to Technology Transfer such as investor presentations to secure capital or other business development activity

## Ineligible Activities

- ▶ Expenditures for any R&D activities
- ▶ Any expenditures before the submission date for the round
- ▶ Overhead, indirect or sales & marketing expenses

# Steps for submitting a TechStart Grant application



# Seed Grant

**up to \$25,000**

- 3 times per year
- 12 month project
- Can apply for 2 in 24 months for same technology
- For early stage specific R&D
  - Lead to commercialization; or,
  - Lay groundwork for securing additional capital

# Seed Grant Eligible Activities

## Eligible Activities

- Proof of Concept
- Prototype Development
- Prototype Testing
- Field Trials and Pilot Studies
- Technology Transfer Activities
- Activities included in the TechStart Grant if they are part of a broader technology R&D project

## Ineligible Activities

- Any expenditures before the submission date for the round
- Overhead, indirect or sales & marketing expenses

# Steps for submitting a Seed Grant application

## Download application instructions

- Access application instructions on MTI website
- Review criteria that must be addressed within the application
- Begin process of seeing how your project aligns with the scope of the application

## Concept Review Meeting

- Schedule early in process is better in order to give time to iterate on application if needed
- Be sure that the project is a fit to the Seed Grant and MTI purpose

## Prepare & submit application

- Incorporate any feedback from concept review meeting
- Leverage resources, like Maine Small Business Development Centers to review and provide feedback
- Paper copy or electronic (all in one PDF) submissions accepted

Karen West  
[cpmgmt@fairpoint.net](mailto:cpmgmt@fairpoint.net)  
207-845-2934

Shane Beckim  
[sbeckim@mainetechnology.org](mailto:sbeckim@mainetechnology.org)  
207-588-1018

**[www.mainetechnology.org](http://www.mainetechnology.org)**

8 VENTURE AVENUE | BRUNSWICK LANDING | BRUNSWICK, ME 04011  
207.582.479

