Taking World class Innovation and Making it Real in Mountain Areas

Outline of a Conversation

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Desired Outcomes of this Talk

- You receive information and insights which are useful for your future strategy.
- Introduce MIT's broad array of curriculum, student organizations, and other activities which support Innovation, New Product Development and Entrepreneurship at MIT – Lessons learned and adaptations to Mountainous Areas
- We start a conversation about how some of the lessons we've learned may apply to your regions
- Demonstrate our personal commitment to inexorable growth in the value and success of the Mountainous Regions' Entrepreneurial Ecosystems.
- You are convinced to invest in, support or become an entrepreneur
- Answer questions



MIT's impact

Research- and technology-intensive universities, especially via their entrepreneurial spinoffs, have a dramatic impact on the economies of the United States and its fifty states. A new report on just one such university, the Massachusetts Institute of Technology, indicates conservatively that, if the active companies founded by MIT graduates formed an independent nation, their revenues would make that nation at least the seventeenth-largest economy in the world.

A less conservative direct extrapolation of the underlying survey data boosts the numbers to 25,800 currently active companies founded by MIT alumni that employ about 3.3 million people and generate annual world sales of \$2 trillion, producing the equivalent of the eleventh-largest economy in the world.

Profs Ed Roberts, Charles Eesley

Impact Report: http://entrepreneurship.mit.edu/impact.php



The need for Entrepreneurship, Especially in Rural / Fragile Areas

- In many countries of the world.... (Applicable to the your region?)
- Rapidly rising populations, or shrinking, aging populations
- Even more rapidly rising expectations
- The public sector has reached the limit of its ability to provide fulfilling employment opportunities.
- Chronic unemployment is a recipe for disaster
- Therefore, the need for a vibrant, dynamic, globally competitive and rapidly growing private sector to spawn new companies and jobs.
- That means the need for successful entrepreneurship and venture support systems has never been greater...



The Entrepreneur:

- What does the successful high tech entrepreneur look like?
 - Integrity
 - Leadership
 - Impatient; bias toward action (with analysis).
 - Quick clockspeed
 - Modest ego. Seeks and accepts coaching. Recognizes, and hires to overcome weaknesses.
 - Willing to be different, but knows it (not oblivious).
 - Pragmatic; willing to compromise (in order to move forward).
 - Rejoices in others' victories (no petty jealousy).
 - Driven to solve a valuable problem for customers (not driven by money or technology).
 - Able to attract world class talent.



MIT Entrepreneurship Center Mission

The E-Center's mission is to build capability and inspire MIT's men & women to become the next generation of entrepreneurs who create successful, innovation-based, new ventures worldwide.



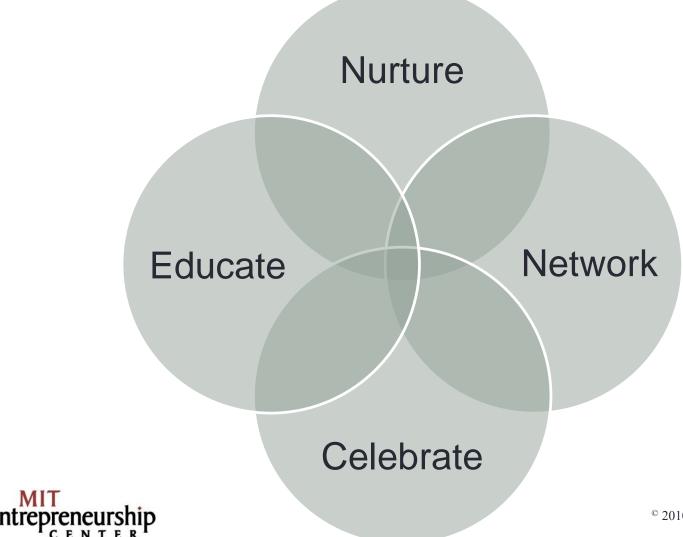
Principles of Operation



- Collaboration
- Diversity
- Experimentation
- Honest Broker
- Mens et Manus



Game Plan: Four Areas (2009-2011)

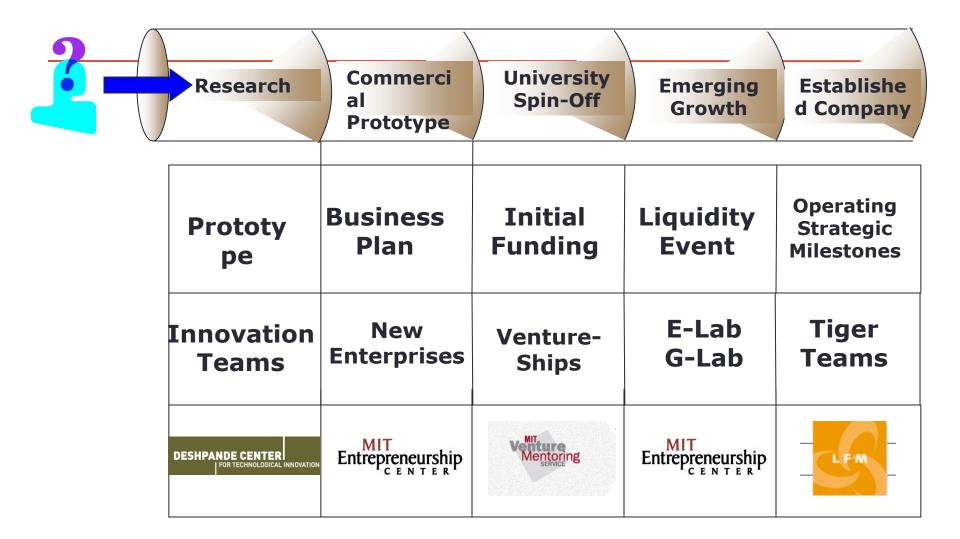


Our Definition of Innovation:

Invention + Commercialization

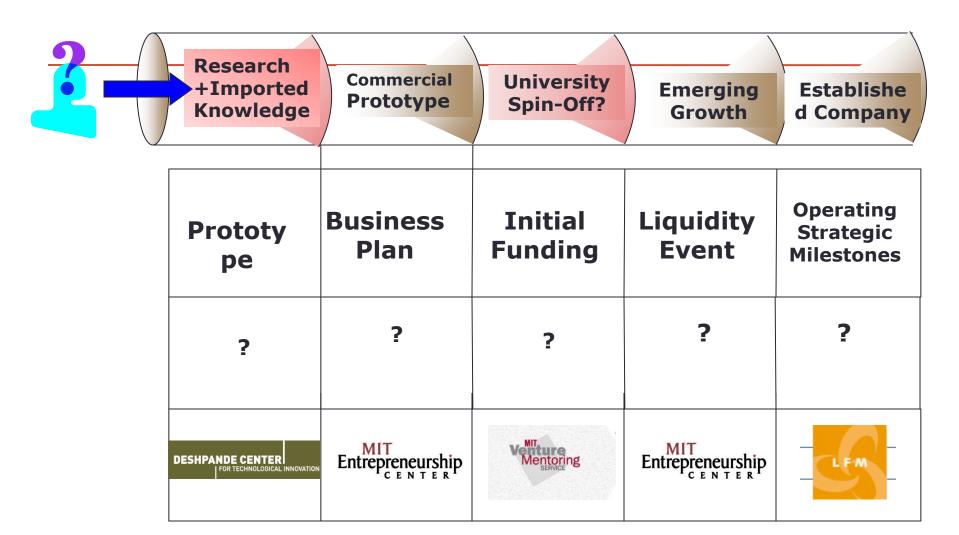


MIT Innovation Pipeline





What does your Region Innovation Pipeline Look Like?





Overview of MIT Innovation Pipeline

- Where we are now:
 - 10,000 Students 4,000 undergrads, 6,000 MSc/PhD
 - World class technical and management schools that collaborate
 - 40+ Courses in Entrepreneurship
 - ~ 80 Startup companies provide projects for our classes
 - 7+ major entrepreneurship clubs, including MIT Sloan Sales Club
 - 200+ formal mentors, countless more informal mentors
 - \$800,000 in annual sponsorship for the student clubs
 - 5 distinct centers focused on different parts of the pipeline
 - 1,000 Faculty, of which ~ 50 have been involved in founding
 - \$450 million in research at the Institute, \$500 Million in surrounding affiliated research institutes + other universities around Boston
 - No Incubator not needed
 - No degree in Entrepreneurship
 - 20+ licensed spin outs per year
 - \$30 million in royalty flow, but aim is not to maximize revenue but to get Knowledge out into the world outside academic labs



Overnight success of a 100 years

How we got here:

- MIT founded in 1861 Established for advancement and development of science, its application to industry, the arts, agriculture, and commerce
 - Underscored the importance of education emphasizing laboratory instruction, which requires working closely with Industry
 - First graduating class in 1868 handful of students
- First spin-outs were engineering consulting firms in late 1800s
 entrepreneurship continued to slowly increase
- WWII transformed MIT and many other American universities
- ARD founded in 1950s provided financing beyond the family fortunes that had provided sporadic seed capital – The beginning of the modern venture capital industry



Overnight success of a 100 years

How we got here (Continued):

- One entrepreneurship course taught in 1958/61
- Founded Enterprise Forum in 1960s
- First Bank of Boston in 1989 found 636 firms in Massachusetts founded by MIT alumni employing more than 200,000 with aggregate world-wide sales of nearly \$40 billion.

(~1/3 of DR 2007 GDP: PP \$61 Billion)

 By 1994 - 4,000 existing companies with combined aggregate revenues of \$232 billion with MIT roots



Overnight success of a 100 years

How we got here (Continued):

- Have seen at least two waves of boom and bust in life sciences, Information/Computing technology – demise of manufacturing since 1960's
- Founded Entrepreneurship Center in 1990
- Re-started Entrepreneurship Center in 1996
- Founded Deshpande Center in 2000
- Founded Legatum Center for Developmental Entrepreneurship in 2007
- Next?



Critical Success Factors at MIT

- Porous borders between academia and Industry
 - Institution's Self-awareness of it's mission
- Faculty-entrepreneurs are welcome and encouraged
- Entrepreneurial role models for students are ever-present on campus
- Collaboration between management school and science /engineering
- Instilling a global outlook from day one



Critical Success Factors at MIT (Cont)

- Multitude of Entrepreneurship events, clubs, activities - Mosaic of shiny pieces
- Global Networks
- Engaged Mentors and experienced funding –
 Angels, entrepreneurs, VC's, services firms
- Commitment to sales listening to the customer and quantifying the value proposition
- Diversified technical workforce constantly being replenished



Discussion: Reflections on the Mountainous Regions

- Cultivate People The most challenging obstacle is finding world class entrepreneurs
 - The importance of world class technical, business and government, universities, organizations
- Cultivate Diaspora Investments* and Network:
 - Everything you ever hoped for from a truly value-added VC, PLUS patience and heart
 - Brings talent, know-how and methods
 - Provides access to markets, and money
 - Takes the long-term view
 - Demanding, but fair and forgiving
- The advantage of having a large diasporas in a nearby and large market



Discussion: Reflections on the Mountainous Regions

- Cultivate invention + commercialization
- Maintain clear vision and strong, sustained leadership: difficult to unite the many existing initiatives which have their own constituencies, momentum and inertia
- Opportunities:
 - Focus but diversified clusters
 - Energy
 - Design
 - Infrastructure support / IT/ Logistics
 - Services for nearby markets
 - Robotics / Productivity
 - Local specialties "Unique Flavor to Mass Customization"



An Example <u>Highlands & Islands in Scotland</u>

- Over 10 years (Last three years)
 - The purpose of this collaboration is to strengthen the Highlands & Islands entrepreneurial eco-system
 - Building high grow businesses of scale with global ambition to become leaders in their field.
 - The E-Center helps HIE assess its eco-system and prioritise efforts on the weaknesses of the eco-system and achieve HIE targets

Some SAMPLE TARGETS: Next two years

- 200 business participants in international entrepreneurship education programs
- 50 businesses engaging in international business development
- 10 new businesses created
- X new or improved products, processes or services developed
- X businesses experiencing growth
- X businesses engaged in Knowledge Transfer activities
- X businesses implementing change
- X businesses accessing new networks
- X businesses accessing new partners
- X businesses accessing external investment in to the region



The MIT EDP

MIT Entrepreneurship Development Program 23 – 28 January 2011 @ MIT

An intense one-week program tailored to the needs of future entrepreneurs, corporate venturing executives, economic development professionals, and university entrepreneurship faculty and staff.

Participants learn from:

- "Live case studies" of successful MIT entrepreneurs;
- Our faculty and the MIT entrepreneurial spirit; and,
- Route 128 venture capitalists, lawyers, and institutional investors.
- In 1999, 25 participants came from Cambridge (UK), Ireland, France, Germany, Thailand, Taiwan, & US.
- In 2000, 65+ persons came from 10+ countries.
- In 2001, 95+ persons came from 16+ countries.
- In 2002, 70 persons from 13 countries.
- In 2003, 93 persons from 9 countries.
- In 2004, 140 persons from 16 countries
- In 2005, 109 persons from 19 countries + storm of the decade
- In 2006, 100 persons from 21 countries
- In 2007, 130 persons from 22 countries
- In 2008, 136 persons from 28 countries
- In 2009, 136 persons from 28 countries
- In 2010, 114 persons from 23 countries



MIT Global Startup Workshop 2011

March 23 - 25, Seoul, Republic of Korea

14 Years • 6 Continents • 70 Nationalities Building the Entrepreneurial Ecosystem













Why?

- •Learn & be inspired
- •Contribute your expertise
- Develop your ideas
- •Build your region's ecosystem
- Form lasting relationships
- •Have an adventure!

What?

- Keynote presentations
- Discussions & case studies
- •BPC training & elevator pitch competition
- Ecosystem & startup consulting
- •Offsite networking receptions
- •Gala dinner





Massachusetts Institute of Technology

www.mitgsw.org



THANK YOU

Questions?

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2011 Newsletter:

Regional Entrepreneurship Activities

Send your contact information reap@mit.edu



THANK YOU

Questions – http://entrepreneurship.mit.edu ecenter@mit.edu

Managing Director - William (Bill) Aulet

Faculty Director - Prof. Fiona Murray

Chair - Prof. Ed Roberts

PM - Elliot Cohen

AA - Audrey Dobek-Bell

AA - Pat Fuligni

Sr. PM - Jose Pacheco

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SUPPLEMENTARY INFORMATION



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Entrepreneurship at MIT

"The ideas that drive the economy and improve our quality of life are increasingly emerging from inventive, interdisciplinary collaborations -- across different fields and with other institutions in the public and private sectors.

This spirit of openness, invention and teamwork are hallmarks of MIT and, I believe, are the keys to our future. MIT's intense creativity, passion, intensity and playfulness drive everything here -- the entrepreneurial ideas, the innovations, the discoveries."

MIT President Susan Hockfield May 2005





Mission Statement of the MIT Entrepreneurship Center:

To educate and develop leaders who will make high tech ventures successful

"I want you to be the premier global center for entrepreneurship, and to be recognized as such."

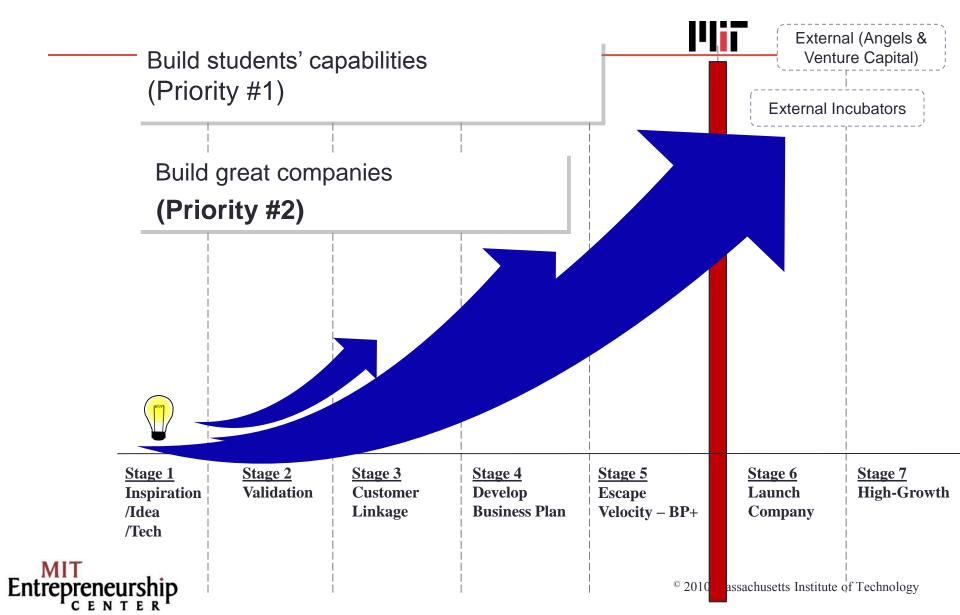
"We must not only be the best. We must also serve as a model for others and ensure that, together, we all make a significant global impact in this vital field."

MIT President Charles M. Vest, July 1996





What Does That Mean?



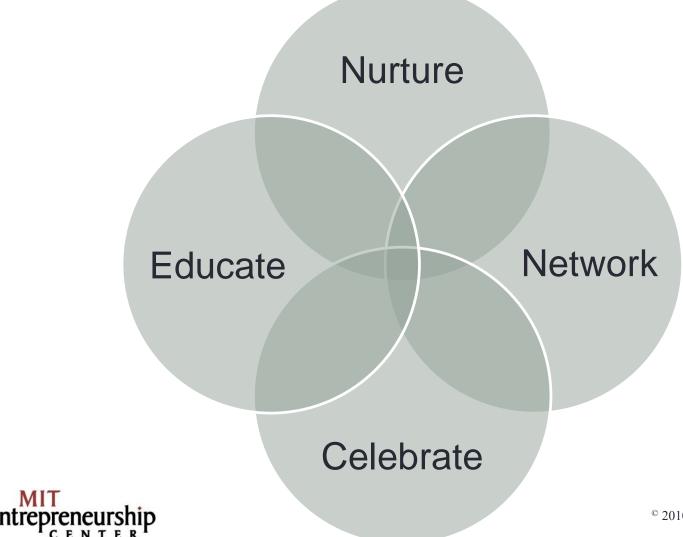
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Game Plan: Four Areas (2009-2011)



Educate

 We will deliver and support state of the art, comprehensive education in innovation-based entrepreneurship with a conceptual and practical emphasis.





Nurture

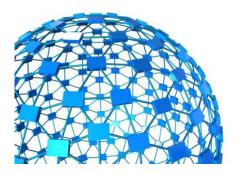
 We will provide the MIT student body with both an environment and support services to accelerate effective entrepreneurial development.





Network

 We will leverage the available resources at MIT to connect the students internally as well as externally to enhance their likelihood of success.





Celebrate

 We will work to celebrate entrepreneurial efforts related to MIT through publicity, events and other appropriate means.



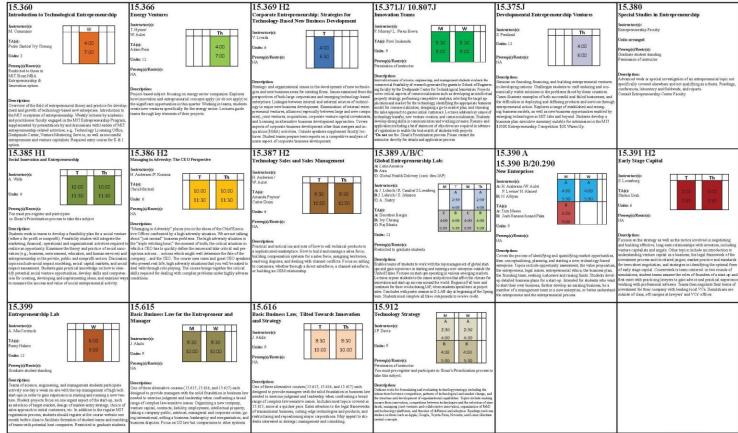


Educate I



FALL 2009 COURSES







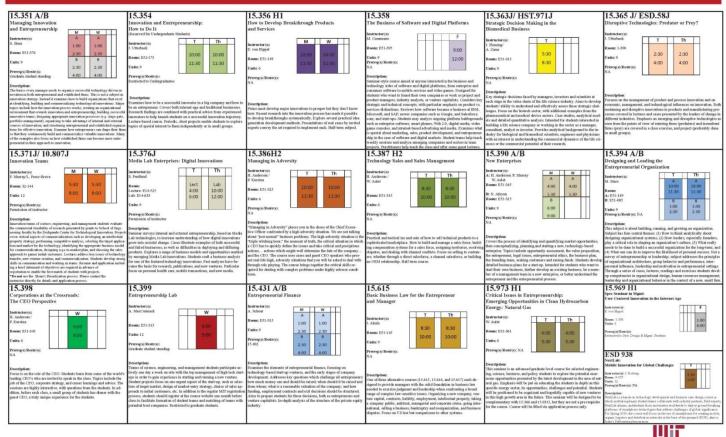
<u>l'liT</u>

Educate II



Spring 2010 Courses







Nurture I





















MIT Sloan Biomedical Business Club

mitenergyclub



SLOAN WOMEN IN

MANAGEMENT











Nurture II



Maddy Ryan White Board Walls











Nurture III













Dharmesh

Shah











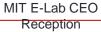
Brian Halligan

Network













Celebrate

Heller Awards McGovern Awards





Heller Award 2009 Recipient Meredith Fisher



McGovern Award 2009 Recipients: Brian T. Cantwell, Amy M. Fazen, Diana M. Huidobro, Sombit Mishra, Lara Pierpoint, Pedro Santos, Marcio von Muhlen & The MIT Clean Energy Prize, The MIT Energy Club



