

A Time of Brilliance: Solving Global Challenges using *both* the Lens of Research *and* the Lens of the Market

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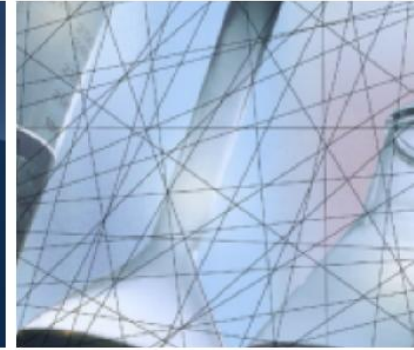
October 2013

QTEROS

Biofuels from advanced microbiology

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Chemical Angel Network



Qteros' unique Q Microbe® technology platform provides a cost effective pathway to accelerate and optimize cellulosic ethanol production throughout the world.

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ecosVC
inspiring innovators

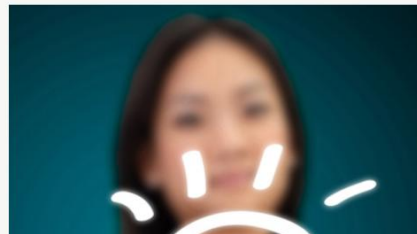
TRAINING / INVESTMENT / TEAM / RESOURCES



ecosVC

ecos Venture Collaborators brings the power of training and investing to science and engineering innovators

we support the translation of research into commercial innovations that address the needs of people and the planet



ecosVCTM
inspiring innovators

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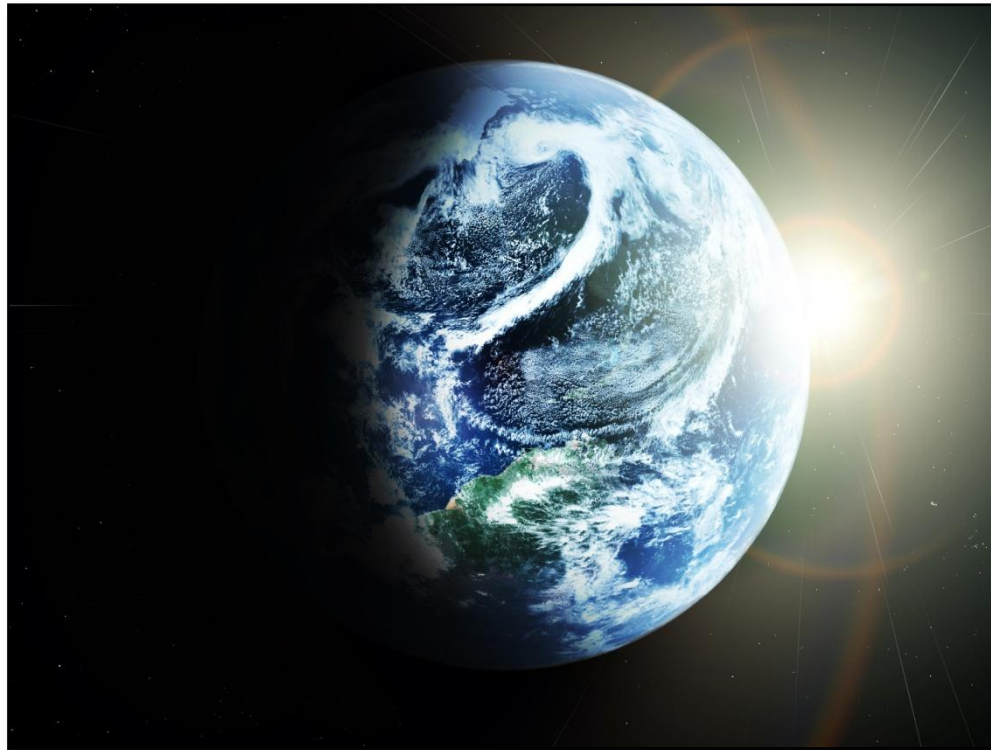
The Challenge

Scientific solutions are needed to address major global issues



The Solution

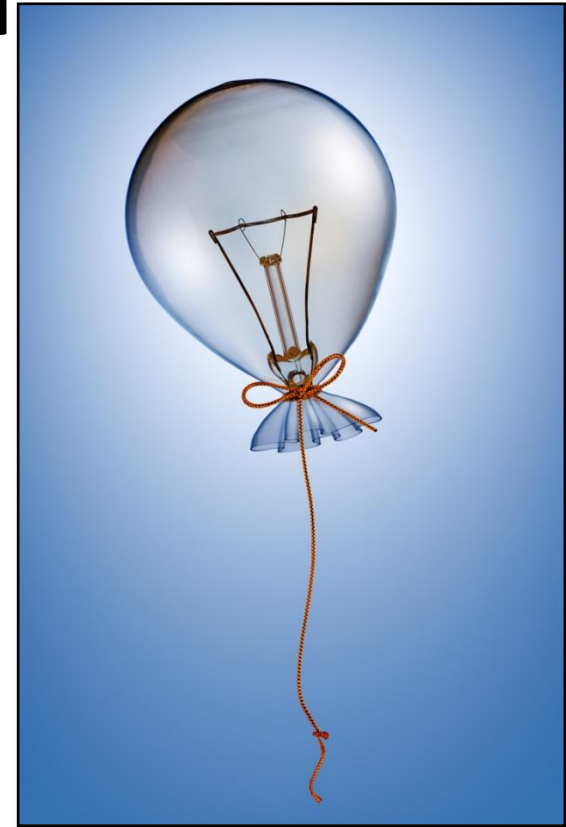
Scientists and engineers



...are key to the solution!!!

Innovation: Embracing a Working Definition

Innovations: Scientific results that are *translated from research to practical use and deployed effectively as solutions* to market needs...



Transatlantic dialogue



Industry			2012 Total	2012%	2013 Total	2013%
	2011 Total					
Biotechnology	\$4,826,041,400	16.28	4,160,199,700	15.35	3,156,038,100	15.21
Business Products and Services	\$208,867,100	0.70	118,895,700	0.44	129,729,300	0.63
Computers and Peripherals	\$566,634,500	1.91	453,407,000	1.67	419,021,700	2.02
Consumer Products and Services	\$1,432,440,300	4.83	1,336,325,100	4.93	927,699,400	4.47
Electronics/Instrumentation	\$407,088,200	1.37	253,969,100	0.94	217,126,600	1.05
Financial Services	\$326,024,600	1.10	275,585,000	1.02	450,967,400	2.17
Healthcare Services	\$291,896,800	0.98	326,801,100	1.21	97,931,000	0.47
Industrial/Energy	\$3,637,272,800	12.27	2,861,101,100	10.55	940,576,800	4.53
IT Services	\$2,323,244,300	7.84	1,888,768,500	6.97	1,366,590,100	6.59
Media and Entertainment	\$2,278,607,600	7.69	2,039,814,800	7.53	1,655,030,500	7.98
Medical Devices and Equipment	\$2,882,478,600	9.72	2,474,218,600	9.13	1,609,314,500	7.76
Networking and Equipment	\$386,434,400	1.30	330,798,100	1.22	633,194,800	3.05
Other	\$14,223,000	0.05	5,197,000	0.02	23,906,000	0.12
Retailing/Distribution	\$380,481,700	1.28	369,818,400	1.36	143,381,900	0.69
Semiconductors	\$1,309,863,900	4.42	923,655,000	3.41	375,893,200	1.81
Software	\$7,761,398,000	26.18	8,581,882,700	31.66	8,163,477,300	39.35
Telecommunications	\$612,326,800	2.07	706,310,300	2.61	435,957,900	2.10
Grand Total	\$29,645,324,000		27,106,747,200		20,745,836,500	

To thine own self be true, and it must follow, as the night the day, thou canst not then be false to any (one).

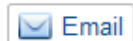
[William Shakespeare](#)



New LinkedIn Apps Aim to Connect the Whole World

24/7 WALL ST

By Trey Thoencke | 24/7 Wall St. – Thu, Oct 24, 2013 6:52 AM EDT



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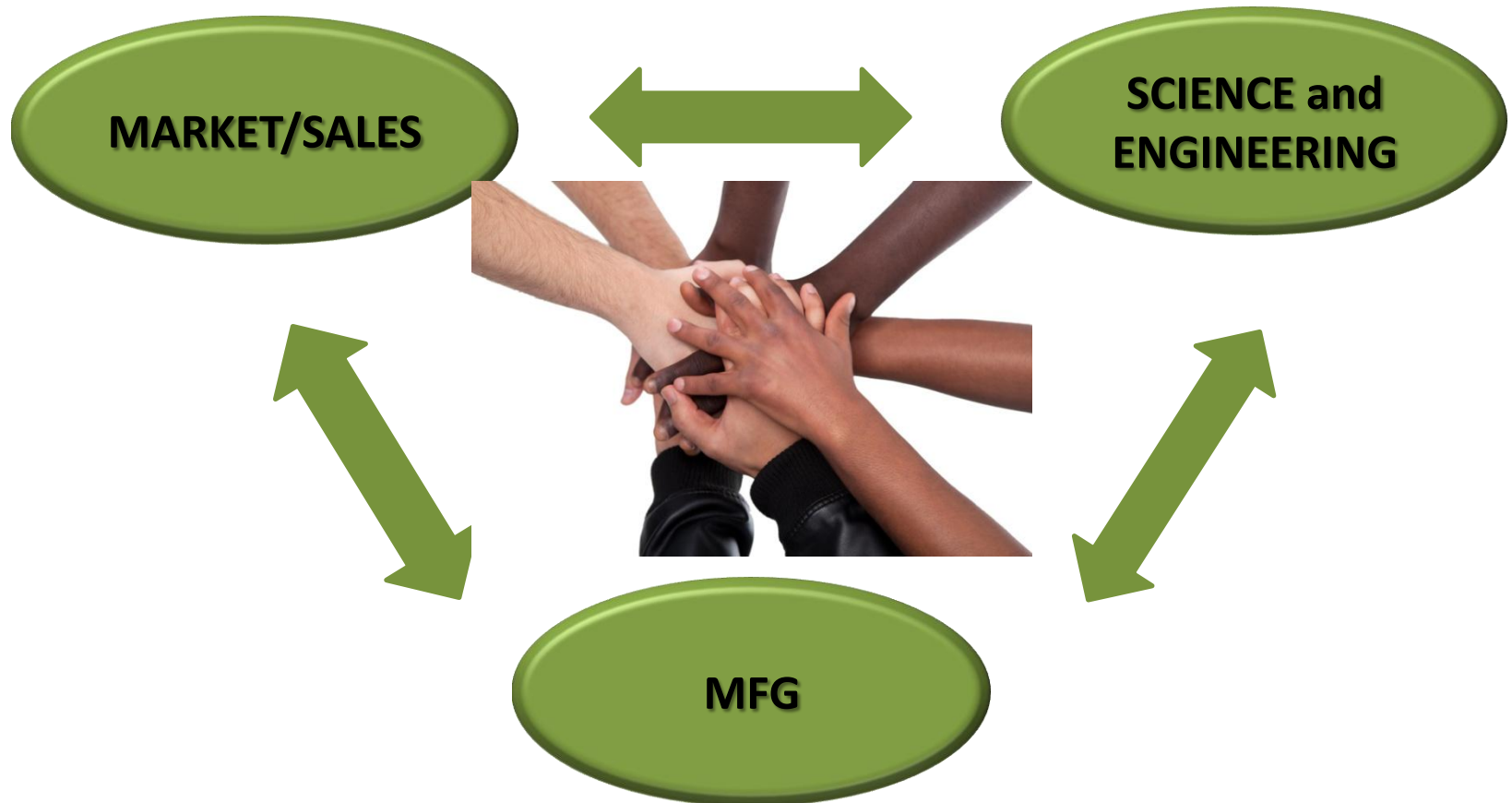
AAPL	524.896	+8.218
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Every company, college and worker in the world may soon be more connected than ever before. That is the hope of LinkedIn Corp. (LNKD), which has just released a set of new apps to do just that.

"We'd like to step out of the way and allow all of these nodes to connect such that they can maximize value," said Jeff Weiner, LinkedIn's CEO, at its Mobile Day event in San Francisco on Wednesday.

The professional network recently launched a mobile app for recruiters. While only about 8% of LinkedIn users connected through mobile devices in early 2011, that number is now near 38%, and expected to be half of all users next year. And mobile users are more than twice as active than those who access the service on PCs.

Success **REQUIRES** embracing the many faces of diversity



Be the change we want to see in the world

The academic research mission

- Gain knowledge and an understanding of the world
- Disseminate and share results
- Train future STEM practitioners

Lens of Research Impact

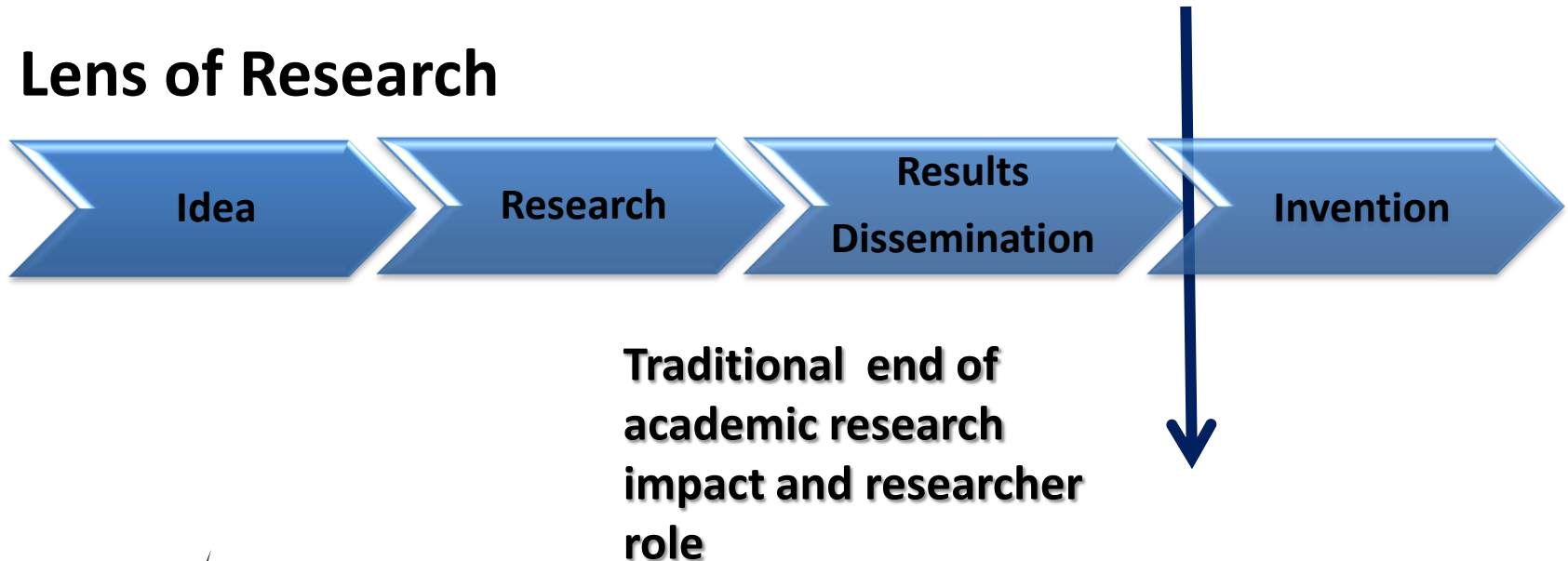


**Traditional end of academic
research impact and
researcher role**

“Modified” academic research mission

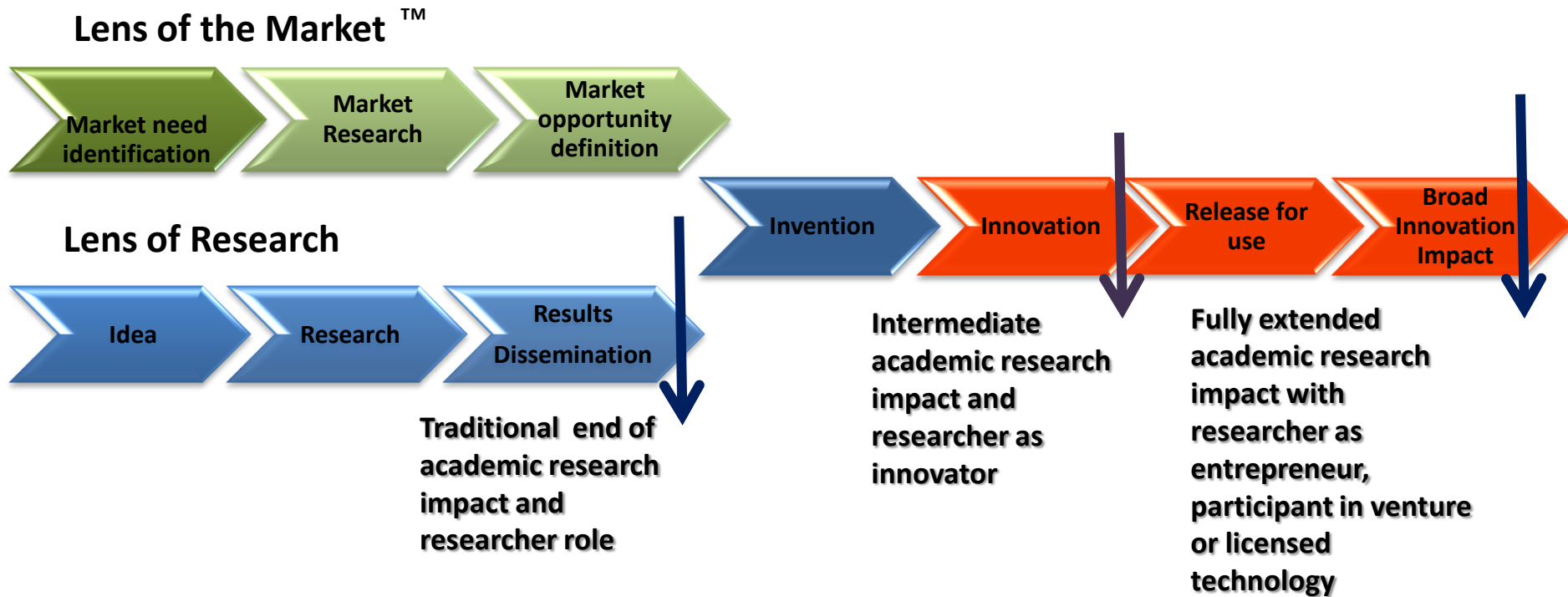
- REAL SOLUTIONS require more than simply “invention”

Lens of Research



Research mission – extended view

- Use the lens of the market as another mechanism for providing a context for conducting research.

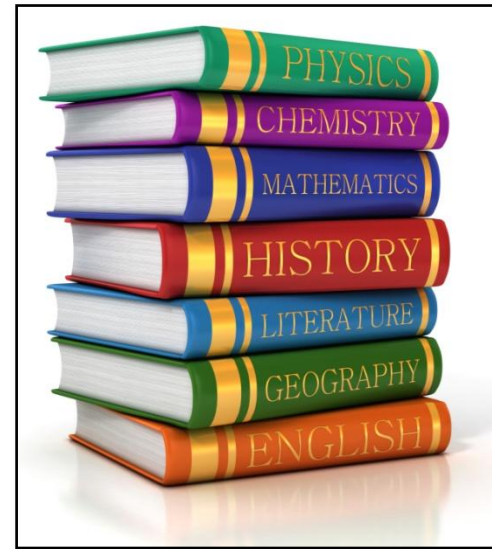


Embracing the extended view...

Means embracing a journey.....

- Gaining an extended skill set and vocabulary – Lens of the Market

Every word you see, every idea you have is the translation of new idea.



EDUCATE... TO INNOVATE

Only 1 percent of more than 200 U.S.

entrepreneurs cited high a significant toward venture, cited the Northeast Survey

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TRENDS, INNOVATION, ANALYSIS

Innovation as King Is Dead. The Day of the Innovator Has Arrived

Judith Giordan 5/18/11

This post was co-authored by Joseph Steig of VentureWell--Eds.]

The United States needs new, bold science innovation to address the challenges facing people and the planet—and to create jobs and a strong economy. Yet what is glamorous in popular business culture is not science innovation, but rather bold pitches, business innovations.



Born or

reneurs

are inspired by

... desire, not education or training, according to a new survey.

By Leslie Taylor | Inc. | Oct 24, 2006

Entrepreneurs are born, but can they be taught? By Jim Hopkins, USA TODAY

Some Facts... Center for Venture Research at the University of New Hampshire

8.5% of pitches to

angel investors in the first half of 2013 were from minorities

...but they received funding at lower rates than the average..

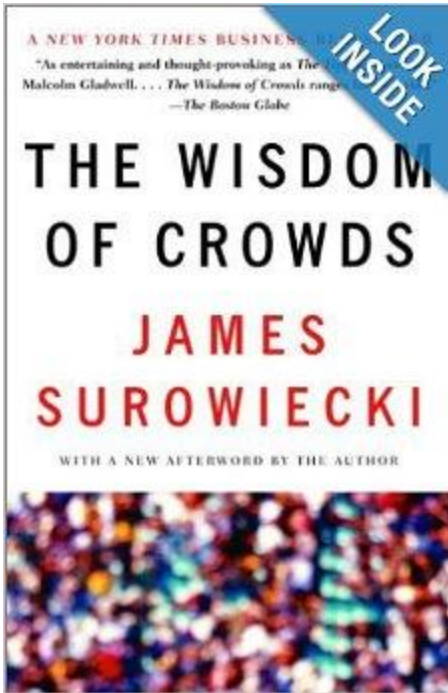
~15% compared
with **22%**

More Facts... Center for Women's Business Research

Hispanic and African American women are the fastest growing entrepreneurial segments in the country growing at rates of **133.3%** and **191.4%** respectively from 1997 to 2007.

...represents more than **25%** of the ~ 8M women-owned businesses in the country and more than **\$14 billion** in gross receipts and are **3-5X** more likely to start a business than their white counterparts.

Diversity = Innovator and Innovation Success

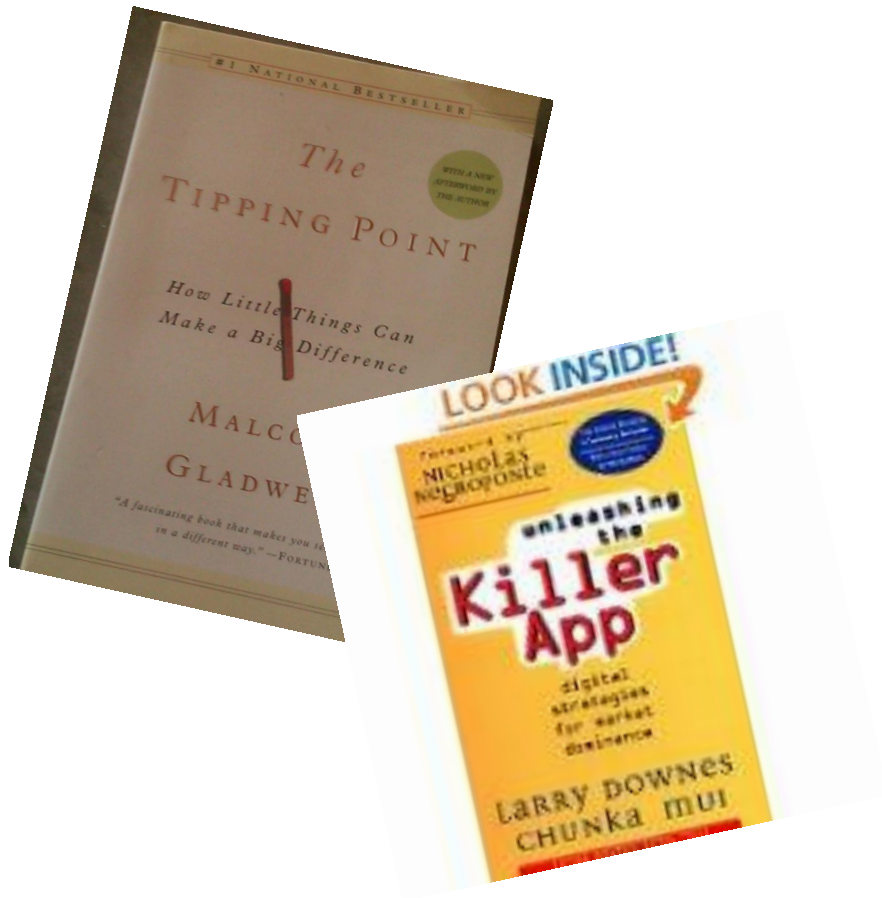


- Diversity improves
 - Operations, reputation, finance
- This is why
 - No single expert is better than an *informed, knowledgeable and diverse group.*
 - It's in the math!

The Wisdom of Crowds

Wisdom of Crowds, James Surowiecki, Doubleday, 2004. ISBN 0-385-72170-6
 Why it has to be women, Judith Giordan, Intangible asset magazine, Jan-Feb 2010

Takes a lot of “users” to change... But adapt we must...



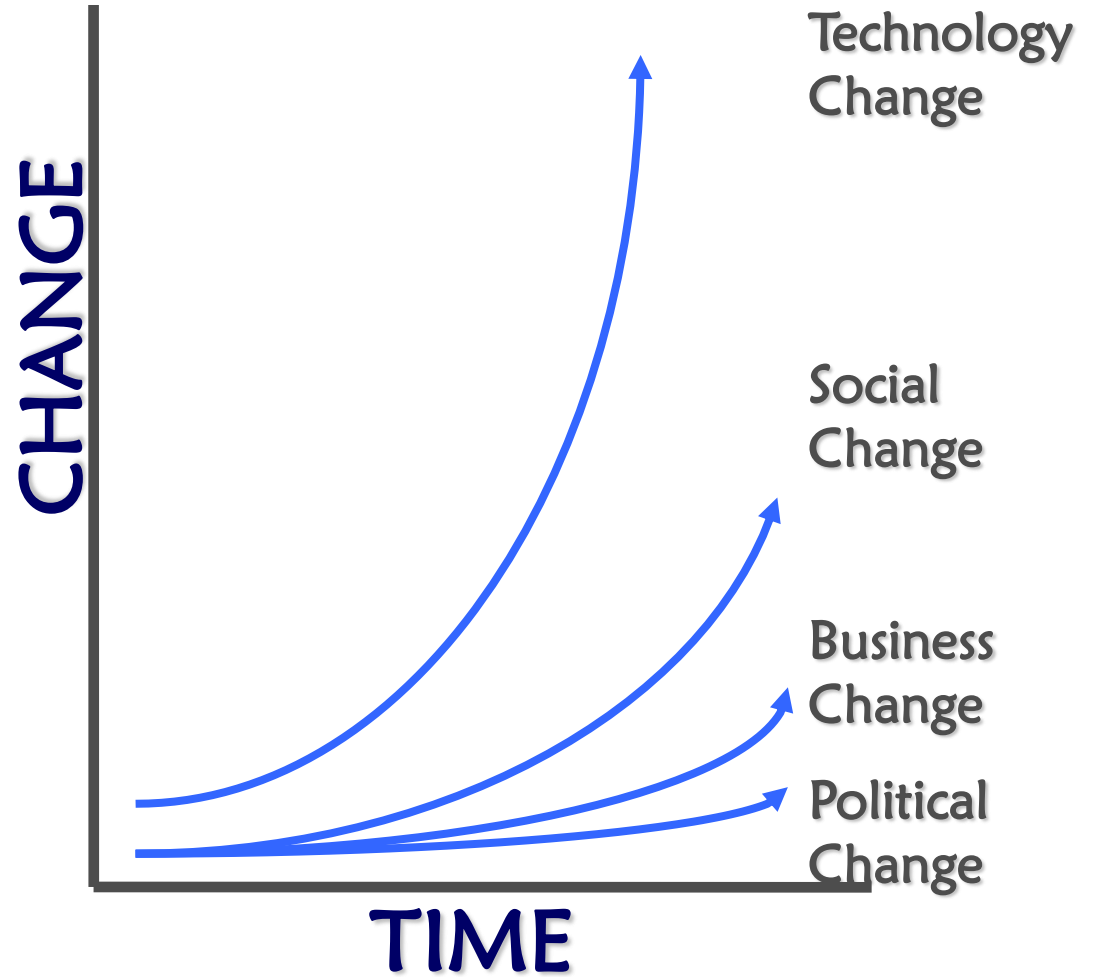
Utility

Metcalfe's Law

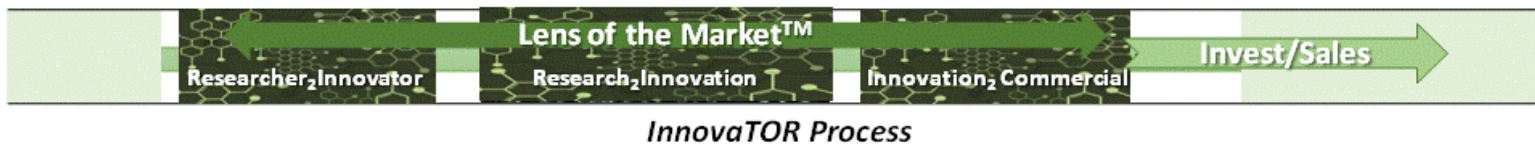
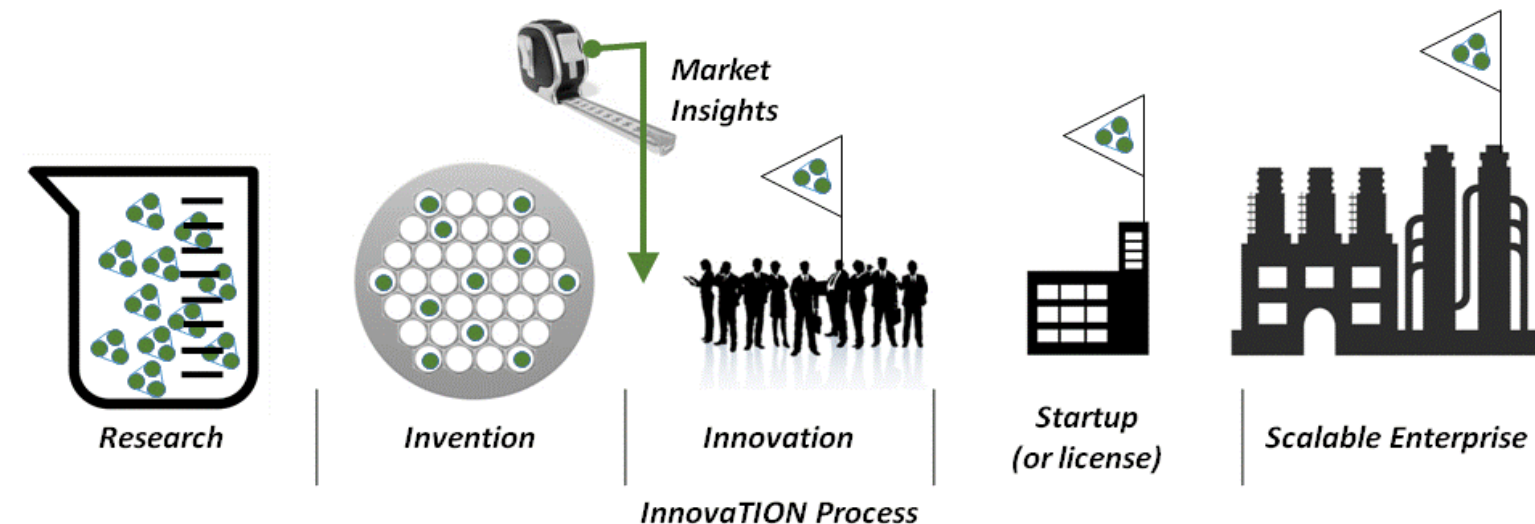
$$\text{Utility} = \text{Users}^2$$

Users

1998



Research₂ Innovation₂ Commercial Process



Acknowledge the opportunity



build Awareness



Accept the innovator path



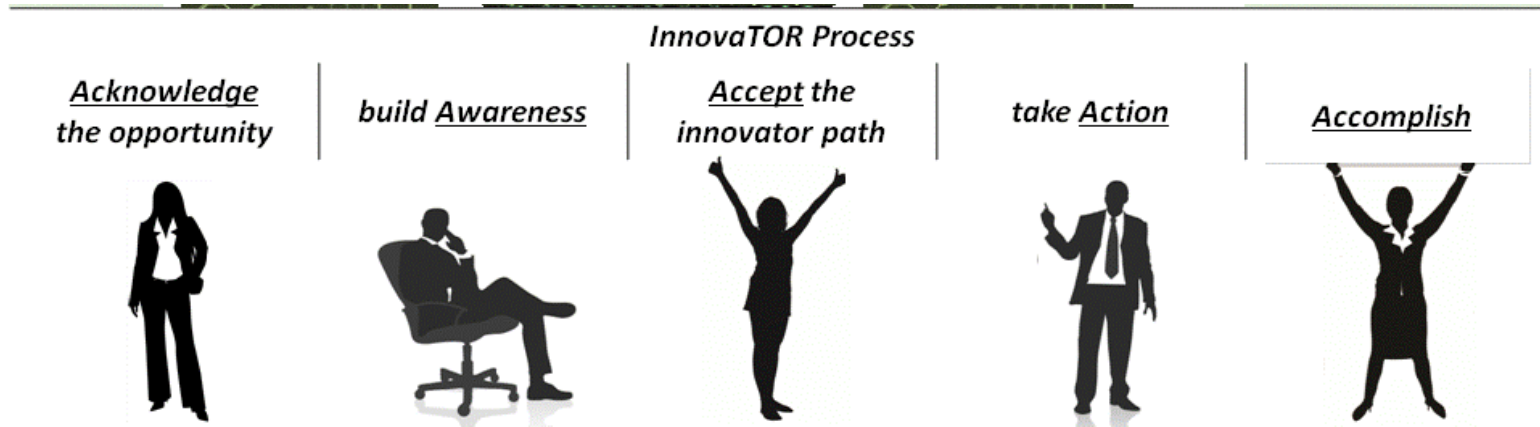
take Action



Accomplish



Innovator: Embracing the extended view...



It also means *embracing a personal change process that goes beyond being solely a researcher..*

The journey starts with:

- Acknowledging this is a possible *additional role*
- Defining the role for yourself– researcher, innovator, entrepreneur

- **You can't build a company if you haven't built a company...**

Paraphrasing Ken Coleman

- **You can't commercialize science (at least not easily) unless you have commercialized science..**

By:

- Training S&E's to be INNOVATORS
- Be supportive as faculty, even if..
- Focusing on the “market aligned” ideas and NOT business plans and pitches
- Embracing the value of all scales..
- Creating and supporting a network *out of our comfort zones*
- *RESPECTING* the value of atoms and molecules and not just bits and bytes



To thine own self be true, and it must follow, as the night the day, thou canst not then be false to any (one).

[William Shakespeare](#)



VALLEY OF DEATH:

Trained, skilled and motivated science and engineering innovators – can convert research into commercial innovations, and change the so-called “Valley of Death”



Into a **TIME OF BRILLIANCE**



The Challenge

Scientific solutions are needed to address major global issues



AVOID losses in translation..*both* the innovator and the innovation

The skills, vocabulary and confidence for innovators to “fail fast and iterate” to **SUCCESS..**



THANK YOU!



<http://vimeo.com/59090745>

<http://vimeo.com/38402823>

