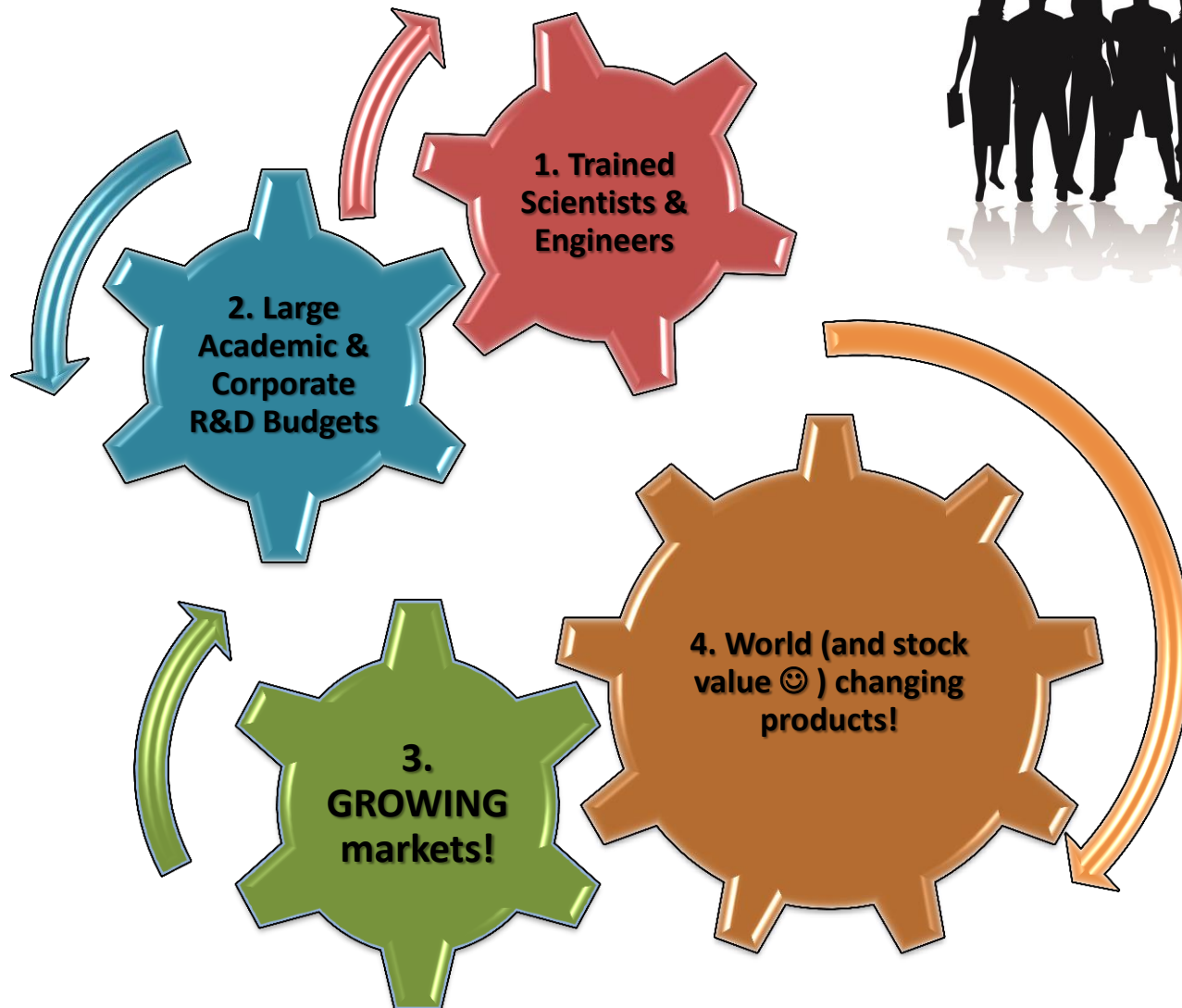


# **The Convergence of University Research, Technology Commercialization & Career Development: A New 21<sup>st</sup> Century Contact Sport**

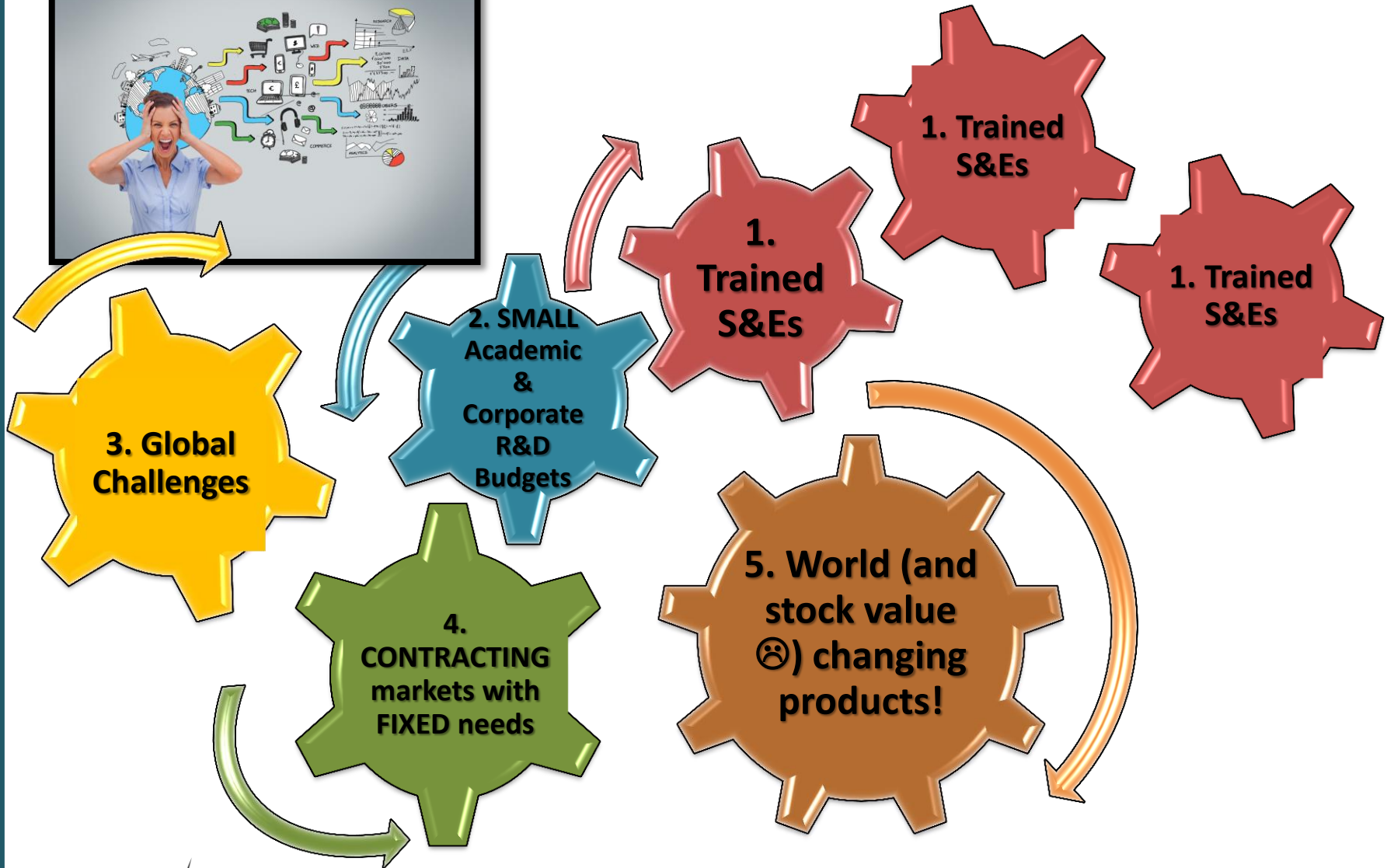
Penn State Behrend  
October 2014

Judith Giordan – ecosVC, Inc.

# It Used to be SOOOOO Simple...



# Then it changed...





# WHY?

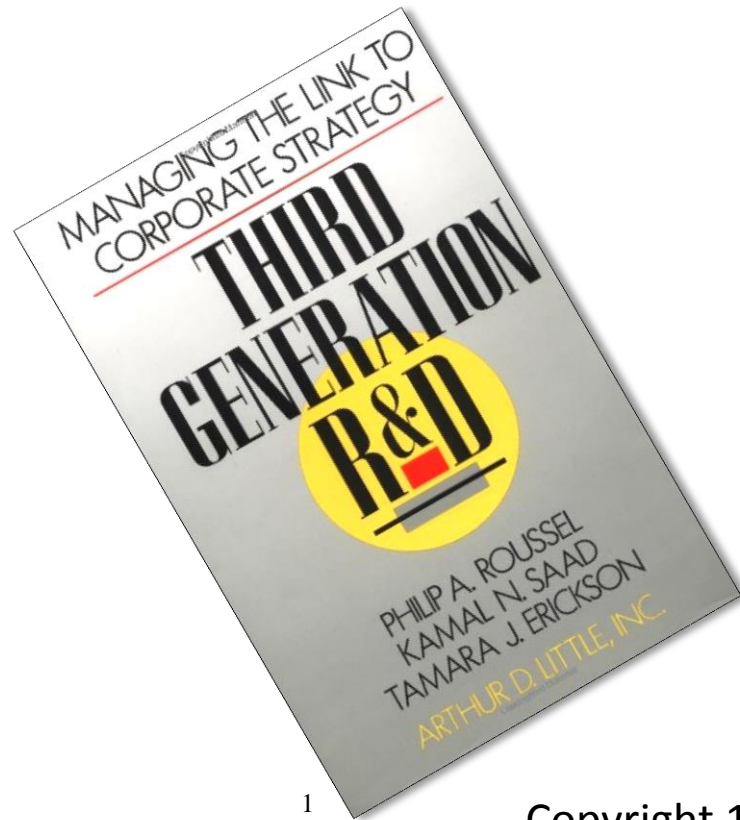


# Technology Commercialization:

It is NOT that we didn't see it coming...



# It's not like we NEVER HEARD of this...

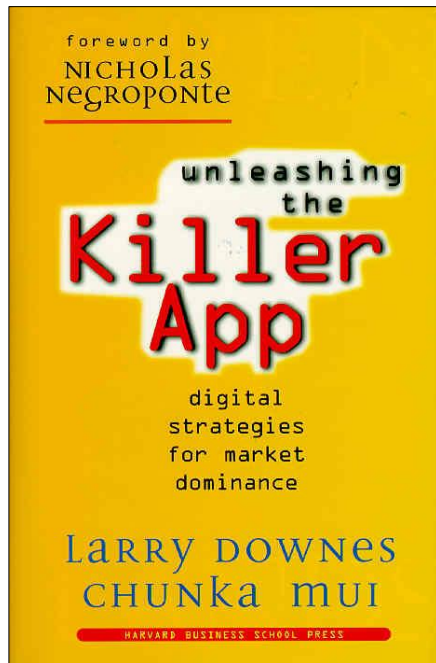


Copyright 1991!

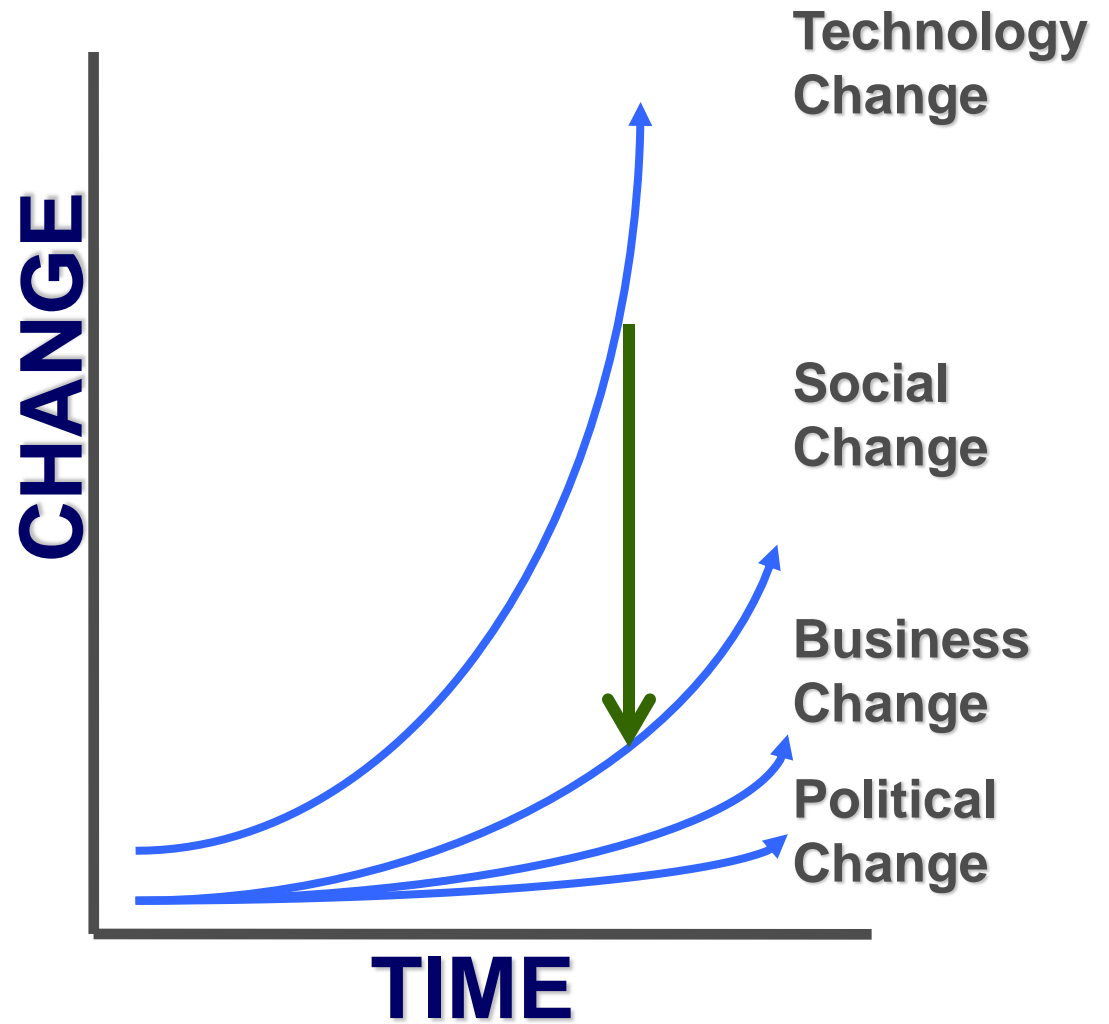
DOWN with *functional*  
silos...

UP with *business* silos!

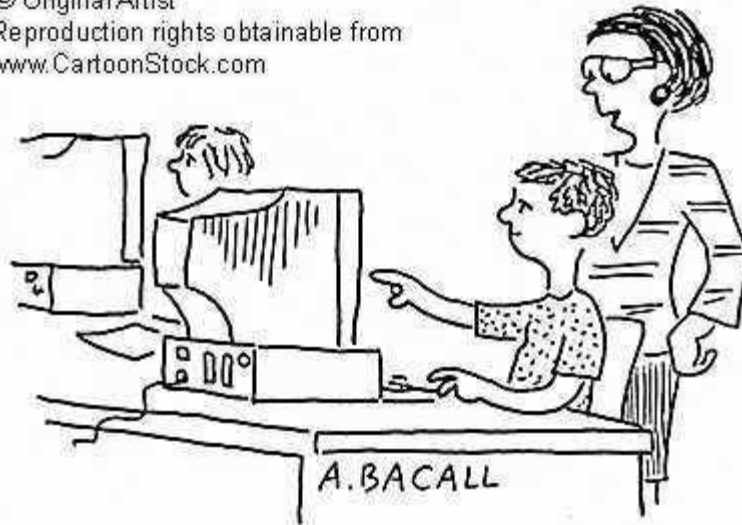
# 1998



2



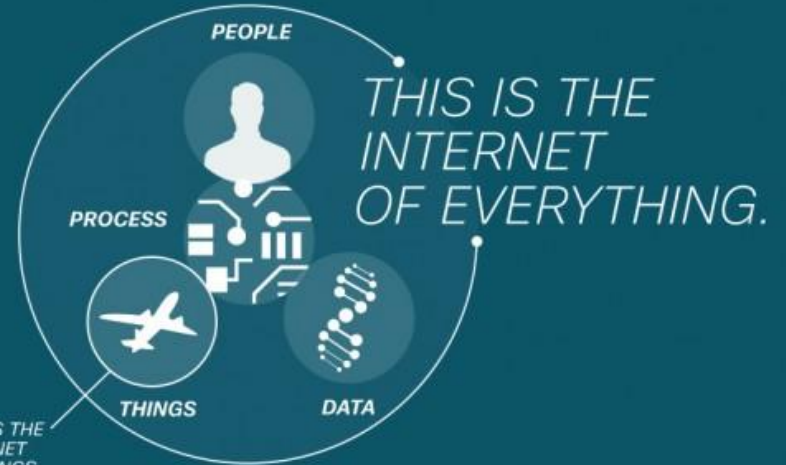
© Original Artist  
Reproduction rights obtainable from  
www.CartoonStock.com



Search ID: aba0029

**“Those are interesting questions Timmy.  
I suggest you ask your search engine.”**

3



*“It is up to all of us to get involved to ensure that the Internet, as IoE unfolds, continues to be a powerful force for improving people’s lives.”*

*-Dave Evans, Chief Futurist*

#IoE  
#InternetOfEverything





***Internet Addiction, Internet Use Disorder & Internet Use Gaming Disorder are three synonymous terms describing the psychopathology involved with children and adults who become dependent upon Information and Communications Technology.***

*Michael Nuccitelli Psy.D., a New York State licensed psychologist and author of the Information Age Forensics construct, iPredator, presents his understanding of the Information Age addiction called Internet Use Disorder.*



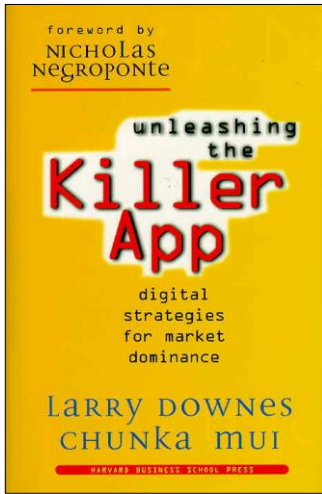
4

[www.ipredator.co/internet-addiction/](http://www.ipredator.co/internet-addiction/)

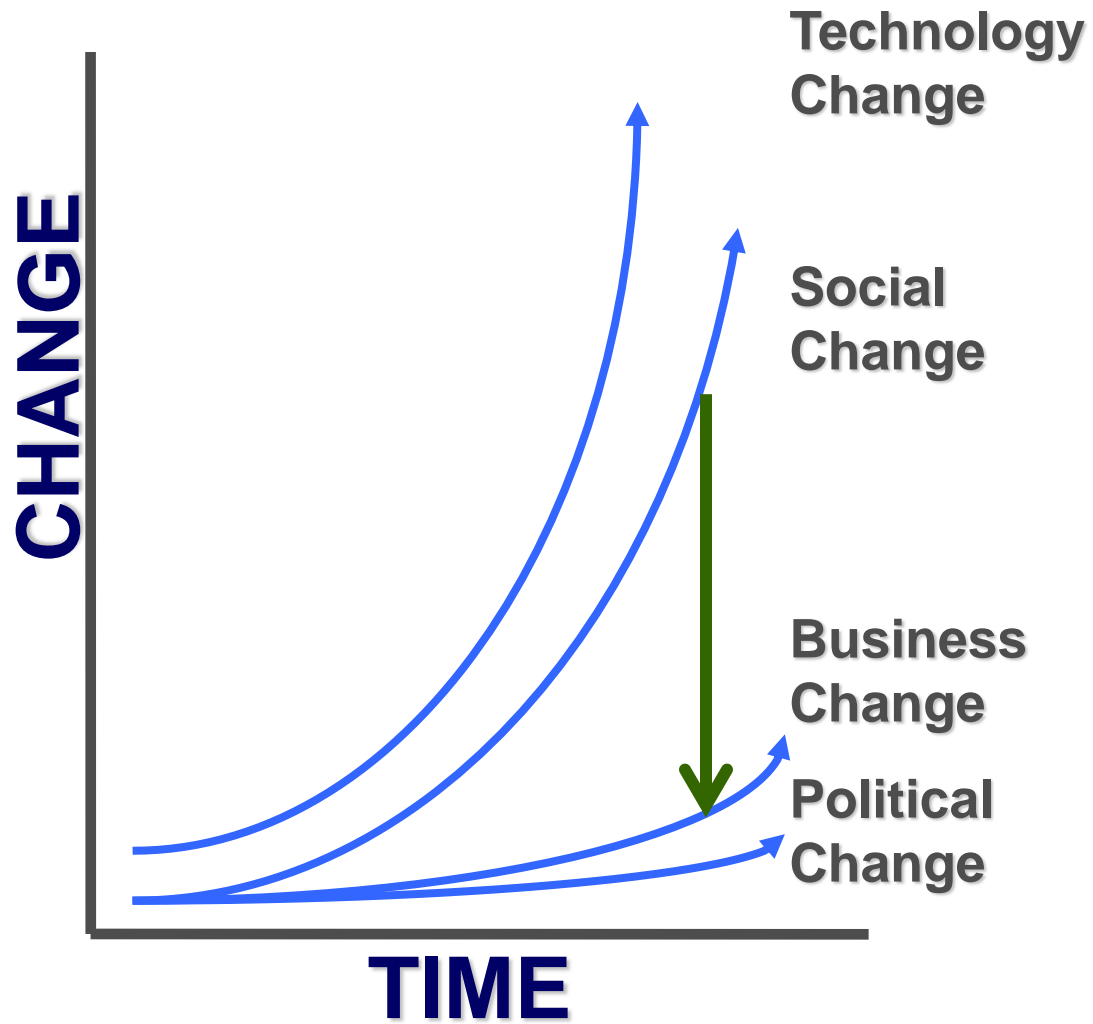
# The GLOBAL Challenge

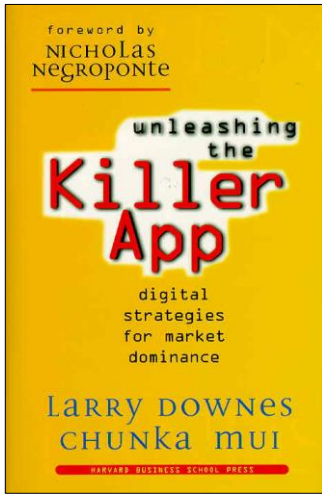
Providing environmentally *sustainable* solutions for...



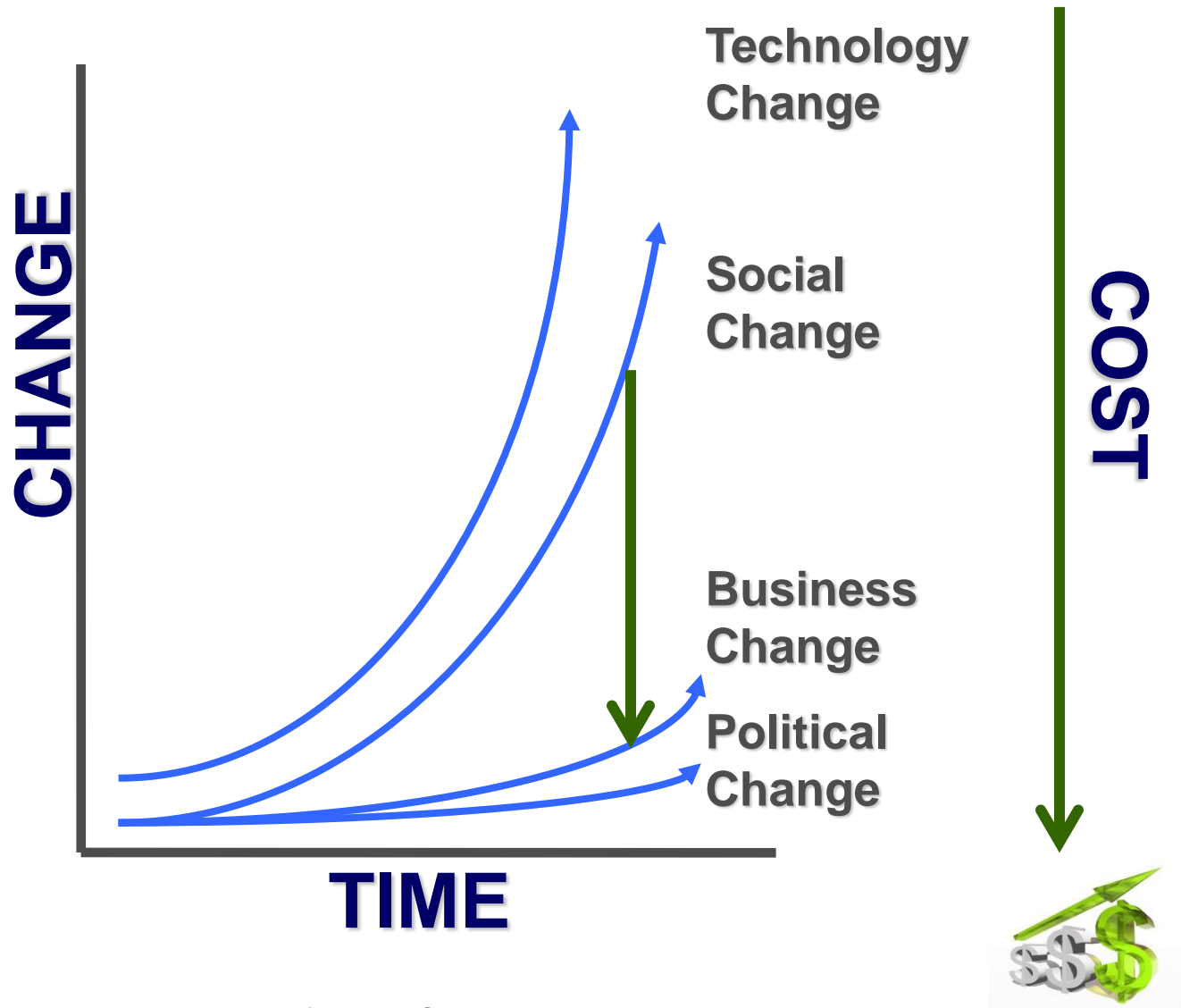


2014





2014



# Financing – Follow The \$\$\$

| Industry                       |                         |       |                       |       |                       |       |
|--------------------------------|-------------------------|-------|-----------------------|-------|-----------------------|-------|
|                                | 2011 Total              | 2011% | 2012 Total            | 2012% | 2013 Total            | 2013% |
| Biotechnology                  | \$4,826,041,400         | 16.28 | 4,160,199,700         | 15.35 | 3,156,038,100         | 15.21 |
| 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  |
| 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  |
| 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  |
| <b>Grand Total</b>             | <b>\$29,645,324,000</b> |       | <b>27,106,747,200</b> |       | <b>20,745,836,500</b> |       |

National Venture Capital Association, "VC Investments Q2 '14 – MoneyTree – National Data"  
[www.nvca.org/index.php?option=com\\_docman&task=doc\\_download&gid=1071&Itemid=317](http://www.nvca.org/index.php?option=com_docman&task=doc_download&gid=1071&Itemid=317)

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[www.nvca.org/index.php?option=com\\_docman&task=doc\\_download&gid=1071&Itemid=317](http://www.nvca.org/index.php?option=com_docman&task=doc_download&gid=1071&Itemid=317)

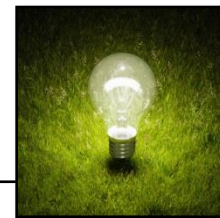
# Financing – Follow The \$\$\$



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[www.nvca.org/index.php?option=com\\_docman&task=doc\\_download&gid=1071&Itemid=317](http://www.nvca.org/index.php?option=com_docman&task=doc_download&gid=1071&Itemid=317)

# Financing – Follow The \$\$\$

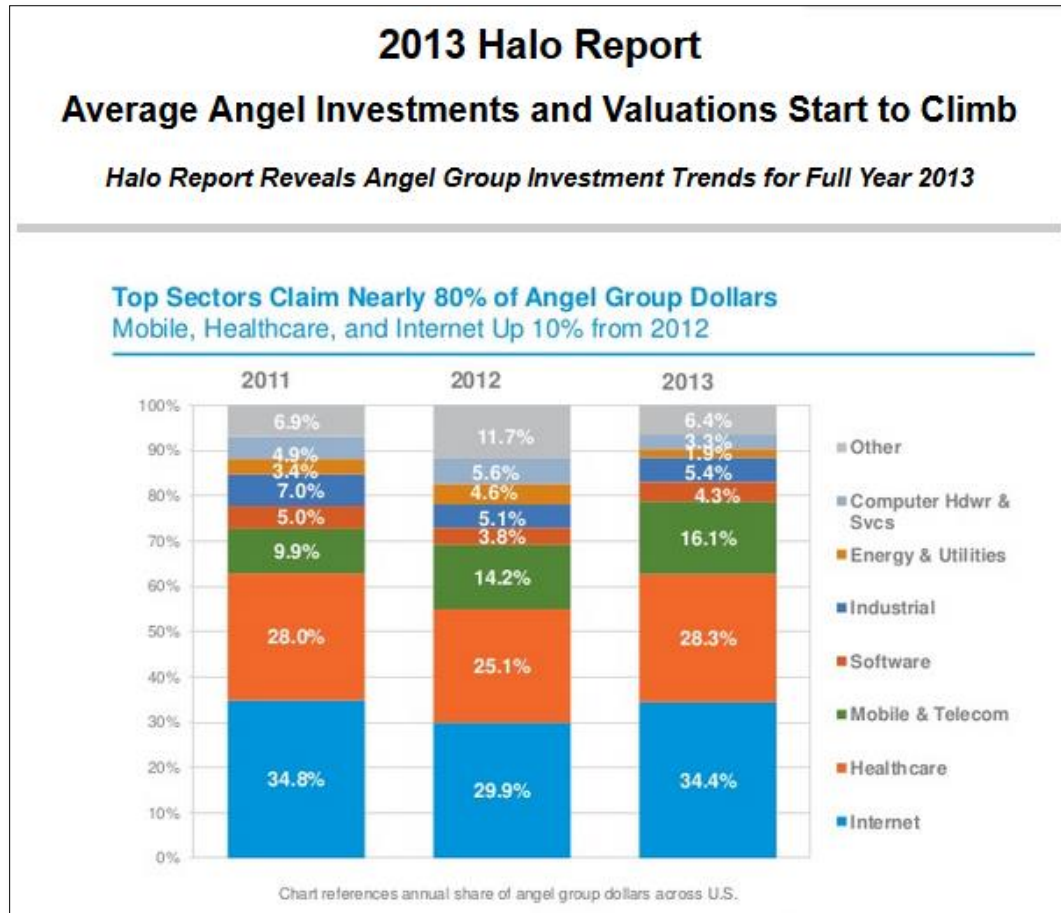


| Industry                       |                         |       |                       |       |                       |       |
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[www.nvca.org/index.php?option=com\\_docman&task=doc\\_download&gid=1071&Itemid=317](http://www.nvca.org/index.php?option=com_docman&task=doc_download&gid=1071&Itemid=317)



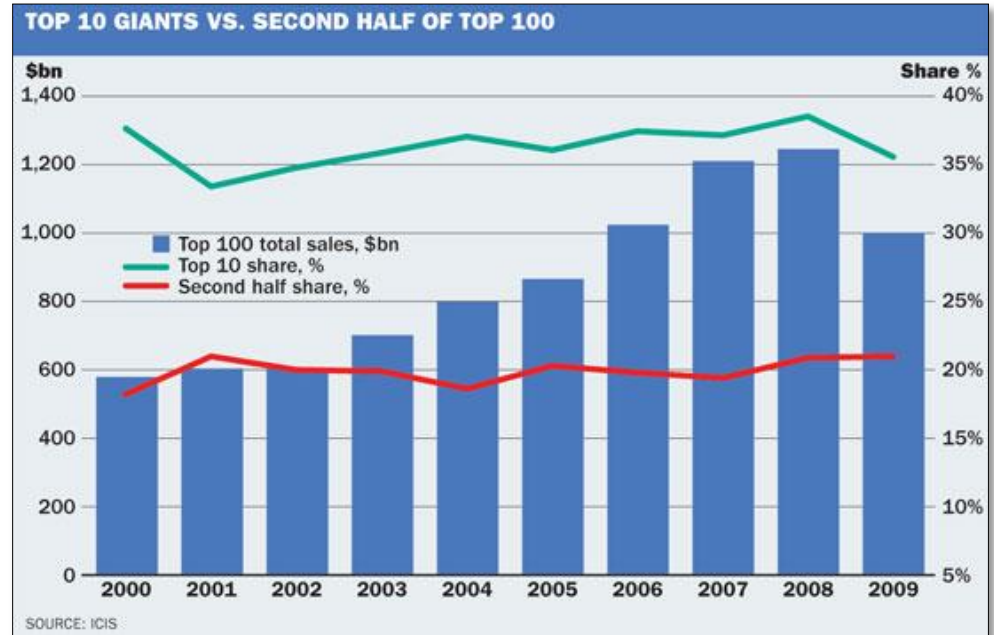
# Financing – Follow The \$\$\$



[www.angelresource.org/en/Research/Halo-Report/Halo-Report.aspx](http://www.angelresource.org/en/Research/Halo-Report/Halo-Report.aspx)

# Global Chemical Enterprise...

- The average size of the global, annual procurement budgets is **US \$52.9M**, compared to **US \$100.8M** for petrochemical companies.
- **42% of chemical industry buyers** agree that in order to maintain and win their business, suppliers will have to **provide innovative products**.



[www.icis.com/](http://www.icis.com/)

# What About Industries in 2009...



Jaruzelski and Dehoff "The Global Innovation 1000: How the Top Innovators Keep Winning" *Booz & Company* (2010)

- Total R&D expenditure dropped for usual top spenders
- More than half of all companies tracked cut their R&D spending in 2009 and nearly all the cuts came in just three industries:
  - Automotive
  - Computing and electronics
  - Industrials
- Computing and electronics preserved its top spot as the industry that spent the most on innovation, while auto stayed put at number three.

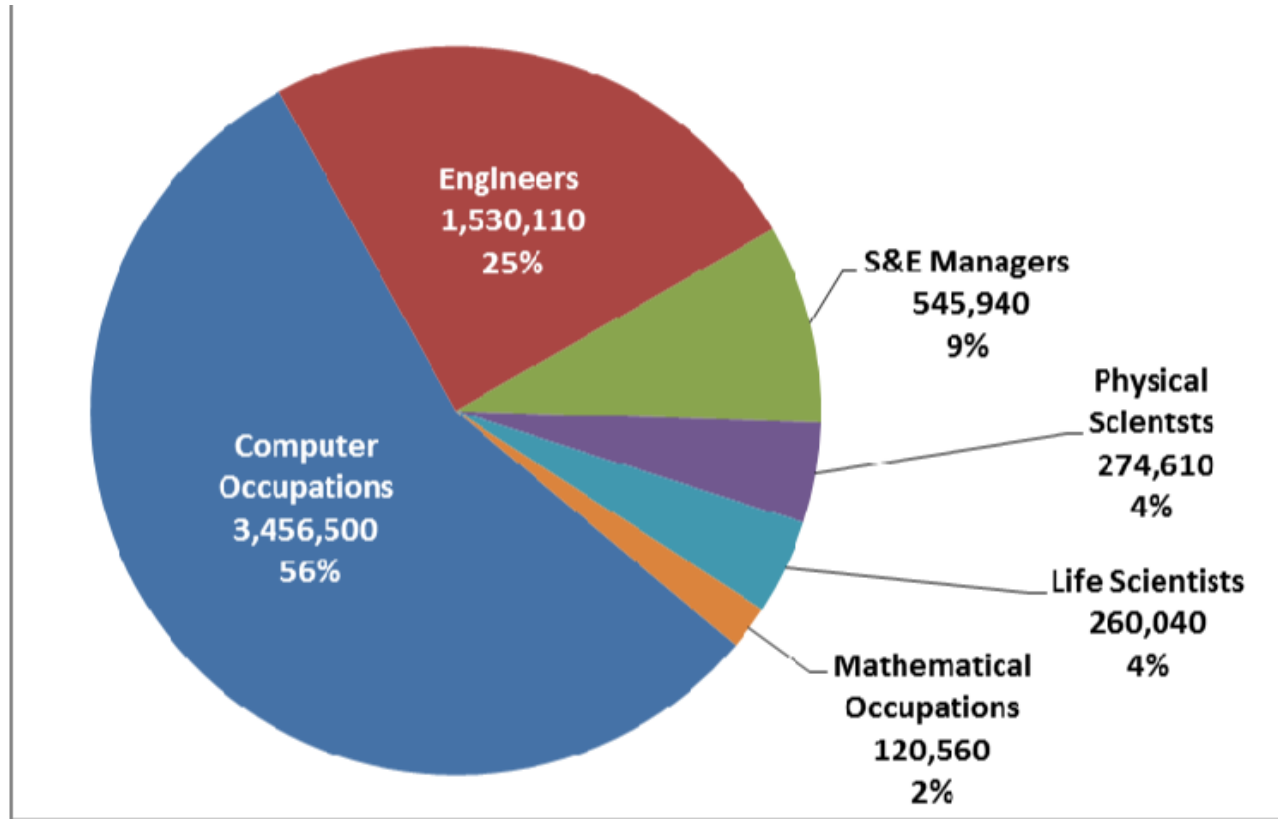
# Impact and next steps...

- **Some executives worry** that the cost-cutting moves their companies made in R&D during 2009 will have painful consequences, including a **weaker talent pool and a loss of market share resulting from shriveled new-product pipelines.**
- 40% of executives say their **companies' R&D budgets will be higher or much higher in 2010 than they were in 2009.**
- Companies are taking a **wait-and-see approach to R&D hiring**

McKinsey Quarterly


[www.forbes.com/2010/04/29/research-development-product-strategy-leadership-managing-mckinsey.html](http://www.forbes.com/2010/04/29/research-development-product-strategy-leadership-managing-mckinsey.html)

# Career Development used to be easy – HIGH \$ JOBS!



**Source:** CRS analysis of Occupational Employment Statistics survey data, May 2012, Bureau of Labor Statistics, U.S. Department of Labor, <http://www.bls.gov/oes/tables.htm>.

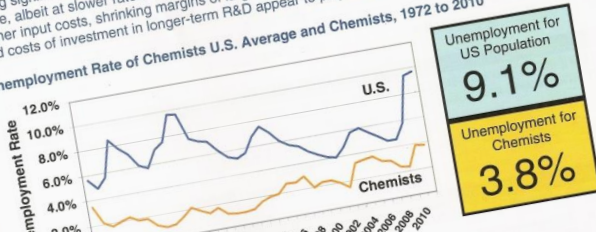
# Career Development used to be easy – HIGH \$ JOBS!


**ACS Careers**  
 Chemistry for Life™

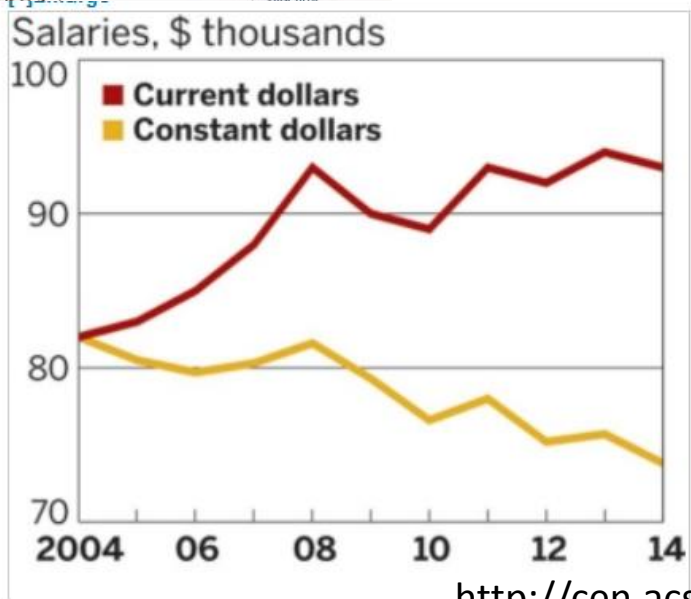
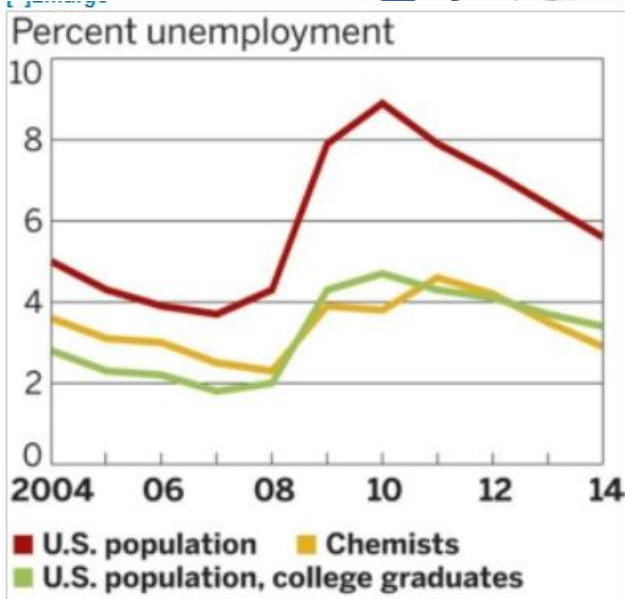
### Employment in the Chemical Enterprise

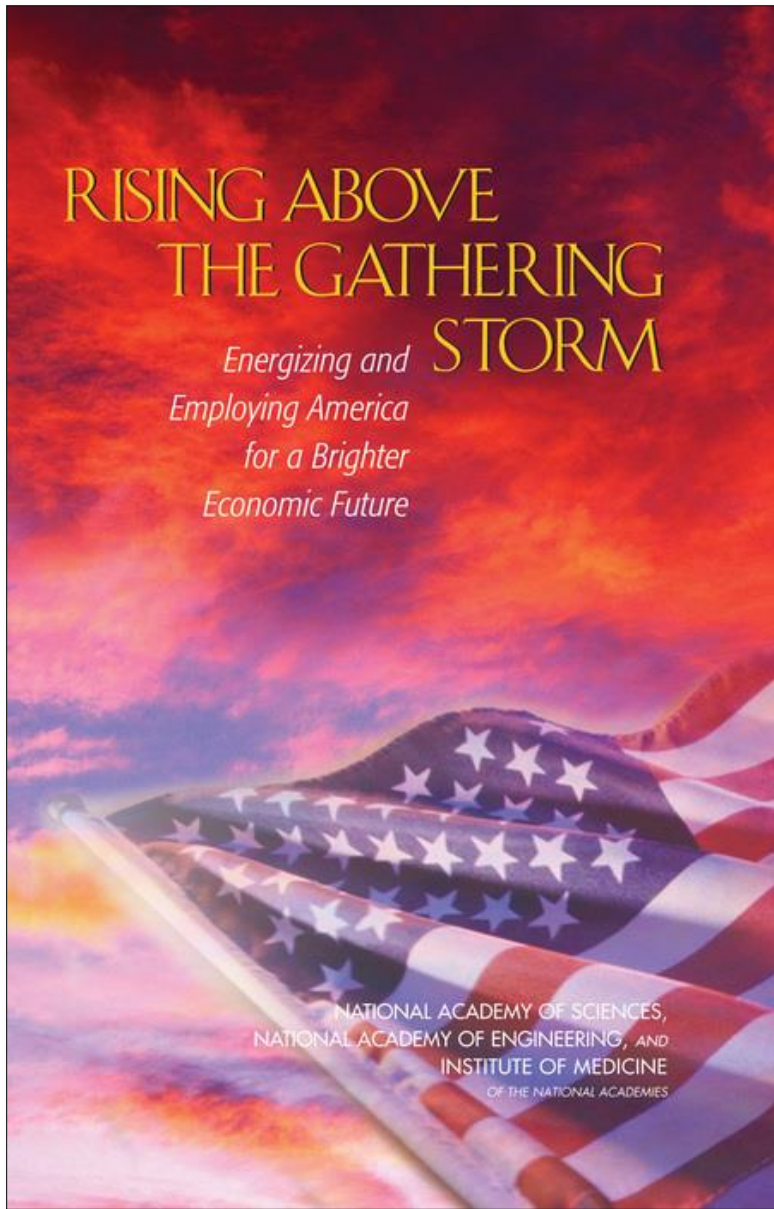
Since 2008, nearly 25,000 jobs—including thousands in research and development (R&D)—have been lost in chemical manufacturing companies in the United States, and layoffs continue. For the past 20 years, a clear job loss trend is evident in Bureau of Labor Statistics data that suggests the loss of approximately 300,000 full-time chemist jobs in the U.S. Patterns of hiring are also changing. Chemical companies with more than 500 employees are hiring significantly fewer new graduates than in the past, while small businesses are hiring more, albeit at slower rates. While no single factor explains these recent job losses or trends, higher input costs, shrinking margins of large companies, and growing aversion to the risks and costs of investment in longer-term R&D appear to play significant roles.

Unemployment Rate of Chemists U.S. Average and Chemists, 1972 to 2010



| Category                       | Unemployment Rate |
|--------------------------------|-------------------|
| Unemployment for US Population | 9.1%              |
| Unemployment for Chemists      | 3.8%              |





# University Research

In a world where advanced knowledge is widespread and low-cost labor is readily available, **U.S. advantages in the marketplace and in science and technology have begun to erode.** A comprehensive and **coordinated federal effort is urgently needed** to bolster U.S. competitiveness and pre-eminence in these areas. ...to **create high-quality jobs and focus new science and technology efforts on meeting the nation's needs, especially in the area of clean, affordable energy:**

- ..... 3) **Develop, recruit, and retain top students, scientists, and engineers from both the U.S. and abroad; and,**
- 4) **Ensure that the United States is the premier place in the world for innovation.**

# University Research

- Proof of value...

The screenshot shows the homepage of The Science Coalition. At the top left is the logo for 'THE SCIENCE COALITION' with a globe icon. To the right are links for 'For Members' and 'Sign Up For Updates'. Below the logo is a navigation menu with 'ABOUT', 'BRIEFING ROOM', 'INITIATIVES', 'CHAMPIONS', and 'TOOLKIT'. A search bar is located on the right side of the menu. The main content area features a large blue banner for 'Science 2034' with the subtitle 'Where Will Science Take Us in 20 Years?'. The text on the banner reads: 'While we don't know what the next "Big Thing" will be, we can make some educated predictions about how well-funded scientific research might change our lives and the world...'. A yellow 'Learn More' button is positioned at the bottom right of the banner. To the right of the banner is an image of binoculars with a sky view through the lenses, and a green arrow pointing right. On the far right, there is a vertical strip showing a globe and various scientific icons.

[www.sciencecoalition.org/reports/Sparking%20Economic%20Growth%20Full%20Report%20FINAL%204-5-10.pdf](http://www.sciencecoalition.org/reports/Sparking%20Economic%20Growth%20Full%20Report%20FINAL%204-5-10.pdf)





# ECONOMIC DEVELOPMENT



**University  
Research**



**Technology  
Commercialization**



**People and  
Careers**

# Economic Development:



ECONOMIC  
DEVELOPMENT



nia  
COMMUNITY

Ohio

Development  
Services Agency



THE 21st  
LARGEST  
ECONOMY  
IN THE  
WORLD



New Hampshire Department of  
Economic Development

Successful Food Hubs  
Integrating and Processing Local Food in Illinois



THE  
STATE

President  
10rg  
10.10e. #504  
10202  
10  
10sted.org

GOVERNOR RICH SNYDER



# Action in the Anthropocene

WELCOME TO THE ANTHROPOCENE

ANTHROPOCENE | EARTH SYSTEM | THRESHOLDS & BOUNDARIES | GALLERY

SEARCH

A planet transformed by humanity

WHAT IS THE ANTHROPOCENE? We're living in the Anthropocene. A growing number of scientists now say we are living in a new geological epoch — the Anthropocene. We're changing Earth's life support system.

Welcome to the Anthropocene

Water in the Anthropocene

An Urbanizing Planet | Narrated by Edward Norton

Climate Change — The state of the science

WELCOME TO THE ANTHROPOCENE

A 3-minute journey through the last 250 years from the start of the Industrial Revolution to today. This film opened the UN's Rio+20 summit, the largest event in the UN's history.

WATER IN THE ANTHROPOCENE

Humans are altering the global water cycle through damming, agriculture and carbon emissions. This 3-minute film charts the scale of change.

AN URBANIZING PLANET

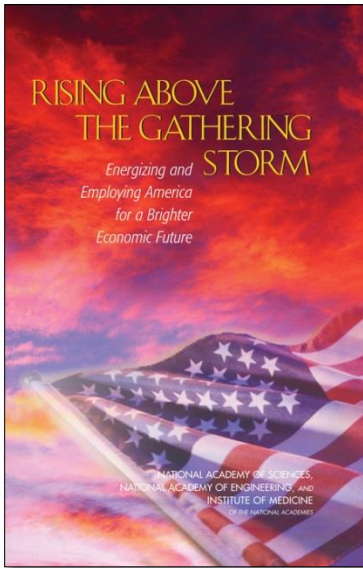
Over half the human population now live in cities, and they are growing rapidly. In 3 minutes, actor Edward Norton explores life on an urbanized planet. Produced for the UN Convention on Biological Diversity.

CLIMATE CHANGE

Climate change is a profound consequence of humanity's impact. This 4-minute data visualization takes a tour of the key findings from the Intergovernmental Panel on Climate Change's 2013 report.

[www.anthropocene.info/en/home](http://www.anthropocene.info/en/home)

- The rules *are* and *must change...and*
- *We must help change them.*
- Requires full commitment and skill



[www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2012-13.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf)

ECONOMIC  
DEVELOPMENT

**People**  
**Next Generation**  
**Researchers and**  
**Careers**

**Technology**  
**Commercialization**  
**Economic development**  
**from market aligned**  
**Innovations**



**University**  
**Research**  
**Problem Aligned**  
**Research**

**Adapted from:** [wilson.house.gov/energy-and-the-environment/](http://wilson.house.gov/energy-and-the-environment/)

**Harvard researcher, John Kotter in the early 1990s demonstrated that so called “adaptive cultures” dramatically outperformed “non-adaptive” cultures across a variety of indicators.**

| Success Indicators                     | Adaptive Culture | Non-Adaptive Culture |
|--|------------------|----------------------|
| Increase in revenues                   | 682%             | 166%                 |
| Expanded workforce (growth)            | 282%             | 36%                  |
| Increased stock price/market valuation | 90%              | 74%                  |
| Improved Net Incomes                   | 756%             | 1%                   |

[http://workforcediversitynetwork.com/docs/business\\_case\\_3.pdf](http://workforcediversitynetwork.com/docs/business_case_3.pdf)

Business Case for Inclusion and Engagement. By Marcus Robinson, Charles Pfeffer, and Joan Bucchigrossi, (2003). wetWare, Inc. Rochester, NY.



# ECONOMIC DEVELOPMENT



# Can WE adapt



# ECONOMIC DEVELOPMENT



# People and Careers



# Key Decisions..

- People

1. **YOU are the CEO of Me.Life – and always have been**

- *YOU must take charge of your life and career... there is NO little yellow school bus!*



Life isn't an  
"exercise" ...





**Already doing it...  
and doing it WELL  
are two different  
things!**



# Key Decisions..

- People

1. **YOU are the CEO of Me.Life – and always have been**

- *YOU must take charge of your life and career... there is NO little yellow school bus!*

2. **INDIVIDUAL actions COUNT**

- Millennials seem to “say” it, now will you DO IT?

# WALK the WALK...

- RICN's "[Blueprint for a Millennial America](#)," a report prepared by thousands of Millennials who participated in their "Think 2040" project, placed the development and usage of renewable sources of energy at the top of all other environmental initiatives.
- ...proposed solutions to the challenge...through **individual initiative and grassroots action** rather than a heavy-handed top down bureaucratic approach.

[www.newgeography.com/content/003455-how-green-are-millennials](http://www.newgeography.com/content/003455-how-green-are-millennials);  
[www.rooseveltcampusnetwork.org/chapter/1875/blueprint-millennial-america](http://www.rooseveltcampusnetwork.org/chapter/1875/blueprint-millennial-america)



# ECONOMIC DEVELOPMENT



**Technology  
Commercialization**



**People and  
Careers**

# Financing – Follow The \$\$\$

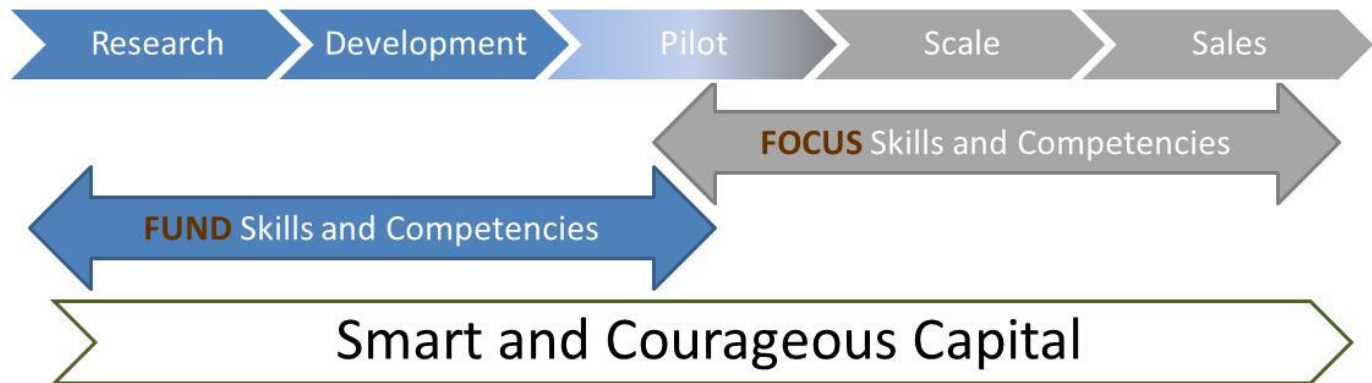
| Industry                       |                         |       |                       |       |                       |       |
|--------------------------------|-------------------------|-------|-----------------------|-------|-----------------------|-------|
|                                | 2011 Total              | 2011% | 2012 Total            | 2012% | 2013 Total            | 2013% |
| Biotechnology                  | \$4,826,041,400         | 16.28 | 4,160,199,700         | 15.35 | 3,156,038,100         | 15.21 |
| 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  |
| 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  |
| 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  |
| <b>Grand Total</b>             | <b>\$29,645,324,000</b> |       | <b>27,106,747,200</b> |       | <b>20,745,836,500</b> |       |

[www.nvca.org/index.php?option=com\\_docman&task=doc\\_download&gid=1071&Itemid=317](http://www.nvca.org/index.php?option=com_docman&task=doc_download&gid=1071&Itemid=317)

# Key Decisions

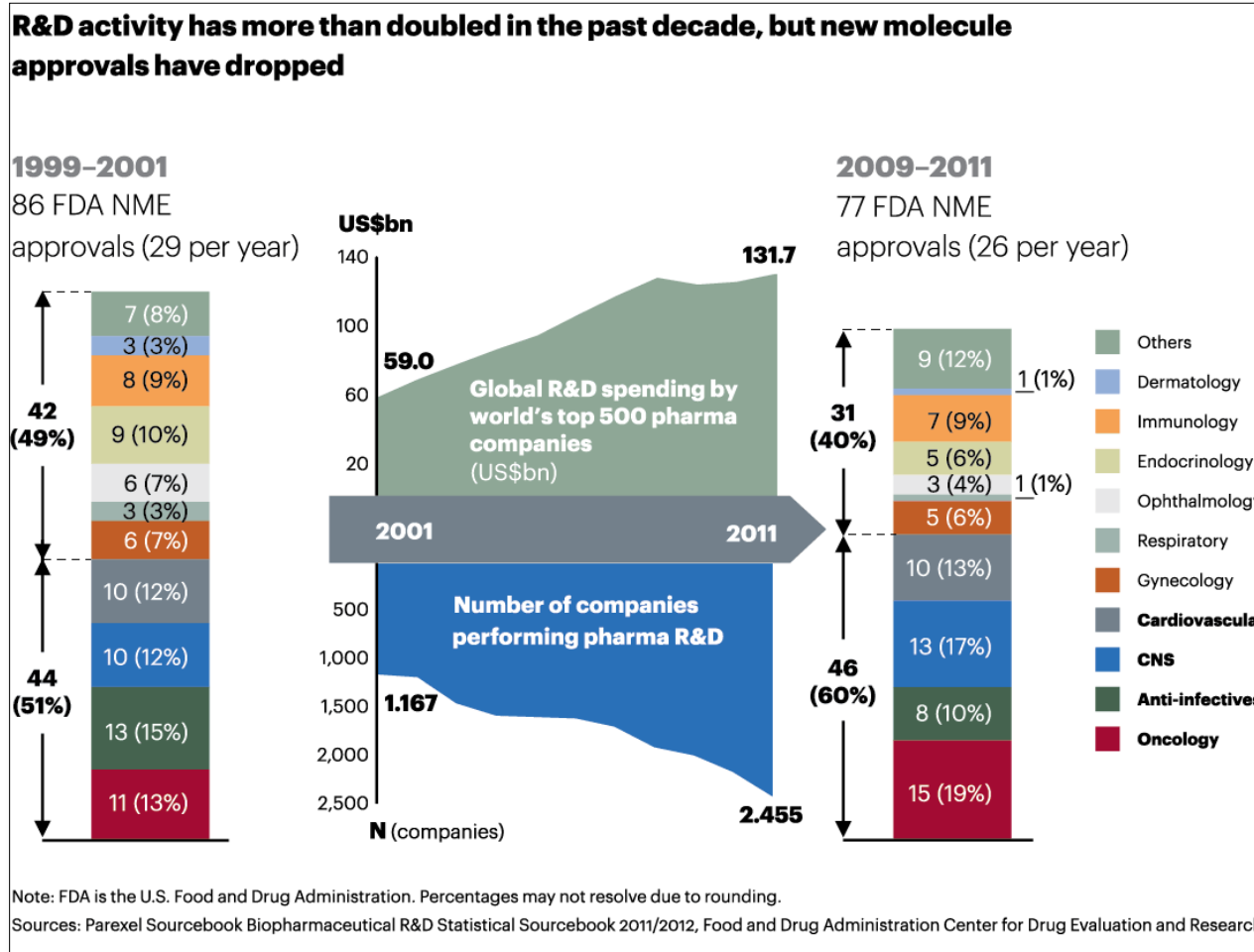
- Corporations...

– Will you step up to the plate? And If so, then WHEN and HOW?





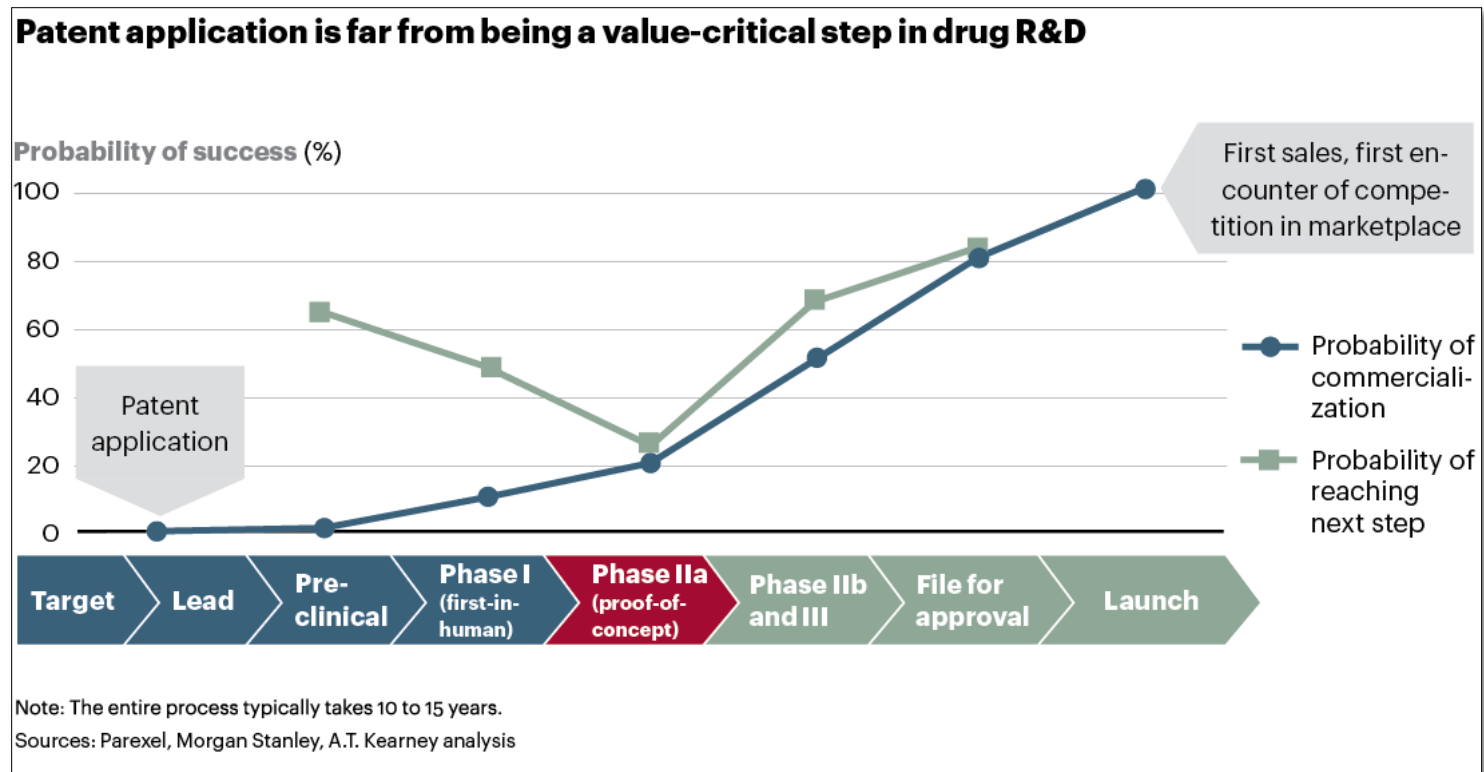
# The *real* Drug Wars



[www.atkearney.com/paper/-/asset\\_publisher/dVxv4Hz2h8bS/content/unleashing-pharma-from-the-r-d-value-chain/10192](http://www.atkearney.com/paper/-/asset_publisher/dVxv4Hz2h8bS/content/unleashing-pharma-from-the-r-d-value-chain/10192)

# The *real* Drug Wars

## FOCUS on what matters...

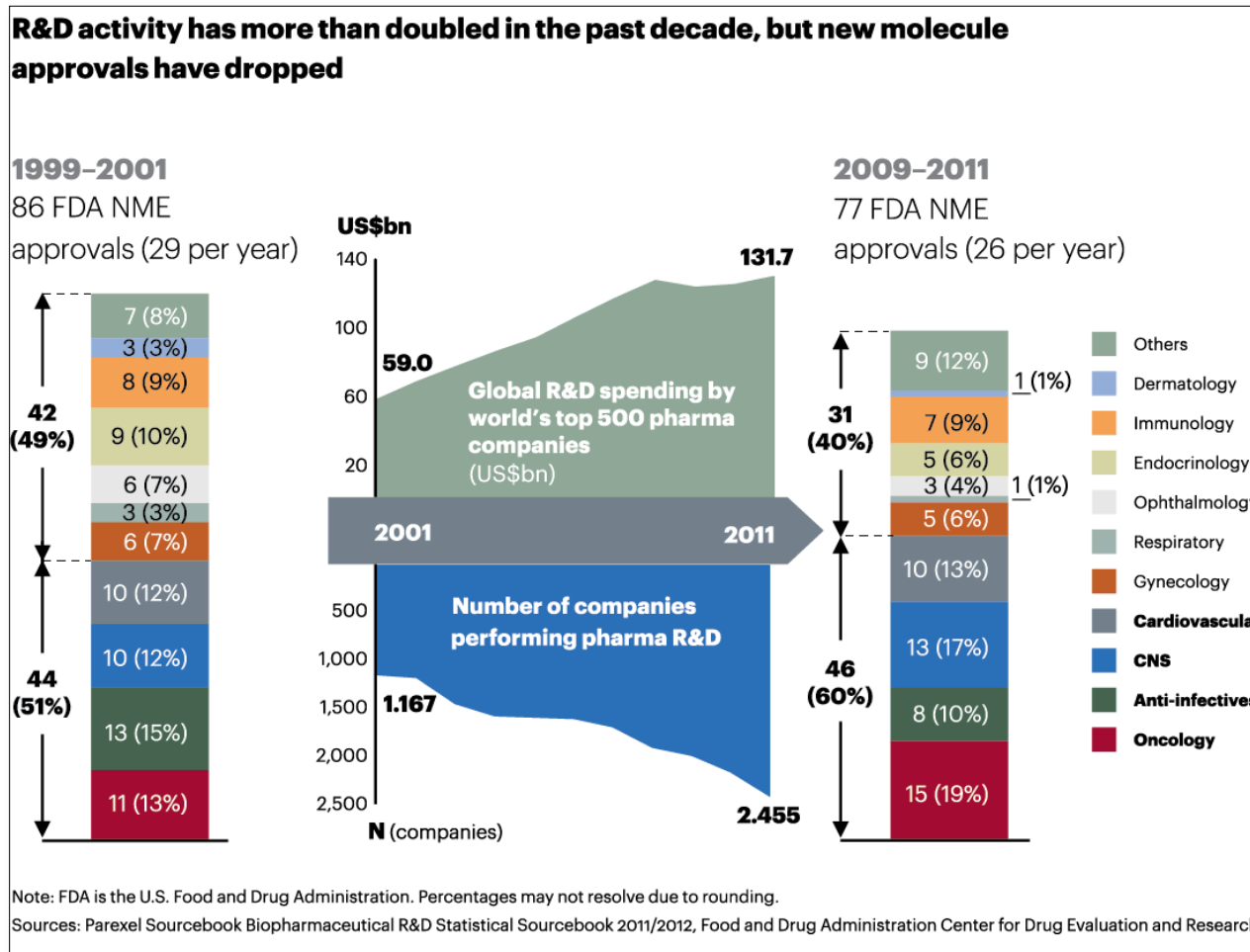


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[www.atkearney.com/paper/-/asset\\_publisher/dVxv4Hz2h8bS/content/unleashing-pharma-from-the-r-d-value-chain/10192](http://www.atkearney.com/paper/-/asset_publisher/dVxv4Hz2h8bS/content/unleashing-pharma-from-the-r-d-value-chain/10192)

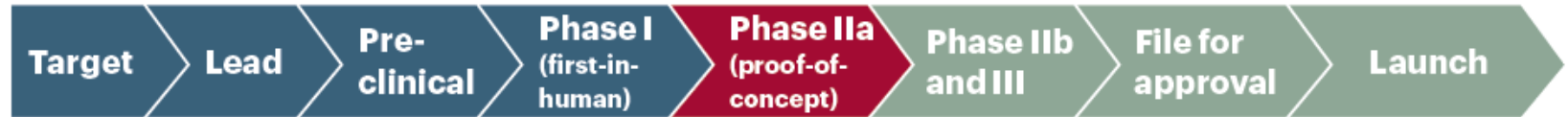
# The *real* Drug Wars

## OPEN INNOVATION



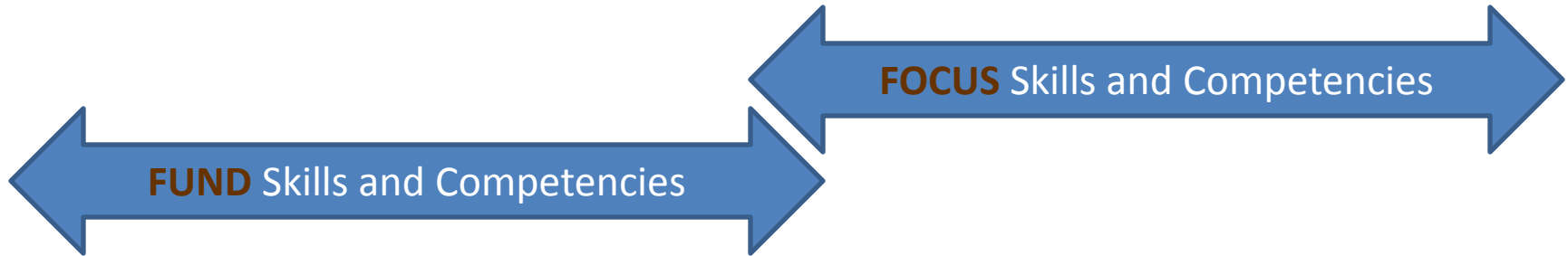
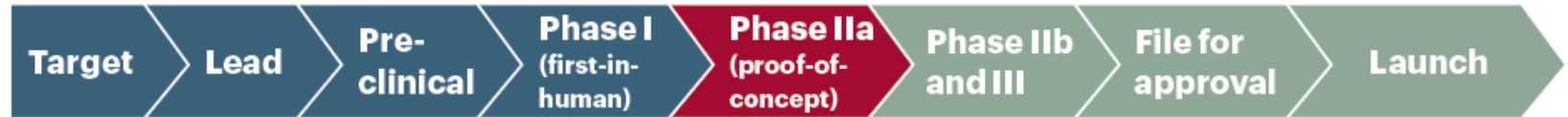
# The *real* Drug Wars

## FOCUS on what matters...



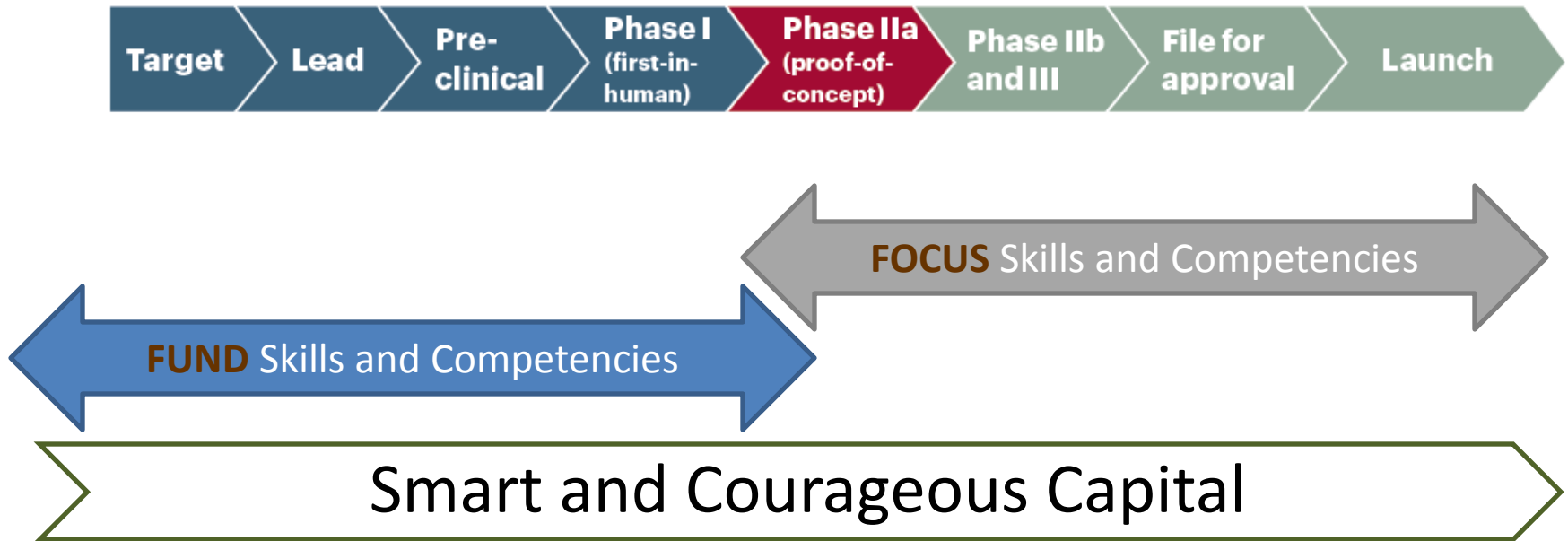
# The *real* Drug Wars

## FOCUS on what matters...



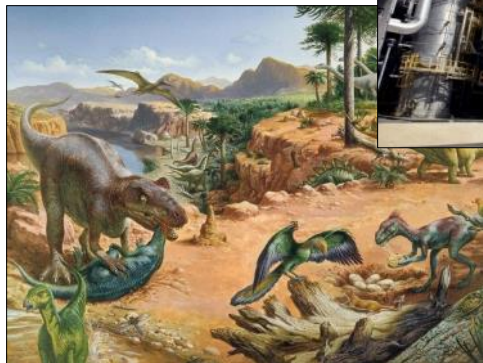
# The *real* Drug Wars

## FOCUS on what matters...



# The *old* Solution

Staying with petrochemicals is *not sustainable*



9



10



...as a means to addressing major global issues

# The *new* Solution

Going BIOMASS **GREEN**



...as a means to addressing major global issues

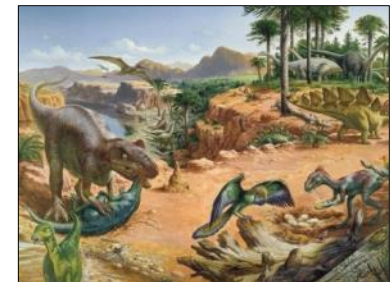


# Crossing the Great Divide



The Golden Rules of **CREATING VALUE** –

- *And woe to anyone who forgets...*

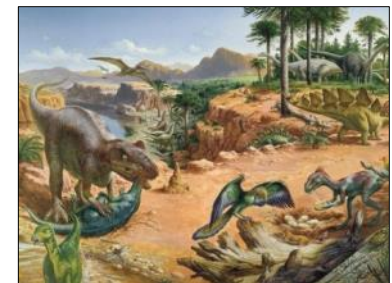


# Crossing the Great Divide



The Golden Rules of **CREATING VALUE** –

- The **chemical and fuel** industries have *always* been driven by *feedstock costs*
- The **technology** was there to *profitably and safely convert* to the desired products
- The **courageous capitalization** support was available
  
- *And woe to anyone who forgets...*



## Unilever Seeks More Renewables

Industrial Biotech: Consumer products firm, U.K. university join for biobased chemicals development

By **Alex Scott**

Department: **Business** | Collection: **Green Chemistry**  
Keywords: **biomaterial, renewable, U.K., collaboration**

[+]Enlarge



**Unilever has begun** a research project with Engl  
**Liverpool** to develop renewable chemicals from b  
and personal care products. The effort is the latest  
products company to increase the renewable mate  
without adding costs for the buying public.

13

**Len Sauers, P&G's VP for Global Sustainability highlighted in the firms most recent environmental report: Few consumers are willing to pay a premium for greener goods. Thus the processes they are developing will have to be cost-competitive from the outset...**

**And that's not all...**



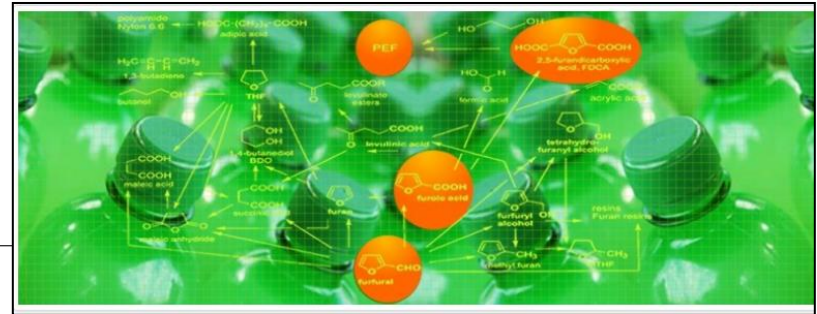
Coca-Cola Eyes  
Growth In The  
Sparkling Bottled  
Water Market



## Coca-Cola And Competitors Go Green

In 2009, the largest CSD manufacturer in the world, Coca-Cola, introduced PlantBottle for its water brand Dasani. PlantBottle uses about 30% PET resin from sugarcane and is thus more eco-friendly than traditional plastic bottles. Sales of Dasani have increased by 20% since the launch of PlantBottle. The company also plans to introduce bottles made completely out of plant-based resin in the coming few years. This move could further boost sales of Dasani, which currently has a market share of ~10% in the still water category with retail sales of over \$900 million in FY2013.

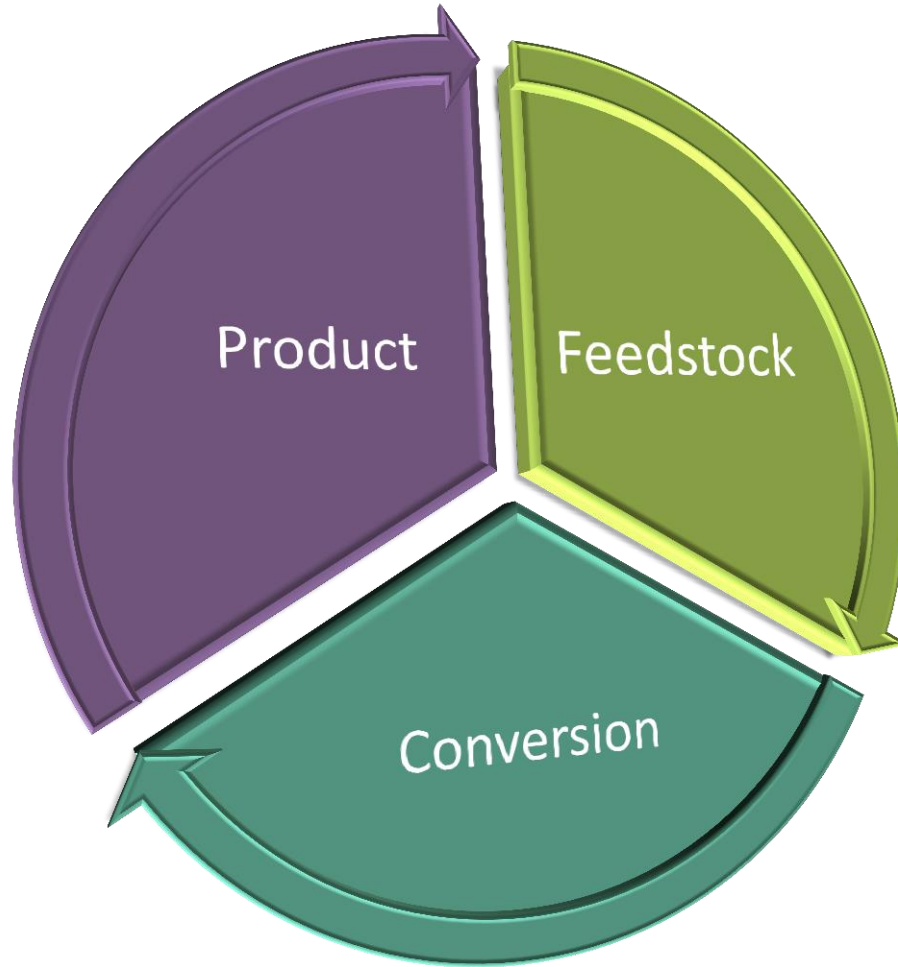
Coca-Cola might also look into the possibility of using PEF (polyethylene furanoate), a bio-based alternative to PET. However, the impact of PEF on the recycling stream is still to be known. As the company is a major user of recycled PET, it wouldn't want to harm its own recycled material. Coca-Cola is presently working on bottles from PEF with Avantium, a renewable chemicals firm based in Amsterdam. Coca-Cola also experimented with bottles made of ice that could melt away after consumption. The ice bottle is currently available only in Colombia and carries the company's flagship Coca-Cola CSD. However, these



ES AND MORE

14

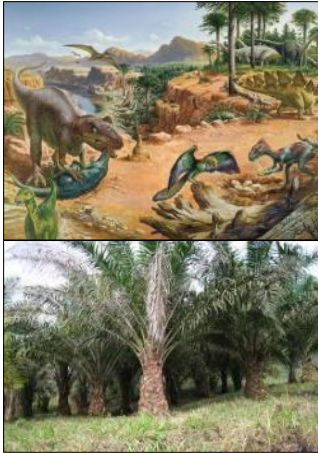
# Crossing the Great Divide



## The *Real* Solution

Align **feedstock** with **technology** for **product** in a *global market... where there is opportunity in delivering locally*

# The *Real* Solution



Feedstock

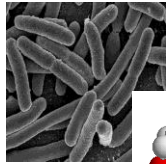
Conversion

Profitable  
Product

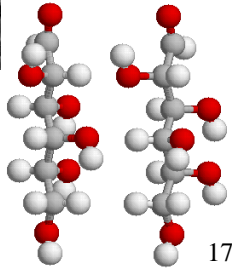
Smart and Courageous Capital

...as a means to addressing *major* global issues

# The *successful new* BIOMASS Solution



16



17



18



20

19

Research

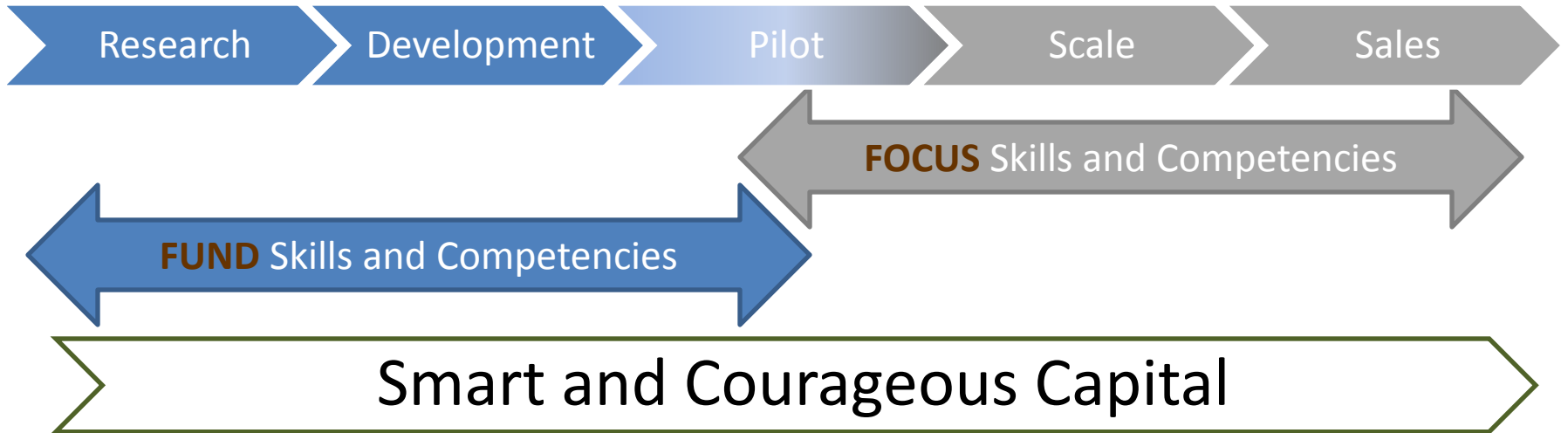
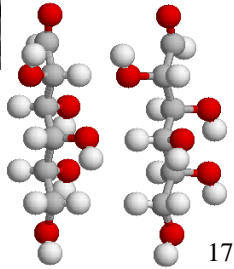
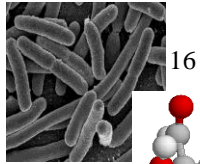
Development

Pilot

Scale

Sales

# The *successful new* BIOMASS Solution





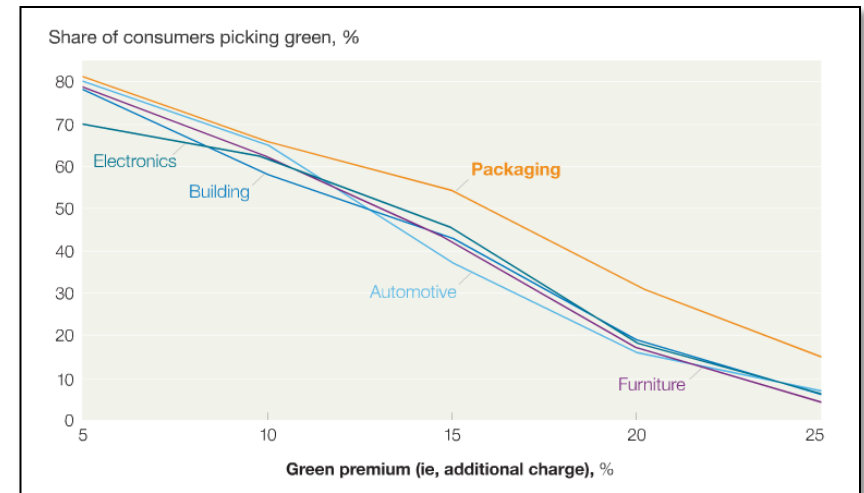
# Key Decisions

- The Public
  - Change is NOT free. Are you willing to help pay for the cost of what you say you want...

Wednesday, June 05, 2013 SHARE

## U.S. Consumers Increase 'Green' Purchases; But Are They Willing to Pay More?

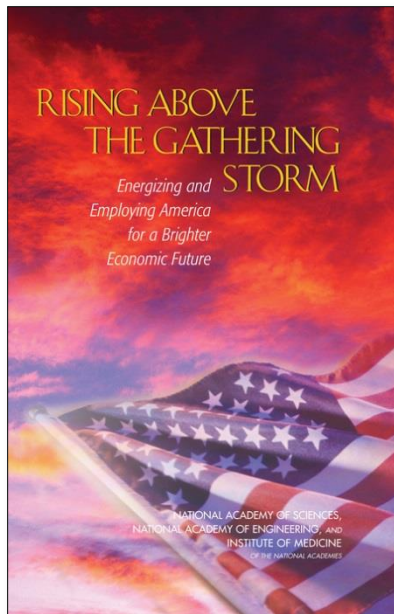
PHILADELPHIA – (June 5, 2013) – U.S. consumers continue to go green, as 78 percent say they buy green products and services, a steady increase over 69 percent last year, according to the 5th Annual Tork Sustainability Study. The study was conducted by Harris Interactive on behalf of SCA, makers of the Tork® brand of away-from-home paper products and one of the world's most sustainable and ethical companies.



[www.mckinsey.com/insights/manufacturing/how\\_much\\_will\\_consumers\\_pay\\_to\\_go\\_green](http://www.mckinsey.com/insights/manufacturing/how_much_will_consumers_pay_to_go_green)

# Key Decisions

- Governments
  - Globally can you make decisions and provide long term incentives that corporations, investors, innovators and universities can trust and *stick with them?*



A screenshot of the Renewable Fuels Association (RFA) website. The top left features the RFA logo and the text "RENEWABLE FUELS ASSOCIATION". A "Member Login" button is visible in the top right. A navigation bar contains four green buttons: "About RFA", "Public Policy", "The Industry", and "Resource Center". The main content area displays a news entry with the headline "Study: Statutory 2014 RFS Levels Can be Met Through Increased E85 &amp; E15 Consumption, Carryover RINs" in green text. Below the headline is the date "January 24, 2014" and a small logo for "informa economics". The text of the article begins with "(January 24, 2014) WASHINGTON — A new study by Informa Economics entitled 'Analysis of the Potential Use of Biofuels toward the Renewable Fuel Standard in 2014' shows the originally intended Renewable Fuel Standard (RFS) 2014 blending requirements can be reached through expanded consumption of E85 and E15, as well as judicious use of carryover RIN credits. The study clearly demonstrates why the Environmental Protection Agency's proposal to reduce RFS blending requirements is unnecessary and imprudent."

[www.ethanolrfa.org/news/entry/informa-statutory-2014-rfs-levels-can-be-met-through-e85-e15-rins/](http://www.ethanolrfa.org/news/entry/informa-statutory-2014-rfs-levels-can-be-met-through-e85-e15-rins/)



# ECONOMIC DEVELOPMENT



**University  
Research**



**Technology  
Commercialization**



**People and  
Careers**

# Key Decisions

- Universities

- Do you REALLY know the rules of the road for successful commercialization...
- An can the Tech Transfer office REALLY do this alone?

## “Everything BUT the Squeal”



- REAL SOLUTIONS require more than “invention”

Already doing it...  
and doing it WELL  
are two different  
things!



# #1: Making the most of the PROMISE

Innumerable undifferentiated “top of funnel” opportunities

INVUTURE  
**BUSINESS  
PLAN  
COMPETITION**



**\$100K**  
MIT ENTREPRENEURSHIP COMPETITION

accelerate>>MICHIGAN™  
INNOVATION COMPETITION

mc mass  
CHALLENGE

USF  
UNIVERSITY of  
SAN FRANCISCO  
International Business Plan Competition

2011 RICE  
UNIVERSITY  
BUSINESS PLAN  
COMPETITION  
Sponsored by Administaff  
World's Richest and Largest Business Plan Competition April 14-16, 2011

# #2 Addressing PEOPLE and teams...

## Or trying to?

An ecosystem that efficiently validates and structures seed stage deals exists only in Web 2.0, not for STEM ventures



Combinator

# #3: PLANET is losing out...

## Research – Lost in translation

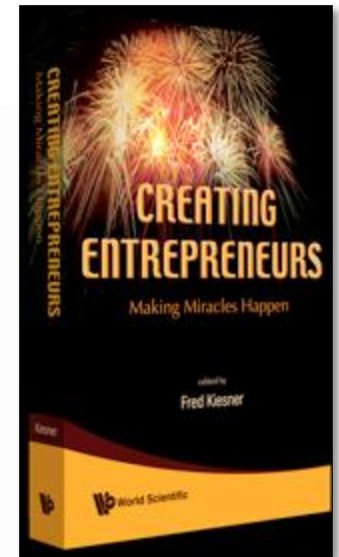
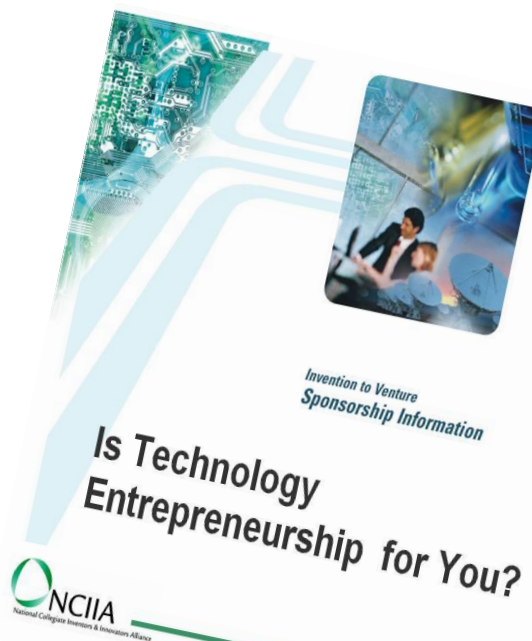
- Low success of STEM translation to commercialization
- Need to “fail fast and iterate”... not easy in STEM



Only 1% of more than 200 U.S. entrepreneurs surveyed cited higher education as a significant motivator toward starting their own venture, while 61 percent cited their “innate drive.”

- Northeastern University Survey

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



Southern Miss  
Ole Miss

**Are Entrepreneurs Born or Made?**  
Two-thirds of entrepreneurs claim they were inspired by innate desire, not education or training, according to a new survey.  
By Leslie Taylor | Inc. | Oct 24, 2006

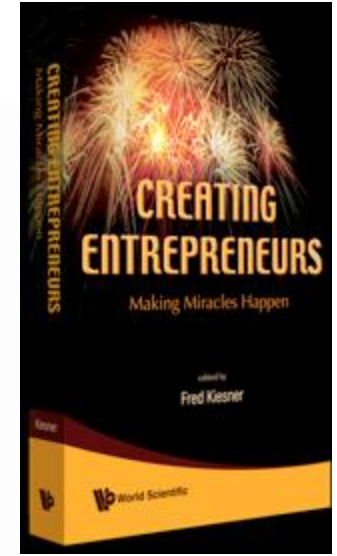
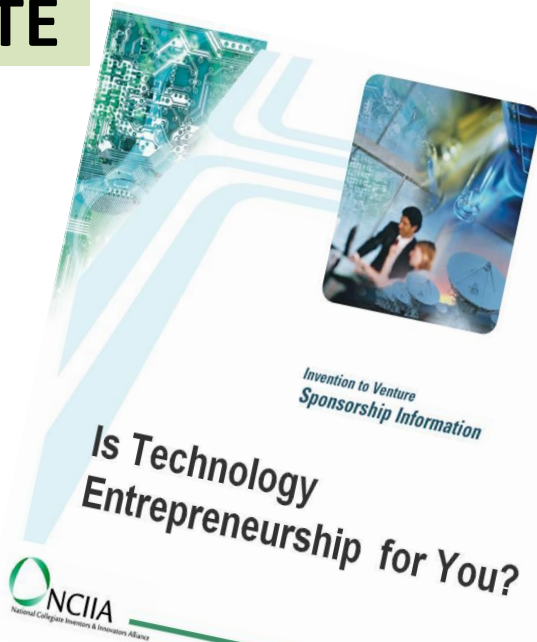


# EDUCATE... TO INNOVATE

Only 1% of more than 200 U.S. entrepreneurs surveyed cited higher education as a significant motivator toward starting their own venture, while 61 percent cited their “innate drive.”

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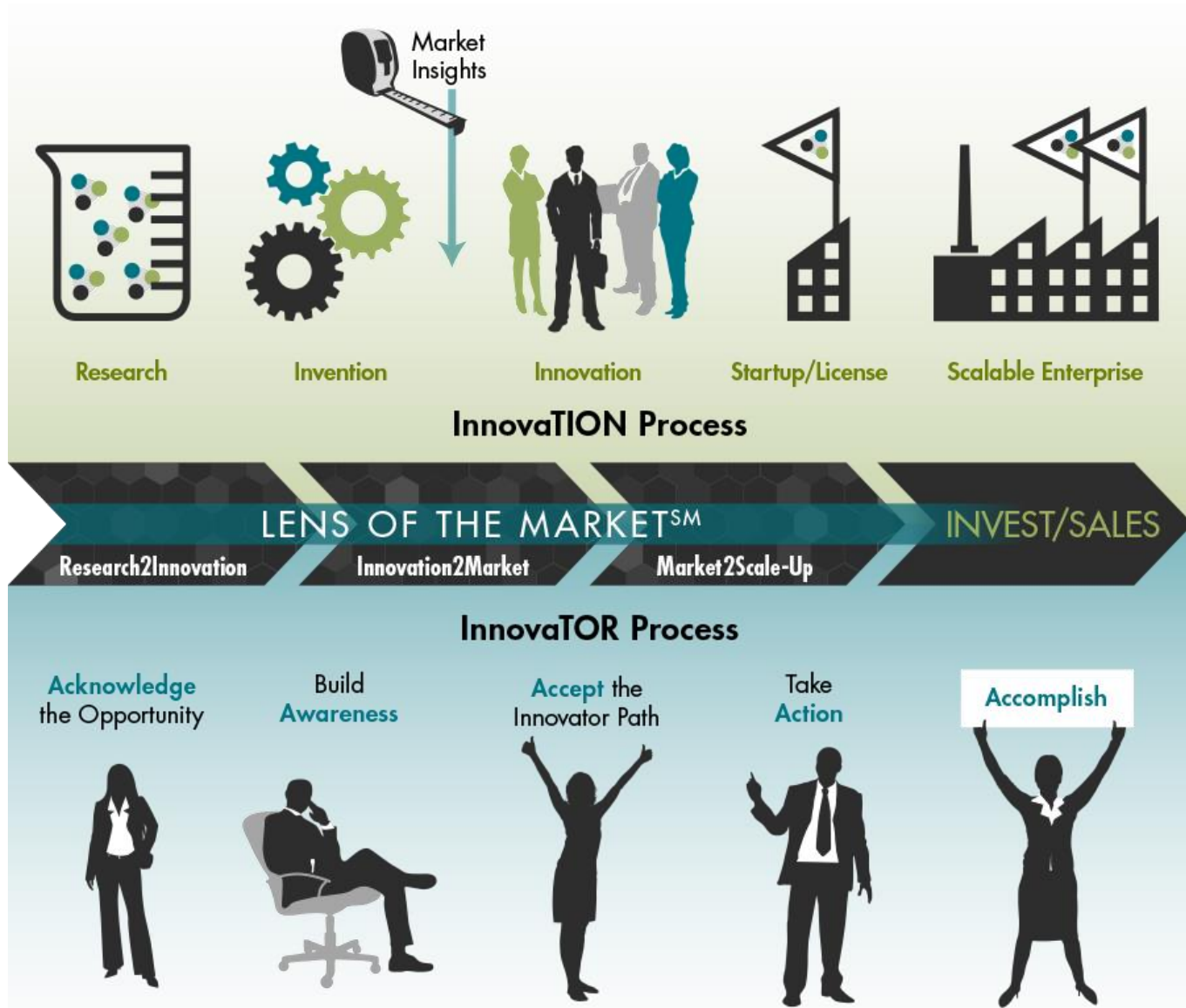
**Are Entrepreneurs Born or Made?**  
Two-thirds of entrepreneurs claim they were inspired by innate desire, not education or training, according to a new survey.  
By Leslie Taylor | Inc. | Oct 24, 2006

Hundreds of \$Millions in Grants  
Thousands of Students & Professors



Entrepreneurship and  
Business Courses  
One Tech Transfer Office and  
Accelerator (maybe)

# InnovaTORS and InnovaTIONS



|   | Research2Innovation<br>→ 1 Day | Innovation2Market<br>→ 3-6 Months | Market2Scale-Up<br>→ 3-6 Months |
|---|--------------------------------|-----------------------------------|---------------------------------|
| Vocabulary building                                   | ✓                              | → Ongoing development             |                                 |
| Identification of innovations & platform technologies | ✓                              | → Ongoing development             |                                 |
| Market/Gap analysis                                   |                                | ✓                                 | → Ongoing development           |
| Research Plan   |                                | ✓                                 | → Ongoing development           |
| Executive summary                                     |                                |                                   | ✓                               |
| Business model/go-to-market plan                      |                                |                                   | ✓                               |
| Sales and marketing plan                              |                                |                                   | ✓                               |
| Operations plan                                       |                                |                                   | ✓                               |
| Team (and team development)                           |                                |                                   | ✓                               |
| Financials  |                                |                                   | ✓                               |
| Financing plan  |                                |                                   | ✓                               |





# ECONOMIC DEVELOPMENT



**University  
Research**



**Technology  
Commercialization**



**People and  
Careers**



# ECONOMIC DEVELOPMENT



**University  
Research**



**Technology  
Commercialization**



**People and  
Careers**

# Thank you



**Judith Giordan**

Managing Director - ecosVC, Inc

CTO – Qteros, LLC

Co-Founder – Chemical Angel Network

# Image Sources

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10. [http://upload.wikimedia.org/wikipedia/commons/d/d2/TASNEE\\_001.jpg](http://upload.wikimedia.org/wikipedia/commons/d/d2/TASNEE_001.jpg)



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17. [http://bioinfo.med.utoronto.ca/~lamoran/name\\_this\\_molecule\\_1.gif](http://bioinfo.med.utoronto.ca/~lamoran/name_this_molecule_1.gif)
18. <http://mcdonald.ucdavis.edu/uploads/1/8/5/3/1853874/1167012.jpg>
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20. [www.greenidiary.com/wp-content/uploads/2012/09/114441961.jpg](http://www.greenidiary.com/wp-content/uploads/2012/09/114441961.jpg)