

Québec *seeks* *en mode* solutions

15 - 16 mai 2012 - Québec, Canada

May 15 - 16, 2012 - Quebec City, Canada

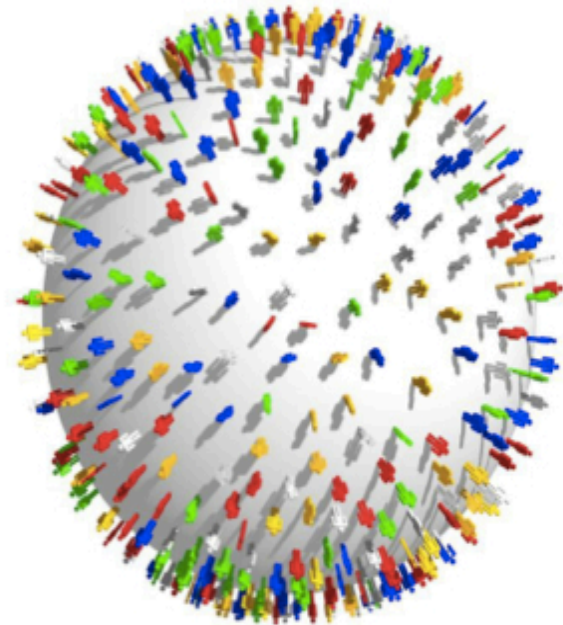
Venez vivre un processus d'innovation ouverte unique au monde !
Come experiment a unique open innovation process !



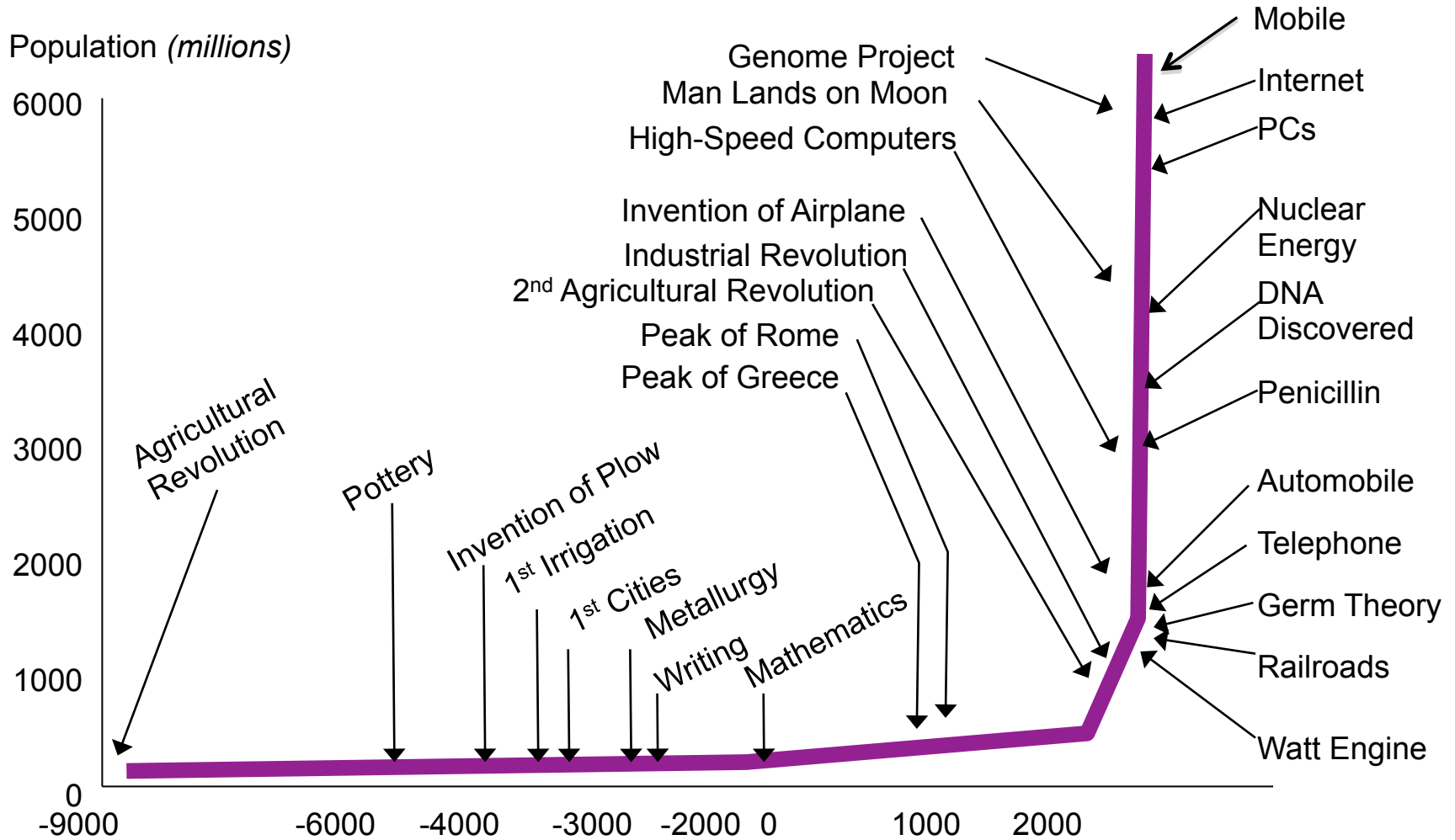
“Open Innovation & Economic Development

Presented by:
Rich Bendis, President & CEO
Innovation America
Publisher, innovationDaily
May 15, 2012
Quebec, Canada

The World According to Friedman: Hot, Flat, and Crowded



Growth of World Population and the History of Technology



Source: Milken Institute, Robert Fogel/University of Chicago

The Global Innovation Imperative

- Innovation is Key to Growing and Maintaining a Country's **Competitive** Position in the Global Economy and to address Global Challenges
- **Collaboration** among Small and Large Businesses, Universities, and Research Institutes is Essential for Innovation & Commercialization
- **New Institutions and New Incentives**, are increasingly important to support collaboration and foster innovation
- Competitive advantages are increasingly tied to human capital and innovation
- **Economic growth** is closely related to education/ workforce, energy, climate change, environmental, natural resource, geopolitical issues & entrepreneurship



**OPEN
INNOVATION
MATTERS**

Quebec's Future is Determined By the Present



What is innovation?

Hundreds of similar definitions can be found in the literature. Here is the one I use, adapted from various sources:

“Innovation is the profitable implementation of ideas.”

Why Is Innovation Essential?



***“INNOVATION
DISTINGUISHES
BETWEEN A LEADER
AND A FOLLOWER.”***

-STEVE JOBS

INNOVATION is the creation and transformation of knowledge into new products, processes, and services that meet market need.....and interactions, entertainment forms, and ways of communicating and collaborating

What is a National Innovation Strategy?

- *“Those elements of science, technology, and economic policy that explicitly aim at promoting the development, spread, and efficient use of new products, processes, and services.”*
- **A well-conceived, strategic approach to drive innovation that proactively anticipates and articulates the interactions among policies across:**
 - Science and technology
 - R&D
 - Commercialization strategies
 - Education & skills
 - Immigration
 - Statistics/measurement
 - Tax
 - Trade
 - Intellectual property
 - Competition/Regulatory
 - Public procurement
 - Public sector innovation

Rank of Countries on Innovation Policy Capacity

Upper Tier	Upper-Mid Tier	Lower-Mid Tier	Lower Tier
Australia	Belgium	Brazil	Argentina
Austria	Cyprus	Bulgaria	India
Canada	Czech Republic	Chile	Indonesia
Chinese Taipei	Estonia	China	Mexico
Denmark	Hungary	Greece	Peru
Finland	Iceland	Italy	Philippines
France	Ireland	Latvia	Russia
Germany	Israel	Malaysia	Thailand
Hong Kong	Lithuania	Poland	Vietnam
Japan	Luxembourg	Romania	
Netherlands	Malta	Slovak Republic	
New Zealand	Portugal	South Africa	
Norway	Slovenia	Turkey	
Singapore	South Korea		
Sweden	Spain		
Switzerland			
United Kingdom			
United States			

Source: 2012 Global innovation Policy Index (alpha order)

How Leading Nations Respond to the Innovation Imperative?

They are providing four things:

- High-level Focus
- Sustained Support for R&D: Leveraging Public and Private Funds
- Support for Innovative SMEs
- New Innovation Partnerships to bring new products and services to market



What is Canada's National Innovation Strategy ?



Canada's Budget Increases More Funds for Innovation

Budget gives business more funds for innovation, shifts policy

Budget begins policy shift on how innovation is funded

By Daniel Schwartz, CBC News Posted: Mar 30, 2012 2:02 AM ET | Last Updated: Mar 30, 2012 2:00 AM ET 21



Minister of Finance Jim Flaherty shakes hands with Prime Minister Stephen Harper after delivering the Budget in the House of Commons on Parliament Hill in Ottawa on March 29. Flaherty's budget has \$1.6 billion in spending on innovation. (Sean Kilpatrick/Canadian Press)

Stay Connected with CBC News



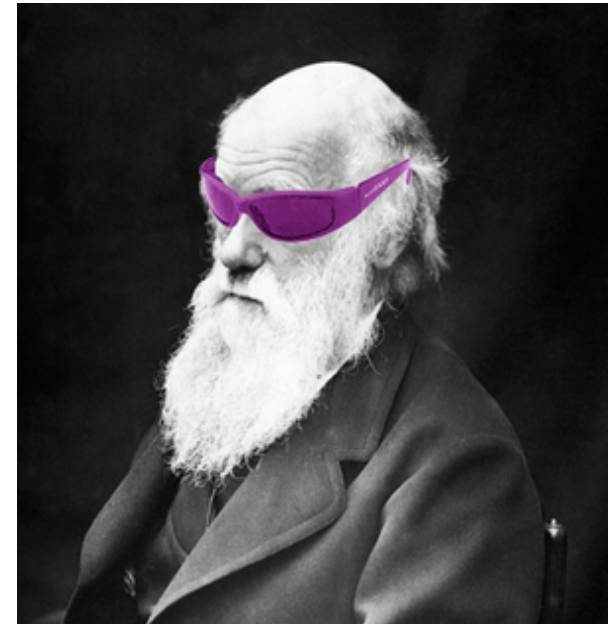
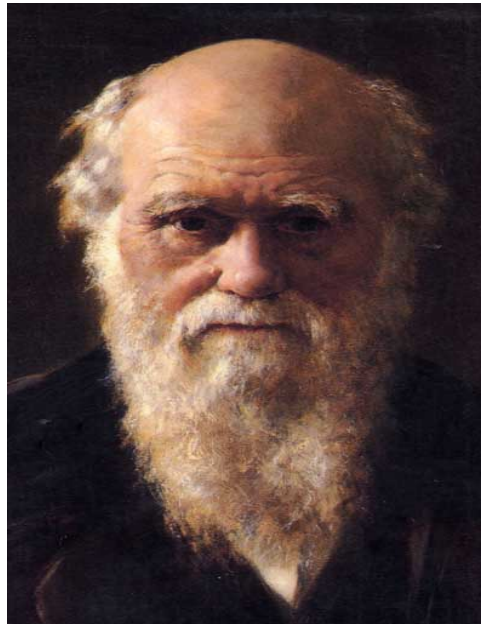
ADVERTISEMENT

- Replacing indirect tax credits with more targeted moves aimed at commercializing those results and better meeting the needs of the private sector.
- Create an innovation council that would operate at arm's length and report to parliament through a proposed Minister for Innovation.
- \$1.6 billion in innovation spending
- Improving Canada's commercialization of innovation - In other words, when it comes to research and development, Canada's good at research but not at development.
- R&D is giving way to a new one, RDC, for research, development and commercialization.

Change Is Inevitable

“ It is not the strongest of species that survive, nor the most intelligent, but the ones most responsive to change.”

–Charles Darwin



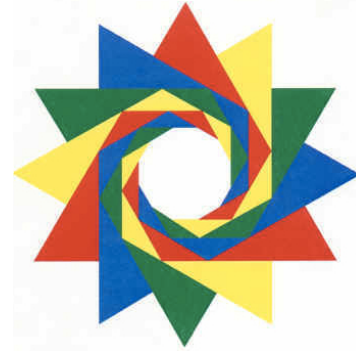
The Six Driving Forces of Change

- Commoditization
- The Digital Revolution
- Social Mediaization throughout society
- Global Open Innovation
- The Turbulent World
- Acceleration (or running faster to stay in the same place)



Implementing a New Innovation Paradigm

- Deviate from traditional perspectives
- Encourage public investment and risk taking
- Develop trust through collaboration
- Ensuring responsiveness to partners' missions
- Build consensus of all constituents through education, participation, and positive outcomes
- Move from Tech-Based Economic Development (TBED) to.....



Innovation-Based Economic Development (IBED)

Innovation Paradigm Shift

PROOF OF CONCEPT
(Technological Feasibility)
“It Works!”



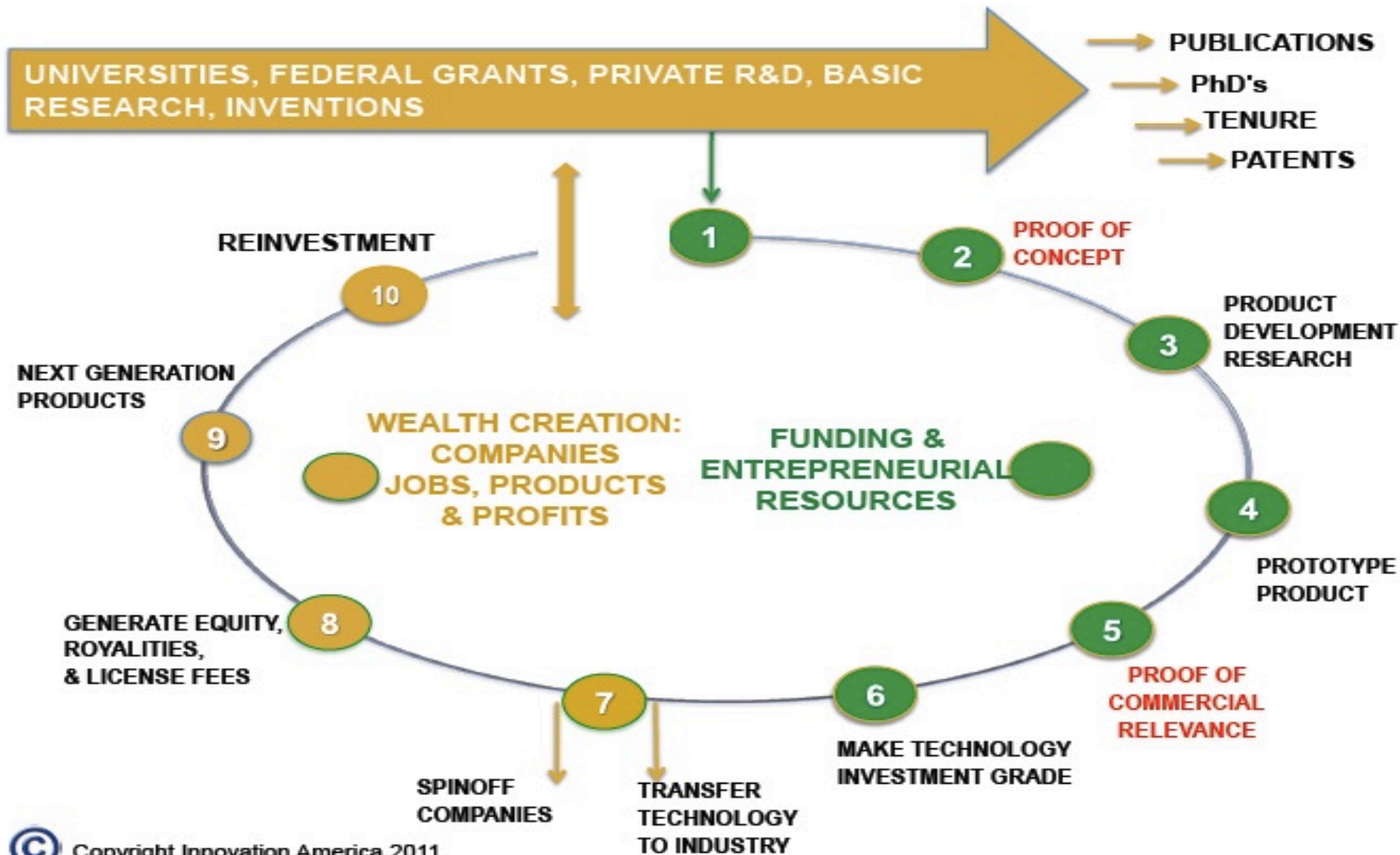
The Historic  Garage
invent

PROOF OF COMMERCIAL RELEVANCE
(Market Pull)
“I’ll Buy It!”



CASH IS KING!

Innovation America Commercialization Model



Innovation System Partners

ACADEMIA

- RESEARCH/T2
- LIFELONG LEARNING
- ECONOMIC DEVELOPMENT

INDUSTRY

- PROFIT
- PROCESS
- PRODUCT

INSEPARABLE MISSIONS

GOVERNMENT

- SUSTAINABILITY
- QUALITY OF LIFE
- ECONOMIC POLICY

FOUNDATIONS

- ECONOMIC GROWTH
- COMMUNITY INVESTMENT
- REGIONAL COLLABORATION

Government's Role in Innovation

- Long term vision and planning
- Identify gaps and trends in science, technology, innovation and SME development
- ***Be a catalyst through long-term strategic investments and partnering***
- Develop a balanced and flexible research and development investment portfolio
- Encourage private sector innovation
- Establish performance-based research and development
- Accelerate the commercial exploitation of creativity and knowledge



Canada's Government Innovation Programs



Government of Canada
Networks of Centres
of Excellence

Gouvernement du Canada
Réseaux de centres
d'excellence

Canada

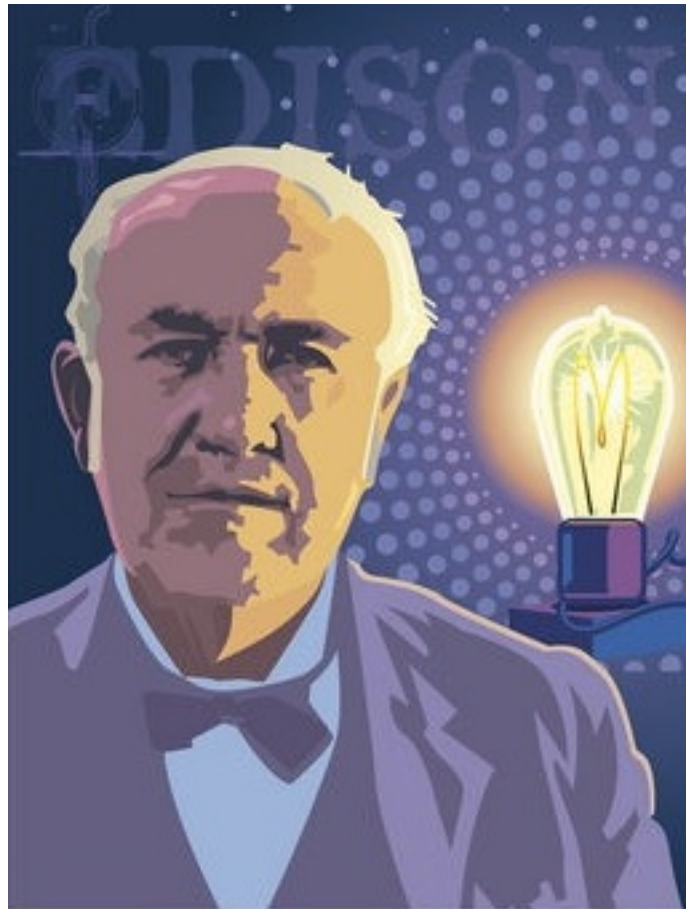


Networks of Centres of Excellence of Canada

www.nce-rce.gc.ca

"There's a way to do it better—find it."

— Thomas Edison



The Ins And Outs Of Open Innovation - Forbes

- User innovation and lead user methodologies
- Innovation ecosystems and platform innovation models
- Co-development and other short-term non-equity alliances
- Innovation contests and innovation tournaments
- Crowdsourcing and prediction markets (a.k.a. the wisdom of crowds)

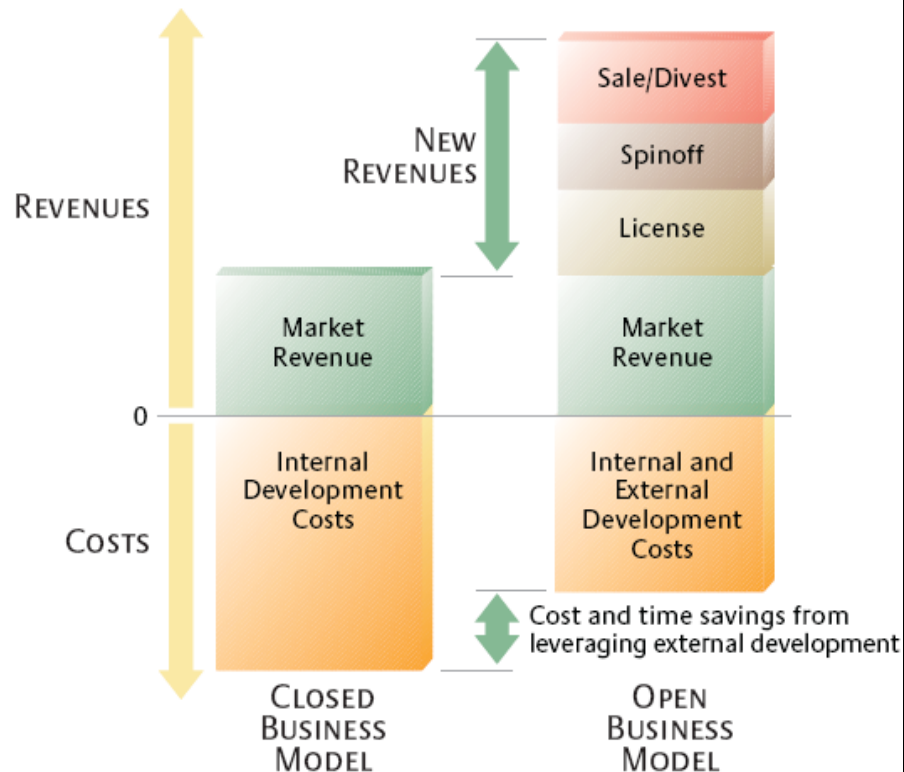


CLOSED & OPEN BUSINESS

OPEN

MODEL

INNOVATION!

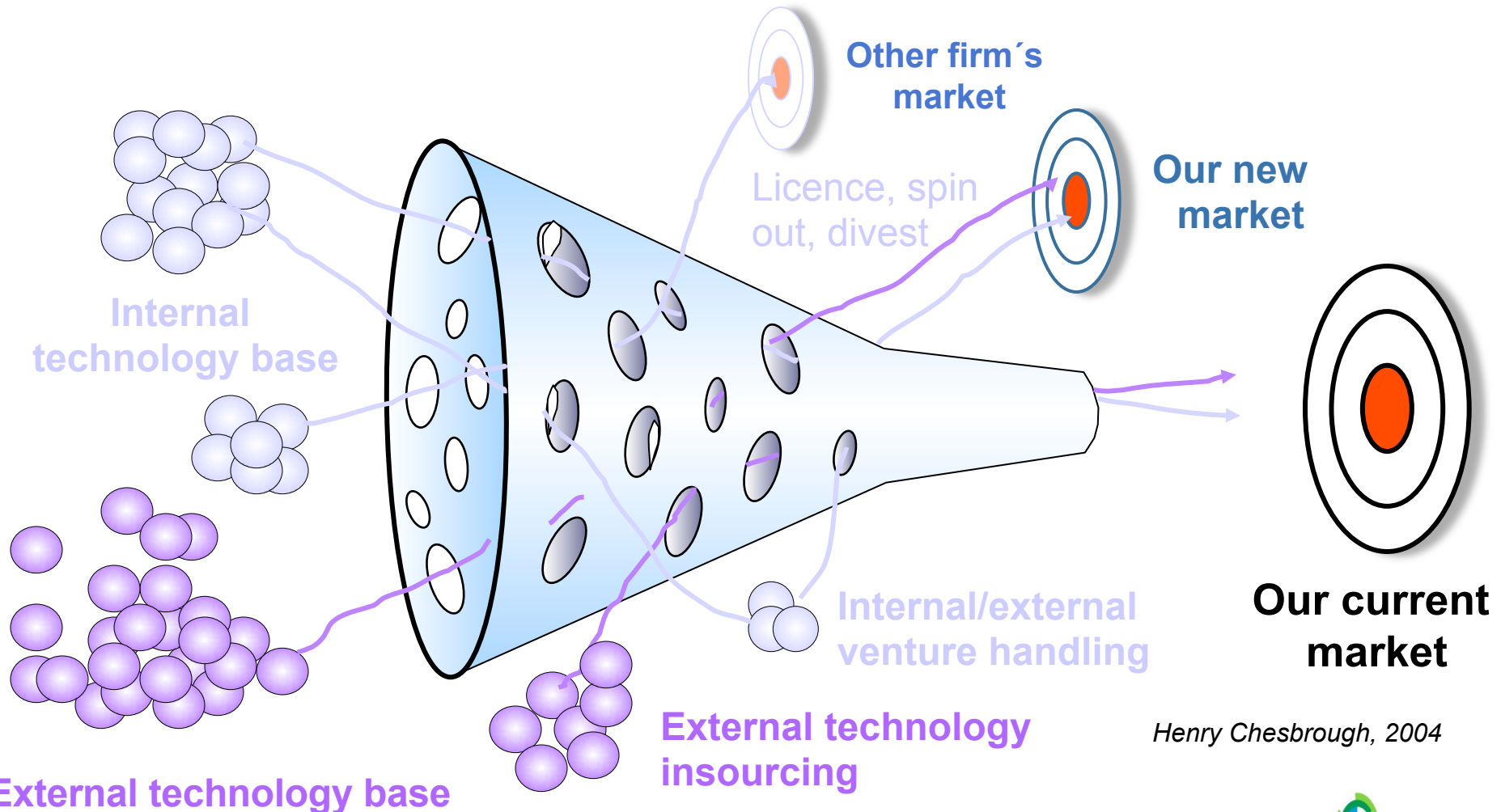


^{1,2} H.Chesbrough, 2003

Open Innovation means that valuable ideas can come from inside or outside the company (industry) and can go to market from inside or outside the company (industry) as well¹.

This approach places external ideas and external path to market on the same level of importance as that reserved for internal ideas and paths to market during the Closed Innovation era².

Open Innovation

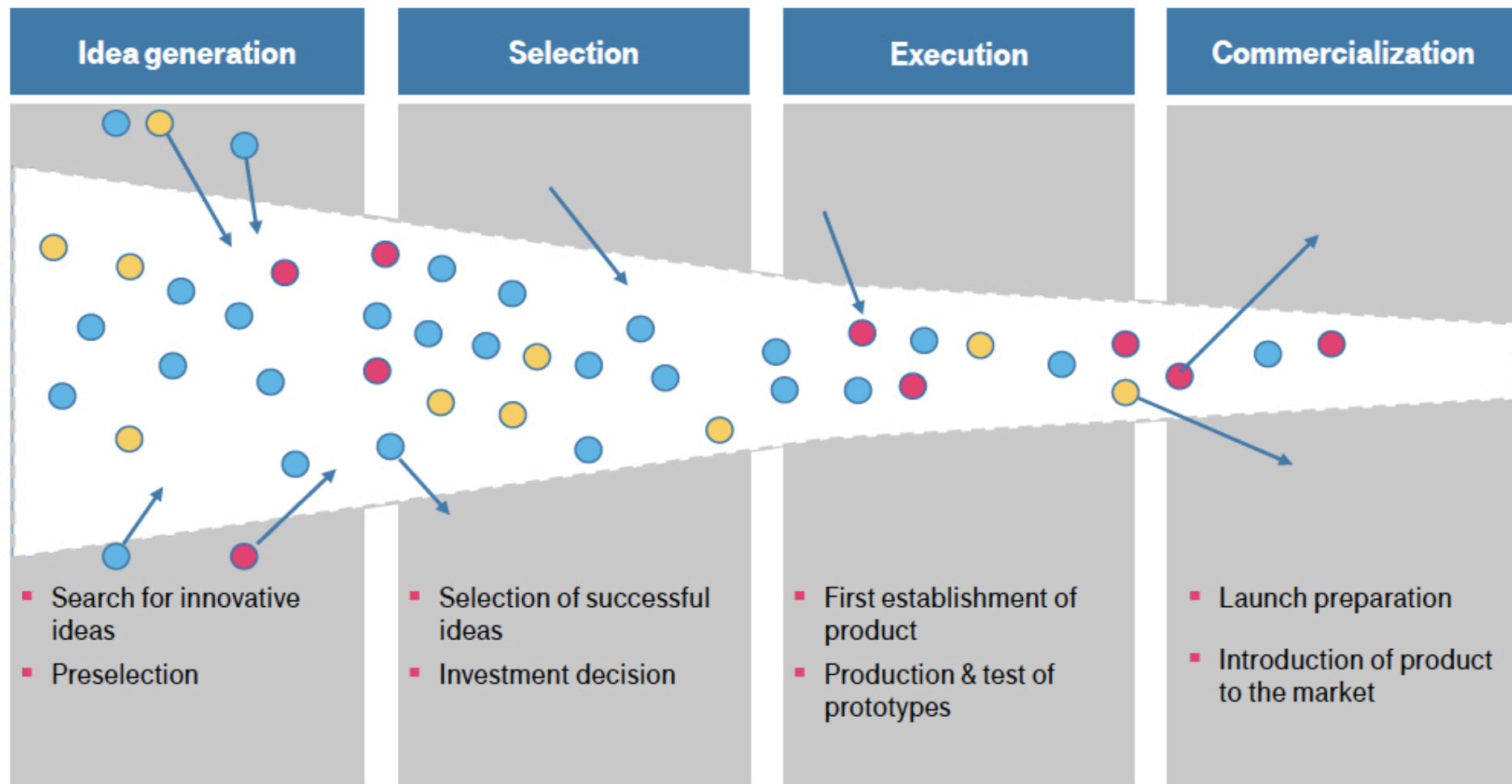


Henry Chesbrough, 2004

External technology base

Open Innovation

Using the established innovation process phases to assess implementation of open innovation instruments.



What Is A Jam?

What is a Jam?

A Collaborative Innovation Tool:

- Developed to accelerate innovation –both idea discovery and implementation
- Structured as a multiple-day, web-based forum where participants brainstorm and propose new ideas

Format:

- Participants post ideas regarding specific jam topics and collaborate on ideas brought forward by others
- Moderators highlight key discussion ideas and facilitate collaboration

Contributions and Participation:

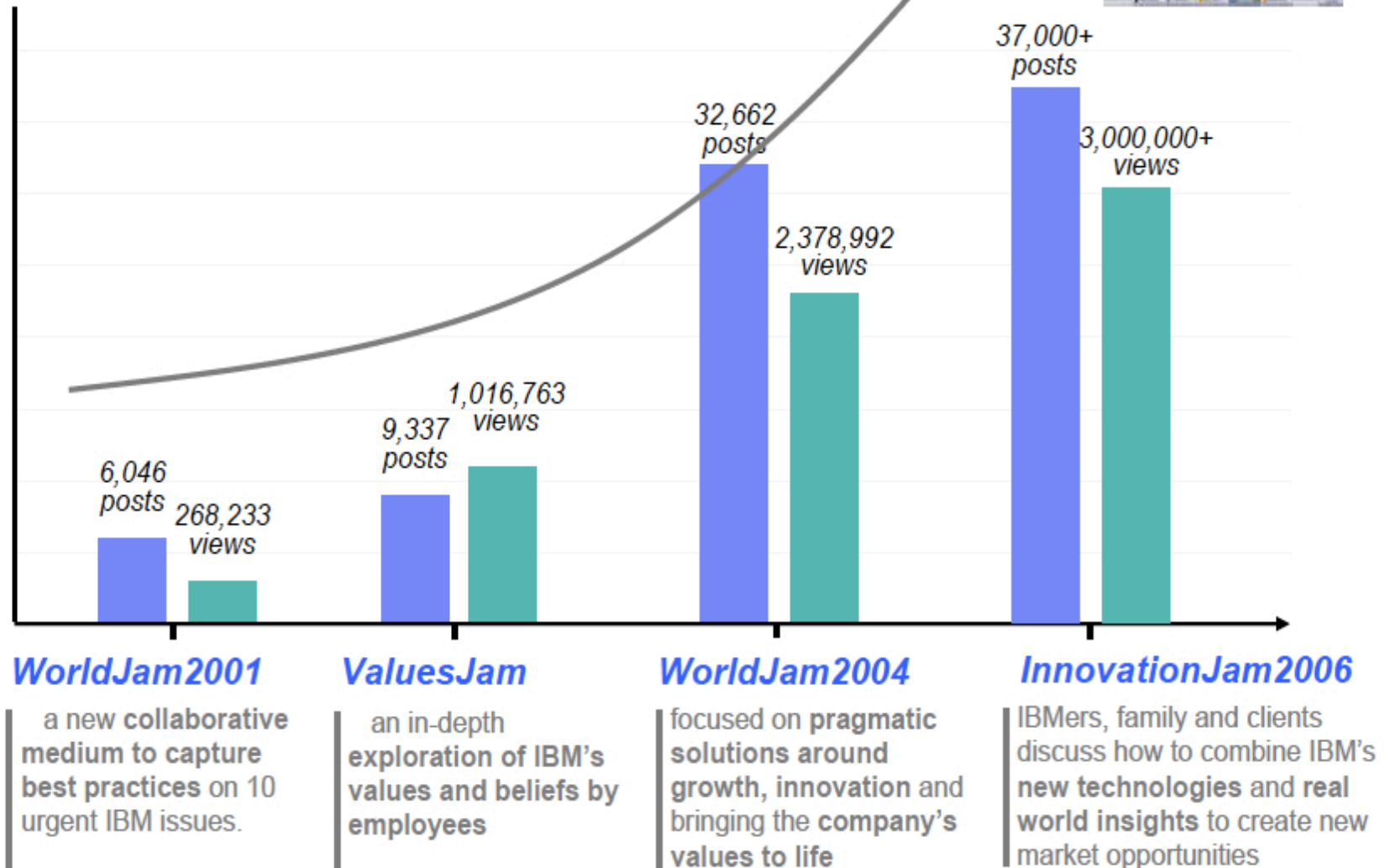
- Contribution level at the discretion of each individual participant
- Structured to allow for flexible participation when time allows



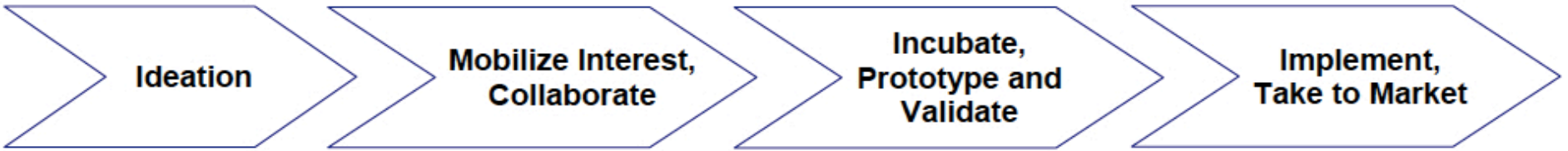
In December 2005, the Canadian government, IBM and UN-HABITAT hosted a 72-hour 'Habitat Jam' to stimulate ideas in preparation for the World Urban Forum III conference in Vancouver in June 2006.

To learn more, go to <http://www.habitatjam.com/>

Jams have become an integral part of IBM's management strategy



IBM innovation programs: Ideas to reality



- Software Group
- Systems Group
- Global Services
- Industry Sales



Technology Adoption Program

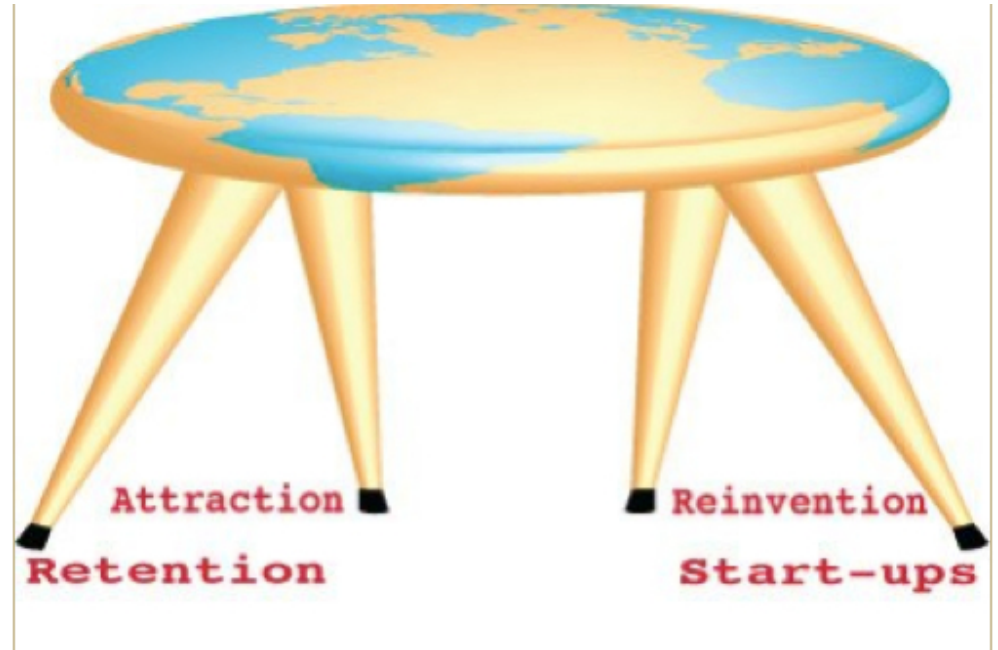
Business Transformation Management System (BTMS)



Integrated Supply Chain (ISC)

Economic Development

- Economic Development is like a 4 - legged stool:
 - **Attraction**
 - **Retention**
 - **REINVENTION**
 - **Grow Your Own**
- IBED requires patience and persistence, continuity and consistency
- Working with early-stage companies takes time
- A balanced portfolio economic development strategy is best!



Convergence of Traditional Eco Devo & IBED

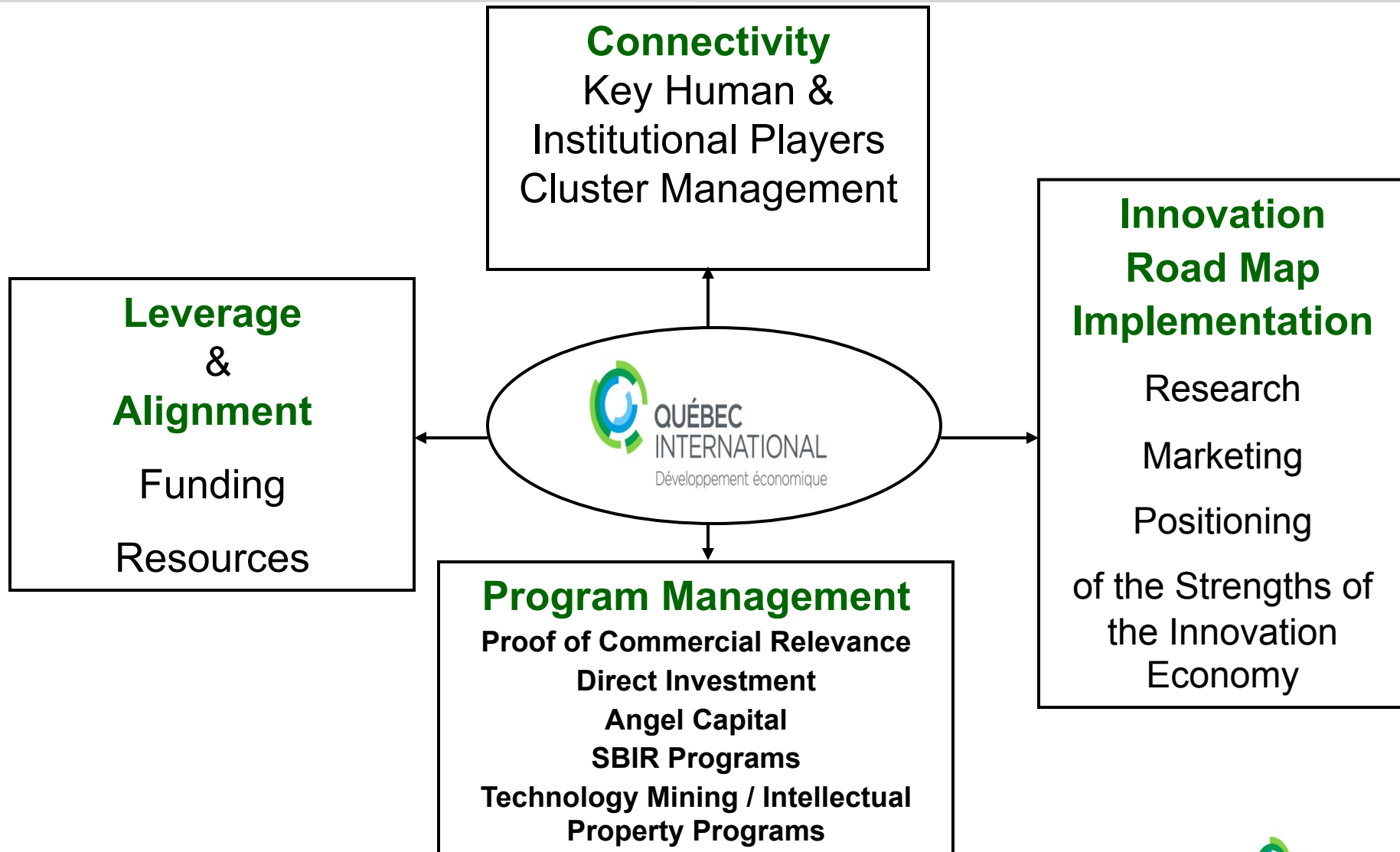
	<u>Traditional</u>		<u>Innovation</u>
Assets:	PHYSICAL		KNOWLEDGE
Competitive Basis:	Natural resources Highways / Rail Proximity Costs	➔	Specialized talent Networks, Clusters, University research Industry partnerships Commercialization, Market Positioning Globalization
Key values/offerings:	University Research Parks Incentives	➔	Research Parks Workforce competencies Lifestyle
Lead Organization:	Chambers / EDCs	➔	Economic developers INNOVATION INTERMEDIARIES

What is a Innovation Intermediary?

An Organization at the Center of the region's, state's or country's efforts to align local technologies, assets and resources to work together on advancing Innovation.



21st Century Innovation Intermediary



Intermediary Best Practices

- Longevity
- Bipartisan Support & Champions
- Independent Organizations
- Continuous Reinvention
- PRIVATE SECTOR LEADERSHIP
- Understand Return On Investment
- Sustainability In Funding
- Accountable
- Innovative
- Effective Leadership



Canadian Innovation Intermediaries





BioHealth Innovation

Maryland's Commercialization Collaborative

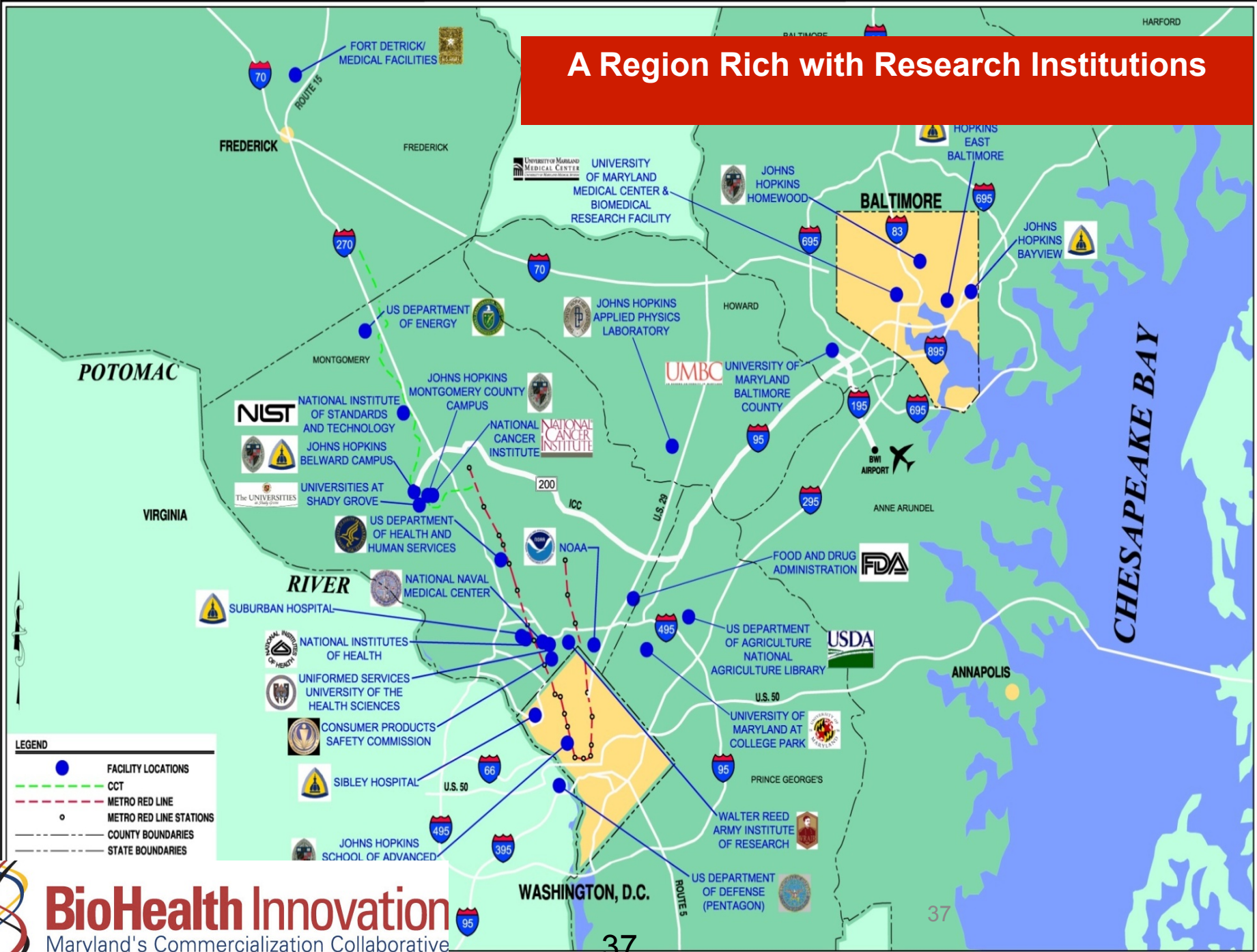
www.biohealthinnovation.org

“The Region”--Central Maryland

**Unrivaled Research Assets (\$8Billion
Annually)
Unfulfilled Commercial Promise**



A Region Rich with Research Institutions



Alignment of National, State & Regional Policies



**Obama
Administration**



**Governor
O'Malley**



**County Executive
Ike Leggett
Montgomery County**



**Stephanie Rawlings -Blake
Mayor of Baltimore**

1. Develop an integrated Regional BioHealth Economic Development and Transit Strategy
2. Present the “Regional Job Generating BioHealth and Transit Plan” to the White House
3. Partner with federal agencies and other stakeholder organizations as a “Showcase Model.”
4. Develop structure & governance for the regional BioHealth innovation intermediary
5. Obtain Priority Federal Funding for
 - the BioHealth Industry-Federal Labs-University Innovation Intermediary Pilot Plan
 - the Comprehensive Rapid Transit Vehicle Plan (CCT et al)
6. Develop a pilot BioHealth-Regional Innovation Cluster (H-RIC) program

What is A Regional Innovation Intermediary?

- An organization at the Center of the region's, state's and country's efforts
 - Align local technologies, assets and resources
 - Advance Innovation
- Regionally-oriented
- Private-public partnership, 501(c)(3) nonprofit
- Market-driven, private sector-led
- Not a government initiative, nor a membership organization



BHI Founding Partners and Sponsors



BHI Funding Sources:

- private sector
- universities and foundations
- public sector



BHI Industry Focus

- Biotechnology
- Medical Devices
- Healthcare Services
- E-Health
- Mobile Health
- Electronic Medical Records
- Health Informatics
- BioHealth Cyber Security



Challenges to Innovation Economy

**Lack of connection of
innovation resources**

**Lack of an entrepreneurial
culture and C-level executives**

**Lack of early-stage funding for
commercializing technologies**

Lack of a STEM Workforce

BHI Value Proposition

**Connects regional
innovation assets**

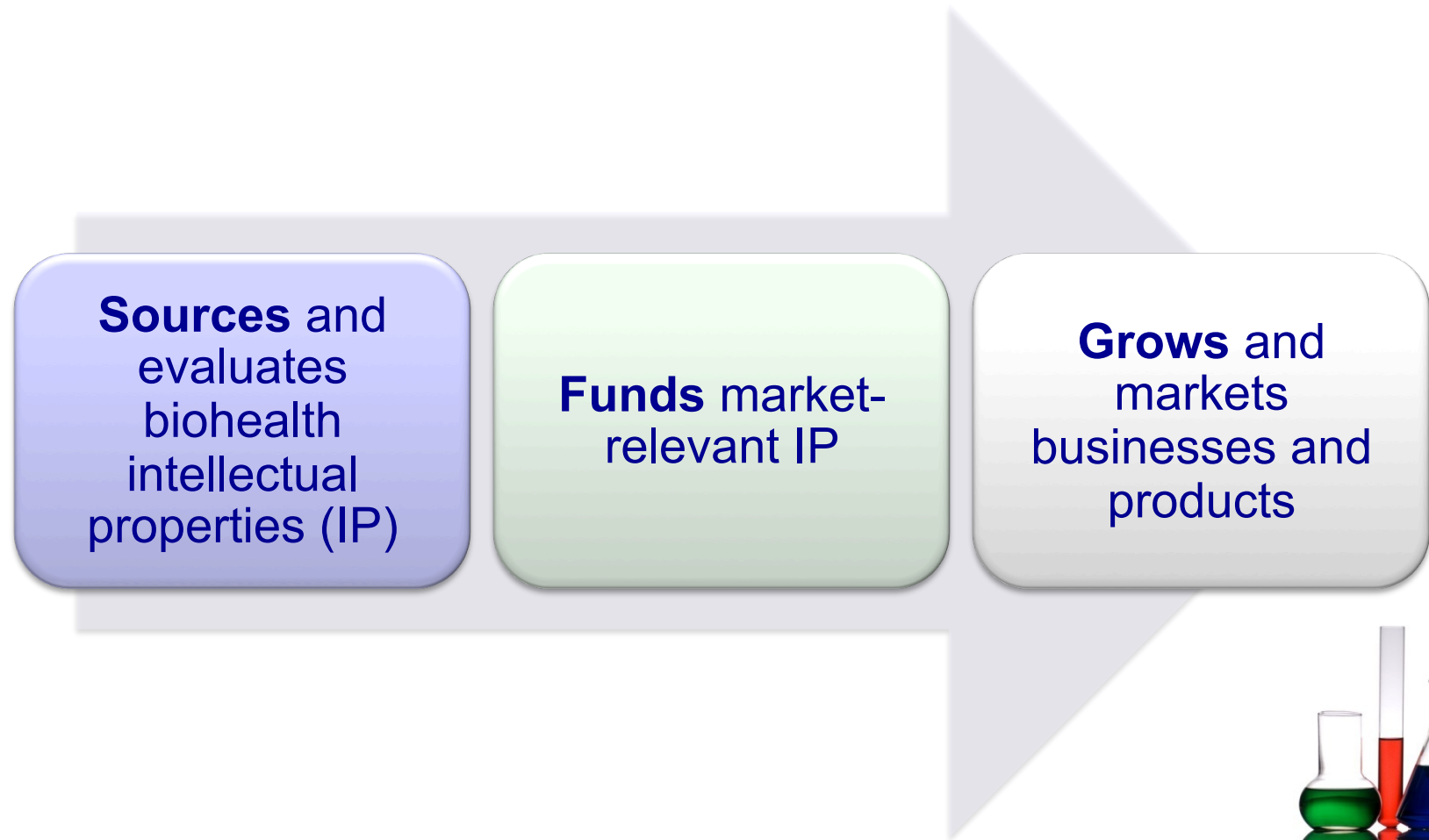
**Develops an entrepreneurial
talent and support pipeline**

**Attracts funding for
technology
commercialization**

**Develops a continuum of
innovation workforce**



How Does BHI Work? Commercialization Pipeline



Identifying Opportunities

Lead Approach (NIH)

**Technology Review
Committees**

**Technology Transfer Branch
Chiefs and Licensing
Managers**

Successful Scientists

Systematic Approach (NIH + Other Institutions)

**Evaluation of market needs
from regional players**

**Directed analysis using
database and meetings with
scientists**

**Commercial, development,
and funding analysis**

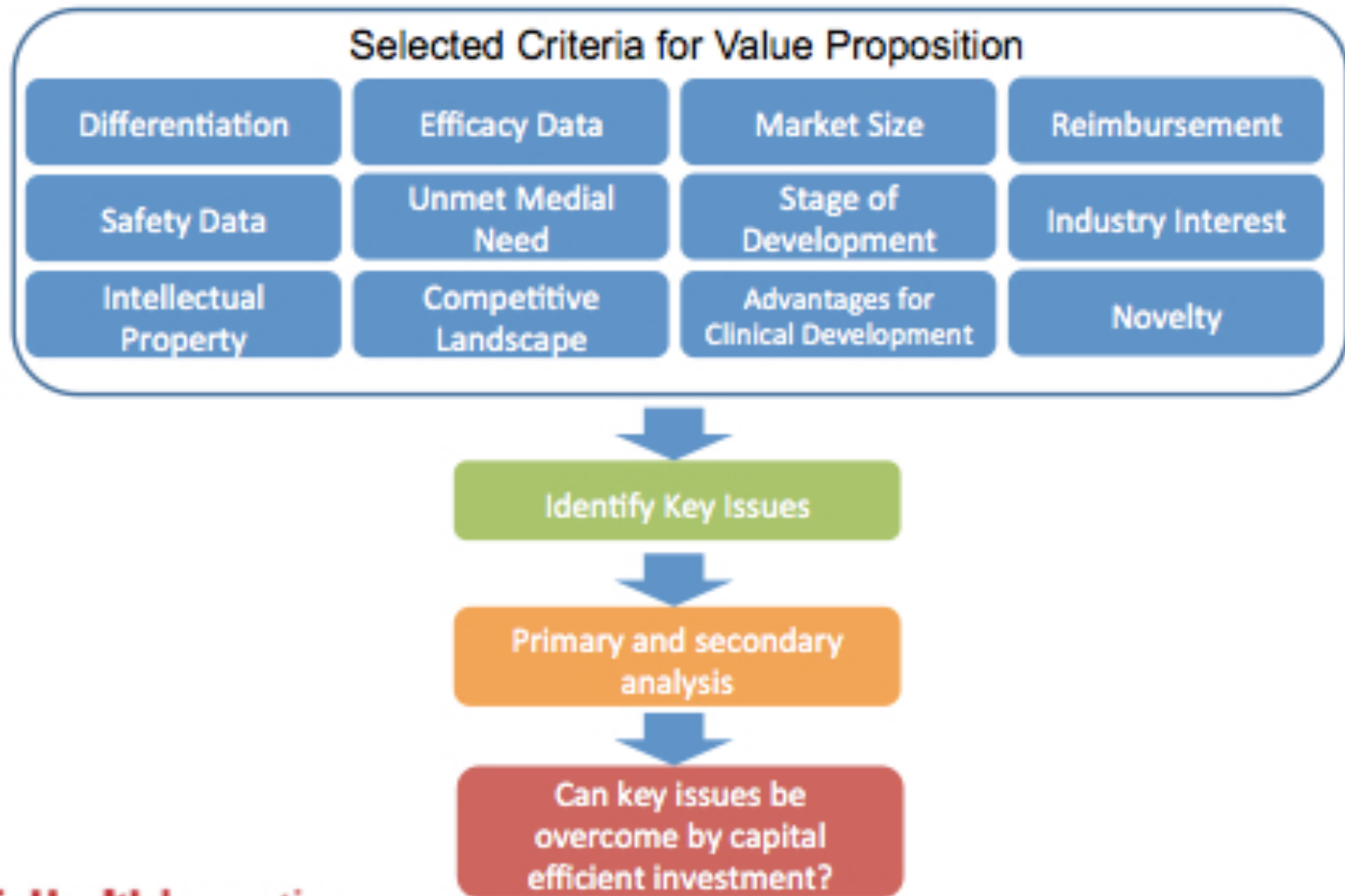
Entrepreneur-in-Residence (EIR)

- Identify market viable biohealth assets
- Act as liaison among federal labs, academic, industry, venture capital, and non-profit
- Detailed commercial evaluation of most valuable technologies
- Provide early-stage developmental strategies
- Nurture relationships with scientists, mentor to ensure research becomes commercially valuable, and track progress
- Identify creative funding to advance exciting, novel technologies
- Create new BioHealth companies

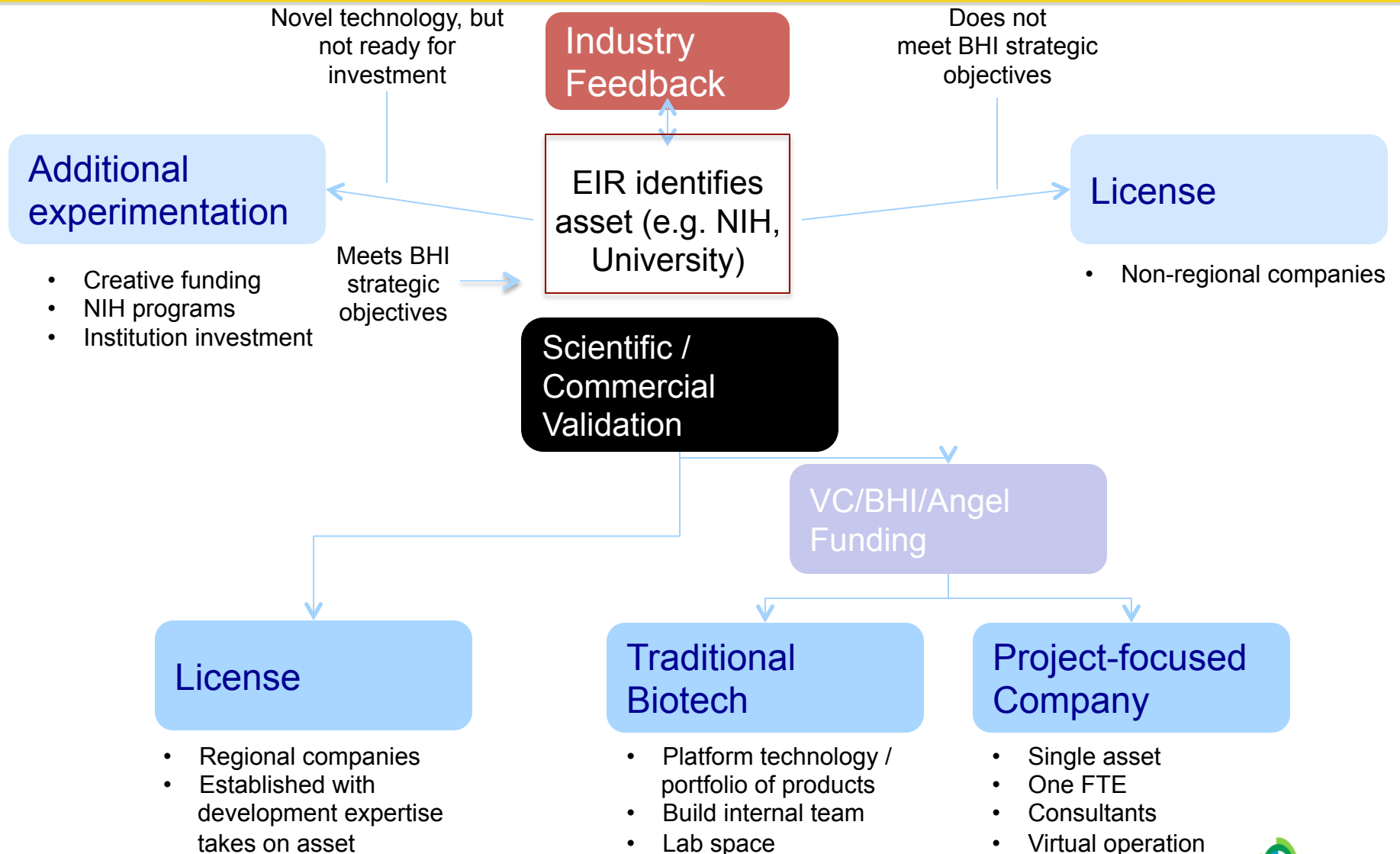


Todd Chappell

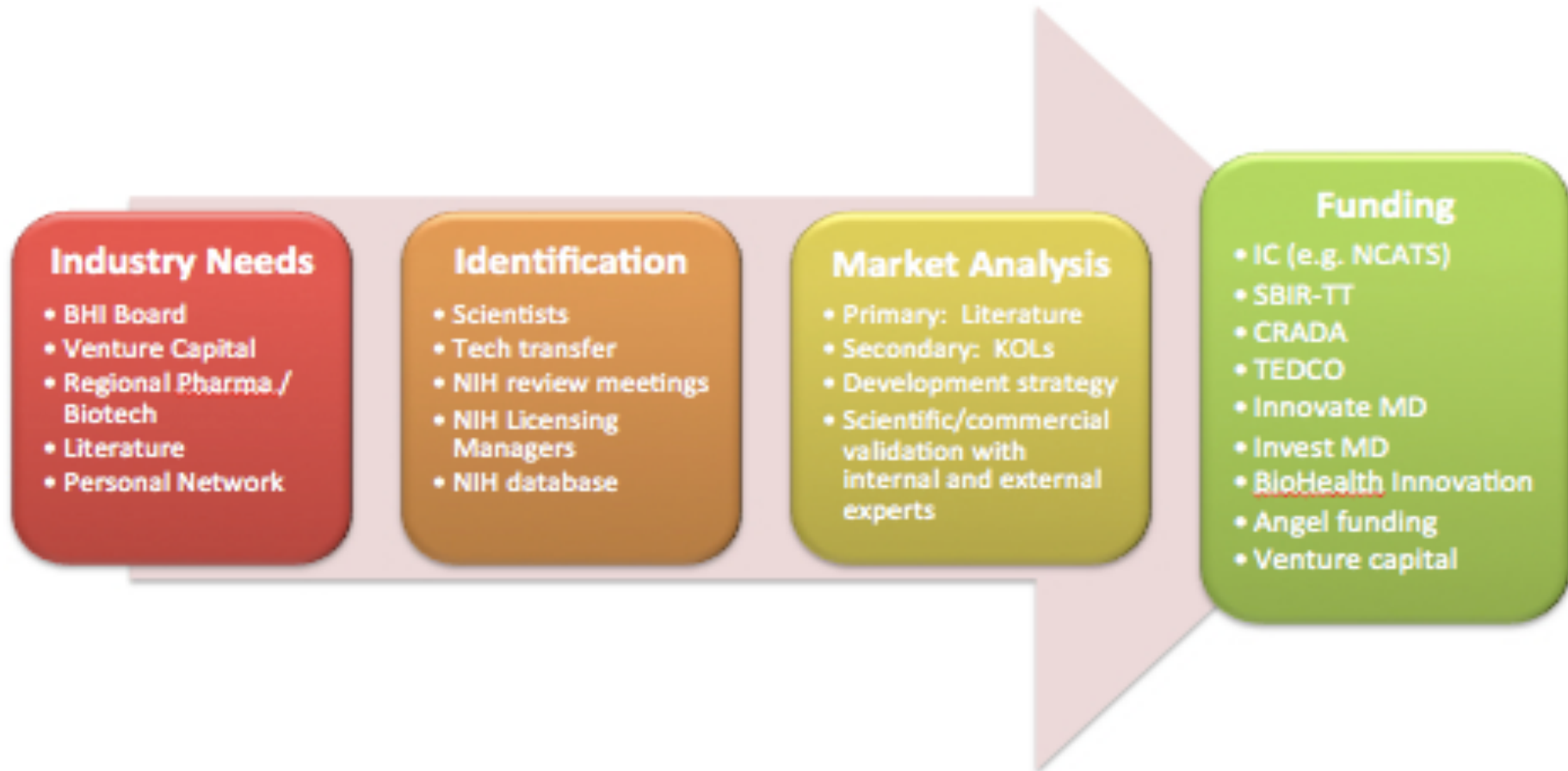
Early-Stage Analysis of Commercial Relevance



























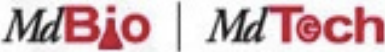
Commercialization Alternatives



What is the Overall Process for Licensing / Creating Company?

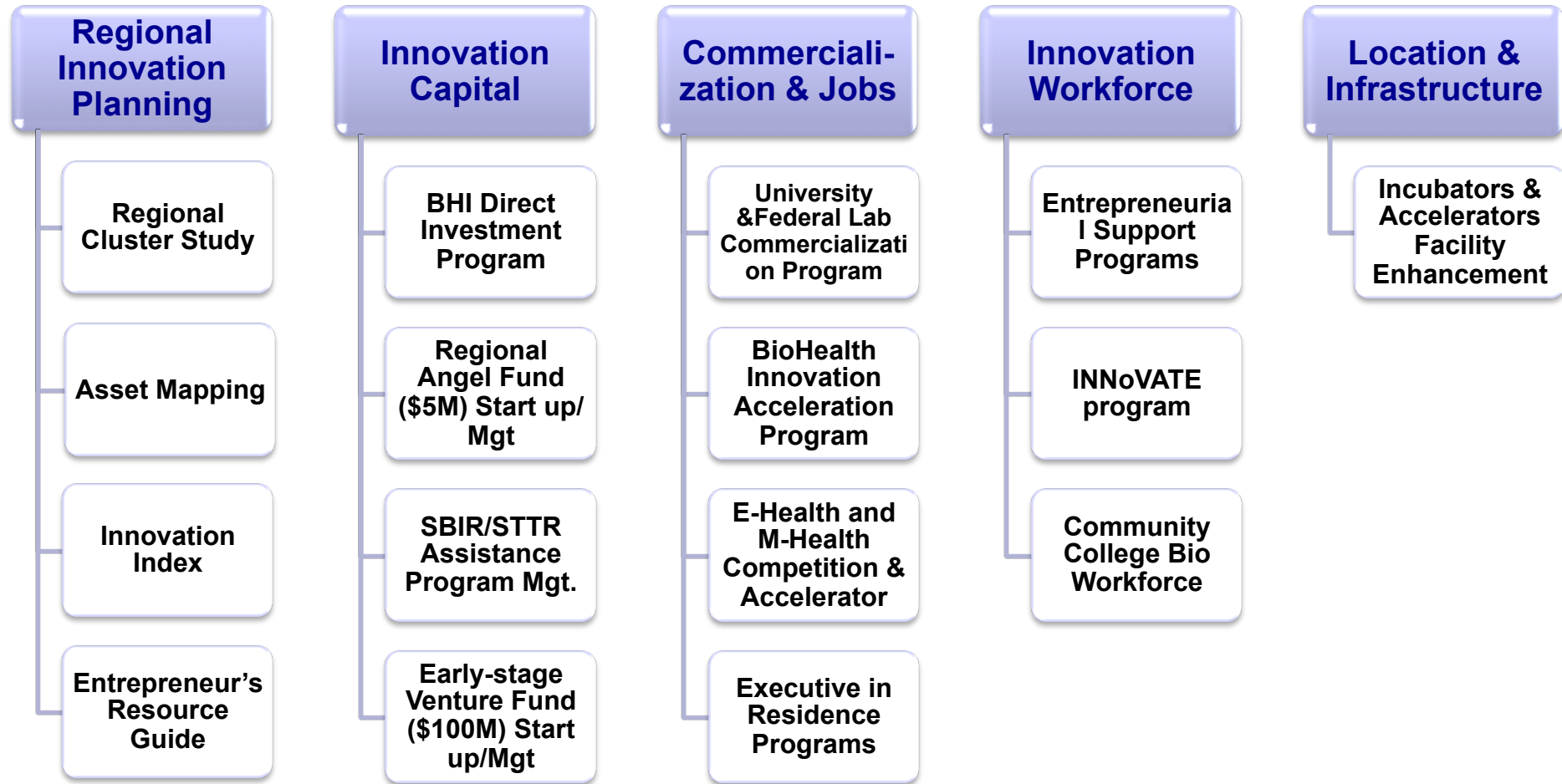


Connect Funding Sources at Every Stage to Fill Gaps

DREAM	CONCEPT	APPLIED	COMMERCIAL RELEVANCE	STARTUP	ROLL OUT	GROWTH
FoundersFFF Bootstrapping Crowdfunding	Seed	Accelerator	IBED	Federal	ANGEL	VC
      	 	 	   	   		  
	 					

BHI Road Map & Health- Regional Innovation Cluster-H-RIC

Implementation Strategy



BHI: The Triple Bottom Line

Grows high-paying jobs and businesses



Expands tax base; **improves** economic vitality



...and **Benefits** human health!

Venture Capital Investment Activity 2011 vs. 2010



2011 VC Funding: \$18.16B

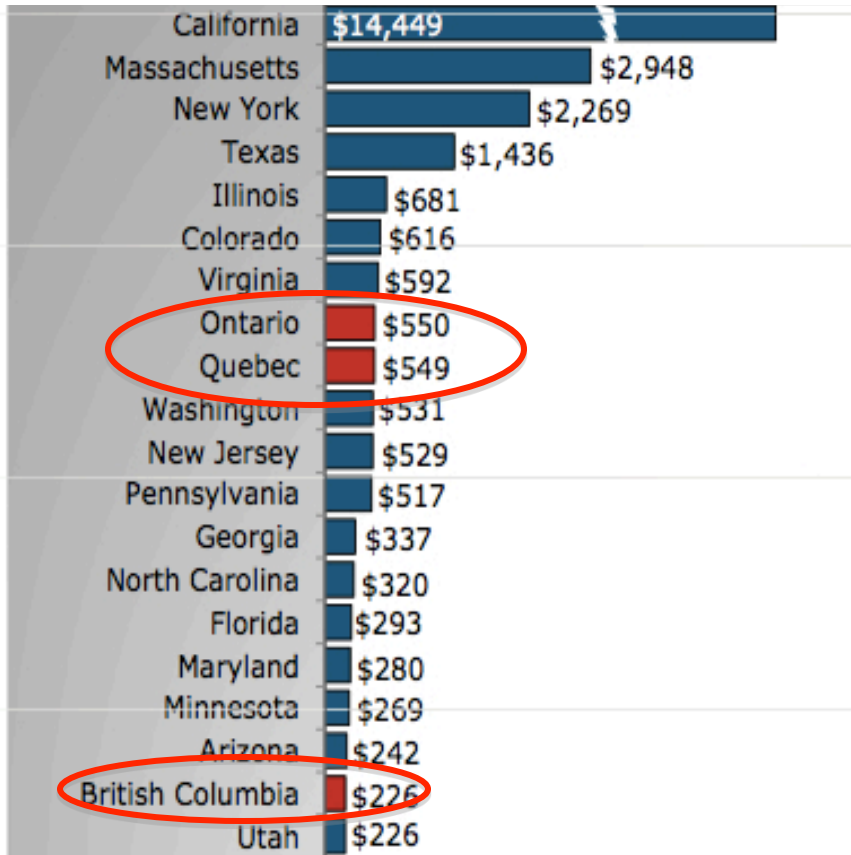
of funds raised: 169

2010 VC Funding: \$13.77B

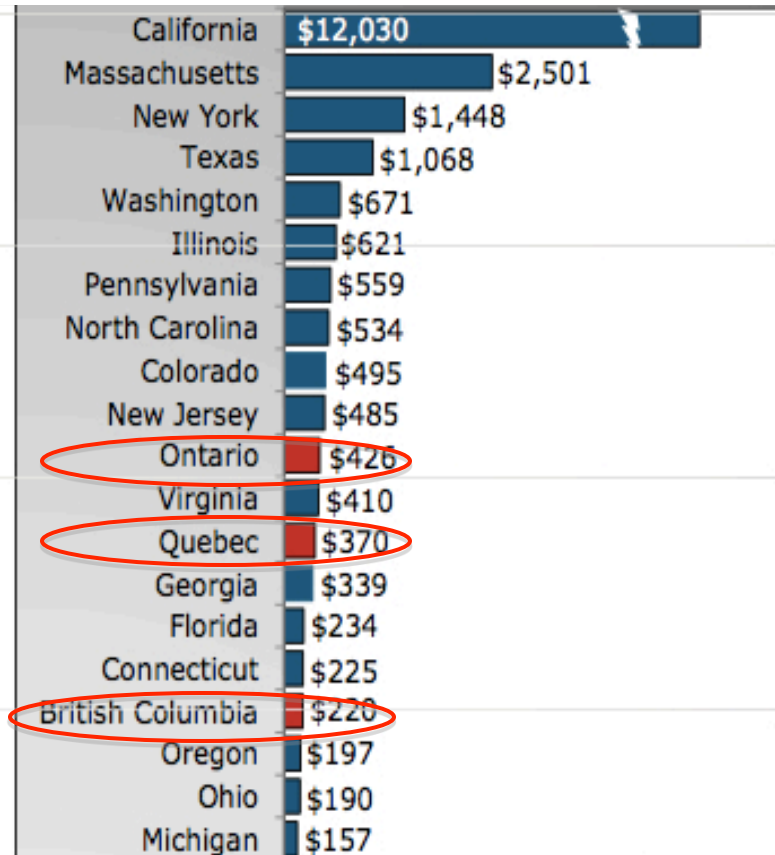
of funds raised: 169

YOY % increase: 31% increase

North American Rankings – US and Canada



2011



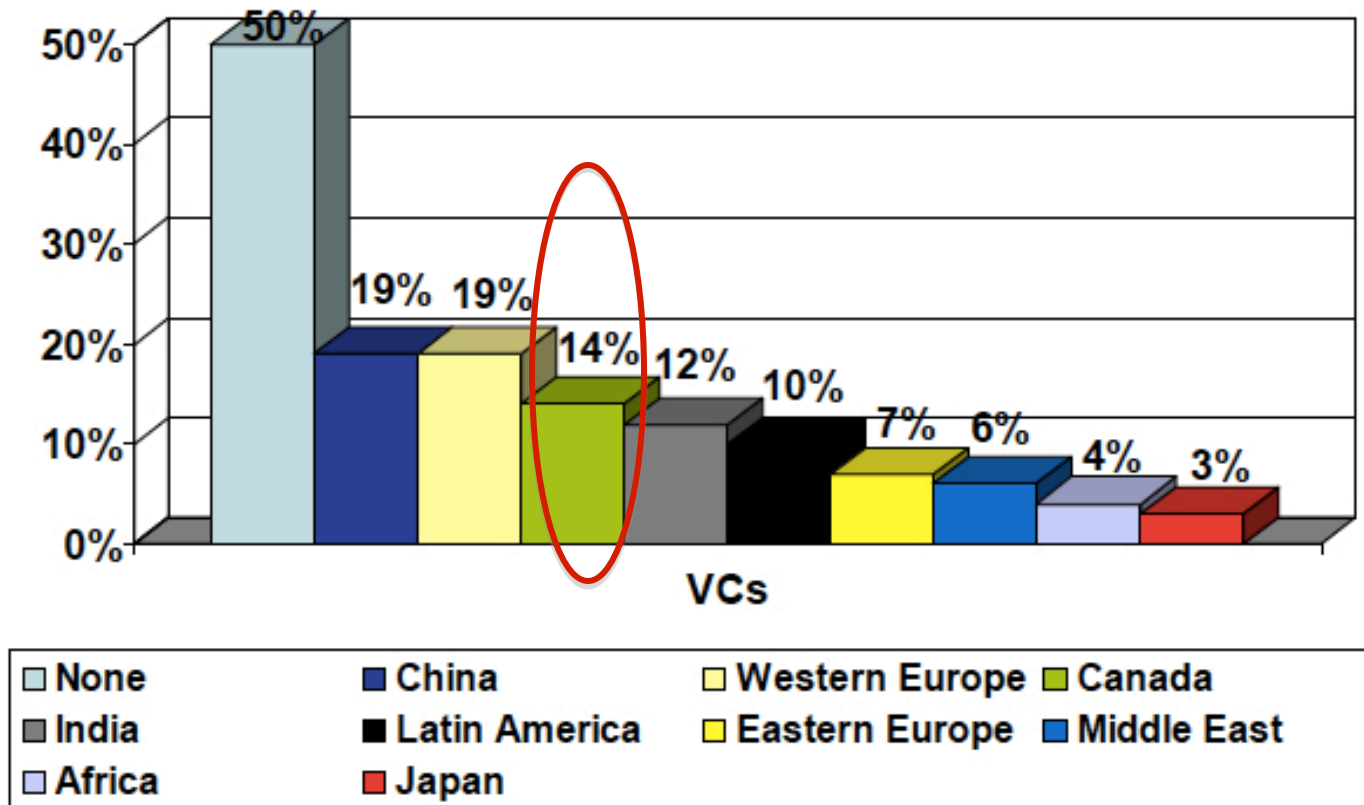
2010

North American Rankings

VENTURE CAPITAL DISBURSEMENTS BY PROVINCE AND STATE

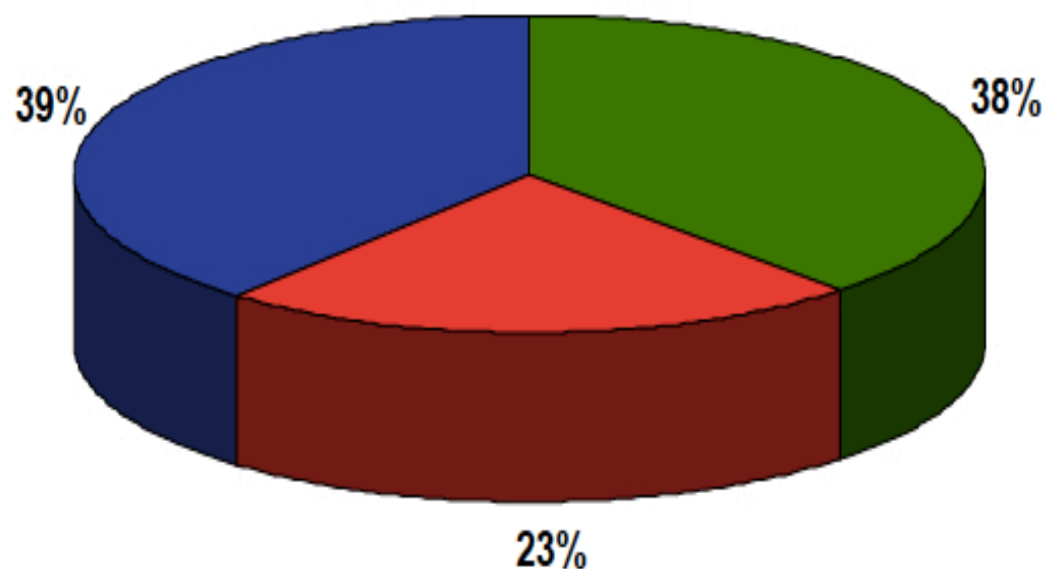
ONTARIO, QUÉBEC, BRITISH COLUMBIA FINISH 2011 IN 8th, 9th, and 19th Place

Investing in Global Regions 2012



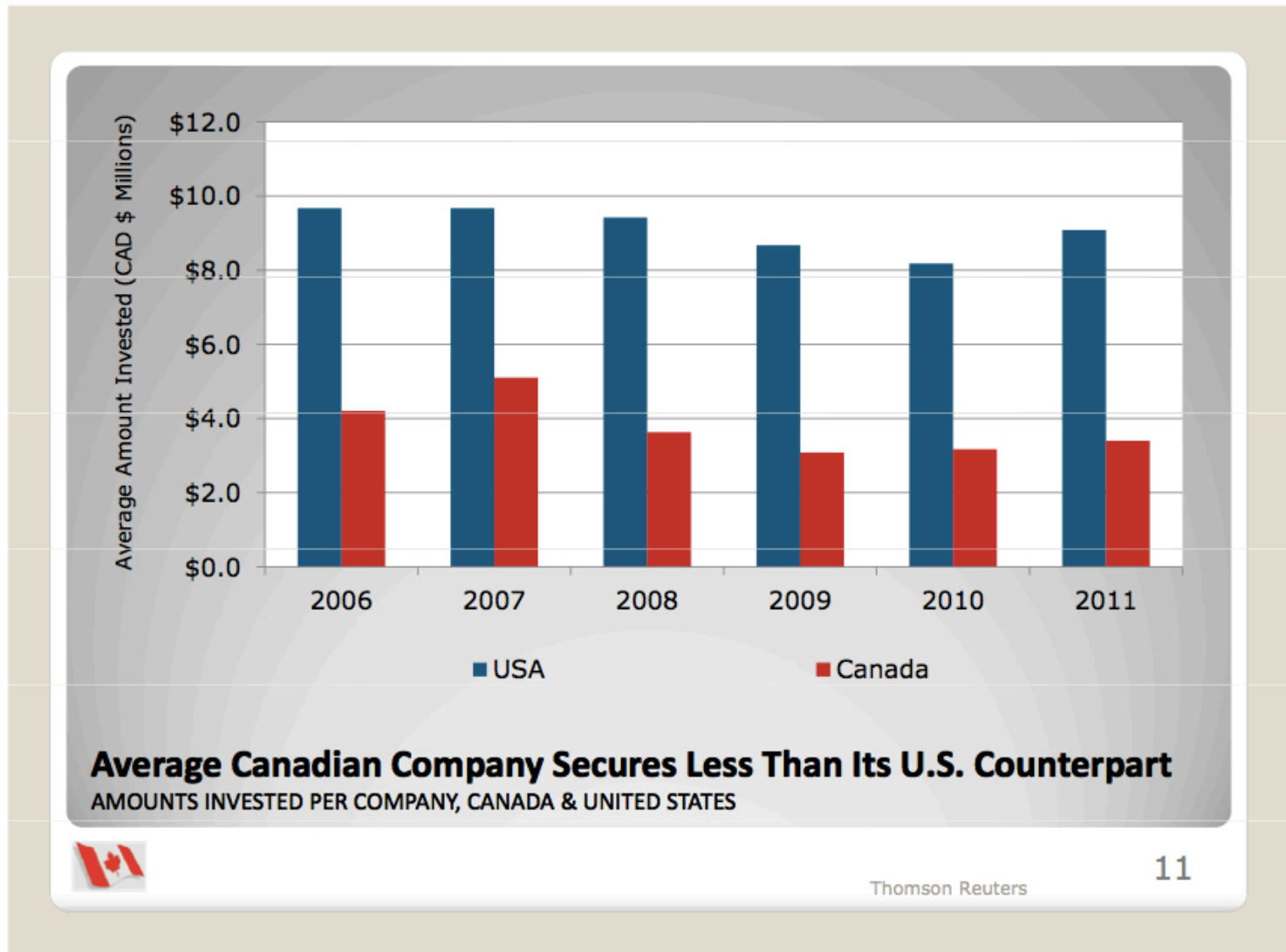
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Raising Follow On \$\$ in 2012 vs. 2011



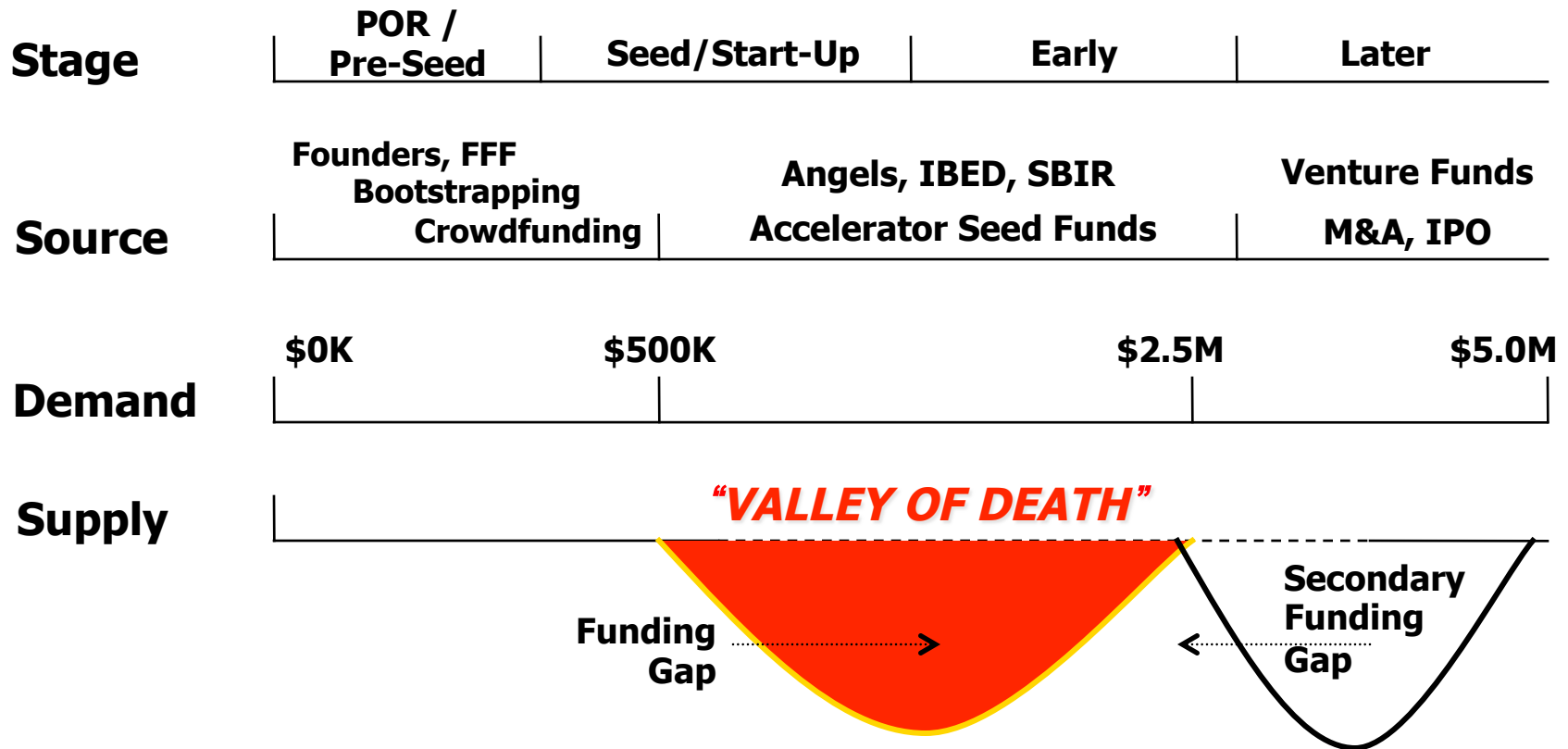
■ More difficult ■ Less difficult ■ Same difficulty

Average Canadian Company Secures Less than US Company

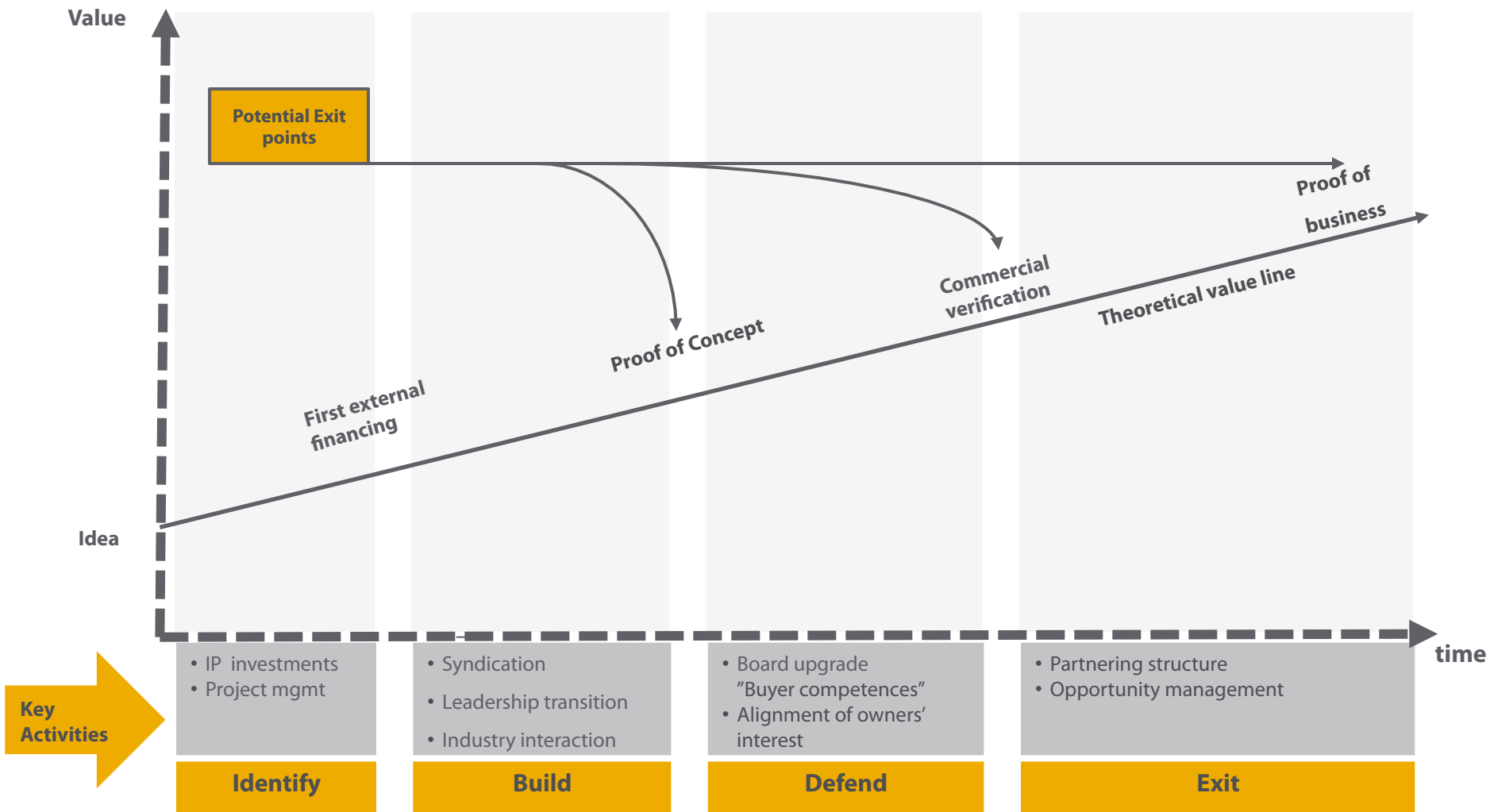


Innovation Capital Valley of Death

“VALLEY OF DEATH”

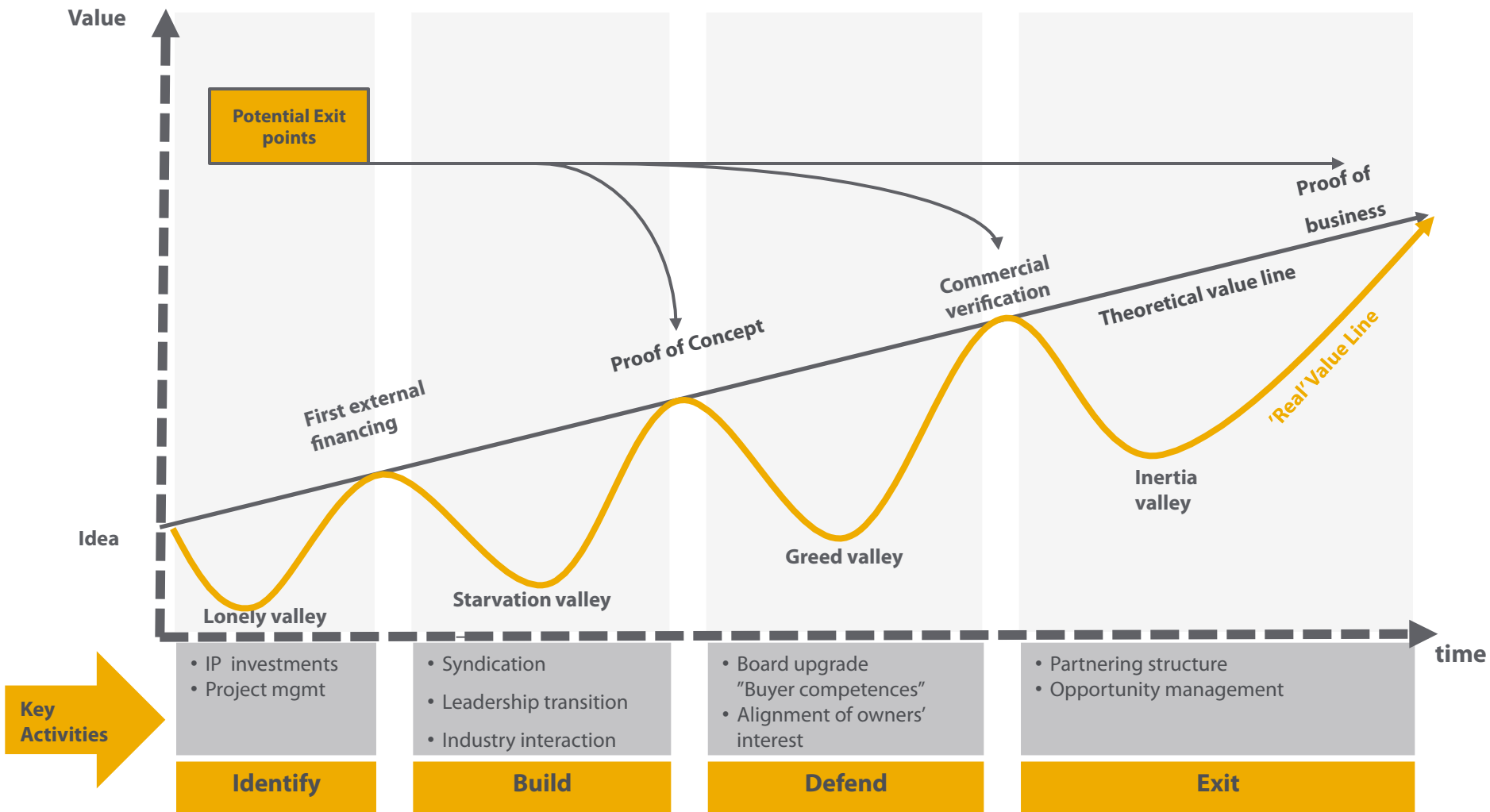


"The Road to Success –A Straight Line ?



Development – not a straight line

- Manage the valleys and act on opportunities



Bootstrapping

The term comes from the German legend of Baron Münchhausen pulling himself out of the sea by pulling on his own bootstraps.



Definition: “*The act of starting a business with little or no external funding*”

Crowdfunding

Crowdfunding—as its name implies—aims to reach a funding goal by getting many investors to put in small amounts.



Leading Crowd Funding Organizations

	Traditional Angel Funding	CrowdFunding
Investors	Individual professional investor or a small team	Potentially hundreds of micro-investors
Business Network	Limited to Angel's network	Extended to all of the investors network
Pre-Launch Buzz	Usually nothing	Tremendous buzz potential
Community	Relies on company to create one	Built in seed community from investors and followers
Strategic Coaching	Usually very good	Over time will improve, but nothing structured now
Process: Access to capital	Usually slow to very slow	extremely fast
Process: Transparency	Usually very opaque	Transparent to everyone involved.

KICKSTARTER



MicroVentures



FundWeaver



Jobs! Jobs! Jobs!

Does Seed Investing **REALLY** Create Jobs?



Public Investment In Job Creation

Category	CDVCA*	State of PA	State of MI	State of UTAH	Stimulus Bill*
Funds Invested	\$26M	\$90M	\$291M	\$60M	\$728.9B
Jobs Created	3,700	8,150	28,854	2,047	400,803
\$ Per Job Invested	\$7,100	\$11,000	\$11,728	\$29,300	\$1,818,000

*Community Development Venture Capital Alliance

** Source: Recovery.gov 2011

Innovation Funding Continuum

DREAM	CONCEPT	APPLIED	COMMERCIAL RELEVANCE	STARTUP	ROLL OUT	GROWTH
FoundersFFF Bootstrapping Crowdfunding	Seed	Incubators/ Accelerators	IBED	Federal	ANGEL	VC
     	     	      	     	    	      	    



how do you **change** a business
model **and innovate**?

The “Telephone”

“This ‘telephone’ has too many shortcomings to be seriously considered as a means of communications. The device is inherently of no value to us.”

- Western Union, 1876



The World Has Changed and Is Changing...

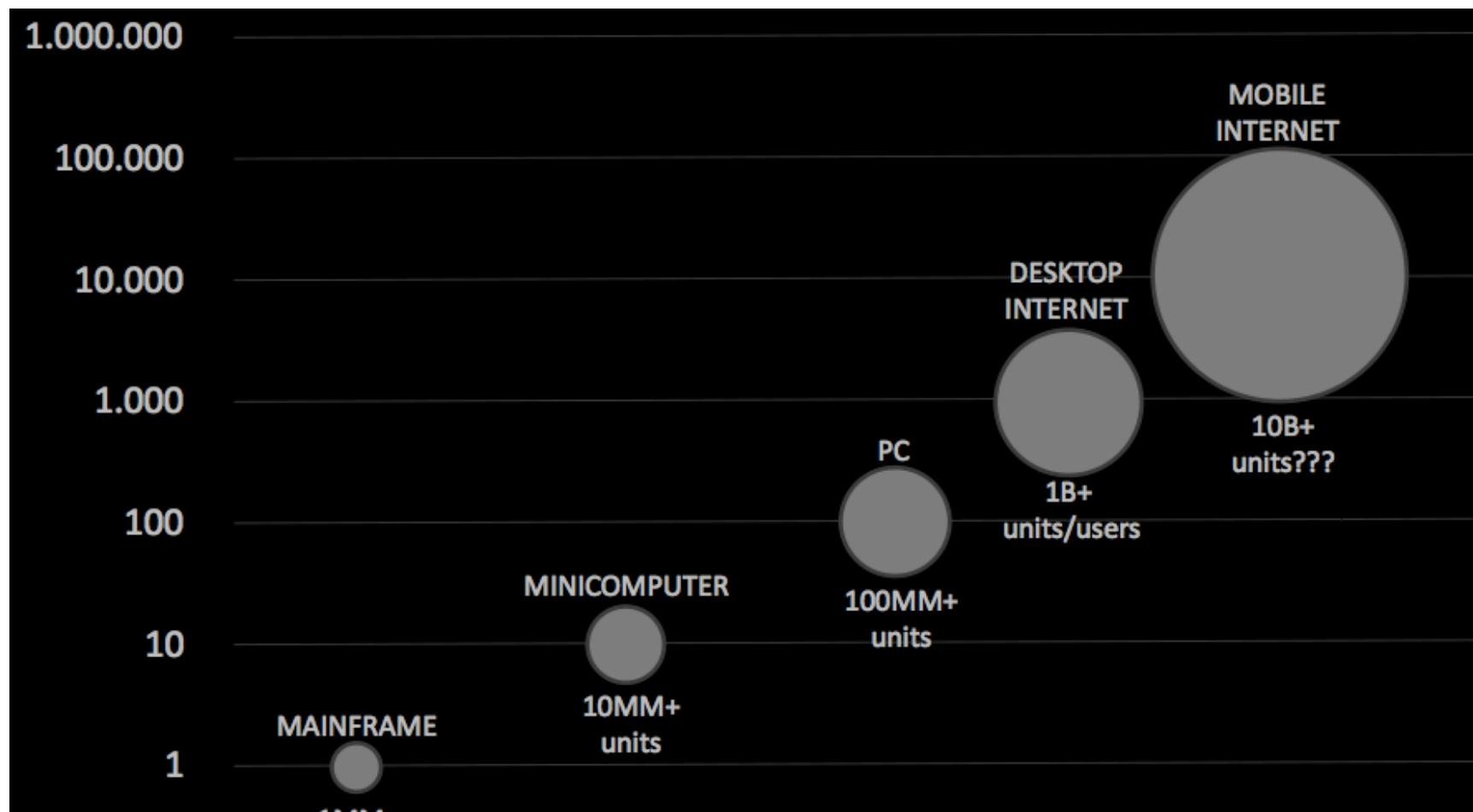
“Smart phones” (mobile connectivity devices) + Social networks that engage people



- Mobile devices like the iPad, iPhone and Android phones
 - Moved desktop browser activities to mobile devices.
 - Moved offline activities to online mobile devices.
 - Made people comfortable accessing sensitive data (e.g. bank accounts)
 - Social networks
 - Made people look for answers to their problems
 - Made people share answers to other people's problems through their social graph

Source: Steve Burrill

Computing Growth Drivers Over Time (1960-2020E)



Canadian Digital Strategy



- Digital underpins all other sectors in society
- Digital is critical to the pace of innovation

Canada and US Cross Border Facts

- 300,000 travelers cross the Canada US Border Everyday
- 35,000 trucks cross the border everyday
- \$1.6 Billion of trade everyday



The Big Table

Film and Video Incentives in Canada (2010)

Digital Media and Animation Incentives in Canada (2010)

Canadian Competition Policy Review

- More open and outward-looking Canada is needed to take advantage of the new global economy. To do this, we must put in place:
 - A world-class business environment to attract talent and capital
 - Strengthened businesses through greater competitive intensity, the driver of productivity and innovation
 - Effective collaboration between businesses and all levels of government



Bill Gates - Microsoft

“Never before in history has innovation offered promise of so much to so many in so short a time.”





***“I skate to where
the puck is going to
be, not where it has
been.”***

Wayne Gretzky

www.innovationamerica.us/daily



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