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**COMMUNIT**TECH  
**TECH LEADERSHIP**  
CONFERENCE  
WATERLOO REGION  
10 APRIL 2012

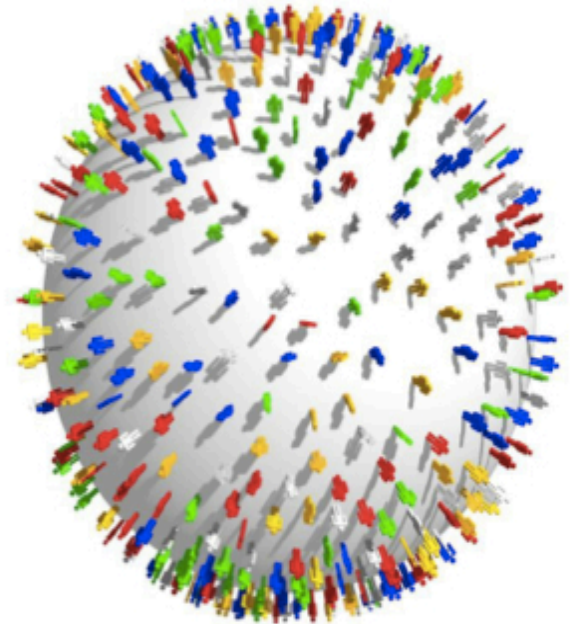
***“Creating a Vibrant Regional Innovation Ecosystem”***

**Presented by:**  
**Rich Bendis, President & CEO**  
**Innovation America**  
**Publisher, innovationDaily**  
**April 10, 2012**  
**Waterloo Ontario Canada**

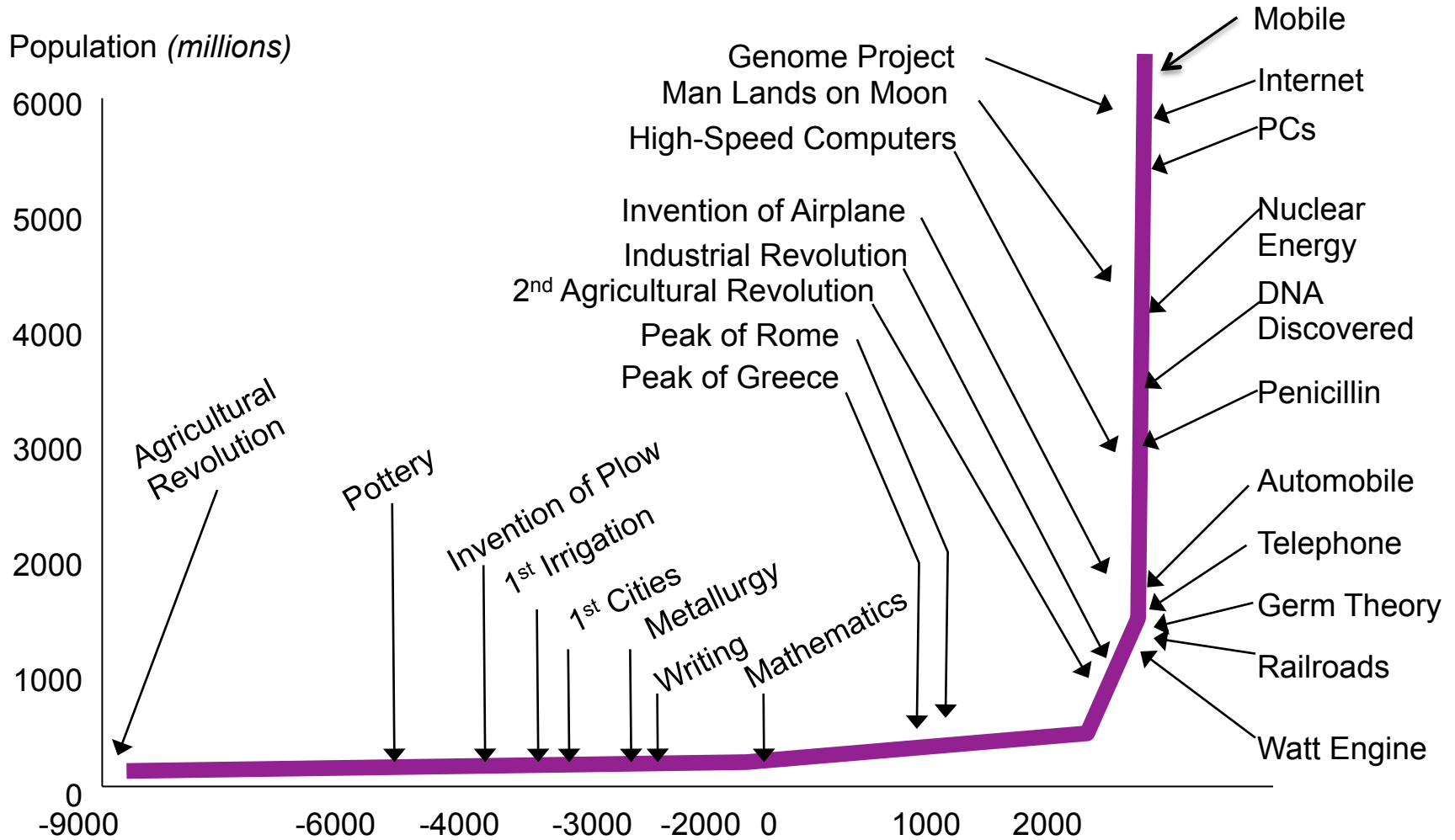
# Waterloo's Future is Determined By the Present



# 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**

# 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

# 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)

# 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



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# 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)

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- 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 million 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.

# How Leading Nations Respond to the Innovation Imperative?

*They are providing four things:*

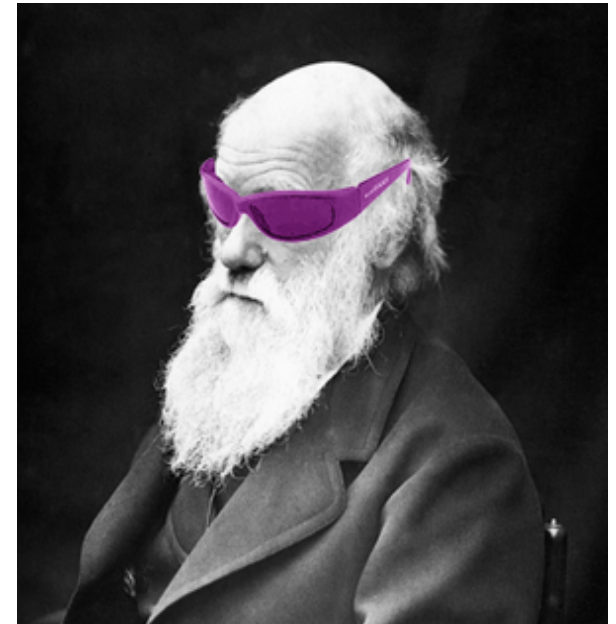
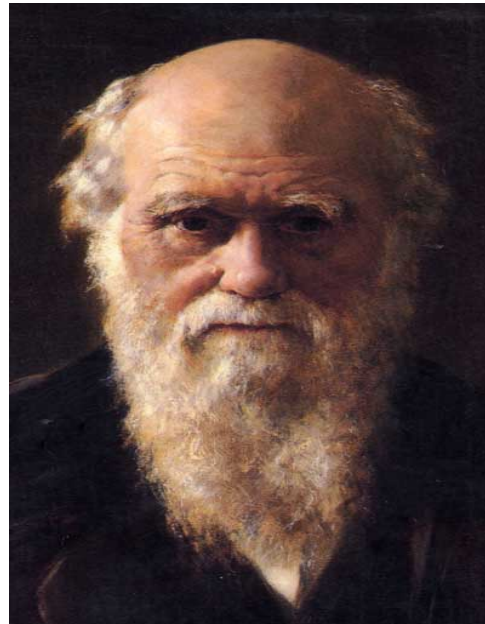
- High-level Focus
- Sustained Support for R&D: Leveraging Public and Private Funds
- Support for Innovative SMEs
- New Innovation Partnerships to bring new products and services to market



# 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



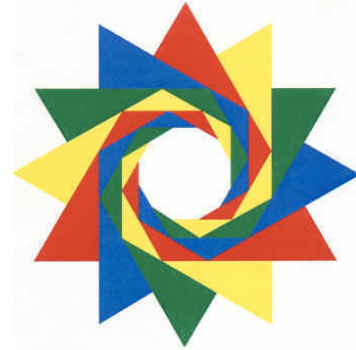
# The Six Driving Forces of Change

- 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!”**



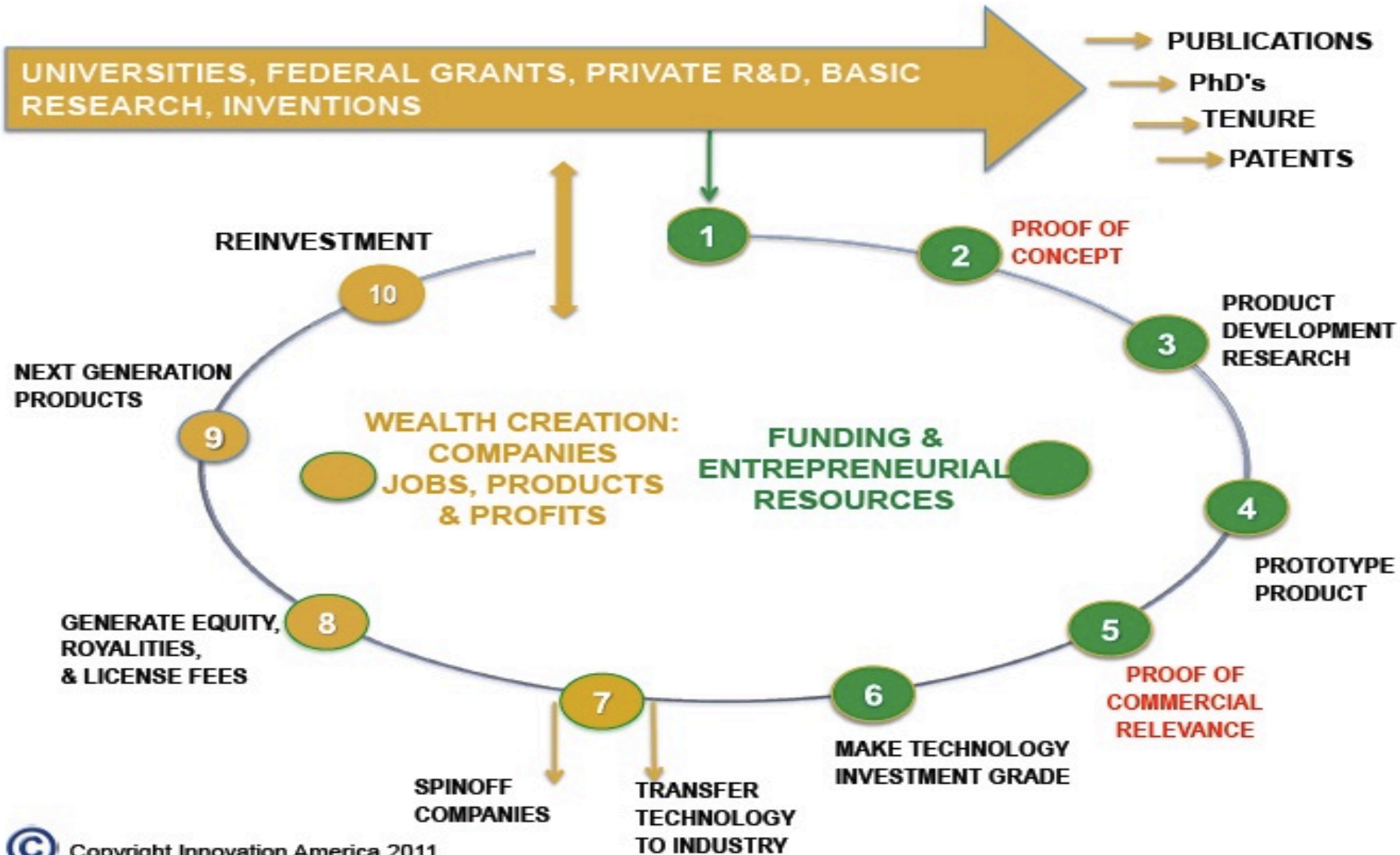
The Historic  Garage  
invent

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



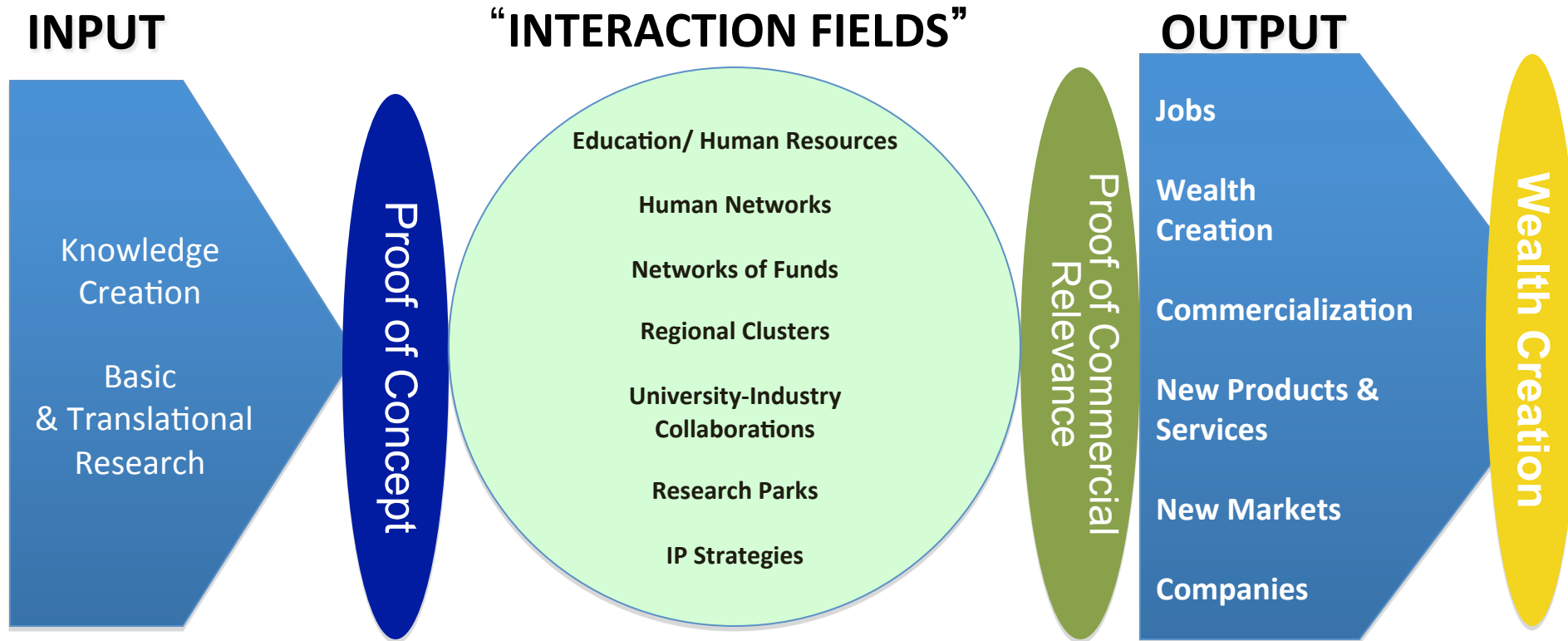
**CASH IS KING!**

# Innovation America Commercialization Model





# Innovation Ecosystem



The concept of the **Innovation Ecosystem** stresses that the flow of technology and information among people, enterprises and institutions is key to a vibrant innovation process.

# 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

## Five Key Components to Consider When Defining Unique Regional Assets

*What you make, including your existing & prospective industry clusters*

**ECONOMIC  
BASE**

**ENTRE-  
PRENEURSHIP**

*Your capacity to create companies wholly new or from existing firms*

*What you do: your workforce skills & human capital base*

**TALENT**

**INNOVATION  
& IDEAS**

*Your capacity to innovate and generate new ideas*

**Location, Infrastructure, Amenities,  
Factor Costs, Natural Resources**

*The basic conditions defining the economic milieu of the region*

# U. S. 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



# US Government Innovation Programs



# Canada's Government Innovation Programs



Government of Canada  
Networks of Centres  
of Excellence

Gouvernement du Canada  
Réseaux de centres  
d'excellence

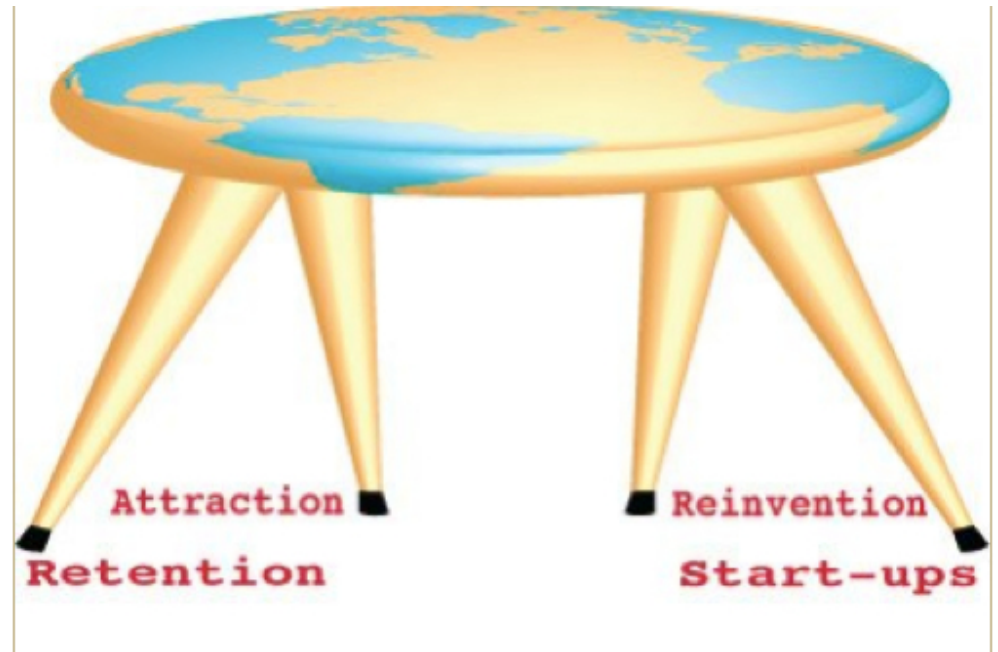


**Networks of Centres of Excellence of Canada**

[www.nce-rce.gc.ca](http://www.nce-rce.gc.ca)

# 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!



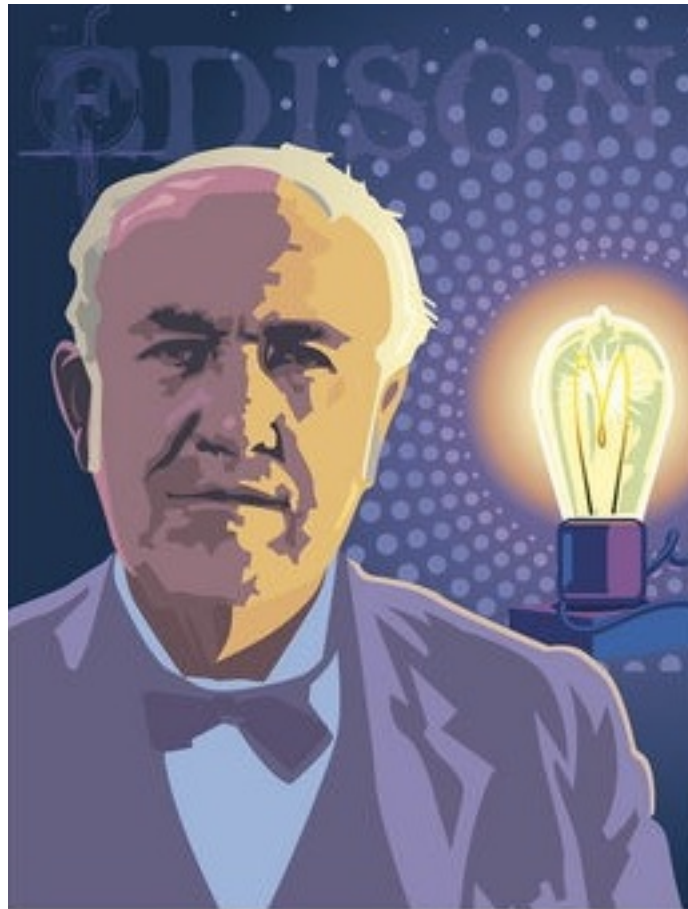
# Convergence of Traditional Eco Devo & IBED

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



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

— Thomas Edison

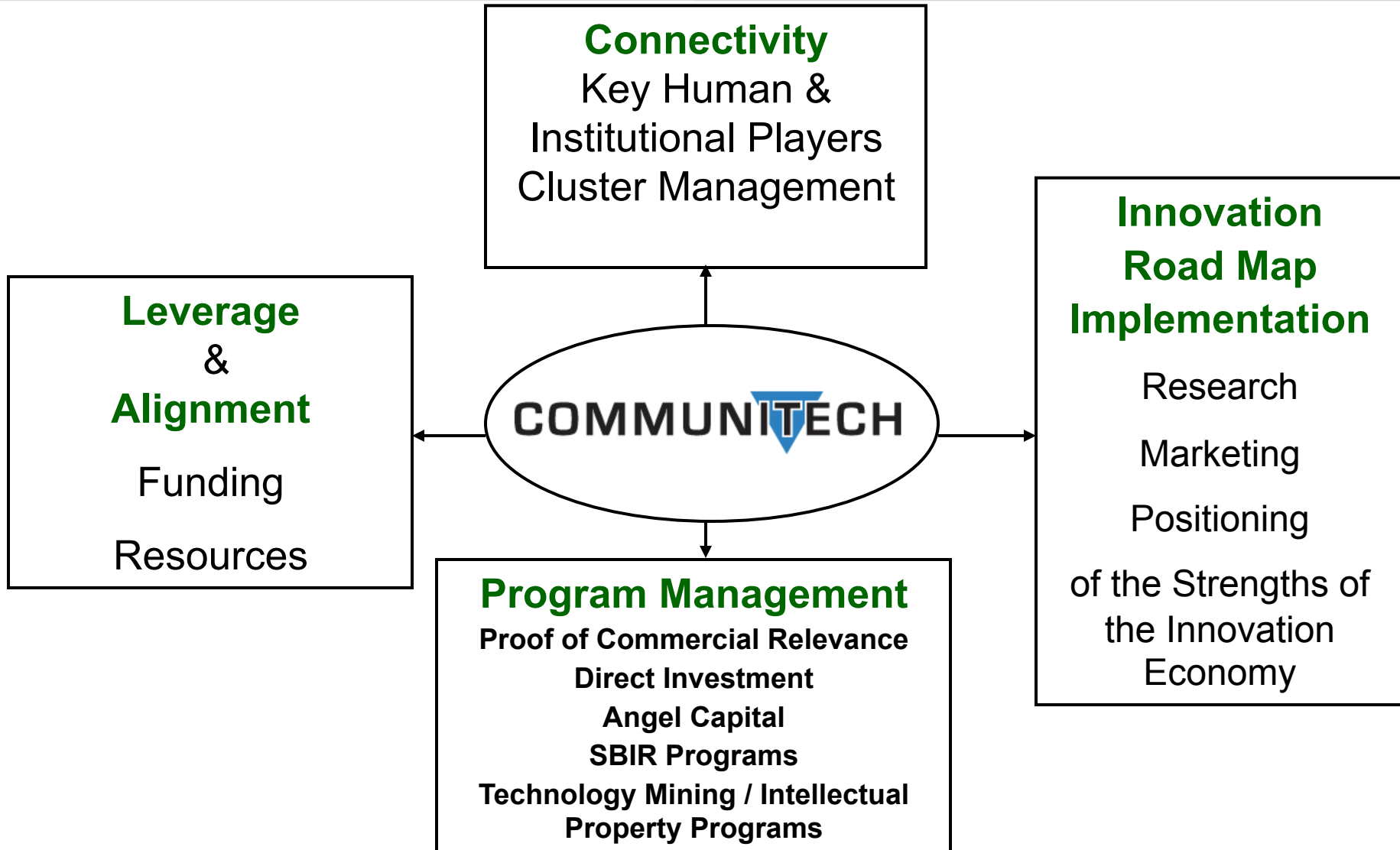


# What is a Innovation Intermediary?

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.



# 21<sup>st</sup> 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



# Successful Funding Models

**Ohio**

**Third Frontier**

Innovation Creating Opportunity



KANSAS BIOSCIENCE  
AUTHORITY



**INVESTMARYLAND**

Fueling Innovation + Creating Jobs

*InvestMaryland* will provide funding to spur growth and innovation — it is a premium tax credit program designed to create thousands of jobs and revitalize venture capital funding in Maryland. This \$70 million fund, approved by Maryland lawmakers during the 2011 General Assembly, is the largest venture capital investment initiative in the State's history.

**MICHIGAN**<sup>SM</sup>

Economic Development  
Corporation



innovation  
AMERICA © 2012

**\$700M 5-year Bond Issue**  
**62% Taxpayer vote approving**

**\$581M 15 year Wage-tax TIF**

**\$160M TN/\$84M MD**  
**VC Premium insurance**  
**Tax Incentives**

**\$175M Budget**

**\$60M Angel Tax Credits**

# U.S. State Innovation Programs



# US Regional IBED Intermediaries



Innovation Works



# Canadian Innovation Intermediaries





# Northeast Ohio IBED Intermediaries



NorTech, (the Northeast Ohio Technology Coalition) is a nonprofit Technology-Based Economic Development (TBED) organization that champions growth in Northeast Ohio's 21 county region. Foundation funded.



JumpStart is creating economic transformation in Northeast Ohio by providing resources to entrepreneurs to grow their high potential, early stage companies.



BioEnterprise is a business formation, recruitment, and acceleration initiative designed to grow health care companies and commercialize bioscience technologies



Team NEO advances Northeast Ohio's economy by attracting businesses worldwide to the 16-county Cleveland Plus region.



Cleveland Clinic Innovations advances commercial oriented innovation and transforms promising therapies, devices and diagnostics into products by creating spin-off companies, licensing to established companies and enabling equity partnerships.



# BioHealth Innovation

Maryland's Commercialization Collaborative

[www.biohealthinnovation.org](http://www.biohealthinnovation.org)

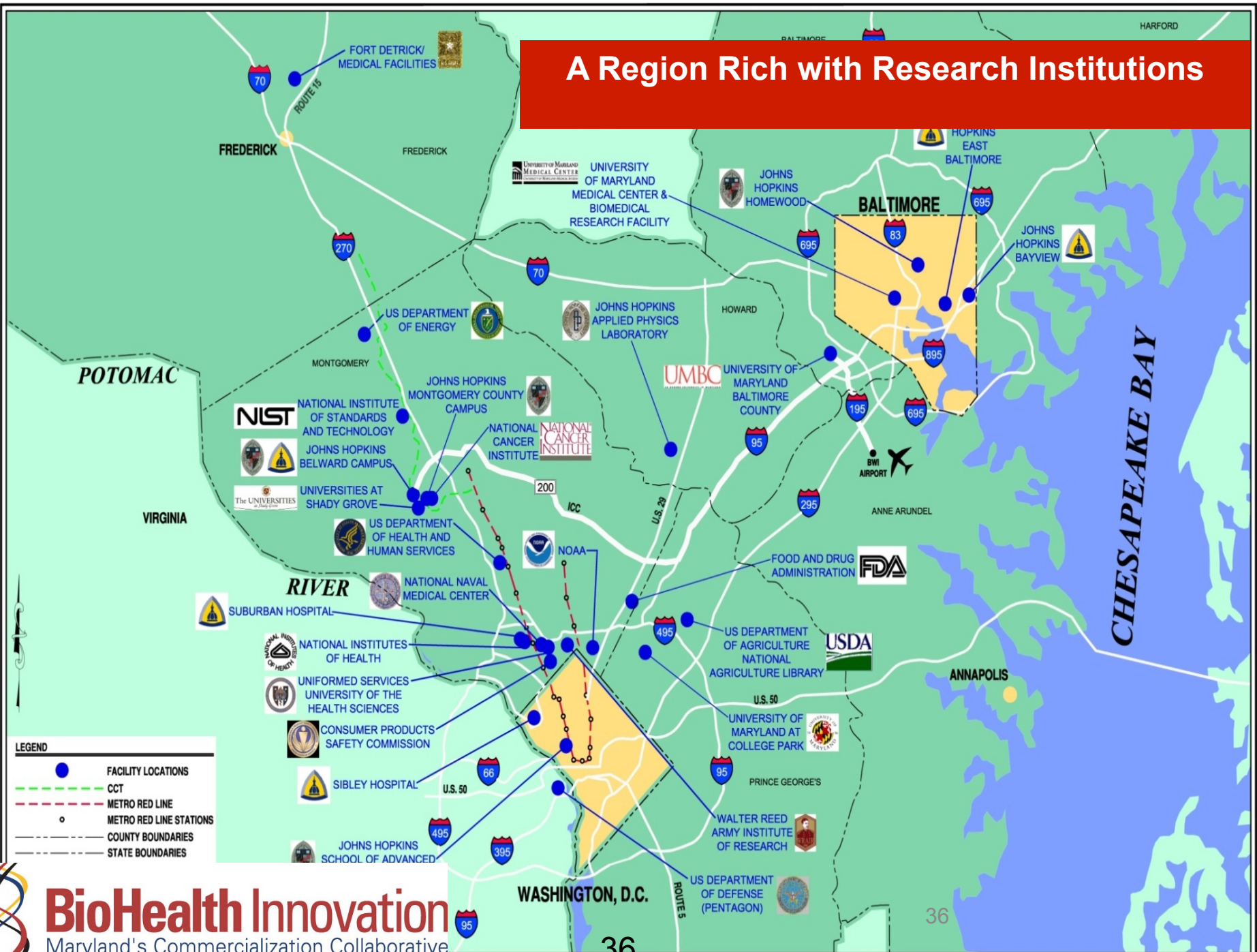
# “The Region” --Central Maryland

**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

# Challenges to Innovation Economy

# BHI Value Proposition

**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**

**Connects regional innovation assets**

**Develops an entrepreneurial talent and support pipeline**

**Attracts funding for technology commercialization**

**Develops a continuum of innovation workforce**

# BioHealth Regional Innovation Cluster Assets



# 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

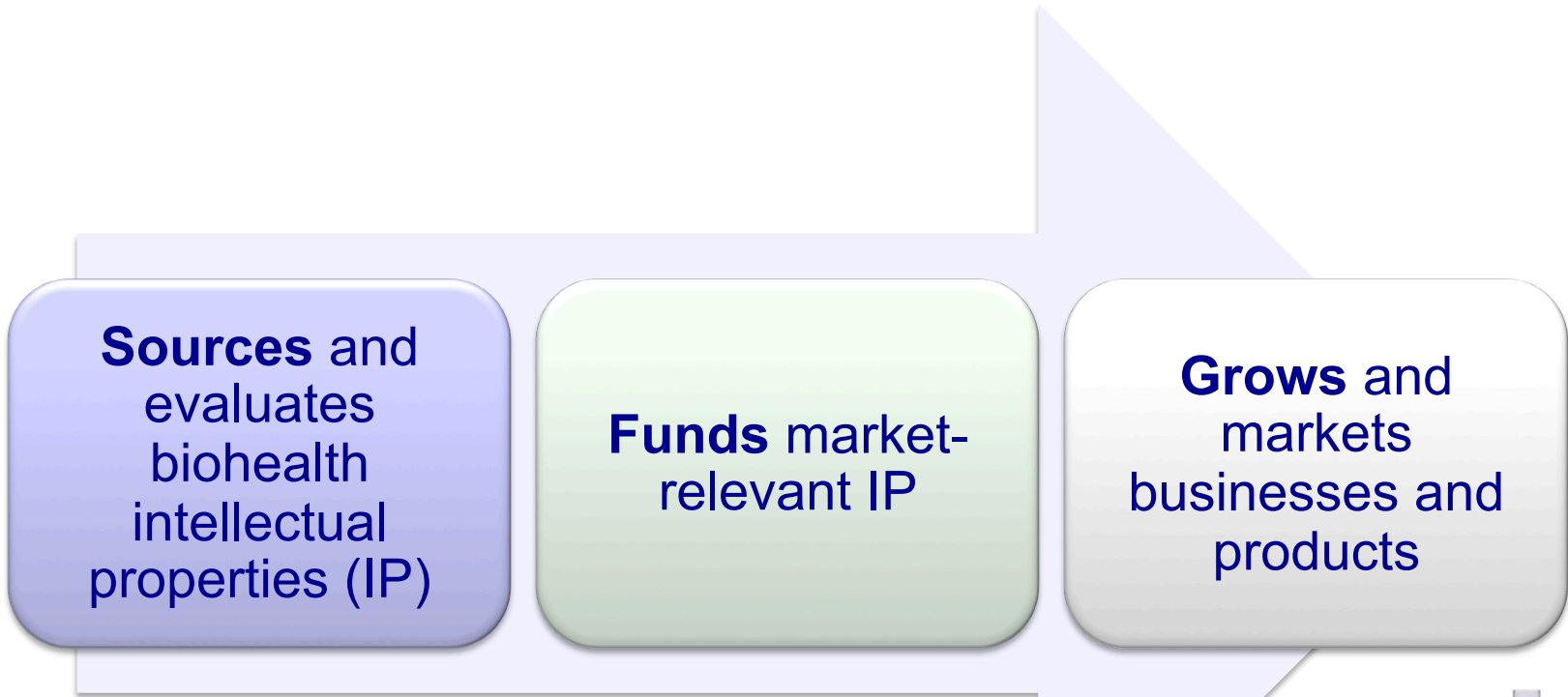
- Biotechnology
- Medical Devices
- Healthcare Services
- E-Health
- Mobile Health
- Electronic Medical Records
- Health Informatics
- BioHealth Cyber Security



# Connect Funding Sources at Every Stage to Fill Gaps

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

# How Does BHI Work? Commercialization Pipeline



# BHI Deal Goals

## VC Regional History:

Last decade the region: ***\$79.8 million per year\****  
in biotechnology venture financing (2003-2010).

---

## Goal:

***150 prospective deals annually***

## Fund:

***25% or 35 deals per year***

## Avg. Investment:

***\$4.3 million per start-up***

## Targeted VC Annual Investment

***\$150,000,000***

\*This includes an estimated \$57.7 million per year in Montgomery County, and \$22.1 million per year in the rest of the state.

SEED  
CAPITAL



# Entrepreneur-in-Residence (EIR)

- A team leader who combines scientific, financial/VC and entrepreneurial management experience to:
  - Perform due diligence
  - Develop biohealth project-focused companies
- **Proactively** identifies and commercializes **market-relevant** intellectual properties from:
  - federal labs
  - universities
  - private sector



# Innovation Resource Guide

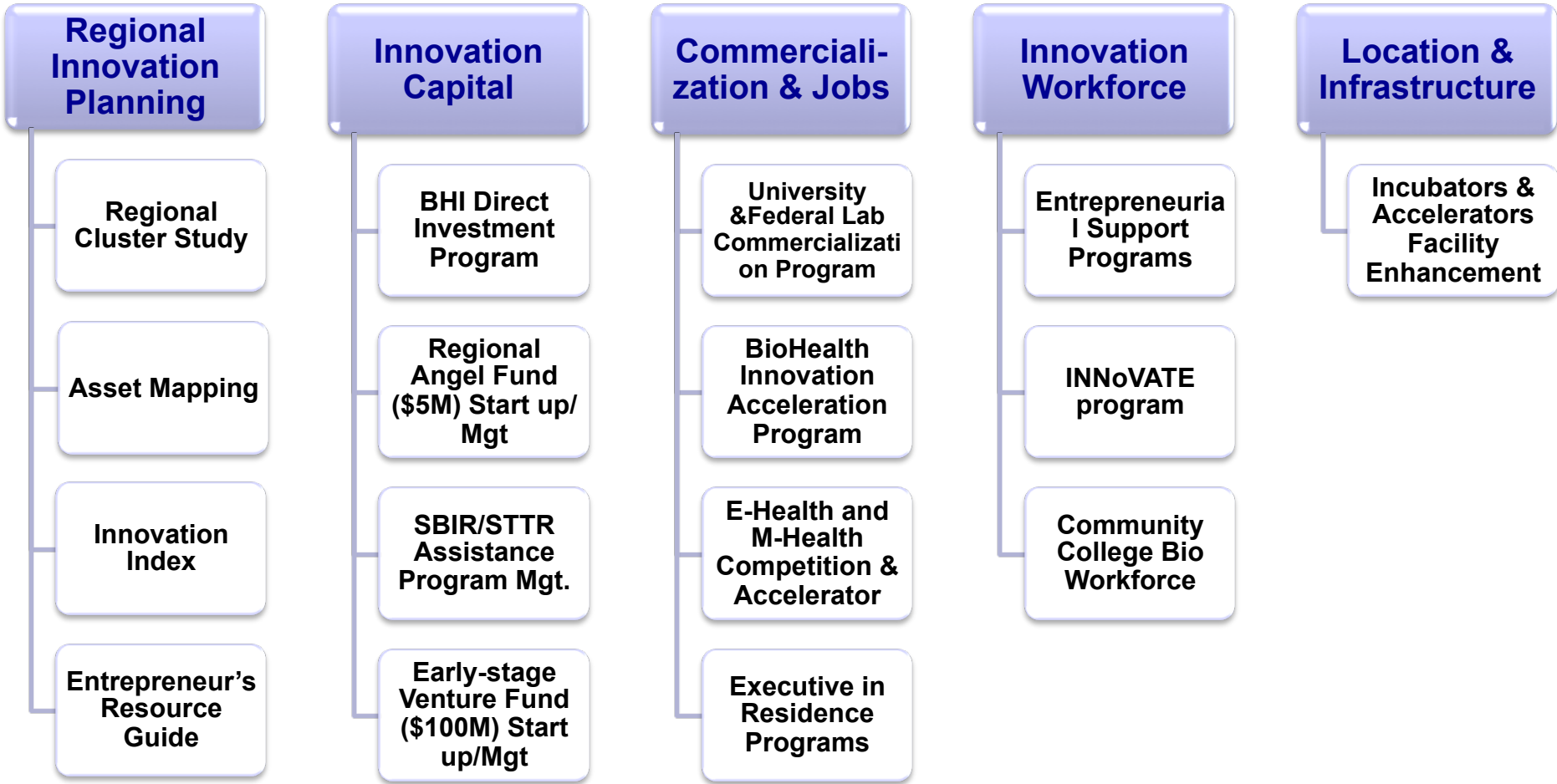


## *“Financing and Entrepreneurial Resource for Montgomery County and the Greater Baltimore Region”*

- Entrepreneur and Innovation Resource Network
- Innovator Financing Guide
- The Startup’s Guide to Intellectual Property

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

## Implementation Strategy





# How is Success Measured?

## BHI Metrics---First 5 Years

	Now	In 5 Years
VC Funding for Biotech	\$79 Million	\$150
Gov' t Funding for Biotech	Increased SBIR proposals & success	Improve Maryland' s ranking
Source Prospective Deals Annually	30	150

**Improve return on R&D investment by leveraging equity investment**

**Create and retain 1,300 jobs**

**Recruit entrepreneurs, experienced managers and businesses**

**Commercialize biohealth technologies and create biohealth companies**

# BHI: The Triple Bottom Line

**Grows** high-paying jobs and businesses

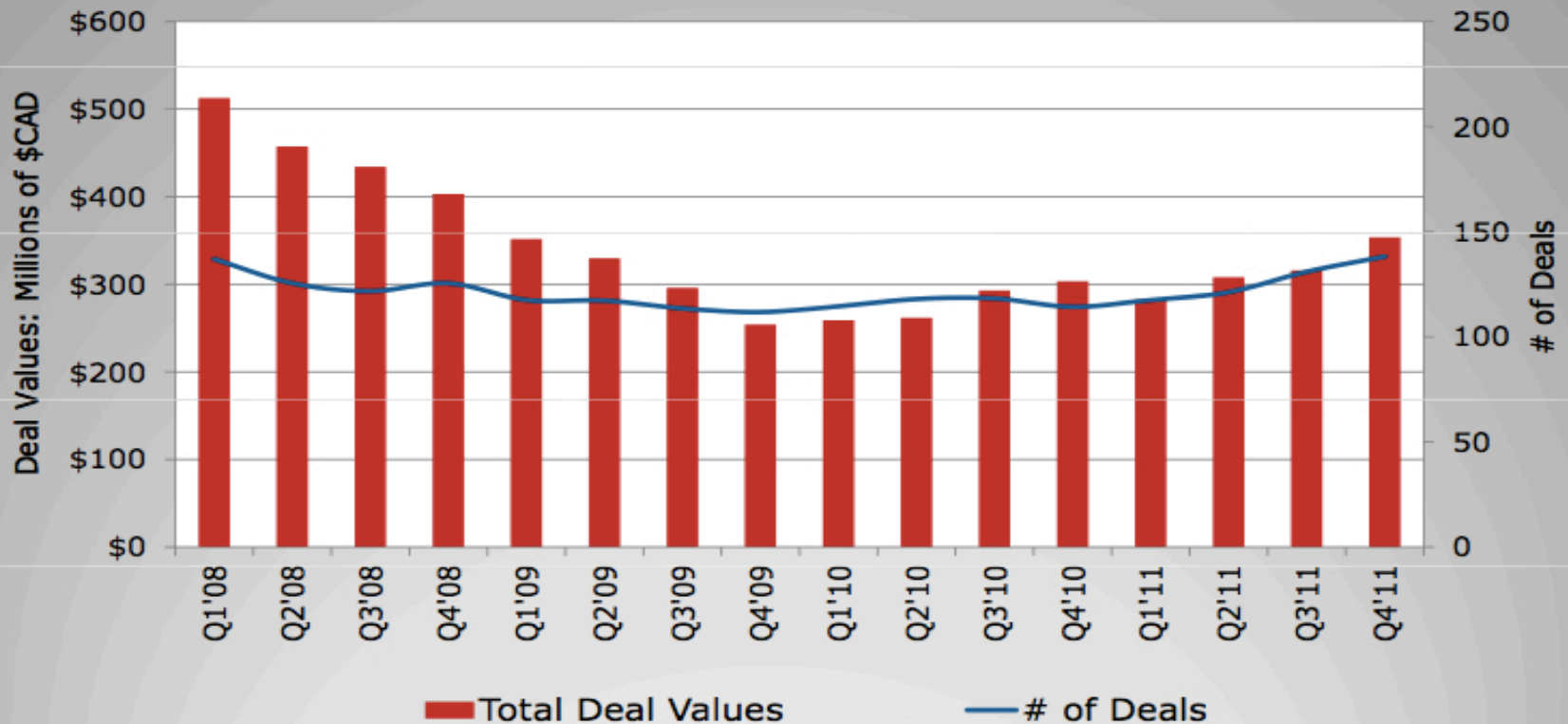
**Expands** tax base; **improves** economic vitality

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

# Innovation Capital



# Annual Canadian VC Investment 2008-2011

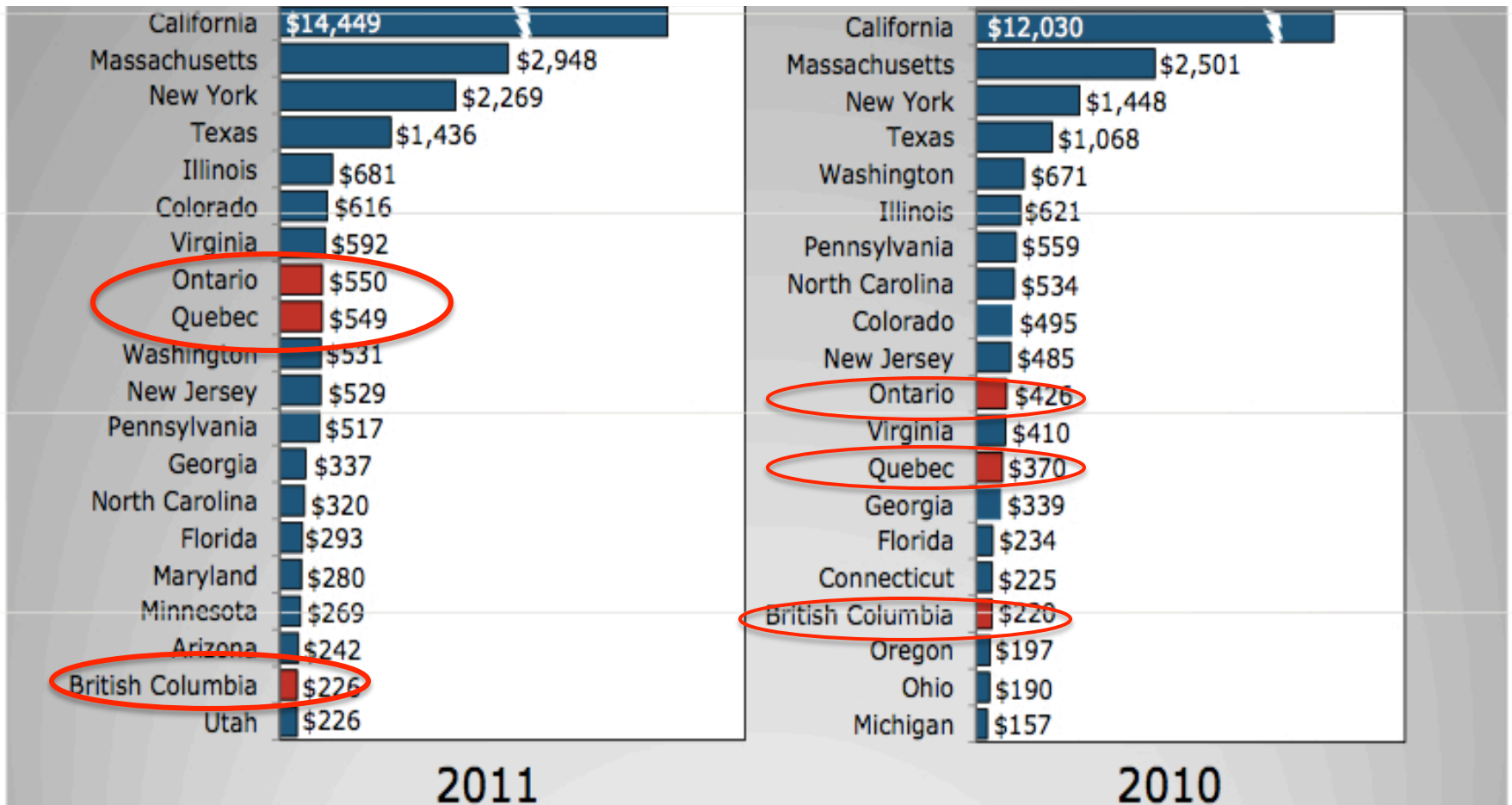


## Annual Investment Tops \$1.5 Billion, A Four Year High

DOLLARS INVESTED AND COMPANIES FINANCED  
FOUR QUARTER ROLLING AVERAGES



# North American Rankings – US and Canada

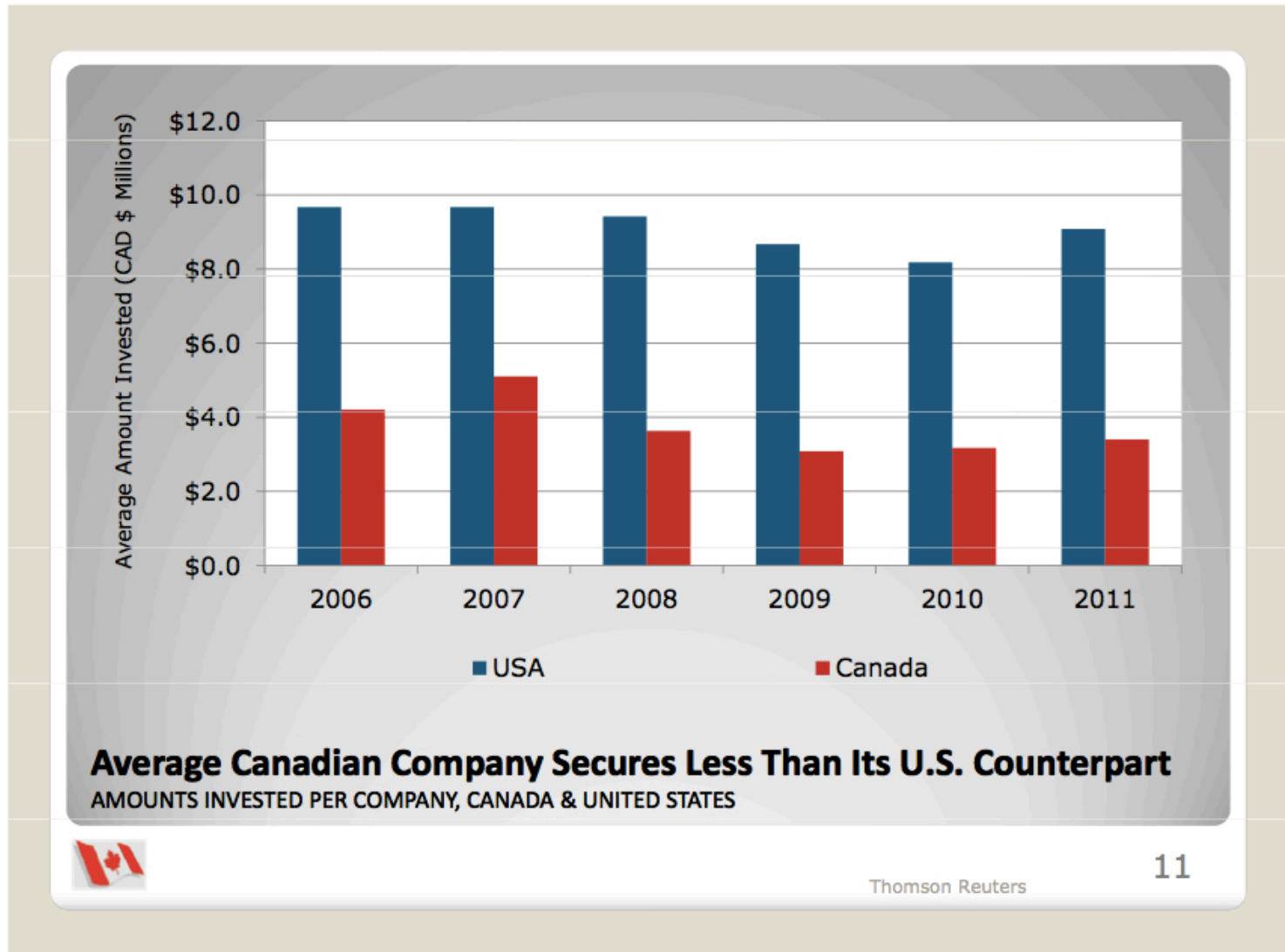


## North American Rankings

VENTURE CAPITAL DISBURSEMENTS BY PROVINCE AND STATE

ONTARIO, QUÉBEC, BRITISH COLUMBIA FINISH 2011 IN 8<sup>th</sup>, 9<sup>th</sup>, and 19<sup>th</sup> Place

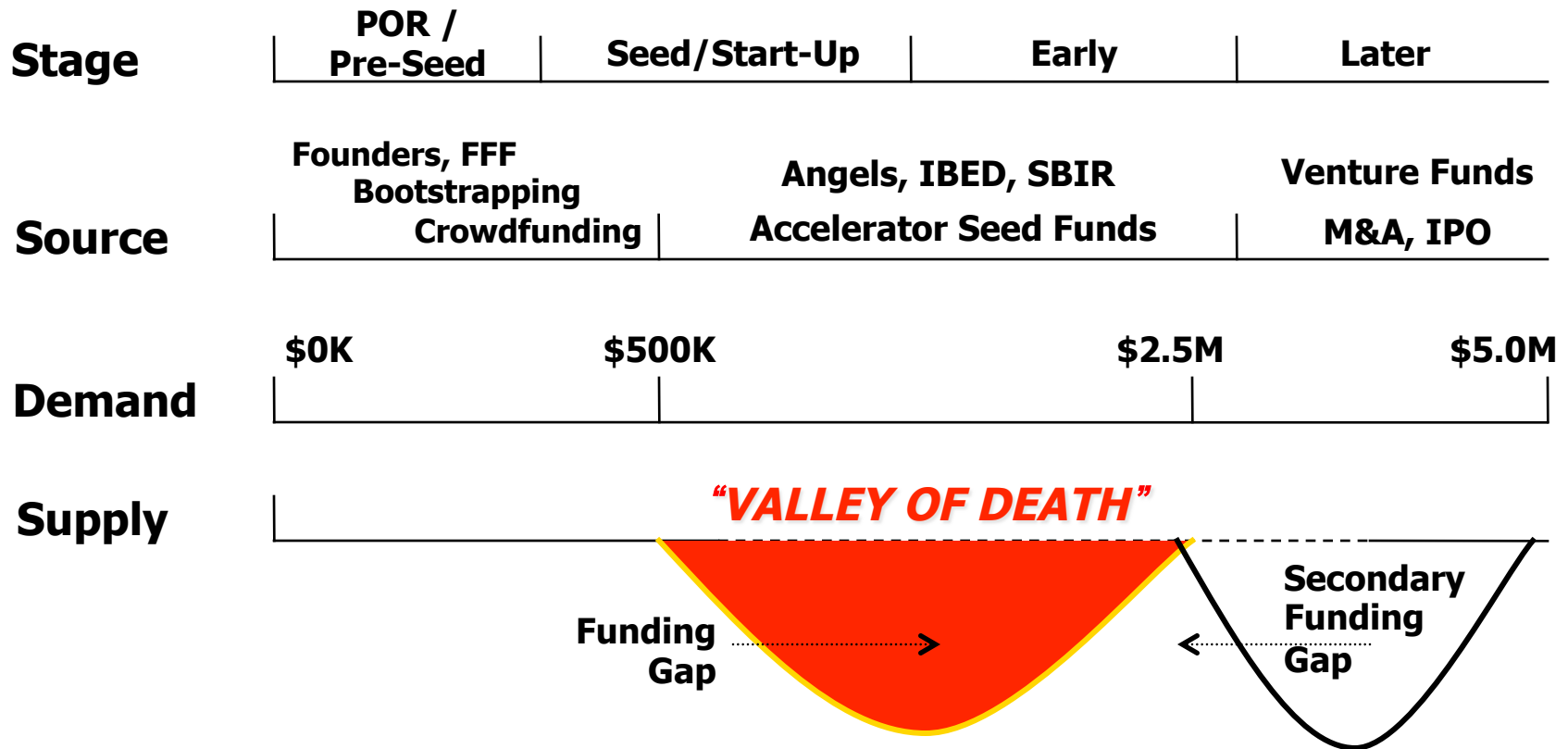
# Average Canadian Company Secures Less than US Company



11

# Innovation Capital Valley of Death

## “VALLEY OF DEATH”



# 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**



# US Jumpstart Our Business Startups 2012 (JOBS) Act



## **Allows equity-based Crowdfunding**

- Anyone may invest up to \$10,000 a year, or up to 10 percent of their net income if they earn less than \$100,000 a year, in private companies.

## **Removes prohibitions on general solicitation of Regulation D offerings**

- Allows for advertising of Reg D 506 offerings, as long as advertisements are focused on accredited investors.

## **Creates an IPO "on ramp"**

- Reduces the cost of going public for "emerging growth companies" - those with annual revenues of less than \$1 billion and after the IPO, less than \$700 million in publicly traded shares.

## **Increases threshold for Regulation A "mini public offerings"**

- Allows companies to go public and be exempted from SEC registration for offerings up to \$5 million & the JOBS Act increases the offering threshold up to \$50 million

## **Raises cap on private shareholders from 500 to 2,000**

- Increases the shareholder limit to 2,000 accredited investors or 500 unaccredited investors.

# Seed Accelerator Model May Be Relevant



- **> 130 accelerators exist & spreading rapidly**
- **Could grow > 400 to 500 in 5 years**
- **Focus on fast-test sectors**

# Ontario Accelerators



**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

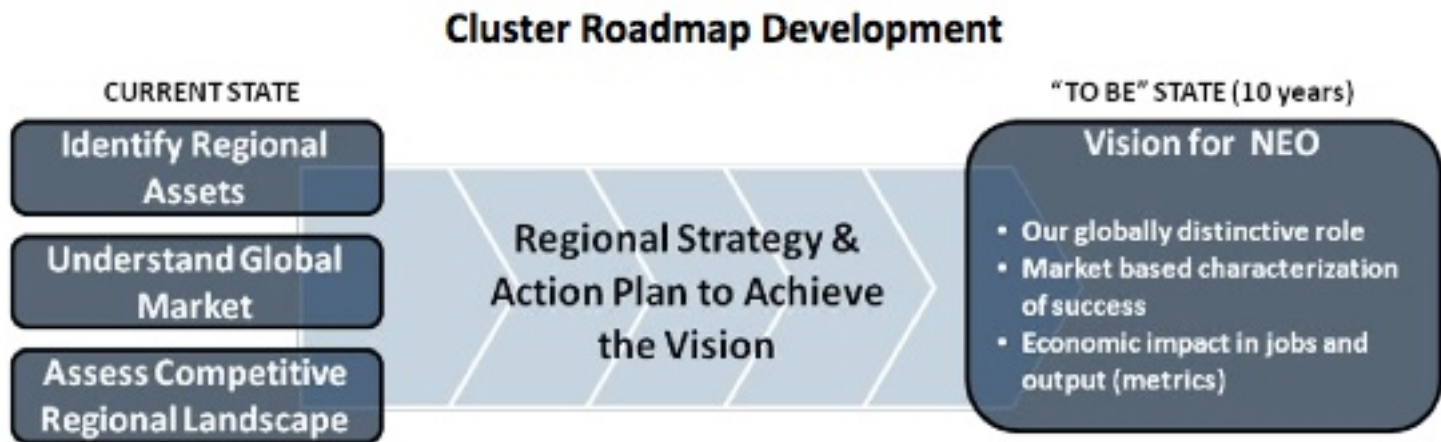
# Innovation Funding Continuum

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



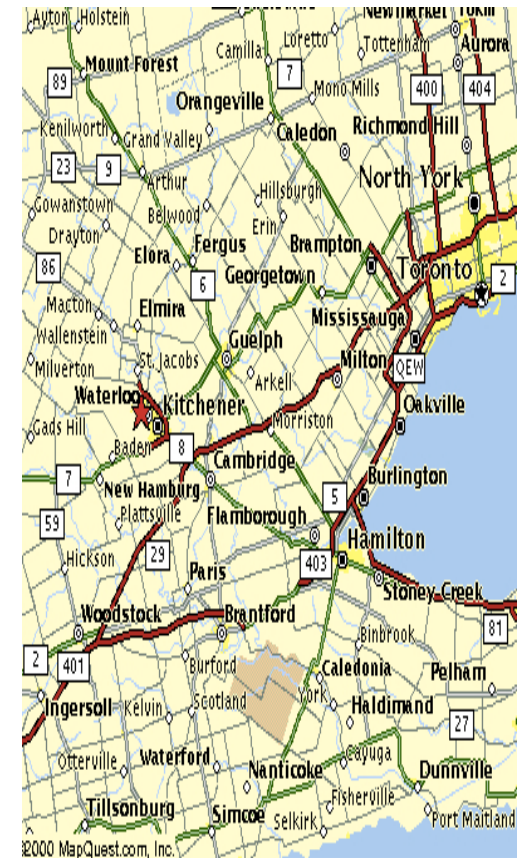
# What Is A Road Map.....Why Is It Needed?

- A roadmap answers the *question* “**Where do we want to be and how to we get there?**”
- A cluster roadmap *provides strategies and action* plans to best *achieve a vision of the future shared by a critical mass* of industry-related organizations.
- The strategies and action plans are developed according to the unique strengths of the cluster and region as compared to a global market opportunity.

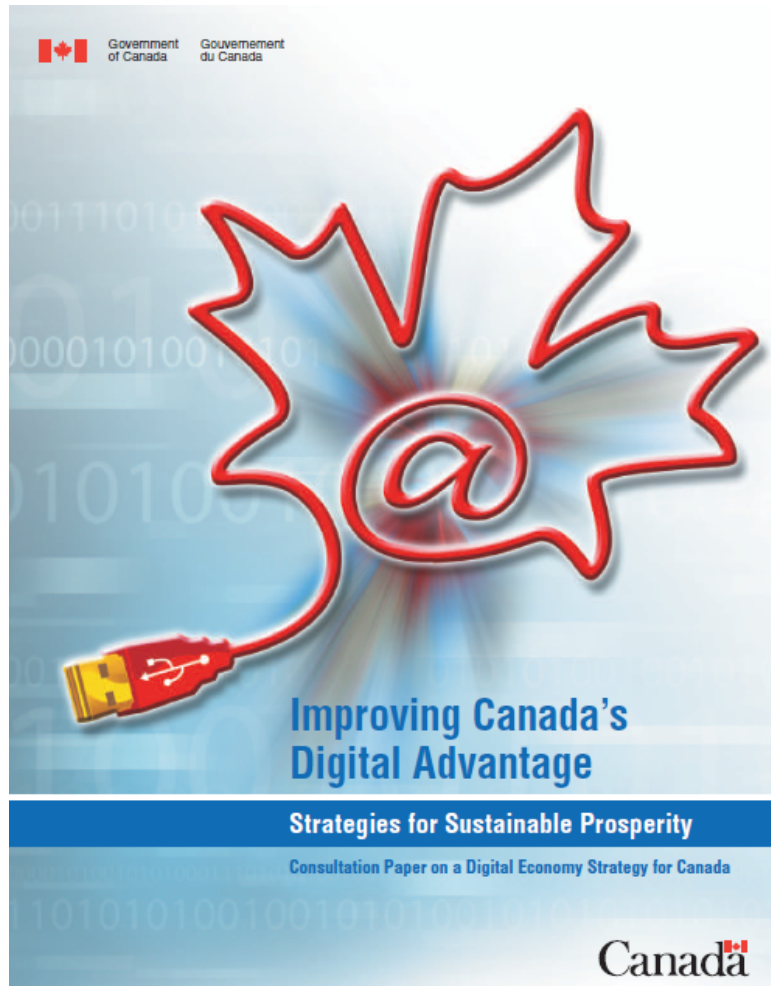


# Innovation America: Innovation Road Map Process

1. Literature Review of Comparables
2. Key Stakeholder Interviews/Recommendations
3. Asset & GIS Mapping/Cluster Analysis
4. Innovation Benchmarking/Index (Peer 2 Peer)
5. Innovation & Entrepreneurship Resource Guide
6. Innovation Economic Development Organizational Analysis
7. Innovation & Commercialization Program Gap Analysis
8. Innovation Ecosystem Public Policy Recommendations
9. Innovation Strategic and Organization Plan
10. Operations & Implementation Plan
11. Branding & Marketing Strategy
12. Economic Impact Analysis - Celebrate Your Success



# 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

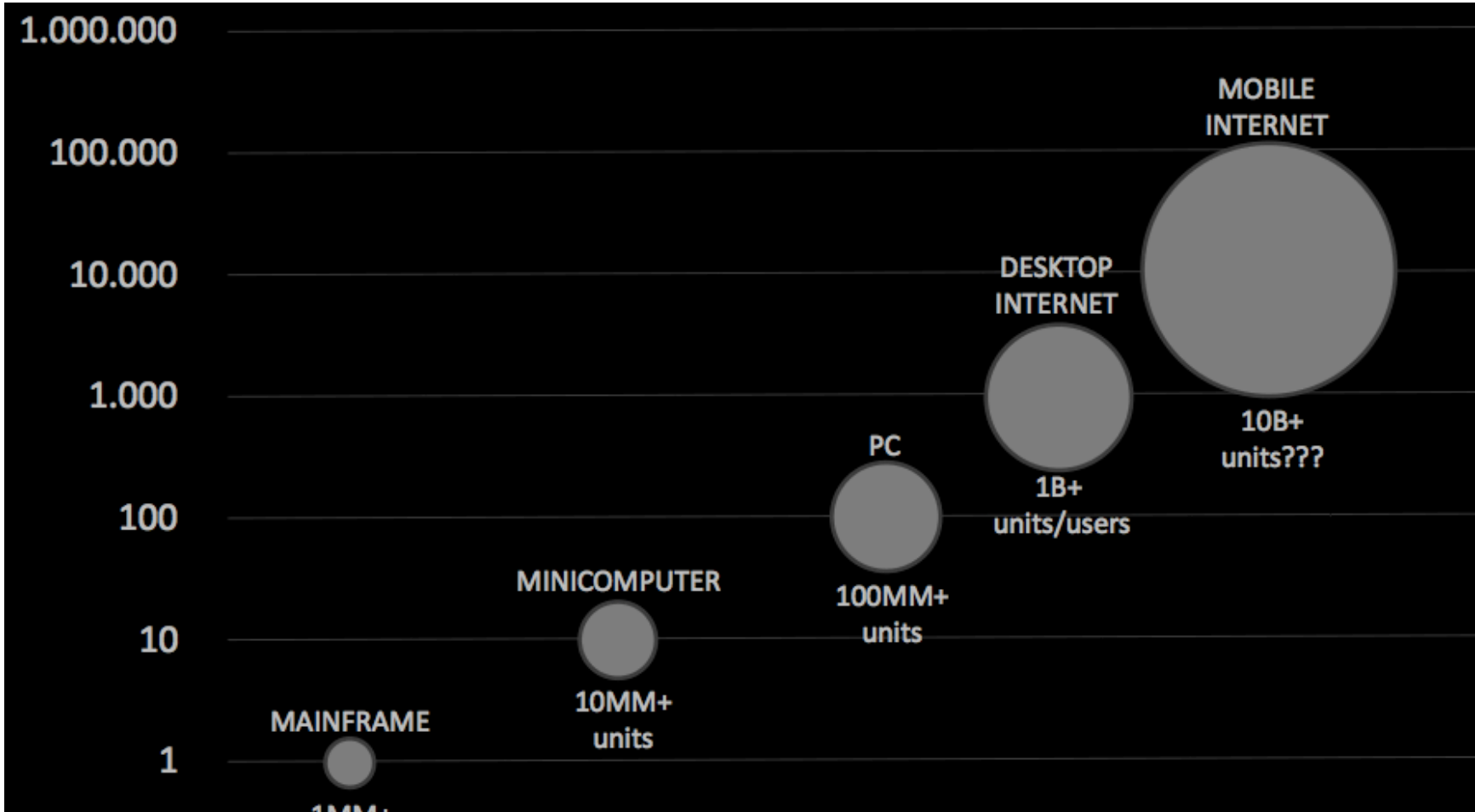


## The Big Table

Film and Video Incentives in Canada (2010)

Digital Media and Animation Incentives in Canada (2010)

# Computing Growth Drivers Over Time (1960-2020E)



# 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



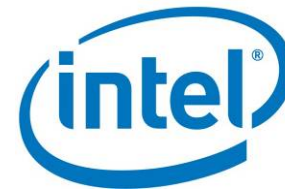
# Canadian Digital Media Network(CDMN) - Nodes

Working together as part of an ecosystem throughout Canada and around the world, CDMN nodes and partners embody the collaborative and entrepreneurial spirit necessary to create companies, jobs and wealth for the nation.



National Research Council Institute for Information Technology (NRC-IIT) – Fredericton, Moncton

# CDMN Healthcare Research Partnership



*Innovative software that ties together key new web technologies in Digital Media, Web Solutions, Social Networking and Mobility.*





# Communitech Accomplishments

Waterloo Region Tech	#firms	%
Digital Media and ICT	400	50
Mobile	80	10
Software	104	13
Internet Software	64	8
Other (mfg, telecom, IT service, etc)	80	10
Clean Tech	24	3
Life/Health Science	48	6
	800	100

Waterloo Region Hub: Kevin Tuer

OPENTEXT  
The Content Experts



	Contracted Objectives over 5 years	2010	2011	2-Year Total
<b>Investment</b>	<i>\$100M equity investments</i>	\$25 million	\$70 million	<b>\$95 million</b>
<b>Jobs</b>	<i>2000 new jobs (tech start-ups)</i>	451	495	<b>946</b>
<b>Company Creation</b>	<i>100 new companies</i>	156	302	<b>458</b>
<b>Globally significant investments</b>	<i>3 multinationals attracted to effect acquisitions</i>	Google Electronic Arts Intel	Zynga, SAP Teledyne PTC	7

# What Should We Do To Grow Our Region?

- Think Globally – Act Locally
- Digital Media – Universal Economic Driver
- Practice Collaborative Capitalism
- Build Upon Assets & Fill Gaps
- Grow Private-Public Partnerships
- Fully Engage Private-Sector
- Support Startups Growth into SME's & Mid-Size Companies





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

Wayne Gretzky

# Bill Gates - Microsoft

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



# www.innovationamerica.us/daily



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