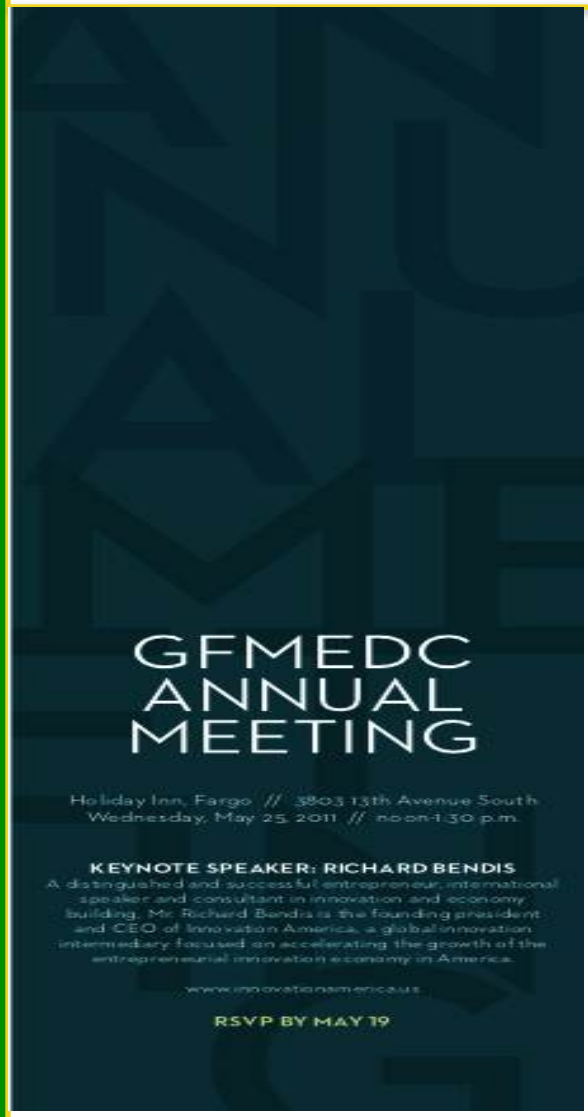

Growing North Dakota's Innovation Economy

Rich Bendis
President and CEO
Innovation America
Editor, innovationDAILY

May 25, 2011
Fargo, North Dakota

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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

INNOVATION MATTERS

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Why Is Innovation Essential?

"INNOVATION DISTINGUISHES BETWEEN A LEADER AND A FOLLOWER."

-STEVE JOBS

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How Leading Nations Responding 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

Note: Many countries and regions are investing very substantial resources to create, attract and retain industries in leading sectors

The New Locational Competition

Definition: The competition for economic activity

Intense and growing competition among nations and regions for well paid jobs and improving living standards…….

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Trends In TBED

- Cycles of emphasis over the years on different elements; elements continuing on the rise
  - Increasing expectation for community of university research
  - Growth of venture development organizations, private accelerators, and start-up weekends
  - Capital
- Reorganization of economic development efforts
  - Public-private partnerships
  - State TBED orgs merged into state economic development departments
  - Regional emphasis

Challenges

- A changing economy with a different recovery pattern
- Shortage of skilled workers once recovery in full swing
- Different expectations for higher education
- 28 new governors
- Fiscal pressures
- Federal approaches changing slowly

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Innovation Economy: Definitions & Terminology

- Knowledge is the confident understanding of a subject, potentially with the ability to use it for a specific purpose

- Knowledge economy is based on creating, evaluating, and trading knowledge

- **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

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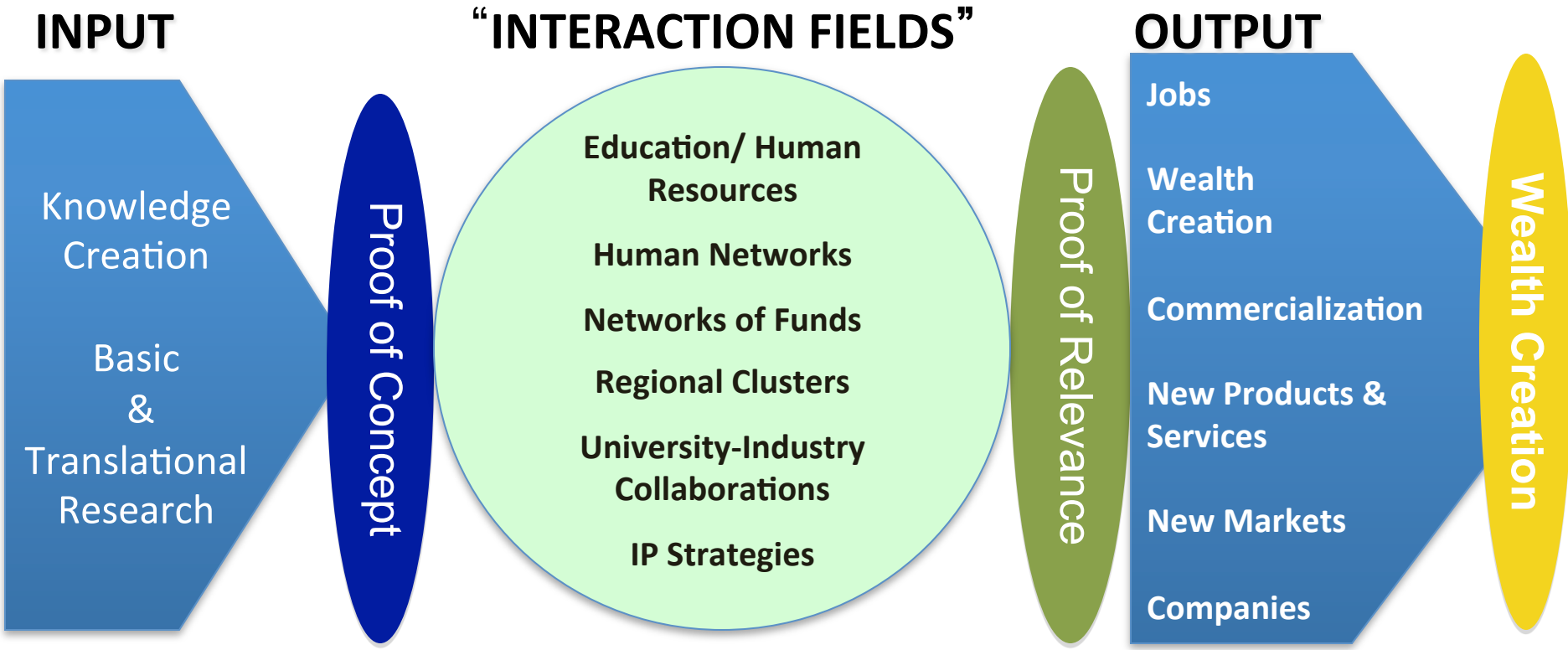
Innovation Ecosystem



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.

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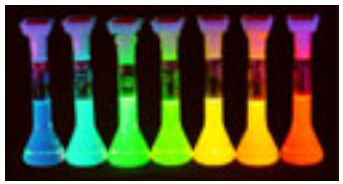
Implementing a New Innovation Paradigm

- 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 TBED to IBED
- **Innovation-Based Economic Development**



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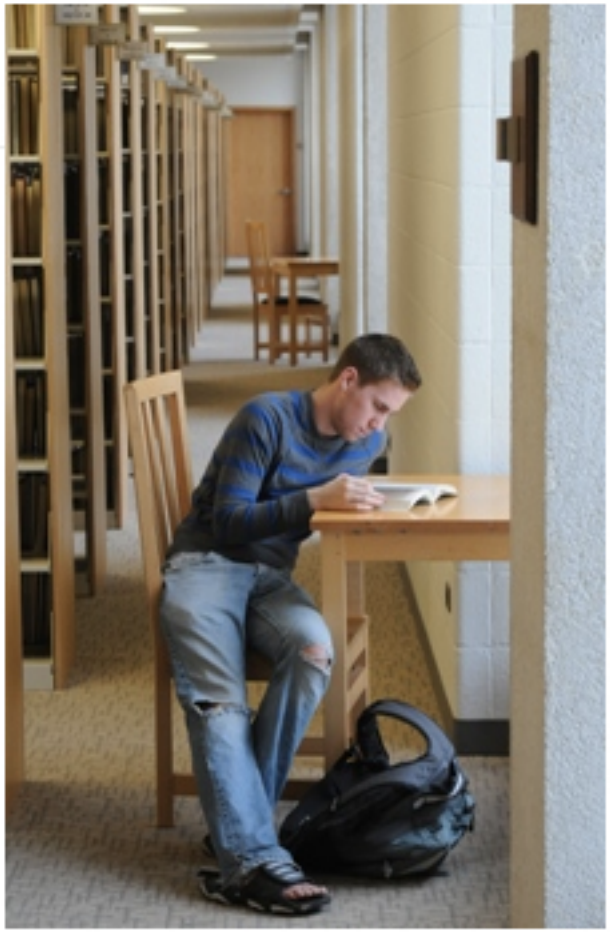
Importance of Major Research Universities



NDSU
North Dakota State University

NDSU researchTECHNOLOGY PARK INC.

UND THE UNIVERSITY OF NORTH DAKOTA

Center for Innovation

RED RIVER VALLEY RESEARCH CORRIDOR

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Importance of Major Research Universities

- The primary driver of the future economy and job creation will be innovation, largely driven by science and engineering (Gathering Storm Report)
- Global economic competitiveness requires the confluence of **scientific discovery** that creates **knowledge** and **technological opportunity, workforce talent**, and access to **enabling resources**.
- Universities can contribute to all of these components; over past decade, North Dakota has embraced this concept

Value Creation by University Research Engines

Select contributions of U.S. research institutions to the national economy:

- 2009: >**3,300 patents** issued to universities.
- More than **$40 billion and 270,000** jobs added annually to U.S. economy.
- More than **500 companies formed** annually around university discoveries.

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Guiding Framework For Universities

Relevance

– Utilize all University disciplines

- **Applied research with industry around relevant technologies**

Connectivity

– Link University to community assets and partners

Productivity

– New Metrics

- Value added, not exclusion-based
- Output per unit of input
- Scaled metrics

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Challenges for Universities

- Innovation and Entrepreneurship are global and competition will only increase – we must continue to invest in the three key ingredients, people, knowledge and an innovation enabling environment
- Value creation and economic growth through discovery and translation to innovation and commercialization is a complex, non-linear and often lengthy process.
- University support and rewards system for faculty must more effectively support strategies and goals in technology commercialization
- As a key partner, universities must continue to enhance their efficiencies and flexibility in supporting the innovation enterprise

Education and Workforce Development

The Role of Industry: Wealth Creation

Capitalism is a Process of Creative Transformation

"The interaction of technological innovation with the competitive marketplace is the fundamental driving force in capitalist industrial progress."

Joseph A. Schumpeter, 1942

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, through innovation and research, to create wealth, grow the economy, build successful businesses and improve quality of life

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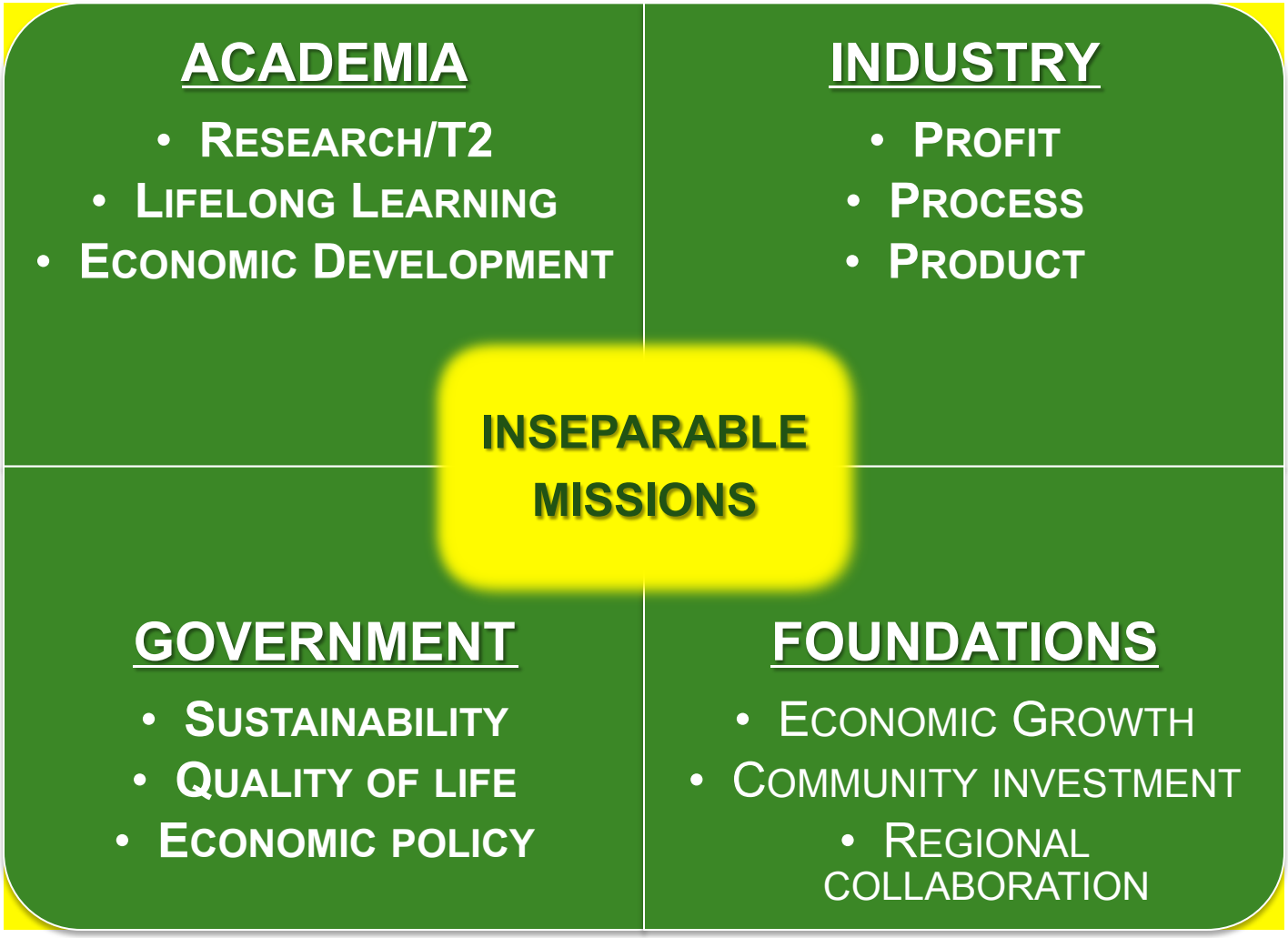
Private/Public Partnership



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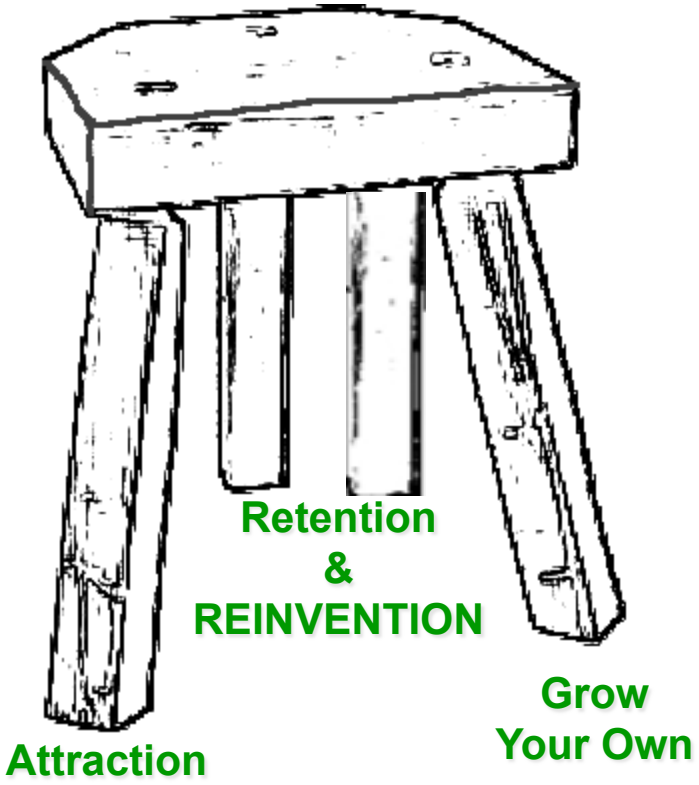
Economic Development

- 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!



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Traditional & Innovation-Based Development

	Traditional	Innovation (Clusters)
• Competitive Basis	Natural resources Highways / Rail Proximity Costs	Specialized talent Networks, information University research / professors Market understanding Global Reach
	i.e. PHYSICAL	i.e. KNOWLEDGE
• Key values / offerings	Business parks Incentives	Access to research Workforce competencies Lifestyle
• Lead Organization	Chambers / EDCs	Economic developers

Innovation Intermediaries

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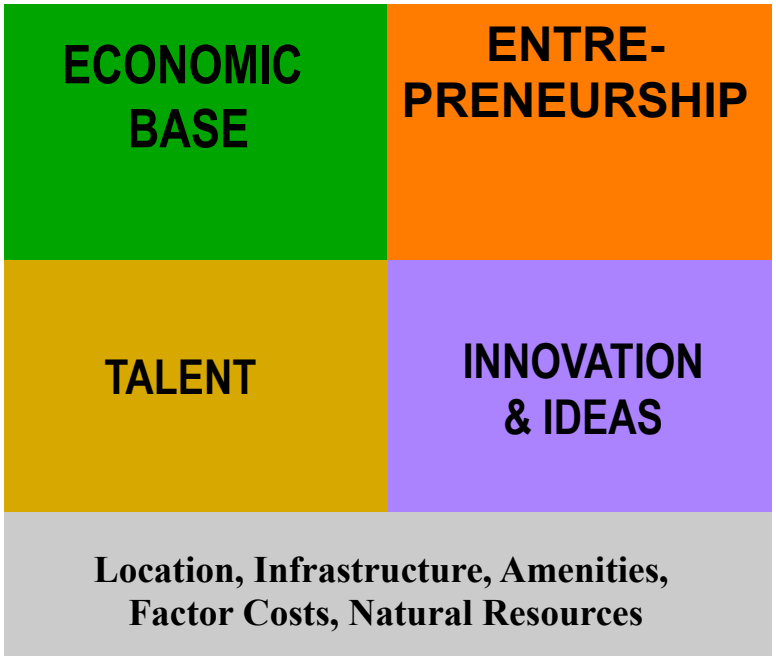
Regional Innovation Clusters

Five Key Components to Consider When Defining Unique Regional Assets

What you make, including your existing & prospective industry clusters

What you do: your workforce skills & human capital base



Your capacity to create companies wholly new or from existing firms

Your capacity to innovate and generate new ideas

The basic conditions defining the economic milieu of the region

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ASTRA 2010 North Dakota Ranking

Rank	General Demographic & Economic Indicators [3]	North Dakota	Total U.S.
48	North Dakota's Population as of July 1, 2009	646,844	304,059,724
47	North Dakota's Civilian labor force, 2009 (thousands)	362.3	153,203
21	North Dakota's Personal income *per capita*, 2008 ($)	$39,870	$40,208
47	High Tech Employment in North Dakota's Workforce, 2008	9,4450	5,781,460
50	Gross State Product, 2009 ($ billions)	$27.8	$13,972.3
33	Federal R&D Obligations per Civilian Worker 2007	$320	$764
49	Business R&D in North Dakota 2007 (current $ millions)	$126	$265,919
Rank	**Academic Indicators & Degree Production [3]**		
48	Advanced S&E Degrees Awarded, 2007	312	150,127
49	Bachelor's Degree Holders or Higher Among Individuals 25-44 Yrs. Old in North Dakota, 2007	49,433	24,856,576
46	Federal R&D Expenditures at Universities & Colleges, all sources, FY 2006 ($ thousands)	$84,509	$30,033,156
30	State & Local Govt. R&D Expenditures at Universities & Colleges, FY 2006 ($ thousands)	$32,349	$3,016,240
41	Industry R&D Expenditures at Universities & Colleges, FY 2006 ($ thousands)	$9,165	$2,427,627
45	Institutional R&D Expenditures at Universities & Colleges, FY 2006 ($ thousands)	$29,191	$9,062,058
Rank	**NCES Key Educational Statistics — Public Schools (latest) [4]**		
36	Expenditure per Pupil 2007-2008 School Year	$8,528	$9,154
48	Enrollment in Public Elementary & Secondary Schools 2007-2008	95,059	966,519 (avg.)
48	Number of Full Time Equivalent (FTE) Teachers, 2006 - 2007	8,007	3,181,494
Rank	**Workforce Indicators [3]**		
49	Employment in High-Tech Establishments in North Dakota, 2006	22,450	13,733,632
41	Individuals in S&E Occupations as Share of Workforce in North Dakota, 2008 (percentage)	2.56%	3.75%
48	Employed S&E Doctorate Holders in Workforce in North Dakota, 2006	1,380	618,370
50	Engineers in Workforce in North Dakota, 2008	2,530	1,626,330
18	Life & Physical Scientists as Share of Workforce in North Dakota, 2008 (percentage)	.45%	.40%
Rank	**R&D Spending by Source, R&D Indicators, Awards, & Patents [3]**		
49	SBIR Funding for North Dakota Small Businesses, 2006-2008 (current $ thousands)	$918	$1,731,667
44	Avg. Annual Federal SBIR Funding per $1 million of GDP in North Dakota, 2006-2008	$32	$127
43	Academic R&D in North Dakota, 2008 ($ thousands)	$180,764	$51,784,120
34	Patents Awarded per 1,000 indiv. in S&E Occupations in North Dakota in 2008	6.7	13.4
51	Hi-Tech Share of business establishments in North Dakota, 2006 (percentage)	4.86%	8.35%
Rank	**Venture Capital & Entrepreneurial Indicators [6,3]**		
45	Number of Deals CY 2009	2	2,802
42	Venture Capital Investments in 2009 (millions of 2009 $)	$6.8	$17,690.7
43	Net High-Tech Business Formations in North Dakota, 2006	34	14,031

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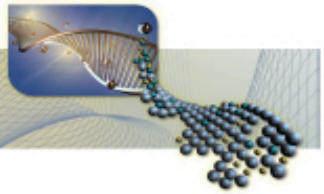
Battelle Biosciences Report for North Dakota

NORTH DAKOTA



North Dakota has an employment specialization in the agricultural feedstock and chemicals subsector of the bioscience industry (location quotient of 2.04). Of the $78 million in total academic bioscience research and development expenditures in 2008, $51.8 million were in agricultural sciences, followed by $17.9 million in medical sciences. Of the 58 bioscience patents issued in the last six years, the largest share are in biotechnology, followed by biochemistry and agricultural biosciences.

Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metrics	North Dakota	United States	Rank*
Bioscience Industry, 2008			
Total Bioscience Industry Employment, 2008	1,319	1,420,324	V
Bioscience Industry Location Quotient, 2008	0.37	n/a	V
Biosciences Industry Establishments, 2008	81	47,593	V
Academic R&D Expenditures, FY 2008			
Bioscience R&D ($ thousands)	$77,810	$31,818,810	44
Bioscience Share of Total R&D	43.0%	61.3%	47
Bioscience R&D Per Capita	$121.31	$104.54	13
Change in Bioscience R&D, FY 2004–08	7.0%	22.3%	45
NIH Funding, FY 2009			
Total, Including ARRA Funds ($ thousands)	$15,025	$25,837,590	50
Per Capita Funding	$23.23	$84.16	46
Change in Baseline Funding, FY 2004–09**	-20.8%	-4.7%	47
Change in Total Funding, FY 2004–09	-7.7%	14.6%	47
Clinical Trials, Initiated 2009	76	5,299	42
Higher Education Degrees in Bioscience Fields, AY 2008	594	161,811	45
Employment in Bioscience-related Occupations, 2008	1,720	717,510	48
Bioscience Venture Capital Investments, 2004–09 ($ millions)	$10.6	$60,099	47
Bioscience and Related Patents, 2004–09	58	75,593	49

*State ranking figures for bioscience industry employment metrics are calculated as quintiles (I=Top Quintile; V=Bottom Quintile). All other metrics are ranked 1-52.
**Baseline Funding does not include American Recovery and Reinvestment Act (ARRA) funds for 2009.
For source notes, see end of State Profile.

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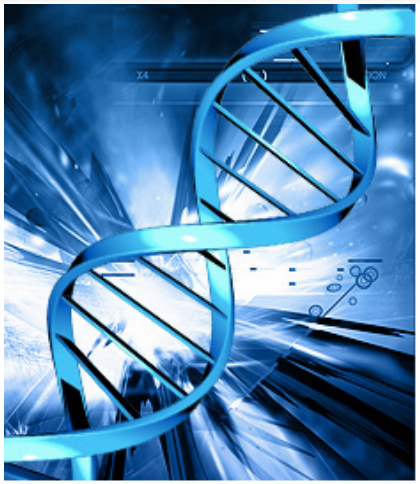
Fargo/Moorhead Key Innovation Clusters



BIOPHARMECUTICALS

- Center for Biopharmaceutical Research & Production (CBRP)

SMART TECHNOLOGIES

- Software, Electronics & Sensors

SMART™ Technologies

AGRICULTURE

POLYMERS & COATINGS

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Fargo/Moorhead Smart Technologies

Control Systems - Industry Relevant Research

- NDSU Engineering
- Phoenix International/John Deere
- Echelon
- NavTeq
- Microsoft

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Innovative Manufacturers

- Caterpillar
- Case New Holland
- John Deere
- Amity Technology
- Bobcat

JOHN DEERE

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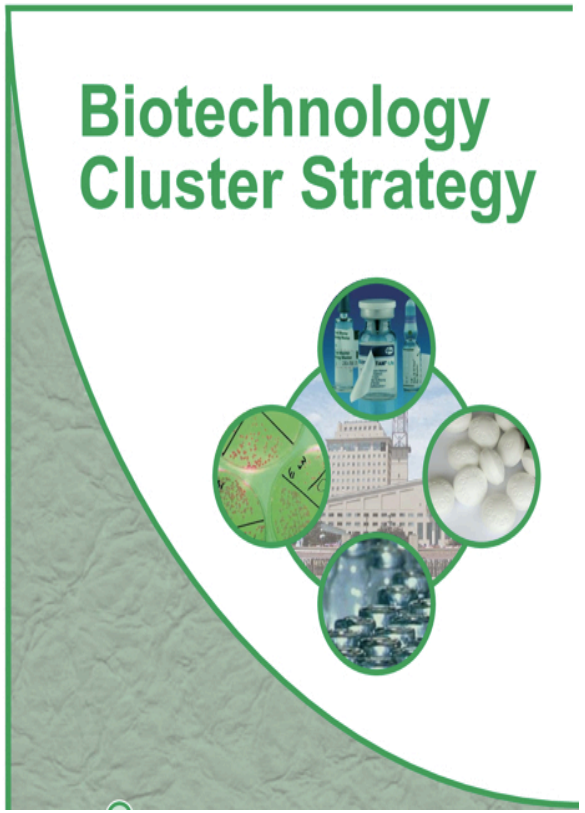
Characteristics of Successful Biotechnology Clusters

- **Strong** science base
- **Entrepreneurial** culture
- **Growing** company base
- **Ability to attract** key staff
- Availability of **financing**
- Appropriate **premises & R&D infrastructure**
- **Close proximity** of business support services & large companies in related industries
- **Skilled** workforce
- **Effective networks** (for example, associations & cluster councils)
- **Supportive** (national, regional and local) government policies



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Creating Economic Diversity in Fargo/Moorhead

- Creation of a biotech hub in the Red River Valley offers to generate high value economic diversity to ND
- Biopharmaceuticals and vaccines address significant unmet clinical and economic need
- Builds on existing strengths at institutions of higher learning, private sector biotechs and CROs in the area
- CBRP offers an unique opportunity to focus the existing infrastructure, build on our strengths and fill the void to emulate successful biotech-based economies around the nation and the world.

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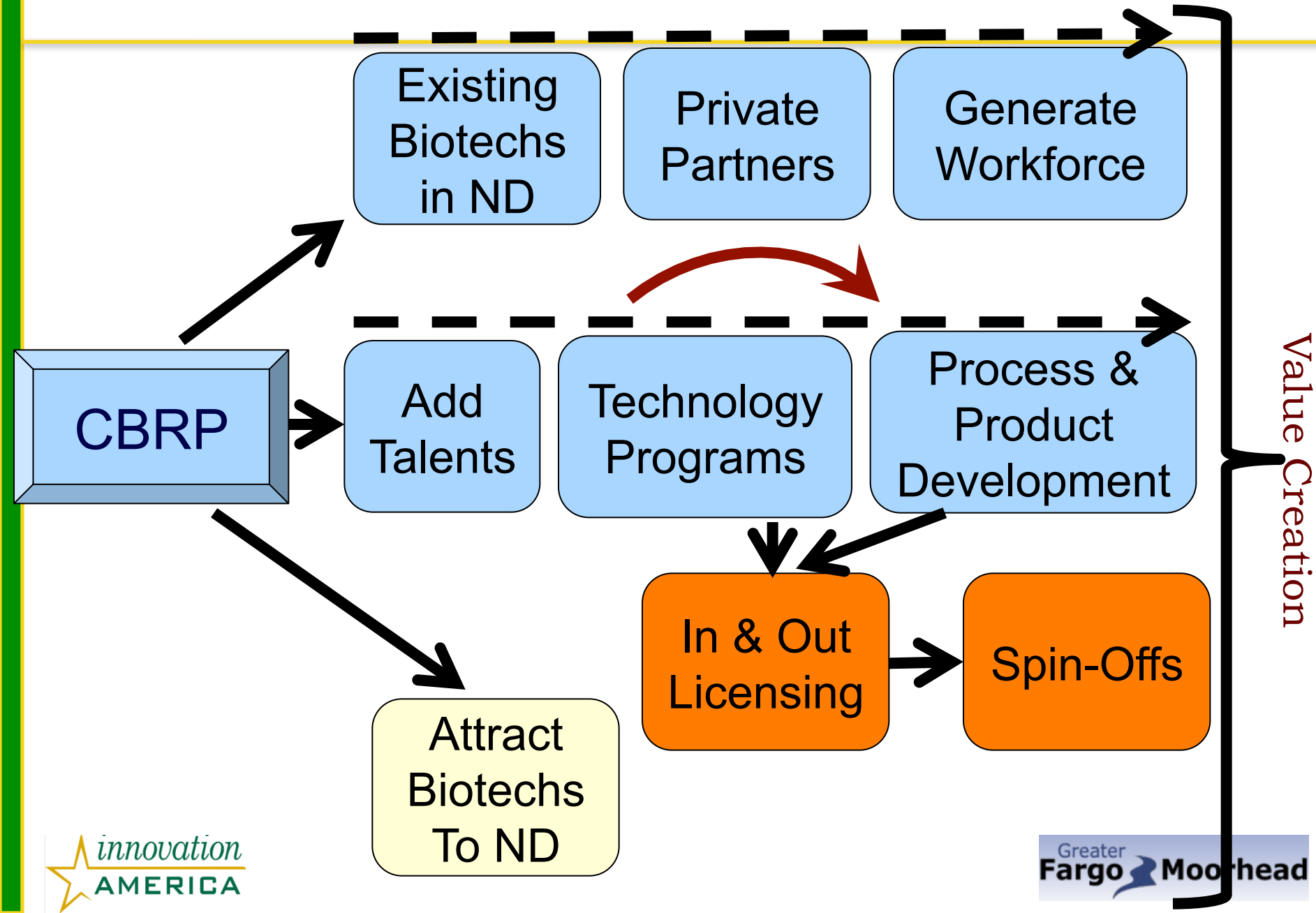
CBRP's Vision



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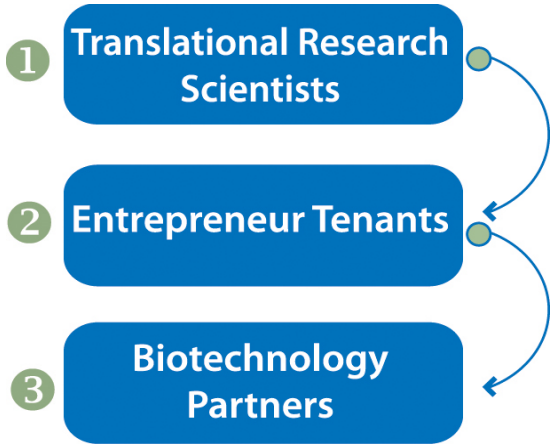
Pennsylvania Biotechnology Center

- 110,000 sq-ft., state of the art research and education facility
- Provides space and resources to start-up companies, for-profit companies, non-profit research and outreach organizations
- Partners include federal, state and local agencies, institutions of higher learning, non-profit corporations and private companies
- Home to three classes of tenants; Translational
  Research, Entrepreneur Tenants, Biotechnology
  Partners
- A true “Knowledge-Based Community”



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Pennsylvania Biotechnology Center Founder: Dr. Timothy Block

Founder: The Institute for Hepatitis and Virus Research (the research arm for the Hepatitis B Foundation), the Pennsylvania Commonwealth Institute, the Pennsylvania Biotechnology Center (PABC) and Launch Innovations PA

- Professor on the Drexel Medical College Staff
- Adjunct professor at the University of Pennsylvania.
- 18 patents.
- $40M in research and other state and federal support programs over a ten year period
- Pipeline of commercial projects include:
  - Early Detection and Diagnosis of Disease (Liver fibrosis, CA and CRC)
  - Assays to discover therapeutics and New Therapeutics for chronic and viral diseases and liver cancer and assay to discover therapeutics
- 2 drugs in Phase II Clinical Trials and 1 drug in Phase III Clinical Trials

BioEnterprise Initiative - Cleveland

Vision

Make region a **nationally recognized** center for **health care innovation and commercialization** (e.g., Minneapolis, Research Triangle)

Mission

Be the leader in biosciences industry growth focused on recruiting and attracting entrepreneurs, **creating, accelerating, and retaining start-ups**, and **nurturing and promoting a vibrant business environment**

Performance Metric and Target

Capital raised by health care companies in region
>$150 million invested in region annually

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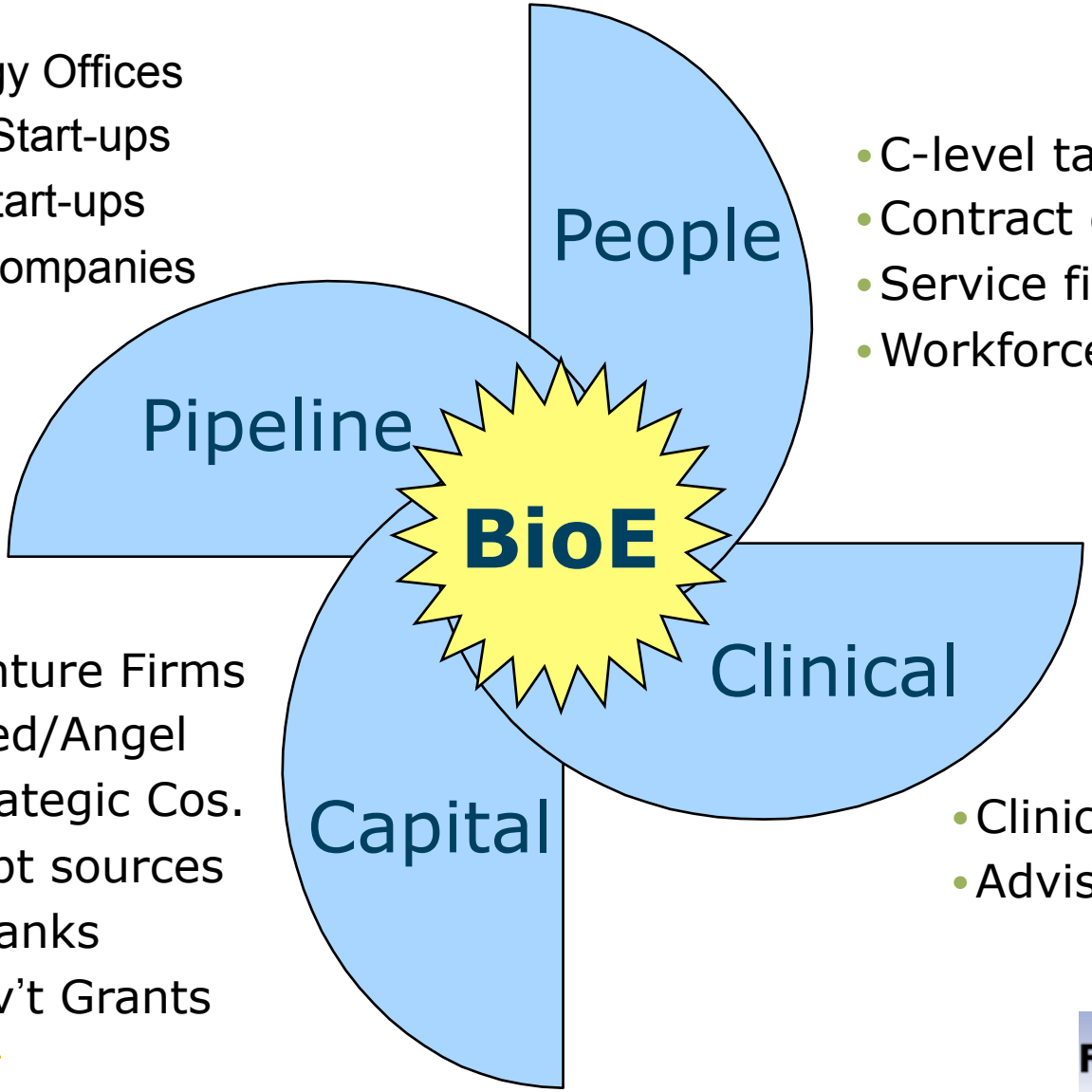
BioEnterprise

Business Acceleration

- Technology Offices
- Regional Start-ups
- Foreign Start-ups
- Existing Companies



- C-level talent
- Contract executives
- Service firms
- Workforce programs

- Venture Firms
- Seed/Angel
- Strategic Cos.
- Debt sources
- I-banks
- Gov't Grants

- Clinical champions
- Advisory boards

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Market-Driven Approach

Choose/create opportunities that are fundable…

- Regional entrepreneurs
- Institutions
- Foreign recruitment
- Company creation

…position companies to raise capital…

–Experienced management support

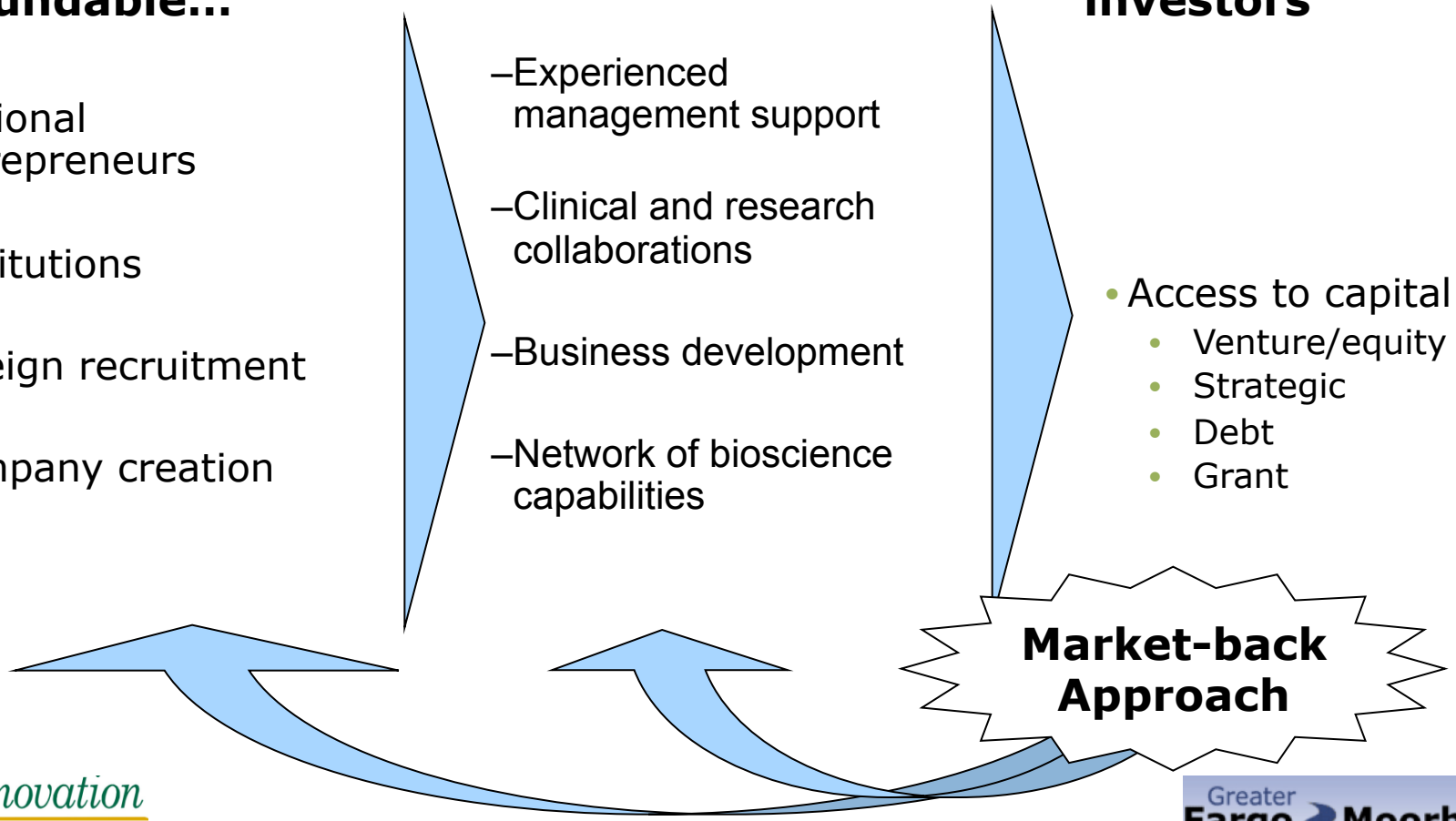
–Clinical and research collaborations

–Business development

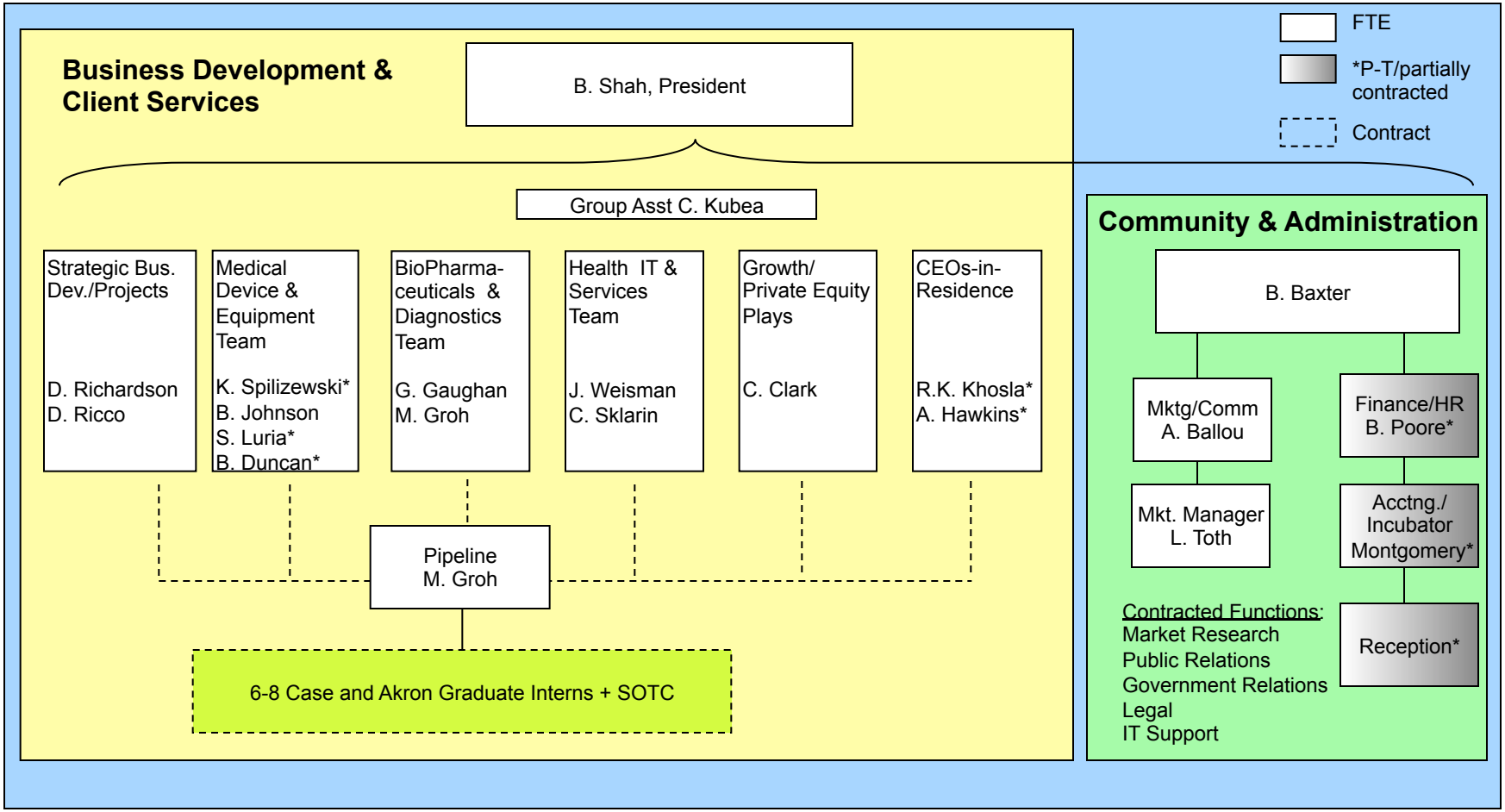
–Network of bioscience capabilities

…from targeted, interested investors

- Access to capital
  - Venture/equity
  - Strategic
  - Debt
  - Grant



BioEnterprise Organization Chart



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BioEnterprise

Results

- Health Care Venture ~ Research Triangle
  - ~$150 million per year over last 6 years
  - 45 Healthcare Funding Sources in Ohio
  - 80% of funding from outside region
- Industry Growth
  - Now at 600 companies
  - Several dozen firms started/attracted each year
  - Over 20,000 employed in industry
  - 29 “Exits”
- National Recognition

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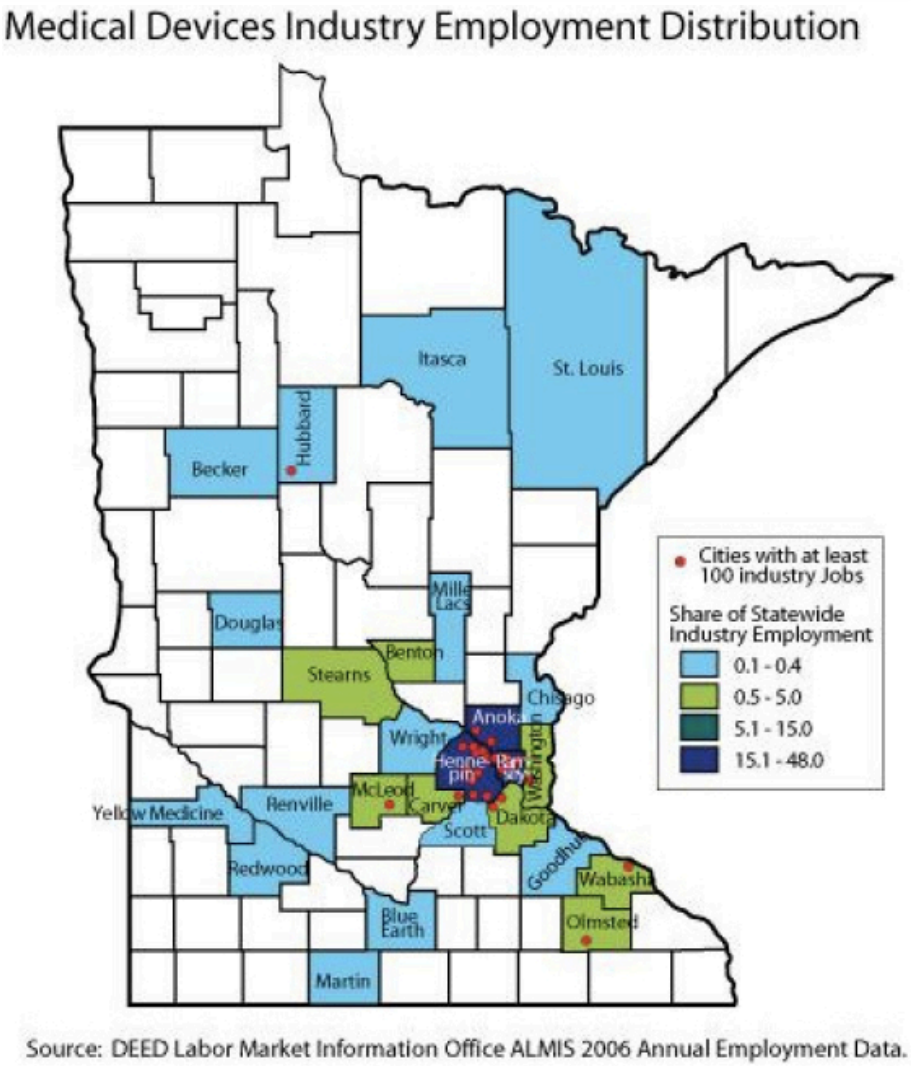
Minnesota Medical Device Industry

- Employment: 29,351 1.4 percent of total
- The five largest medical device firms in Minnesota alone (Medtronic,3M, Boston Scientific, St. Jude Medical, and American Medical Systems) generate more than $22 billion in sales
- Minnesota ranked 2nd in the US people employed in medical device manufacturing, only less than California
- Minnesota based medical device wages paid 8.3% higher than in the U.S.
- Minnesota based surgical appliance manufacturing companies, wages are 40.9 percent higher than in the U.S



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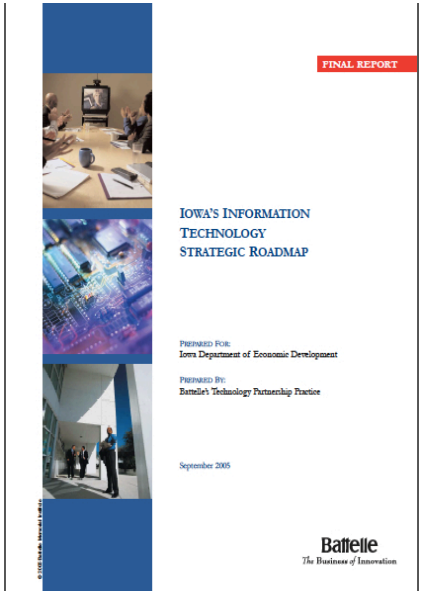
Iowa's Key Clusters



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Iowa Bioscience Report – 2011 Battelle

2011 Iowa Bioscience Strategy

Prepared for: Innovate Iowa
Prepared by: Battelle Technology Partnership Practice
February 2011

The biosciences is a high-wage industry in Iowa and nationally. The average annual wage paid by the bioscience sector in Iowa was $60,833 in 2008, more than $24,000 or 67 percent above that paid on average in the overall Iowa private sector. Wage premiums in the biosciences reflect a greater degree of value-adding activities relative to other major industries. In addition, a knowledge-based industry like the biosciences requires high-skilled workers whose higher wage requirements reflect the greater value of their education and skills in the labor market. And while this holds true relative to other industries, even within the biosciences, wages across states and regions can vary considerably based on the occupational and industry composition or mix within each.

Table ES-1: Average Annual Wages for Iowa and the U.S., Biosciences vs. Other Major Industries, 2008

Industry	Average Annual Wages, 2008	
	Iowa	United States
Agricultural Feedstock & Chemicals	**$ 68,065**	**$ 72,279**
Management of Companies & Enterprises	$ 66,265	$ 94,842
Total Biosciences	**$ 60,833**	**$ 77,595**
Finance & Insurance	$ 56,653	$ 85,274
Drugs & Pharmaceuticals	**$ 56,288**	**$ 93,378**
Research, Testing, & Medical Labs	**$ 55,678**	**$ 80,785**
Wholesale Trade	$ 49,623	$ 61,847
Professional, Scientific, & Technical Svcs	$ 49,373	$ 74,354
Manufacturing	$ 47,173	$ 54,392
Medical Devices & Equipment	**$ 44,675**	**$ 63,606**
Construction	$ 44,031	$ 49,014
Information	$ 43,234	$ 70,780
Transportation & Warehousing	$ 37,165	$ 42,969
Total Private Sector	**$ 36,359**	**$ 45,229**
Health Care & Social Assistance	$ 35,641	$ 42,150
Real Estate	$ 33,436	$ 43,239
Agriculture, Forestry, Fishing & Hunting	$ 30,157	$ 25,982

Source: Battelle analysis of Bureau of Labor Statistics, QCEW data from IMPLAN

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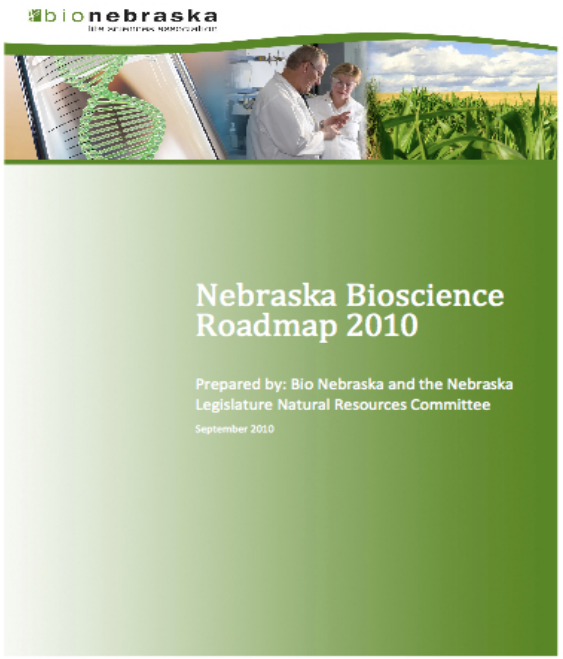
Four Strategies and Actions to Grow Nebraska's Bioscience Industry

✧**Strategy 1: Build** Nebraska's university Bioscience R&D base around the targeted Bioscience technology platforms and better connect Nebraska's Universities and bioscience companies

✧**Strategy 2: Create** an infrastructure to encourage innovation, support commercialization and assist bioscience entrepreneurs and stat-up companies

✧**Strategy 3: Grow** the state's bioscience industry cluster by supporting the retention and expansion of existing and emerging bioscience firms

✧**Strategy 4: Develop**, retain and attract bioscience talent



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SECTION II: BENCHMARKING SUMMARY OF KEY CLUSTER ATTRIBUTES & INTERVENTIONS:

A benchmarking section matrix is provided below to enable the comparison of the various cluster attributes and interventions that have assisted in the growth of the comparative clusters.

Subject Area	Maryland/ Greater DC Area	Philadelphia	Cleveland	San Diego	San Francisco	Greater Boston	Research Triangle, NC	Medicon Valley – Denmark - Sweden	Oxfordshire England	Switzerland	Victoria, Australia
1. Scientific Workforce Availability	+	+	—	+	+	+	+	+	+	+	+
2. Federal Laboratory Presence	+	—	—	—	—	—	—	N/A	0	N/A	N/A
3. Bioscience Seed Fund	—	+	0	0	0	0	0	0	+	+	—
4. Direct Incentives / Business Costs	0	+	0	—	—	—	0	+	—	+	+
5. Enhanced R&D Tax Credits	0	+	—	—	—	—	+	0	—	+	+
6. Efficient Tech Transfer Policies	— —	—	+	+	+	0	0	—	+	+	0
7. SBIR Support Program	—	+	—	0	0	0	+	N/A	N/A	N/A	N/A
8. Early-stage & VC capital availability	—	—	+	+	+	+	—	+	—	+	—
9. Commercialization Institutes	—	—	+	0	0	+	—	0	0	0	—
10. Established Public-Private Partnership (Innovation Intermediary)	—	+	+	+	—	+	0	+	+	+	+

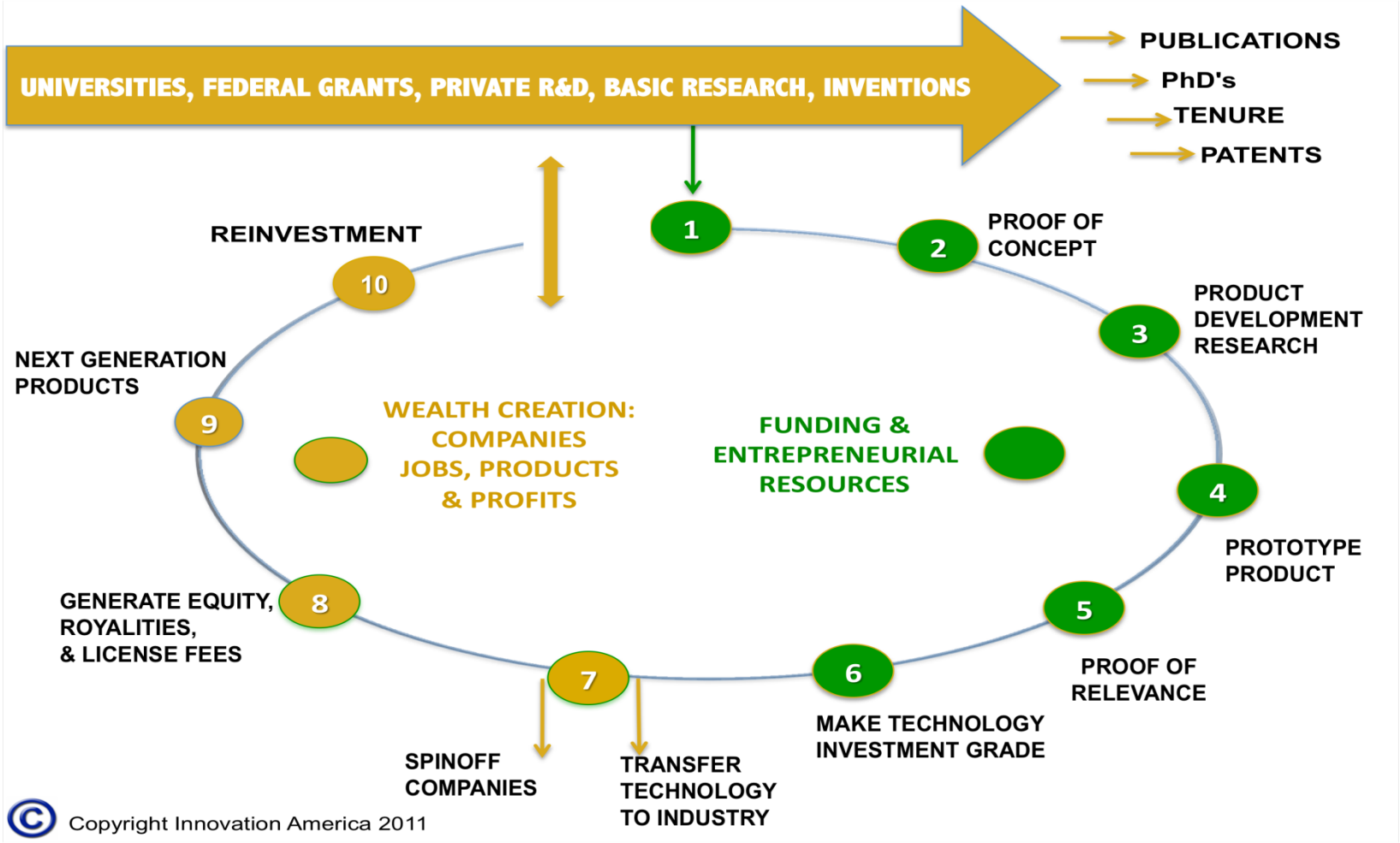
Rating for Each Region:

+ = Strength — This Reality or Intervention has been critical to the Success/Growth of the Cluster

— = Weakness: — The Cluster is lacking this component for its future Success/Growth

0 = Neither Strength/Weakness: — The component has not been a critical factor in the Success/Growth of the Cluster.

Innovation America Commercialization Model



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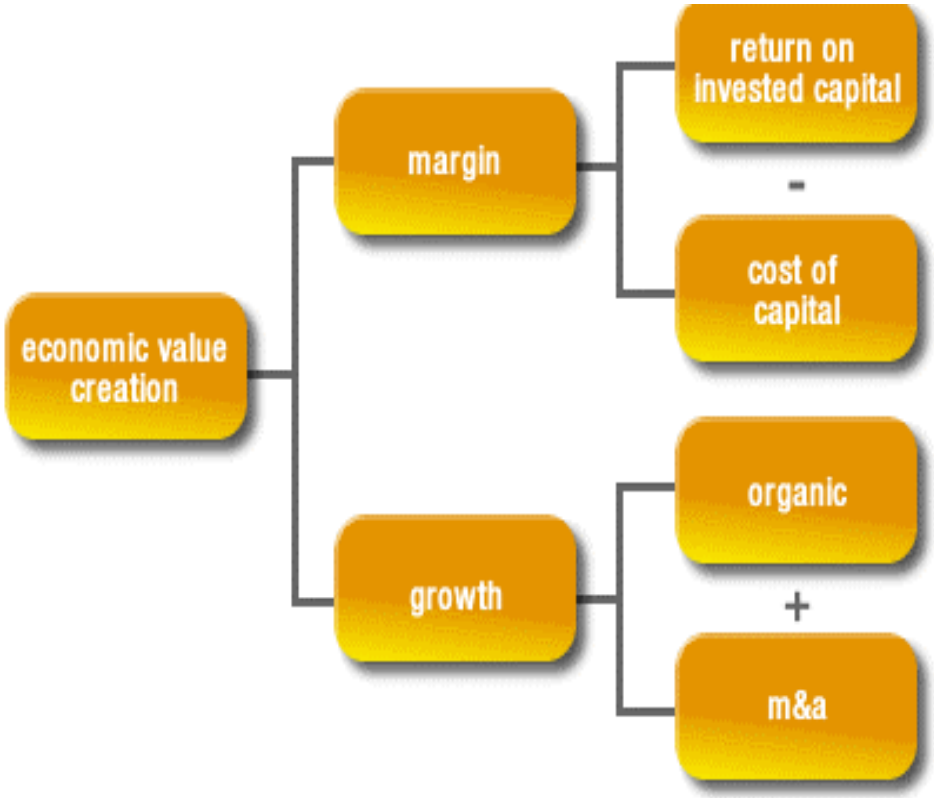
Innovation Paradigm Shift

PROOF OF CONCEPT
(Technological Feasibility)
"It Works!"

PROOF OF RELEVANCE
(Market Pull)
"It Works To Solve A Problem"



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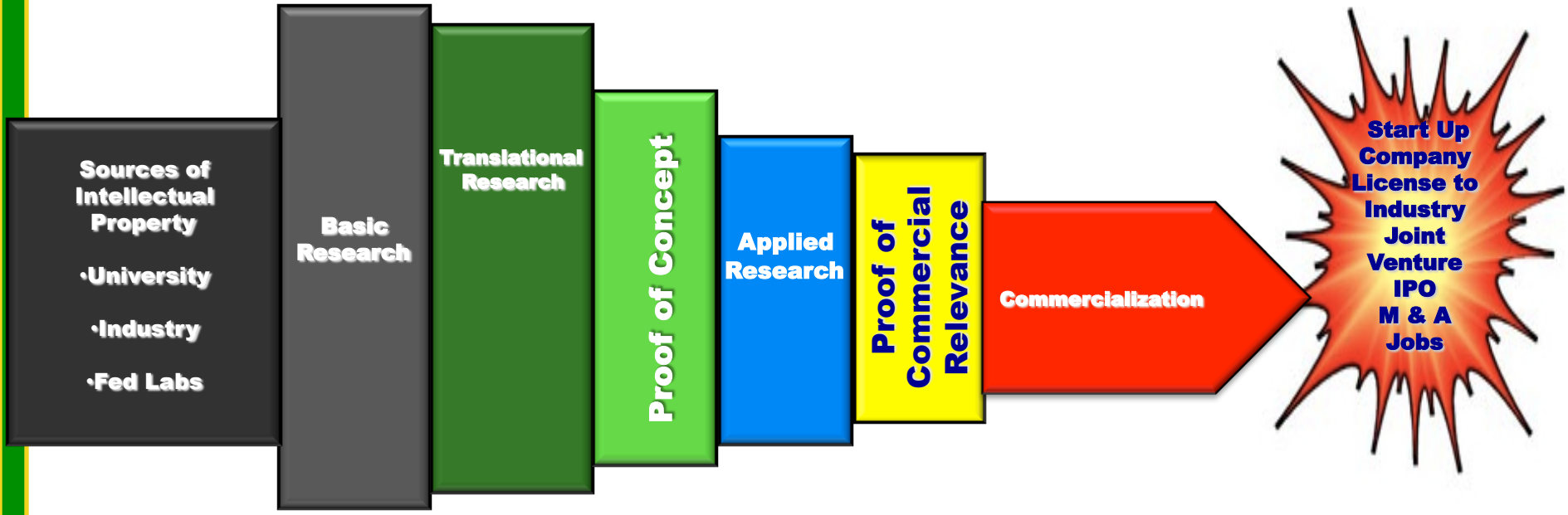
Iowa Integrated Innovation & Commercialization Network ™

Knowledge Infrastructure: Interns → MBA's → PhD's → Post Docs → Univ. Research → IIICN → Mentors/Advisors → Industry

Management



State & University Funding: POCC → Demonstration Fund → POCR → State Funds → Iowa Seed Fund

Federal & Public Funding: SBIR/SSTR Phase I&II → TIP → SBIR 2B → I6 Green → E-RIC → Other Public Funds

Private Funding: Foundation → Angel → Seed → Venture Capital → Mezzanine → Debt → Bank

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.

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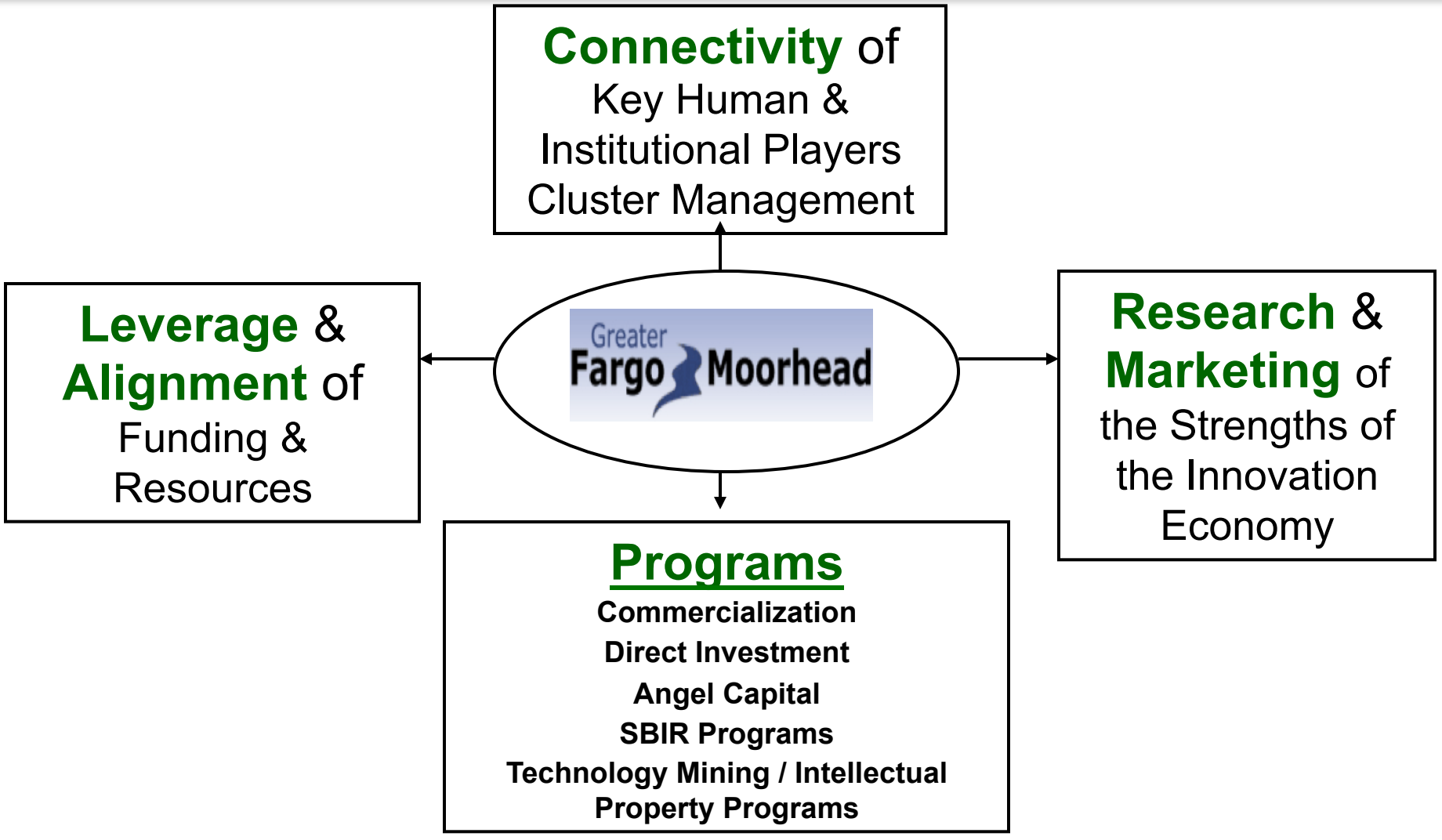
21st Century Innovation Intermediary



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U.S. State Innovation Programs

Successful Funding Models

Ohio Third Frontier
Innovation Creating Opportunity

$700M 5-yearBond Issue
62% Taxpayer vote approving

KANSAS BIOSCIENCE AUTHORITY

$581M 15 year Wage-tax TIF

TNInvestco

TTDC
TENNESSEE TECHNOLOGY DEVELOPMENT CORPORATION

$160M VC Premium insurance
Tax Incentives

POSITIVELY MINNESOTA
Department of Employment and Economic Development

$60 Million
Angel Tax Credits

GPIC Greater Philadelphia Innovation Cluster for Energy Efficient Buildings
A U.S. DOE Energy Innovation HUB

$129M E-RIC Grant

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Utah Science Technology and Research initiative (USTAR)

•Established to generate more technology-based start-up firms, higher paying jobs, and additional business activity leading to a state-wide expansion of the Utah's tax base.

•USTAR is comprised of three program areas:
  - •Research Teams, Research Building Projects, and regional Technology Outreach

•Research Teams: World-class research teams have been recruited to Utah and developed internally within six strategic innovation focus areas:
  - •Energy
  - •Biomedical Technology
  - •Brain Medicine
  - •Nanotechnology
  - •Imaging Technology
  - •Digital Media

USTAR
Turning innovation into industry.

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Innovation 2 Enterprise - Oklahoma

- Private not-for-profit focused on wealth creation by growing OK technology-based entrepreneurial economy
- Works directly with universities, entrepreneurs, researchers and companies to help commercialize technologies, launch and grow new businesses and access capital
- Funding
  - Proof of Concept Fund
  - Seed Capital Fund
  - Angel Network
- Entrepreneurial Development

i2E
INNOVATION TO ENTERPRISE

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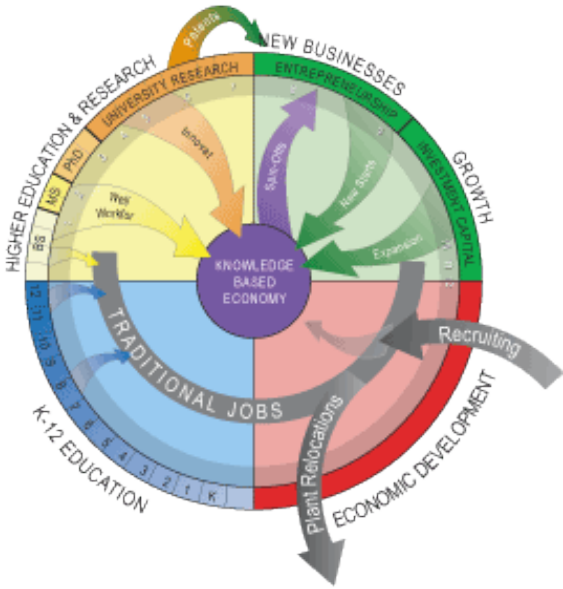
Kansas Bioscience Authority

- $581 million state-funded independent bioscience TBED organization
  - $75.5 million program budget; $3.5 million operating budget
  - 18 employees (8 “deal” people)

- Investment priorities
  - Expand the quantity and quality of bioscience research
  - Focus on the commercialization of bioscience discoveries
  - Foster formation and growth of bioscience companies
  - Position Kansas for international leadership in key clusters

KANSAS BIOSCIENCE AUTHORITY



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Kansas Bioscience Authority – Economic Impact

Through June 2010, KBA investments have helped generate:

- **1,195** new **jobs**
- **$212.6 million in capital expenditures**
- **$86.6 million in new research funding**
- **$48.3 million in equity investments**
- ***Including estimated wages of jobs, that represents a $9.41 return to the state's economy for each $1 invested by the KBA***

KANSAS BIOSCIENCE AUTHORITY

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Nebraska's New Innovation Initiatives

ANGEL INVESTMENT TAX-CREDIT ACT

•**40%-percent state income tax** credit for high-risk investments of at least $25,000 in start-up businesses

"ECONOMIC GARDENING"

•Up to **40 small, Nebraska businesses** of less than 50 employees will receive **$200,000** a year in funding to provide market research, financial data and management advice to help small businesses grow.

BUSINESS INNOVATION ACT

•**Matching** state grants to businesses for new innovations, value-added agricultural products or to develop a prototype in conjunction with a Nebraska university of college.

•Up to **$7 million** a year will be available

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Wisconsin's Venture Capital Bill

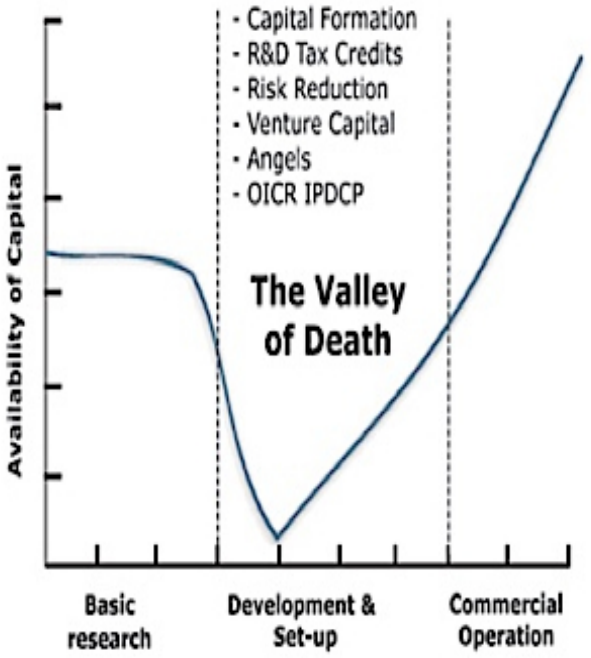
THE JOBS NOW FUND

("certified capital company," or CAPCo, approach.)

- **$200 million in tax credits** to insurance companies over time in return for investments in certified capital funds.
- The Tax credits would be for **80%** of the value of the investments

BADGER JOBS FUND

- Longer-term tool
- Invests in qualified venture capital funds on a **"fund of funds"** basis.
- **Up to $200 million in private placement bonds with the bonds supported by investment returns, incremental growth of state tax collections from financed companies, and contingent tax credits**
- Bonds would not be a debt of the state
- No more than 15% of the funds could go to any single venture capital firm.
- For every $1 a qualified venture capital fund receives from the Badger Jobs Fund, it would need to raise $3 on its own.



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Regional IBED 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.

The New Economy Initiative for Southeast Michigan (NEI)

Founded:2008

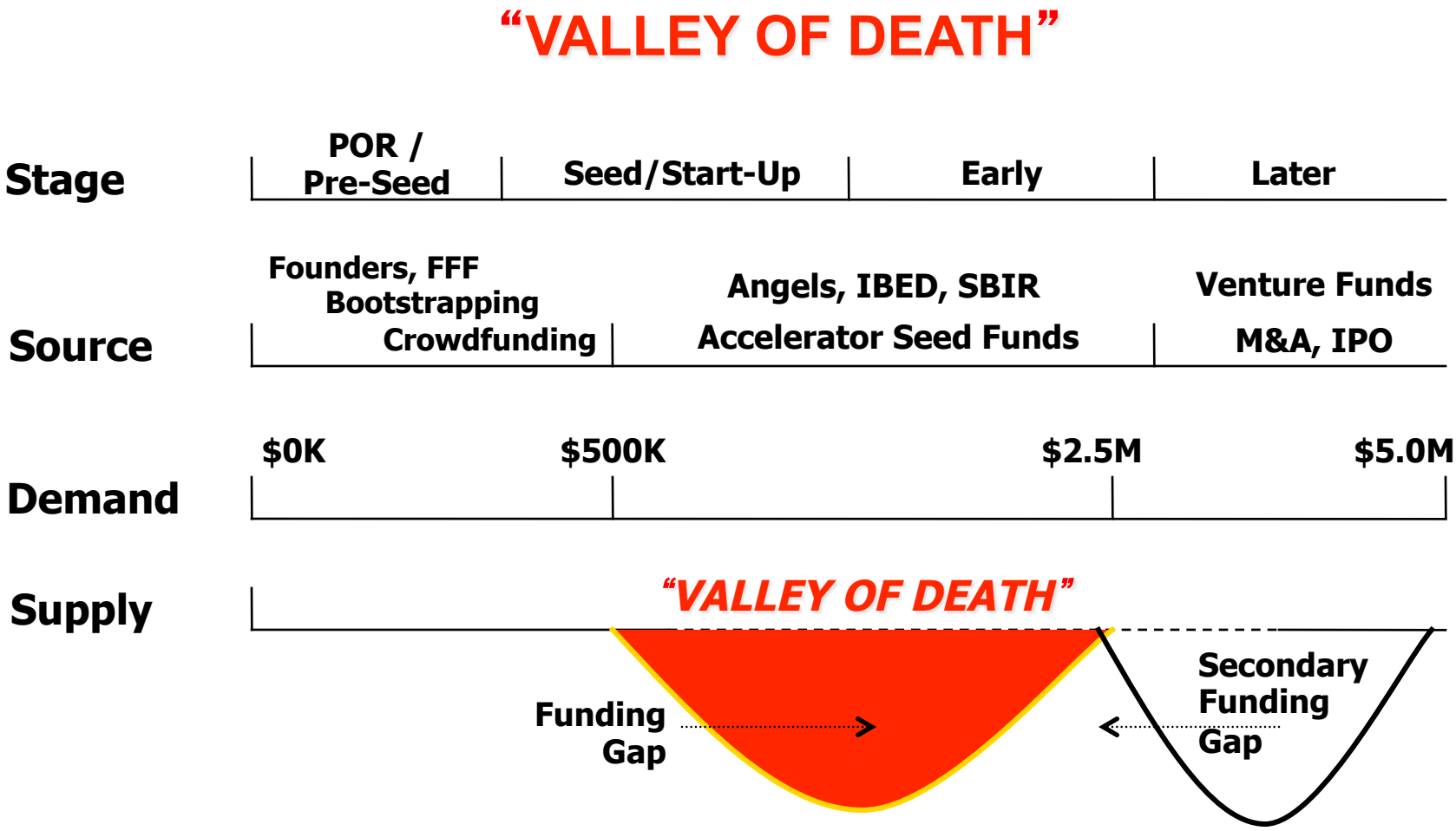
Organizational Mission: Unique philanthropic initiative aimed at helping to restore southeast Michigan to a position of leadership in the new global economy.

Original Funding: $100M – 8 year initiative - 10 national and local foundations

Goal: Accelerate the transition of metro Detroit to an innovation-based economy. Entrepreneurial Eco-System

- •Capitalizing on Existing Assets and Resources
- •Build and employ a more skilled and educated workforce
- •Urban Entrepreneurial Partnership provides assistance to 150 minority automotive suppliers to diversify their customer bases to aerospace, alternative energy, medical devices, military and homeland security.

Innovation Capital Valley of Death



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North Dakota VC Performance 2005-2010

Total US VC and North Dakota VC Dollars Invested

Year	2005	2006	2007	2008	2009	2010	2010 Rank
Total US VC (In Billions)	$23.0	$26.0	$29.0	$28.0	$18.0	$22.0	
Total ND VC (In Millions)	$0	$0	$.150	$5.5	$8.7	$0	50
# of Deals	0	0	1	4	3	0	50

Source: SSTI & PWC Moneytree 2011

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Public Investment In Job Creation

Category	State of PA	CDVCA*	State of UTAH	State of MI	Stimulus Bill
Funds Invested	$90M	$26M	$60M	$291M	$800B
Jobs Created	8,150	3.700	2,047	28,854	4,000,000
$ Per Job Invested	$11,000	$7,100	$29,300	$11,728	$200,000

*Community Development Venture Capital Alliance

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Funding & Resources for Innovation Capital

Seed

- Valley Angel Investment Fund
- jumpstart
- BioEnterprise — A Leader in Growing BioScience Companies
- 500 STARTUPS
- First Round CAPITAL
- NYSTAR

IBED

- North Dakota Department of Commerce — Division of Economic Development & Finance
- Ohio Third Frontier — Innovation Creating Opportunity
- Ben Franklin Technology PArtners
- i2E — Innovation to Enterprise
- Michigan Economic Development Corporation
- Maryland TEDCO — Technology Development Corporation
- Kansas Bioscience Authority
- eda — New Jersey Economic Development Authority

Federal

- SBIR & STTR
- TIP — Technology Innovation Program
- SBA — U.S. Small Business Administration
- SBIC Program
- CRADA
- PCP
- NRC-CNRC Canada — NRC Industrial Research Assistance Program

Angel

- Fargo-Moorhead Angel Investment Fund, LLC
- MAG — Mid-Atlantic Angel Group
- JumpStart New Jersey Angel Network
- LORE Associates
- RobinHood Ventures
- SouthCoast Angels — "A Member Managed Angel Fund"
- New York Angels

Entrepreneur

- Austen BioInnovation Institute in Akron
- techstars
- Y Combinator
- seedcamp
- PIPELINE — KTEC's Entrepreneurial Fellowship
- DREAMIT Ventures

NASVF Advancing Innovation Capital · SSTI · Federal Laboratory Consortium for Technology Transfer FLC · ACA Angel Capital Association · nbia

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.

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Innovation America: Innovation Road Map Process

1. Literature Review of Comparables
2. Key Stakeholder Interviews/Recommendations
3. Asset Mapping/Cluster Analysis
4. GIS Innovation Mapping
5. Innovation Benchmarking/Index (Peer 2 Peer)
6. Innovation and Entrepreneurship Resource Identification (Entrepreneur Resource Guide and Database)
7. Innovation Economic Development Organizational Analysis and Matrix
8. Innovation & Commercialization Gap Analysis (programs & services)
9. Innovation Ecosystem Public Policy Recommendations
10. Develop Strategic Plan
11. Organizational Leadership and Staffing
12. Operations/Implementation Plan and Program Portfolio
13. Branding/Marketing Strategy and Market Research
14. Economic Impact Analysis
15. Celebrate Success

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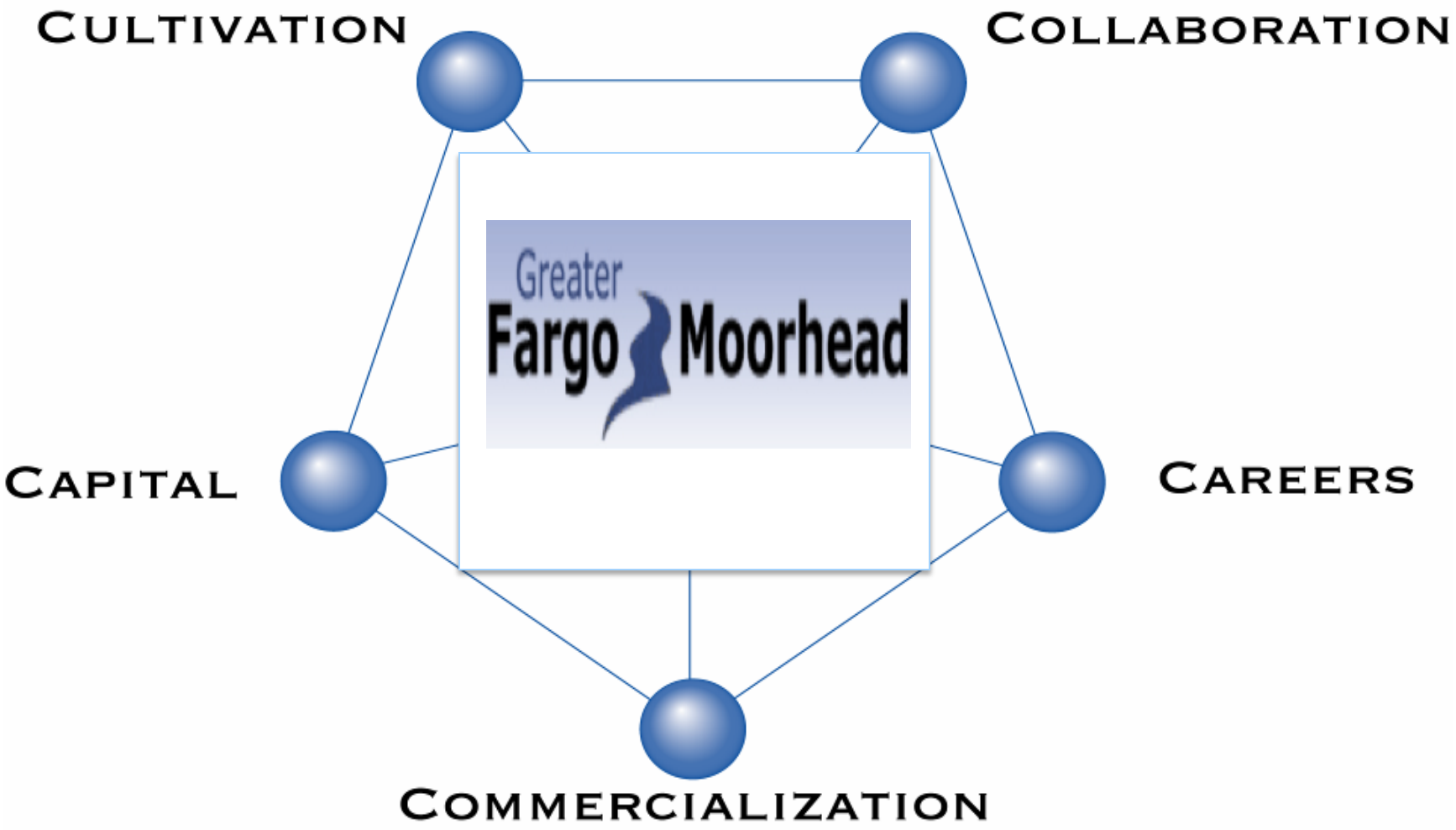
Implementing a Fargo/Moorhead New Innovation Paradigm



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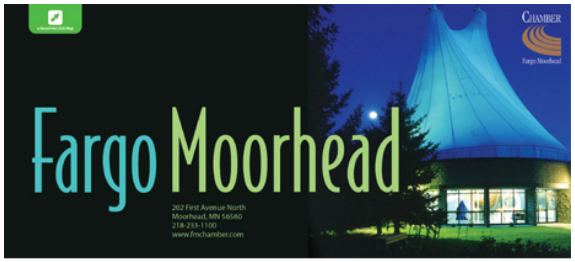
Next Steps For Fargo/Moorhead

WHAT'S WORKED IN OTHER REGIONS:

- Eliminated silos & formed collaborative partnerships
- Integrated innovation strategic plans have been developed & implemented
- Those that perform well have not rested on their laurels & continue to reinvent themselves.
- Recognized innovation competition is global---not local
- Acted with a sense of urgency--As Nike says ***"Just Do It"***



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Bill Gates - Microsoft

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

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