

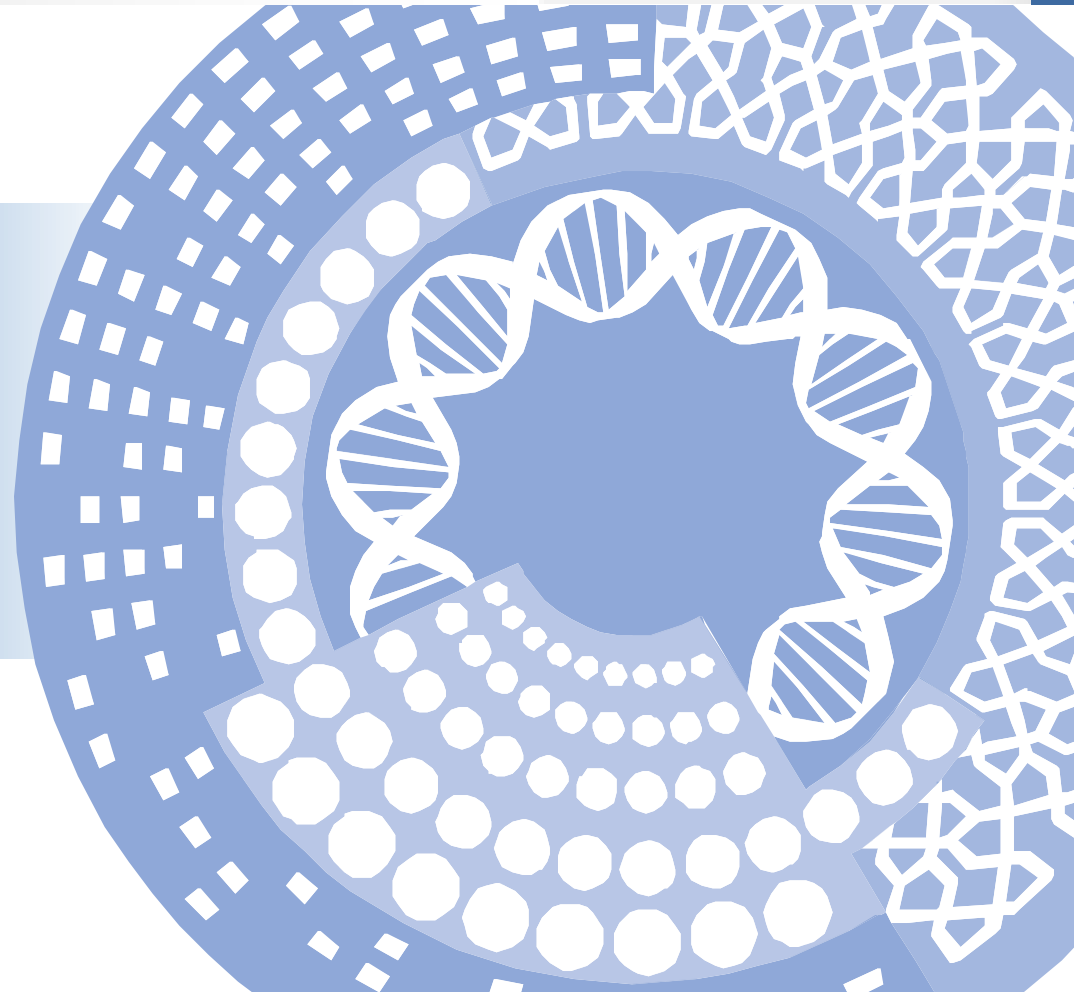
# Creating a High-Performance Innovation Ecosystem: The Massachusetts Life Sciences Initiative

**International Seminar on Knowledge and Innovation**  
**1 October, 2013**

Investing in the State of Innovation



# About the Massachusetts Life Sciences Community

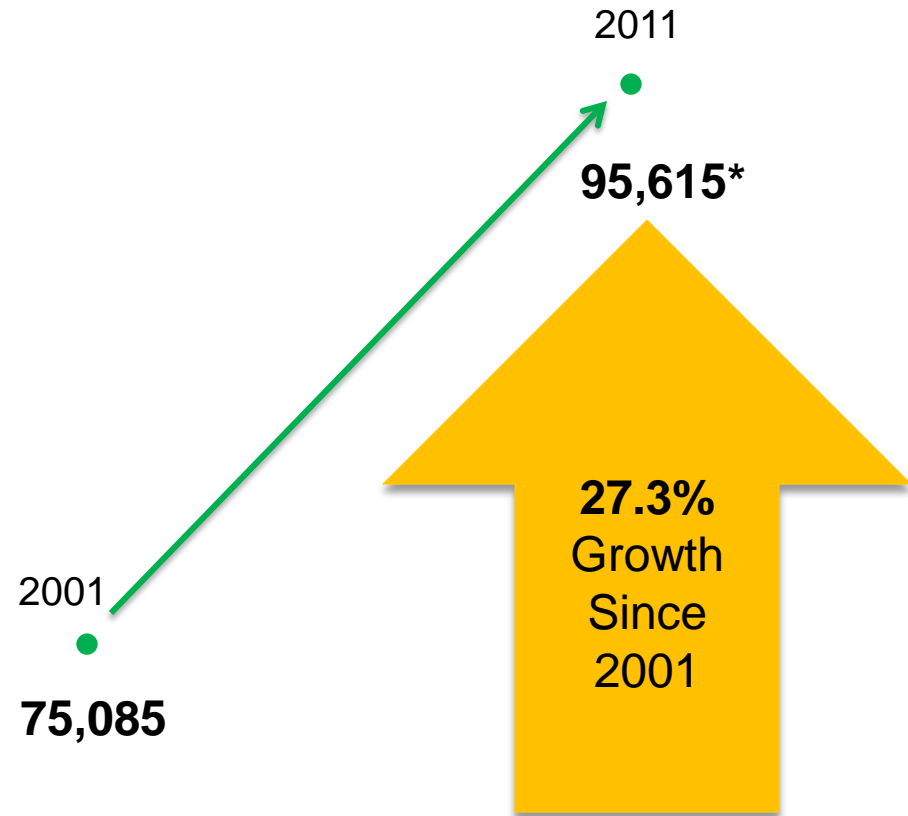


# Massachusetts Is the Global Leader in Life Sciences

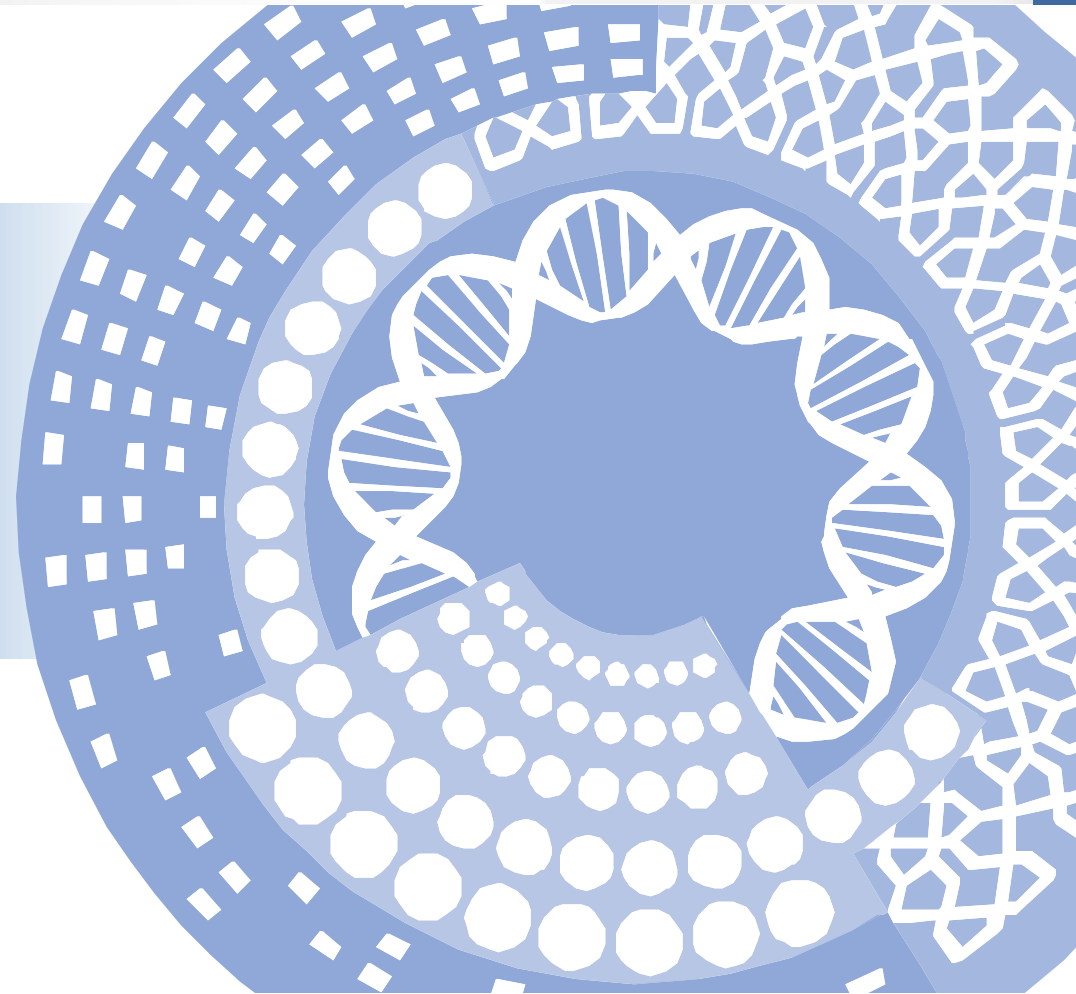
- **The world's leading life sciences community:**
  - #1 in Science & Technology (Milken Institute),
  - #1 Life Sciences Cluster (Jones Lang LaSalle)
  - #1 in Biotech Construction (Richards Barry Joyce)
- **World-class academic and medical institutions**
- **Multiple industry sectors -- biotechnology, pharmaceuticals, medical devices, diagnostics and bioinformatics**
- **Highly educated workforce that is well-distributed across the state**
- **#1 in U.S. in life sciences employment per capita, with nearly 14,300 life sciences jobs per 1 million people**
- **Government leadership,**
  - 10-year, \$1-billion Life Sciences Initiative (enacted by the Massachusetts Legislature in June 2008)

# Life Sciences Are Critical to Our Economy

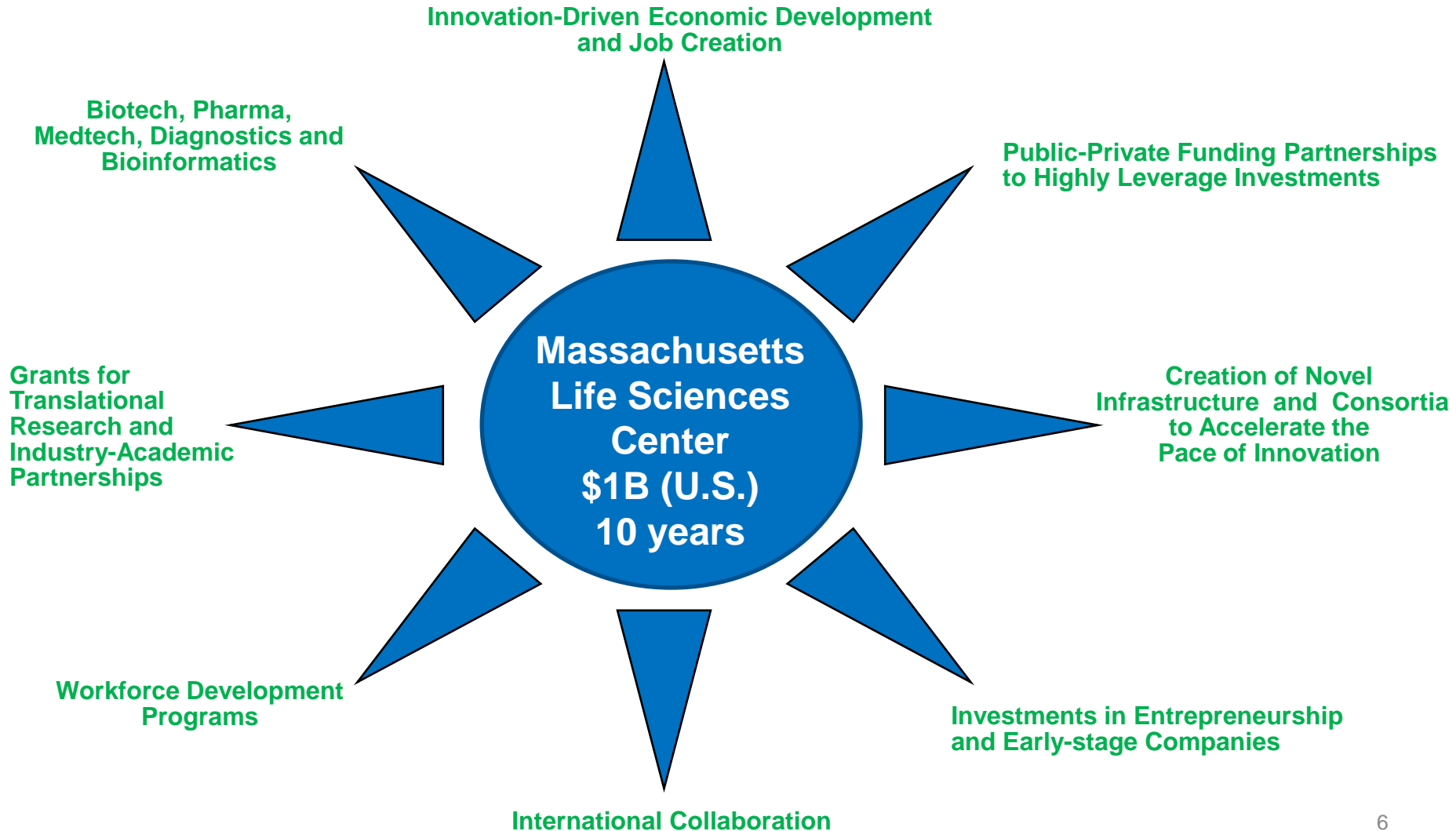
**Life sciences  
employment growth in  
Massachusetts has  
been outpacing the  
nation by 2-to-1.**



# What is the Massachusetts Life Sciences Center?



# The Massachusetts Life Sciences Initiative Has a Wide Scope



# The MLSC Invests to Close Gaps Across the Innovation Life Cycle...

Discovery

Development

Delivery

The MLSC Strategy:  
Reduce barriers, fill gaps and promote collaboration  
across the life sciences innovation process

- Promote and fund convening and collaboration
- Partner with and leverage private sector stakeholders
- Invest in early stage companies (pipeline and external innovation)
- Support workforce development and training
- Build capacity, infrastructure and unique resources in Massachusetts
- Fund translational research

# ...and Coalesce the Massachusetts Life Sciences “Cluster” into an “Ecosystem”

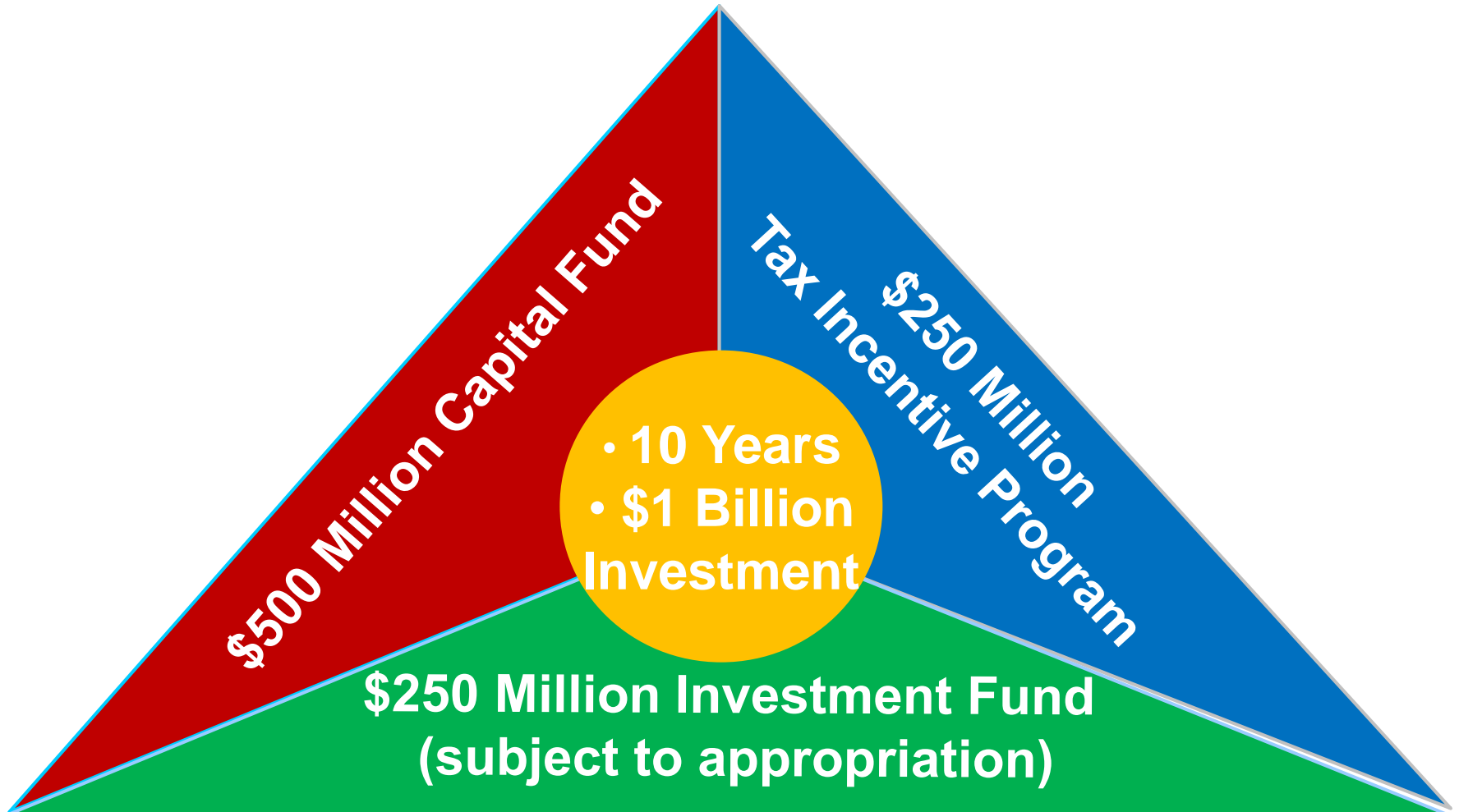
Life sciences innovation thrives in Massachusetts because of the great concentration of universities, research hospitals, educated workers, entrepreneurs, mature companies and a strong investment community.

In a high-performing innovation clusters these components work well *individually and together as an ecosystem.*





# MLSC Has a Variety of Investment Tools



# There Is Much Evidence of the MLSC's Impact to Date

- **Engagement by the life sciences community**
  - Unprecedented participation from industry, and the academic, medical entrepreneurial and venture communities
- **Leverage**
  - Halfway through the 10-year initiative, the MLSC has invested nearly \$500M but leveraged \$1.2M of matching investments
- **Job creation**
  - Life sciences are now fastest job-creating sectors in the state
  - MA is creating new life sciences jobs faster than any other state
- **10 of 10**
  - All 10 of the top 10 global biopharma leaders are present in MA
- **National recognition**
  - National award for excellence in innovation and technology-driven economic development

# More and More Companies Are Creating a Footprint in the Massachusetts Life Sciences Community: 2008 - 2011 2012 2013

MASSACHUSETTS  
LIFE SCIENCES CENTER

alacrita

**ARRAYJET**  
innovative microarray solutions

**ARGO**  
Medical Technologies Ltd.

BOSTON BIOMEDICAL  
Dainippon Sumitomo Pharma Global Oncology

**Baylis**  
MEDICAL

**BioSurplus™**  
Maximizing Equipment Value for Life!

**H3**  
BIOMEDICINE

**ALGETA**

**Batavia Bioservices**

**BIOXONE**  
BIOSCIENCES II

HEMARINA

**idbs**

biogen idec

**evaluatePharma®**  
find value in the pharma & biotech sector

**CYTOO**  
CELL ARCHITECTS

Earle

**HMT** Human Metabolism

Johnson

**NOVARTIS**

Promedior

**SAGENTIA**

ReproCELL

**Pfizer**

Systagenix  
WOUND MANAGEMENT

**SCIVAX**

**VELESCO**  
PHARMACEUTICAL SERVICES

**Xenetic**  
BIOSCIENCES

**Shire**

**SANOFI**

**Sony**

**DADC**

**Z-MEDICA**

**ZSGenetics**

**10 of 10!**

# What Have We Learned?



## New model of economic development

- Innovation sectors require a different model of investment
- “Bottom-up” investing vs. “top-down”

## Program administration

- Awards based on competitive process
- Investment decisions guided by external multi-disciplinary experts (i.e. “wisdom of crowds”)

## Portfolio approach

- Array of programs to fill critical gaps
- Recognizes that innovation requires multiple enabling factors