

# Strategic R&D Partnerships for Economic Development

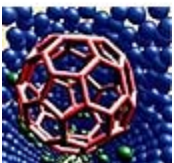
Presented to CenSSIS RIIC  
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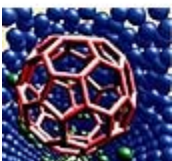
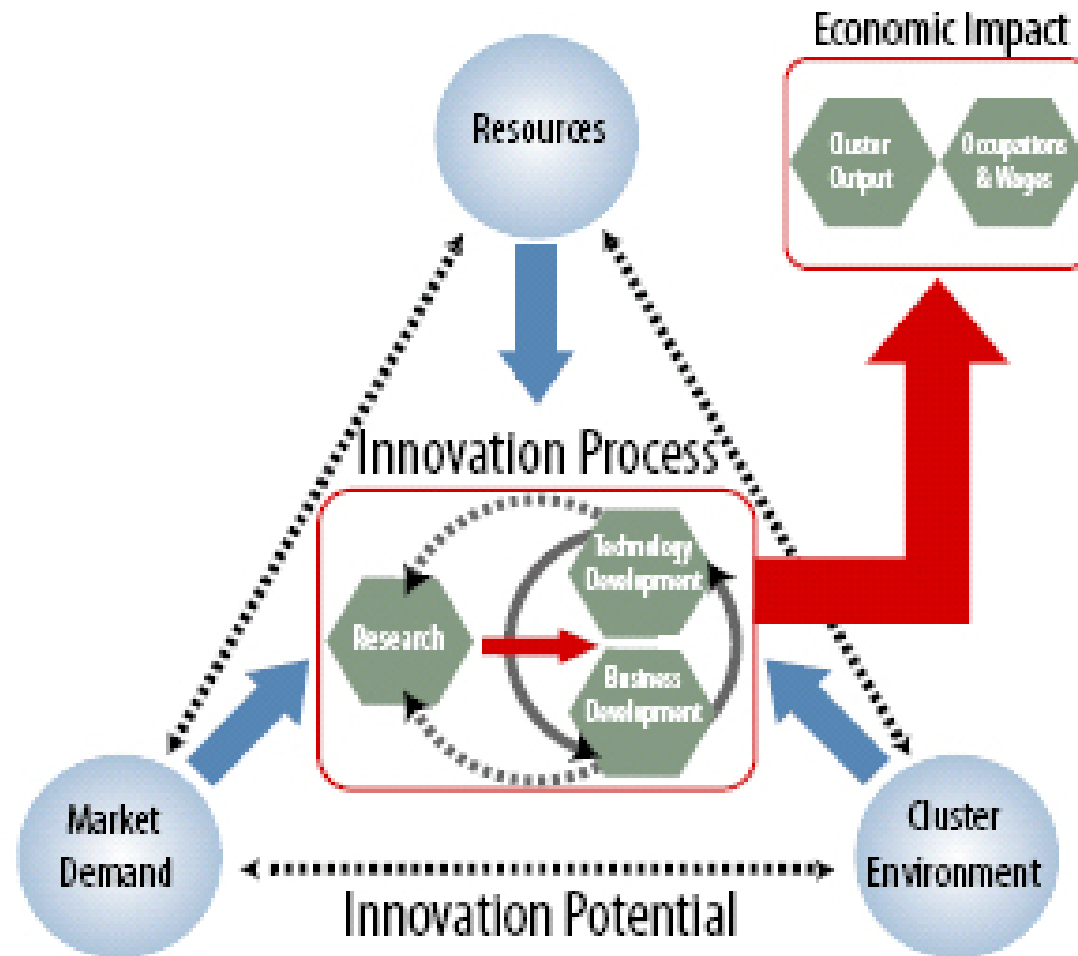


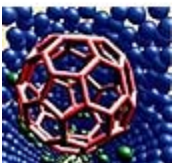
# *Innovation* – the Competitive Advantage of Massachusetts

- *Innovation – the transformation of scientific or technological knowledge into the products, processes, systems, and services that fuel economic development, create wealth, and generate improvements in the state’s standard of living.*



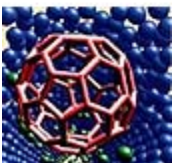
# Framework for Innovation





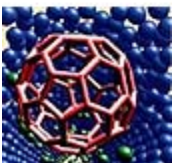
# Key Drivers of Innovation

- Entrepreneurship
- Strong local networking/clusters
- Local funding for local ideas
- The demanding local customer
- Strong national/global demand
- *Enabling research institutions/federal funding*



# Challenges to Leadership

- Massachusetts is a magnet for talent, but opportunities for talent are increasingly global
- Massachusetts has one of the most R&D intensive economies in the world, but we are failing to maintain our “disproportionate fair share” of academic R&D investment
- Massachusetts has a strong record in new start-ups, but we need to increase the number of tech start-ups from academic research institutions, federal labs, and industry to fuel our innovation economy



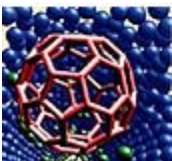
# Challenges to Leadership

- The “Research” and “Tech Transfer” engines of the Innovation Process are strong, but we need to focus on leveraging those strengths in new ways to accelerate economic growth.



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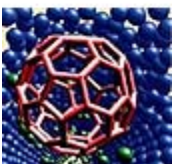
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*To succeed in today's global economy,  
we need not only to promote  
technological innovation; we need to  
innovate the process of innovation  
itself!*



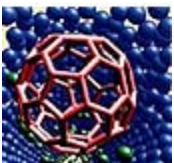
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# Centers as Strategic Investments

- Talent

- Create magnets to attract faculty, students and investment, enhancing both the environment for research and the skills of the future workforce
- Create partnerships with industry that enhance the labor pool by linking emerging talent to (local) job opportunities
- Create linkages on multiple levels that reduce potential job/skills mismatches

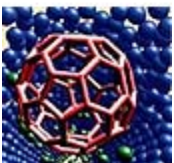


# Centers as Strategic Investments

- Investments

- Centers offer excellent opportunities to accelerate growth in funding for academic R&D, enhancing the knowledge pool supporting economic growth
- Centers provide highly leveraged opportunities for state economic development investments
- Centers create a critical mass of investment (e.g., federal and industry) focused on executing an integrated research agenda addressing important/emerging market opportunities
- Centers create a framework for industrial collaboration and investment that enhances both tech transfer and the climate for tech start-ups





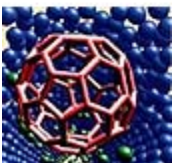
# Centers as Strategic Investments

- **Start-ups and Entrepreneurship**
  - Centers that focus on emerging market opportunities can provide fertile opportunity for new business start-ups
  - Centers that integrate research into test beds provide strong opportunities to teach project management, multidisciplinary/ systems integration, leadership and entrepreneurial skills
  - Centers can provide the critical mass of system integration/ application demonstration necessary to attract attention of investors and adopters



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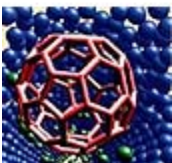
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# Centers as Strategic Investments

- **Innovating the Innovation Process**

- Centers can provide an adaptive/ flexible framework for collaboration, concurrent research & development, commercialization, and business development
- Centers can operate on multiple dimensions of the Innovation Process, from solving technological challenges to creating the framework for regulatory approval and accelerating technology adoption
- Centers can serve as safe havens for collaboration, addressing issues and barriers to cluster growth that industry cannot address unilaterally



# CenSSIS as a Strategic Investment

- CenSSIS has created a magnet that attracts talent and R&D investment to Northeastern and its partners
- CenSSIS is addressing the challenge of developing talented engineers who not only understand how to operate in a multidisciplinary environment, but recognize that entrepreneurship and leadership are essential skills for today's engineer
- CenSSIS is addressing technology challenges across a wide range of existing and emerging market opportunities that support the growth of key industry clusters in Massachusetts
- CenSSIS has changed the process of innovation by introducing a new business model for industry/university collaboration