



DEPARTMENT OF COMMUNITY DEVELOPMENT SERVICES

Economic Development Division

m e m o r a n d u m

TO: Laurel Lunt Prussing, Mayor

FROM: Elizabeth H. Tyler, FAICP, Director, Community Development Services

DATE: February 27, 2014

SUBJECT: Presentation: University of Illinois Report on Technology Clusters and Implementation Strategies for Local Economic Development

Introduction and Background

Recently, the Research Park at the University of Illinois at Urbana-Champaign retained Business Cluster Development to identify technology clusters that offer the best economic development opportunities for the community. On January 27, 2014, representatives of Business Cluster Development presented their findings. The presentation made by Business Cluster Development is attached (Exhibit A). The report can be found at:

<http://researchpark.illinois.edu/sites/researchpark.illinois.edu/files/University%20of%20Illinois%20Research%20Park-%20Cluster%20Report%20FINAL%202%200.pdf>

On March 3, 2014, Laura A. Frerichs, the Director of the University of Illinois Research Park and the Director of Economic Development for the University of Illinois at Urbana-Champaign, will present to City Council on the report.

Prepared by:

Tom Carrino, Economic Development Manager

Attachments: Exhibit A: Business Cluster Development's Presentation on the Identification of Technology Clusters, January 27, 2014



Identification of Technology Clusters

Business Cluster Development

The Research Park at the
University of Illinois at Urbana-Champaign

January 27, 2014

Carol Kraus Lauffer



Clusters & Economic Development

- Cluster = geographic concentrations of *interconnected* companies, suppliers, service providers and others in a particular sector/industry
- Role in economic development
 - Creating, growing, retaining, attracting companies and jobs
 - Creating a vibrant community
- Build upon a foundation



Framework for Cluster Identification

- Foundation:
 - ☑ Collaboration
 - ☑ Capital
 - ☑ Skills/Talent
 - ☑ Innovation
 - ☑ Growth market
 - ☑ Assets/resources
 - ☑ Business activity
- Critical mass?
- Community support & leadership?
- How differentiate our community?



Key Findings

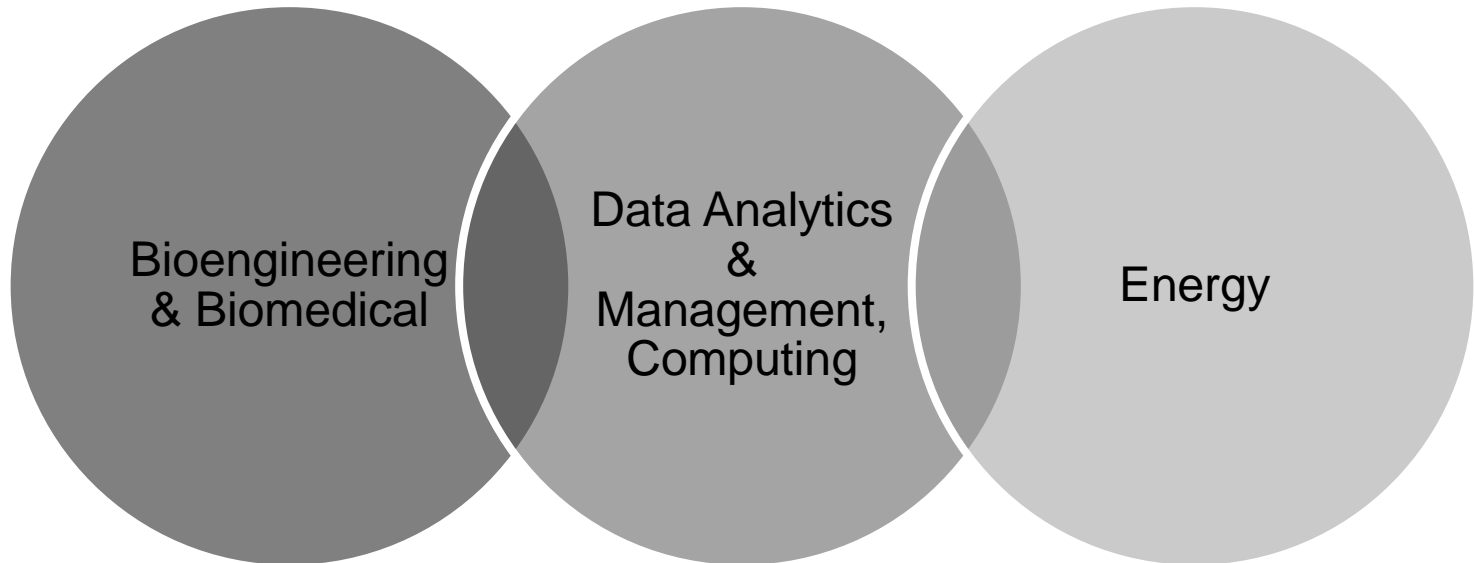
◆ Collaborative environment	◆ Air service
◆ Culture of entrepreneurship	◆ Communities – attractive & not
◆ Entrepreneurial ecosystem	◆ Medical school/hospital
◆ University leadership	◆ Trailing spouse
◆ Technical talent; less management talent	◆ Consensus – leverage UIUC assets
◆ Capital requirements	



Assets & Resources

1. University of Illinois
2. Technical talent pool
3. Hospitals
4. Entrepreneurial ecosystem
5. Research park & corporate relationships
6. Culture of entrepreneurship

3 Recommended Clusters





Data Analytics & Management, and Computing

- Data analytics & management
 - “Big Data”
- Computing
 - Computer/network security, visualization, complex computing applications, etc.
 - Computer engineering, software engineering, computer science, information systems, IT, etc.



Data Analytics & Management, and Computing – Key Factors

- Innovation, research, IP, expertise, talent...& reputation
 - UIUC & Community
- Spin-out & start-up track record
- Corporate innovation centers @ Research Park
- Assets – NCSA, research institutes
- Market need for solutions

- Computational genetics & bioinformatics, bioimaging, tissue engineering & new materials, sensors & optics, animal sciences/models, medical devices, instruments, diagnostics, prosthetics, nanotech, therapeutics, research tools, enabling systems, etc.
- *Leverage engineering expertise*



Bioengineering & Biomedical – Key Factors

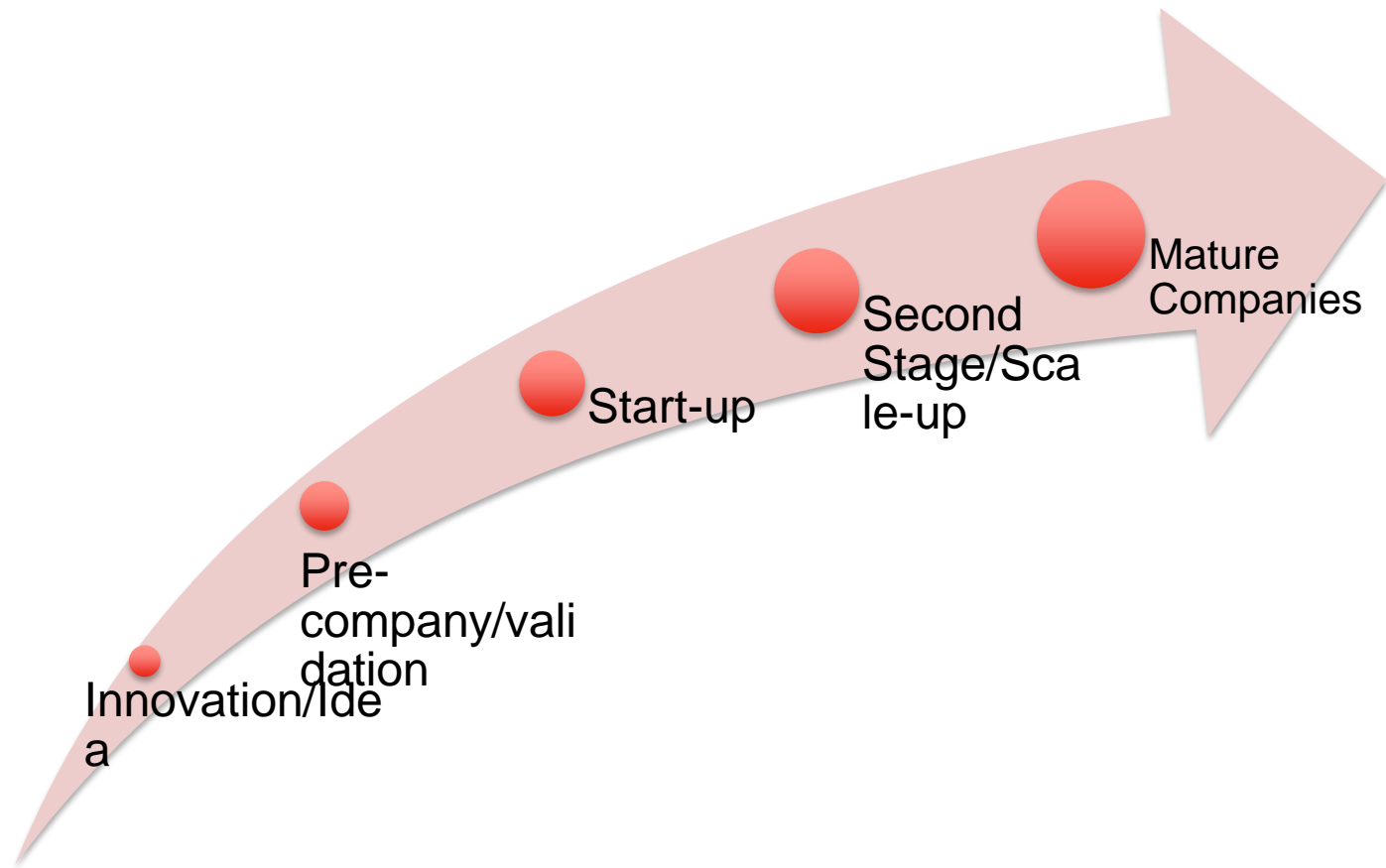
- Linkages with engineering
- Innovation, research & talent
 - Significant given no academic hospital/full-scale medical school
- Commercialization & start-up activity
- Assets
 - Carle, Mayo Clinic; research institutes
- Market changing & growing

- Biofuels, energy storage, smart grid, renewable energy (solar & wind), etc.
- Crosses a number of areas of expertise at UIUC
 - Big data, agriculture, chemistry, materials science, IT, etc.
- More nascent opportunity
 - Diversification

Energy – Key Factors

- Research, Innovation & Assets
 - Research institutes – public & private
- Entrepreneurial activity
- Growth market
- Energy & Environment – UIUC Strategic Plan
- Opportunity to create testbeds on campus & in community

Company Lifecycle & Impact on Clusters





Opportunities & Challenges

- Strong foundation & support
- Challenges to growth:
 - Capital
 - Management talent
 - Business activity
 - Airport/access
 - Medical school/academic hospital



Moving Forward

- How to create an environment to support cluster growth
- Recommendations address challenges
 - Ideas to spur discussion/thought
- Number of approaches necessary
- Strategy typically follows



Recommendations: Addressing the Gaps

(1) Foster interconnectedness & enhance collaboration	<ul style="list-style-type: none">• Cluster roundtables/events• Outreach to community• Interaction - corporate partners & tech companies
(2) Build & attract business/management talent	<ul style="list-style-type: none">• Job portal – MBA program• MBA Entrepreneur Scholars• Attract UIUC alum• Recruitment – alumni; discounted services; coordination
(3) Enrich technical talent	<ul style="list-style-type: none">• Coordinated trailing spouse program• Parkland College• Professional development certificate



Recommendations: Addressing the Gaps

(4) Increase business activity	<ul style="list-style-type: none">• Proof-of-concept• Faculty entrepreneur track• Startups by trailing spouses• Incentivize grad students - ventures• If create med school...research, startup programs & attraction• Mezzanine space• Attract corporate partners - Research Park
(5) Build cluster identity	<ul style="list-style-type: none">• Marketing/branding• Organize & promote clusters



Recommendations: Addressing the Gaps

(6) Continue to foster a culture of entrepreneurship	<ul style="list-style-type: none">• Recruit entrepreneurial faculty• Incentivize faculty/grad students• Institutionalize the culture
(7) Augment the entrepreneurial ecosystem & support businesses in the clusters	<ul style="list-style-type: none">• Specialized expertise/programs/networks• Mentorship – Illinois alumni• Connect tech biz with Illinois' network• Campus/community testbed• Data infrastructure



Recommendations: Addressing the Gaps

Recommendation	Ideas for Discussion
(8) Increase capital for business start-up & growth	<ul style="list-style-type: none">• Post-seed capital• Expand Illinois Ventures• Angel network @ EnterpriseWorks• Corporate VCs/strategic partners• International sources
(9) Improve access	<ul style="list-style-type: none">• Airport• Rail – Chicago & UIC
(10) Provide leadership	<ul style="list-style-type: none">• Group to include UIUC, Champaign & Urbana, business leaders (clusters)



Contact

Carol Kraus Lauffer

Business Cluster Development

(650) 387-3159

carol@clusterdevelopment.com

www.clusterdevelopment.com