



Building an Innovation Ecosystem The Role of the I/UCRCs

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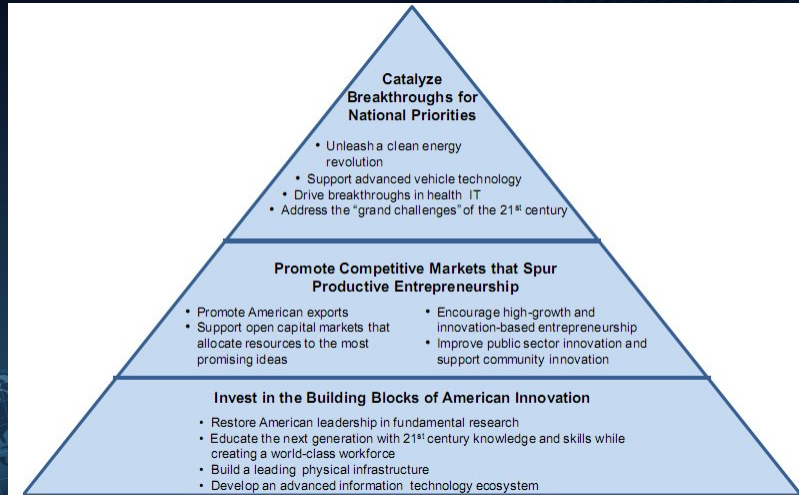


Creating an Innovation Ecosystem





Innovation for Growth



Three layers in the Innovation Triangle

- Basic Research (the foundation)
- Entrepreneurship (translational research)
- Responding to National Priorities





Innovation Through Translational Research



Directorate for Engineering

5



Translational Research

- Is interdisciplinary by nature
- Involves a team
- Relies on partnerships
- Results in clear benefit to society



Directorate for Engineering

6



NSF Engineering Centers Programs

The Directorate for Engineering supports two Centers programs that build university cultures that join discovery and innovation in partnership with industry:

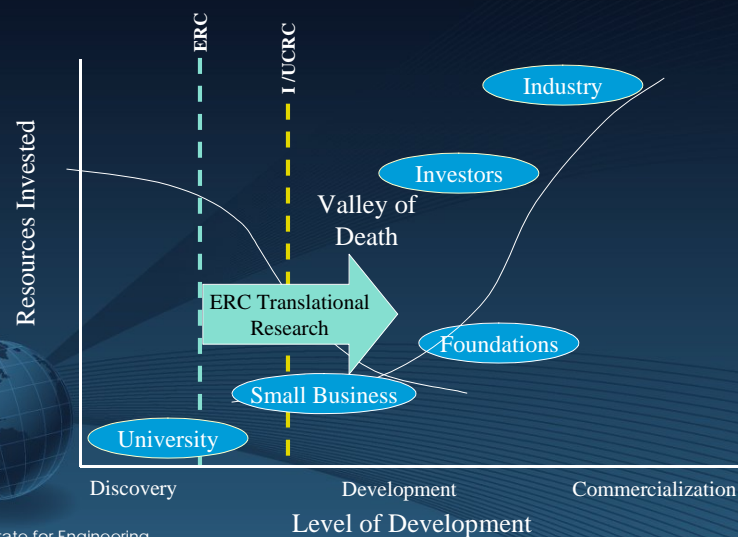
- **Engineering Research Centers (ERC)**
Established in 1985, 48 Centers funded

- **Industry/University Cooperative Research Centers (I/UCRC)**

Established in 1979, 72 Centers funded



The Innovation Spectrum





All Technology Sectors

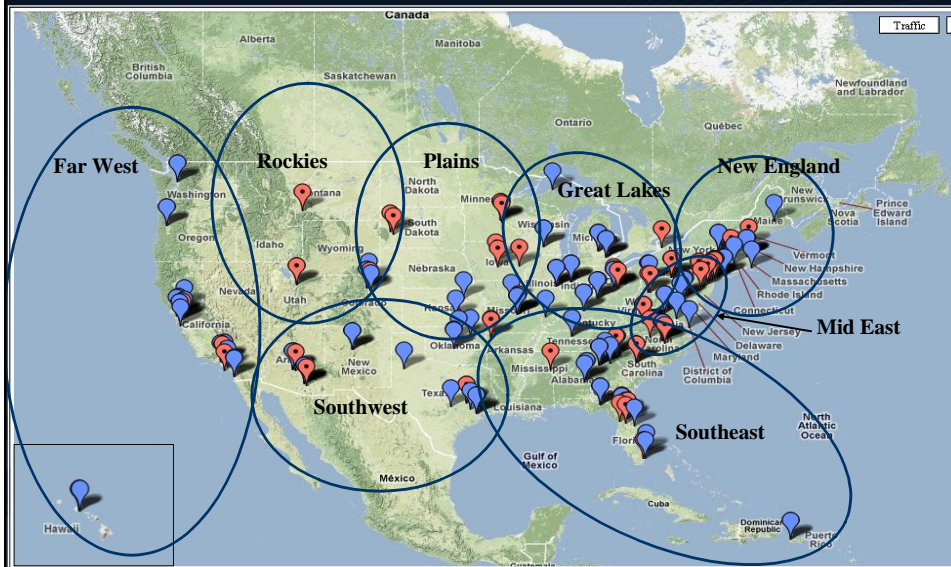
Lead Institution shown



- Advanced Electronics (15)
 - Biotechnology, Healthcare and Service (16)
 - Advanced Manufacturing and Fabrication (19)
 - Energy, Sustainability, and Infrastructure (18)
 - Advanced Materials (4)
 - Information, Communication, and Computing (14)
- Directorate for Engineering



NSF Engineering Centers





Characteristics of the Innovation Ecosystem

- University research is key, often driven by industrial needs.
- Faculty are involved along the innovation continuum, working with industry at all stages.
- A focus on translational research smoothes the handoff of technology from universities to industry—resulting in rapid, efficient innovation.



NSF Resources for the Innovation Ecosystem

- Grow the existing portfolio and strengthen the translational phase
- Extend the reach of industry-driven research initiatives
- Educate to innovate
- Better understand the social dimensions of innovation (SciSIP)