Engineering Research Centers

Gen-4 ERC:
Research Thrusts and Testbeds

NSF 19-503

Kickoff Meeting
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Outline

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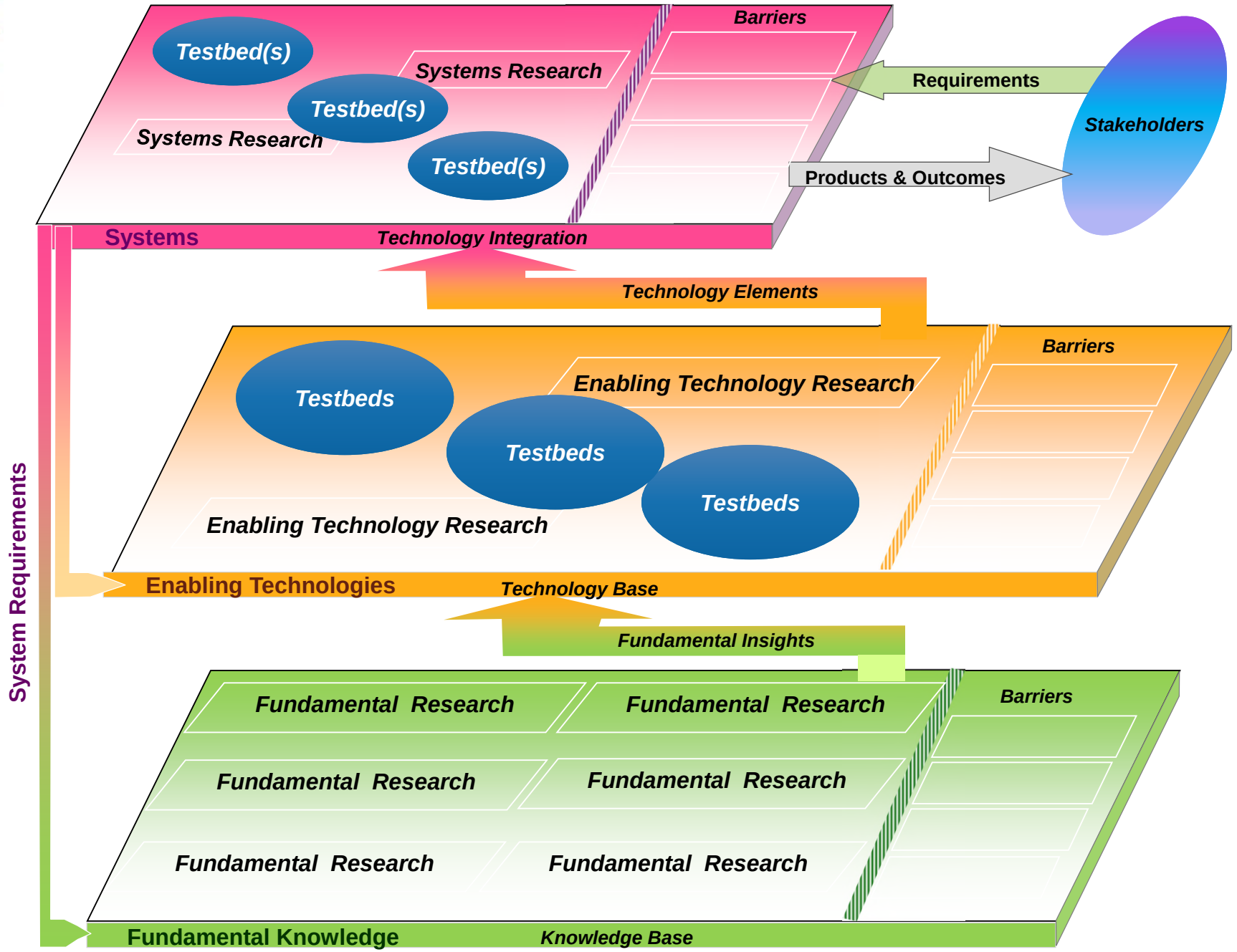
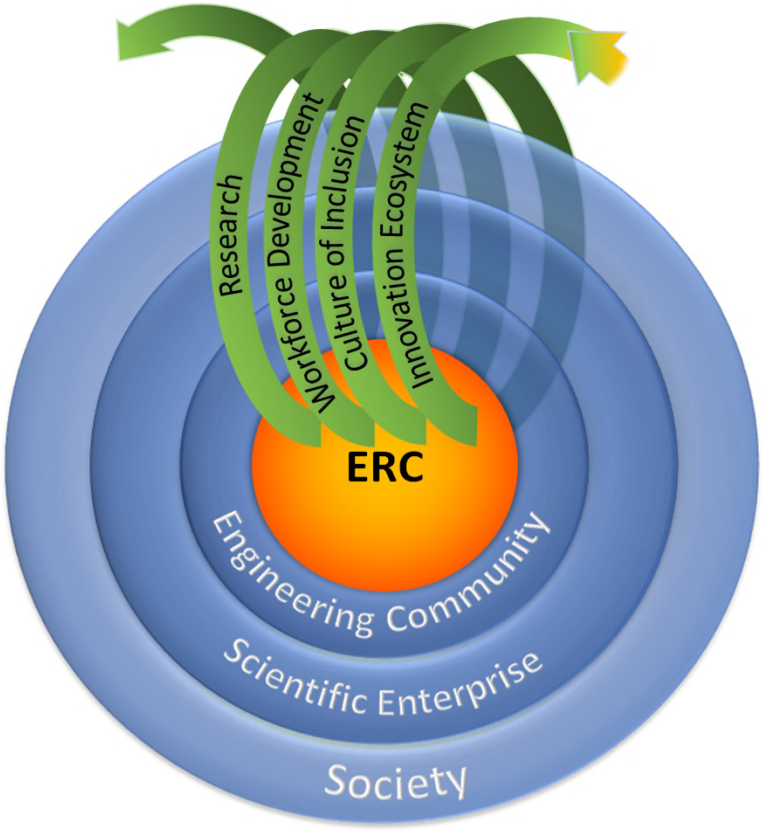
- Research Thrusts Evaluation criteria
- Expectations: ERC Research Thrusts
- Testbeds evaluation
  - Testbed level of Maturity
  - High-Quality Testbeds
- Role of Thrust Leaders



3-plane Chart

Convergent Research Evaluation criteria

a. Research Output
b. Engineered System
c. Convergence
d. Societal Impact



Research Thrusts Evaluation criteria

Research Thrusts (evaluated independently per thrust)

i. Relevance

i. Interdependence

ii. Methodology

iii. Project Management

Expectations: ERC Research Thrusts

- Thrust and its projects designed to contribute to the goals and vision of the ERC
- Significant research barriers/challenges being addressed through transformative convergent research to deliver powerful scientific discoveries
- Strategic project selection is the key - leverage external inputs
- Communications and interactions among thrusts are critical to the success
- Thrusts aligned with testbeds – design translational research from beginning

Testbeds are evaluated based on:

i. Level of Maturity
ii. Engineered System
iii. Function in Research
iv. Role in Partnerships
v. Performance Benchmarking

Testbed level of Maturity

Early: The ERC has begun to define requirements for the testbeds derived from the vision and systems goals of the ERC

Developing: The ERC has successfully implemented some of its near-term testbed milestones. Long-term test bed goals continue to push the state of the art.

Mature: The ERC has established, clear requirements for the testbeds derived from the vision and systems goals of the ERC.

High-Quality Testbeds

- Technology Integration
- Function in Research
- Role in Education
- Assessment
- Guidance

Role of Thrust Leaders

- Sets thrust goals considering vision and strategic plan
- Manages teams of faculty and students effectively
- Coordinates project selection and integrate projects within thrust
- Delivers results across thrusts through effective communication

Questions?

Please bring your questions to the Kickoff meeting