

Center for Energetic Concepts Development



CECD

CENTER FOR ENERGETIC CONCEPTS DEVELOPMENT



DEPARTMENT OF MECHANICAL ENGINEERING
A. JAMES CLARK SCHOOL OF ENGINEERING

What is CECD?

An alliance established to foster continued advancements in energetics manufacturing, science & research, while educating the next generation of energetics experts

Location



CECD Partners



A. JAMES CLARK
SCHOOL OF ENGINEERING



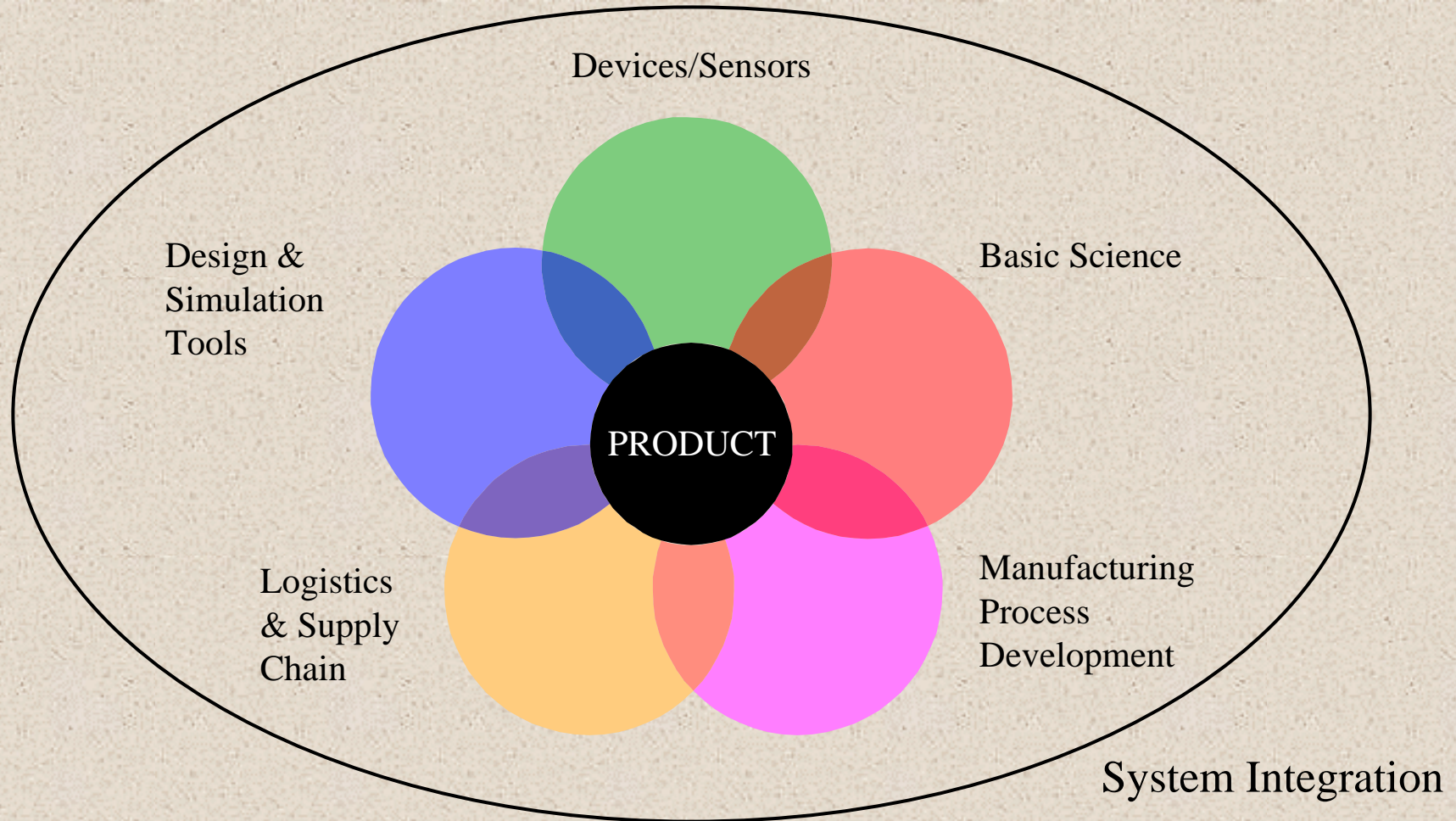
Vision

Establishment of a virtual research,
development, manufacturing,
and training center
at Indian Head, Maryland.

Current Activities

- Support of NSWC:
TI's, Graduate Students, Support
- Research at University of Maryland
Supported by UMCP for NSWC
- Related Research through NSWC
contract
- Partnering

Research and Development



Research Activities

- R&D in fundamental energetic materials, functionally graded materials, and combustion stability
- Design of MEMS and optical fiber based energy interrupter
- MEMS packaging, reliability and failure analysis
- Multidisciplinary design optimization for underwater warheads
- Development of informatics methodologies for energetic products
- Design of microprocessor control unit
- Port safety simulation studies

Accomplishments

- Over \$6 million in research activities, capital equipment & special awards
- Specialized curricula in energetics
- Over \$100K in free courses for NAVSEA IH at UMCP & CSM
- Two ONR Young Investigator Awards

Futuristic Design and Manufacturing

- Information technology
- Modeling & simulation via computer
- Visualization in virtual reality
- Prototype manufacturing