



Specialty Electronics Center



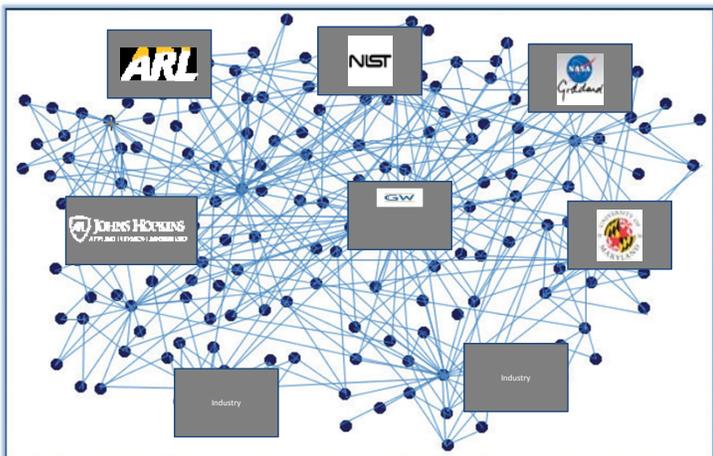
S&T Campaign: Materials Research Electronics

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Research Objective

Develop and transition next generation microsystem technologies through access to state of the art expertise and robust research resources

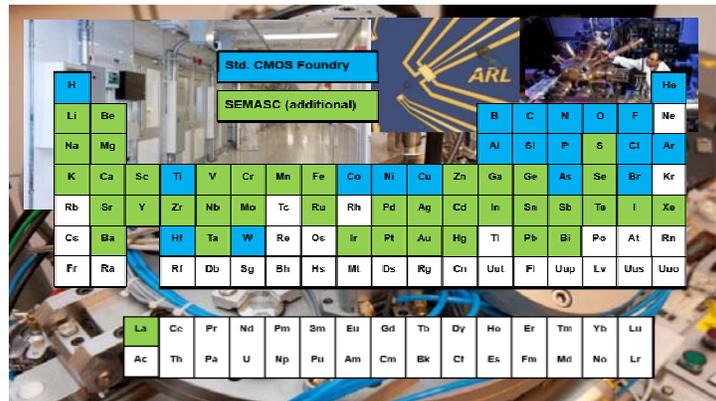
- Access partner expertise and IP blocks to develop complex microsystems with reduced investment
- Achieve comprehensive and robust access to state of the art research resources through rafting of multi-site facilities
- Support and influence the allied research community



Initial SEC participants

ARL Facilities and Capabilities Available to Support Collaborative Research

- Broad experience and facilities supporting diverse research in opto-electronics, nanoscience, MEMS, electronics, microscale power systems and beyond.
- Application, design, fabrication and materials expertise.
- Expansive capabilities for depositing and micromachining heterogeneous electronic materials.
- Facilities for unique materials deposition (including MBE, MOCVD, ALD, PECVD, CVD, sputtering, evaporation, sol-gel, spin casting, jet vapor etc.)

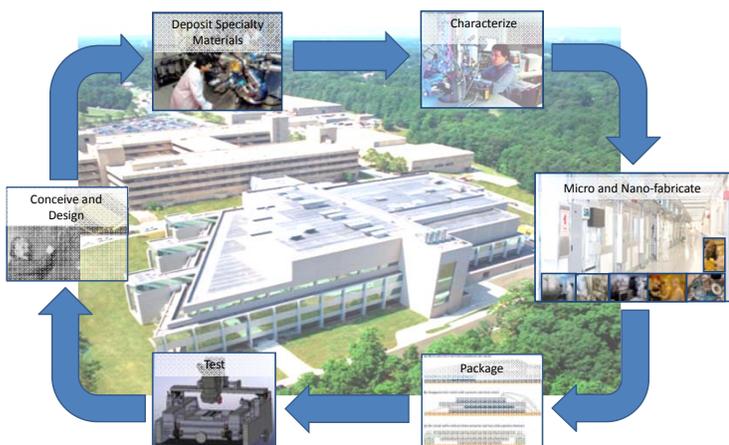


Range of materials processed in Center facilities

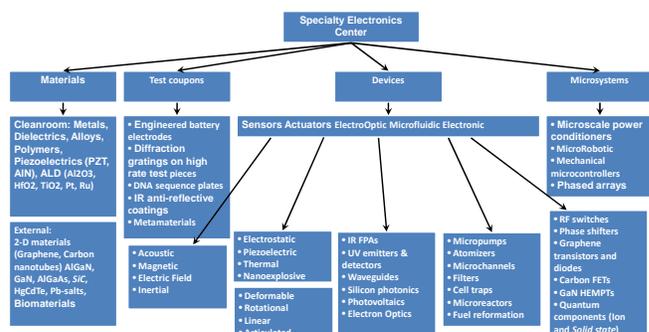
- Unique packaging and testing facilities.
- Access to Army requirements and transition partners.

Challenges

- Materials system and process integration
- Asymmetric needs and capabilities
- Distributed coordination and decision making



Expand access and leverage regional knowledge base for all steps in the realization of advanced research microsystems, starting with design



Range of research efforts

Complementary Expertise/ Facilities/ Capabilities Sought in Collaboration

- Microsystem designers
- Electronic materials researchers
- Fabrication and micromachining facilities
- Packaging and post-processing facilities
- Unique Testing facilities
- Potential transition partners (Microsystem consumers, integrators, and commercial microsystem foundries)