

The Commonwealth Research & Technology Strategic Roadmap

*Aligning Virginia's Research Investments with
Commonwealth Priorities*

presented to
Eastern States
Legislative Fiscal Officers Association

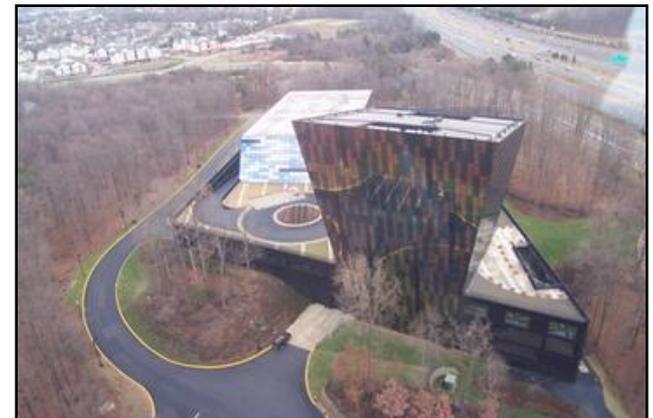
by
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Background



- Established in 1984 as the Innovative Technology Authority (ITA)
- Seven chartered objectives:
 - Attract high technology business
 - Apply technology for productivity
 - Support new product development
 - Expand university R&D
 - Expand knowledge of R&D
 - Attract R&D
 - Facilitate marketing R&D



Center for Innovative Technology CIT R & D CENTER FOR INNOVATIVE TECHNOLOGY



Assists early-stage Virginia based technology companies to secure private and federal funding sources



Accelerates the socio-economic growth of Virginia's rural and underserved areas through the application and use of broadband telecommunications



Dedicated to helping large-scale federal and corporate consumers of technology identify and assimilate innovation created in private sector start-up companies. GSA MOBIS Schedule



Facilitates world-class research and development programs that create new industry clusters

§ 2.2-2221.2. Commonwealth Research and Technology Strategic Roadmap

Develop the Roadmap...to use to identify research areas worthy of institutional focus and Commonwealth investment in order to promote commercialization and economic development efforts in the Commonwealth

§ 2.2-2233.1. Commonwealth Research Commercialization Fund (CRCF)

Awards from the Fund shall only be made to applications that further the goals set forth in the Commonwealth Research and Technology Strategic Roadmap

R&T Roadmap



- Identify key industry sectors for potential investment
- Identify basic and applied research opportunities with commercial promise in these sectors
- Encourage commercialization and economic development in these sectors
- Help ensure that investments in research are made prudently in focused areas with significant potential for commercialization and economic growth

R&T Roadmap (Continued)



- Develop IP policy for CRCF awards
- Engage R&T Investment Advisory Committee (RTIAC)
- Recommend alignments for R&D and economic growth; make recommendations to Six-Year Capital Outlay Plan Advisory Committee
- Update Roadmap at least every 3 years

Accelerating Commercialization

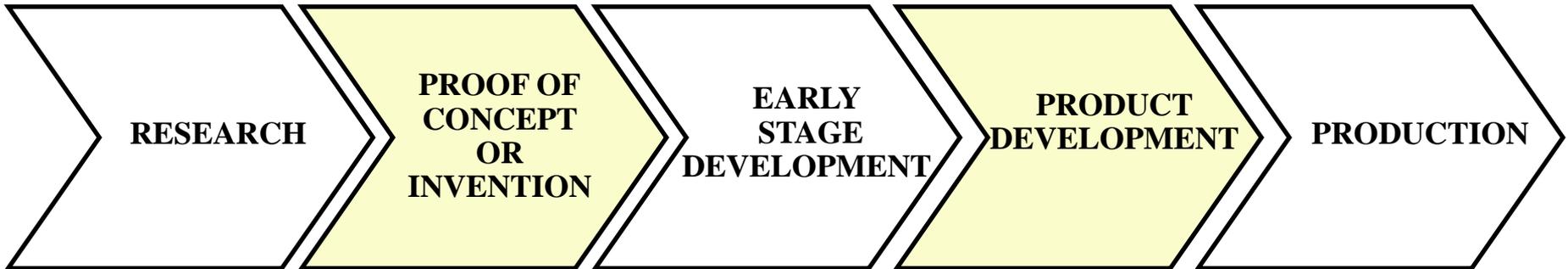


Research & Technology Strategic Roadmap

Eminent Researcher Recruitment Fund

Research Matching Fund

SBIR Matching Fund

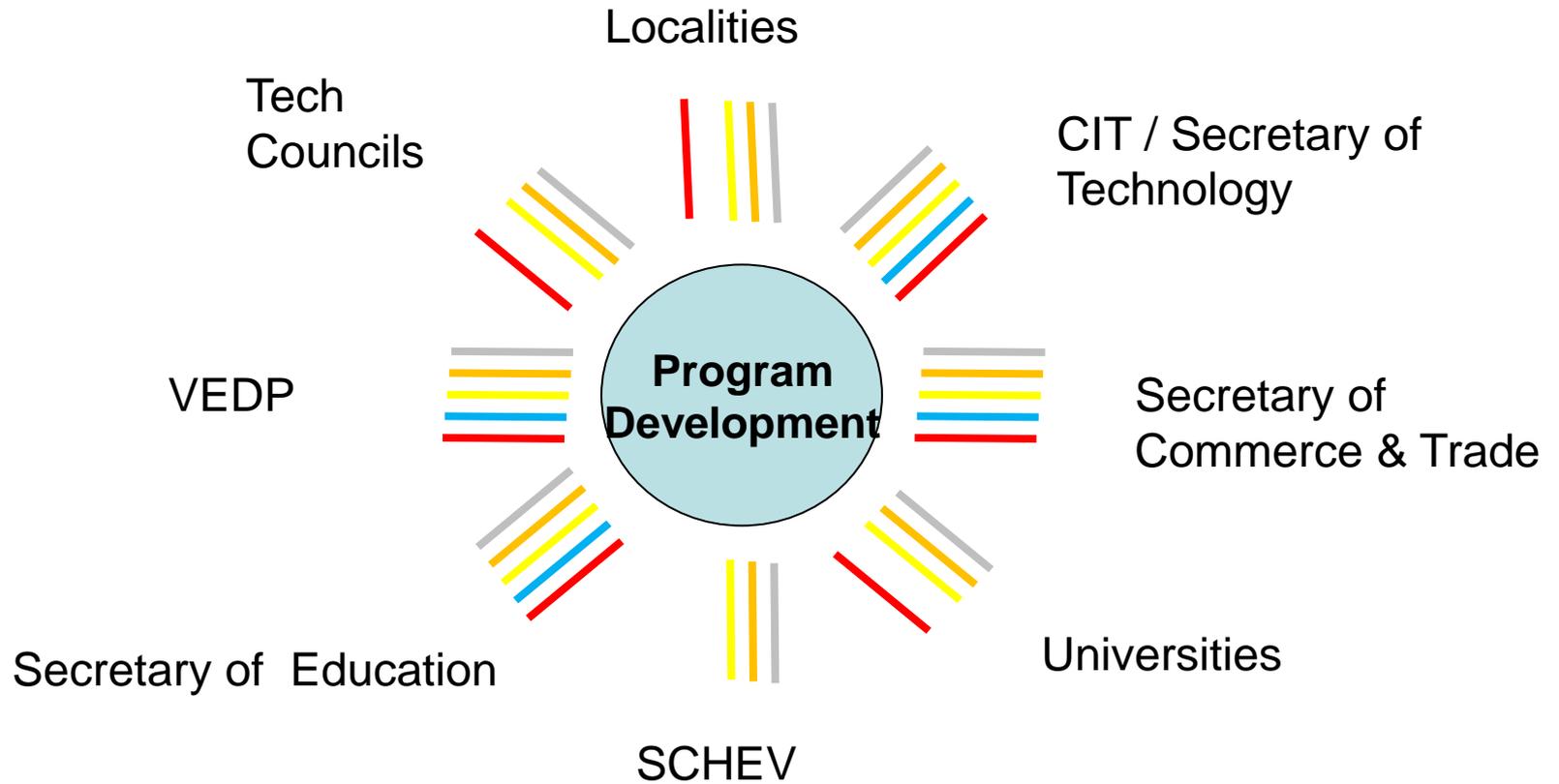


GAP Fund

Commercialization Fund

Facility Enhancement Loan Fund

Roadmap Development



- | | | | | | |
|----------|---|----------------|---|-----|---|
| RTIAC |  | CRCF Structure |  | RFI |  |
| Schedule |  | Roadmap |  | | |

R&T Roadmap

<i>Table of Contents</i>	
Executive Summary	
Key Industries <ul style="list-style-type: none">• Industry Priorities: Innovation Index• Economic Data: Chmura• VEDP Priorities	→ <i>Identify critical statewide industry sectors based on supportable capabilities and projections</i>
Academia	→ <i>Identify common research focus areas in academia to guide commercialization investments</i>
Other R&D Assets	→ <i>Identify core capabilities and priorities of key research institutes in Virginia</i>
Intellectual Property	→ <i>Develop a CRCF standard IP commercialization agreement</i>
Assessment & Recommendations	→ <i>Position Virginia for strategic, targeted and new R&D initiatives and funding</i>

R&T Roadmap Objective: Identify research areas worthy of institutional focus and Commonwealth investment

Roadmap / CRCF Intersection



- Industry Opportunities / Eligible Sectors
 - Advanced Manufacturing
 - Aerospace
 - Communications
 - Cyber Security
 - Energy
 - Environment
 - Information Technology
 - Life Sciences
 - Modeling and Simulation
 - Nuclear Physics
 - Transportation
- www.cit.org/programs/cit-rd/roadmap

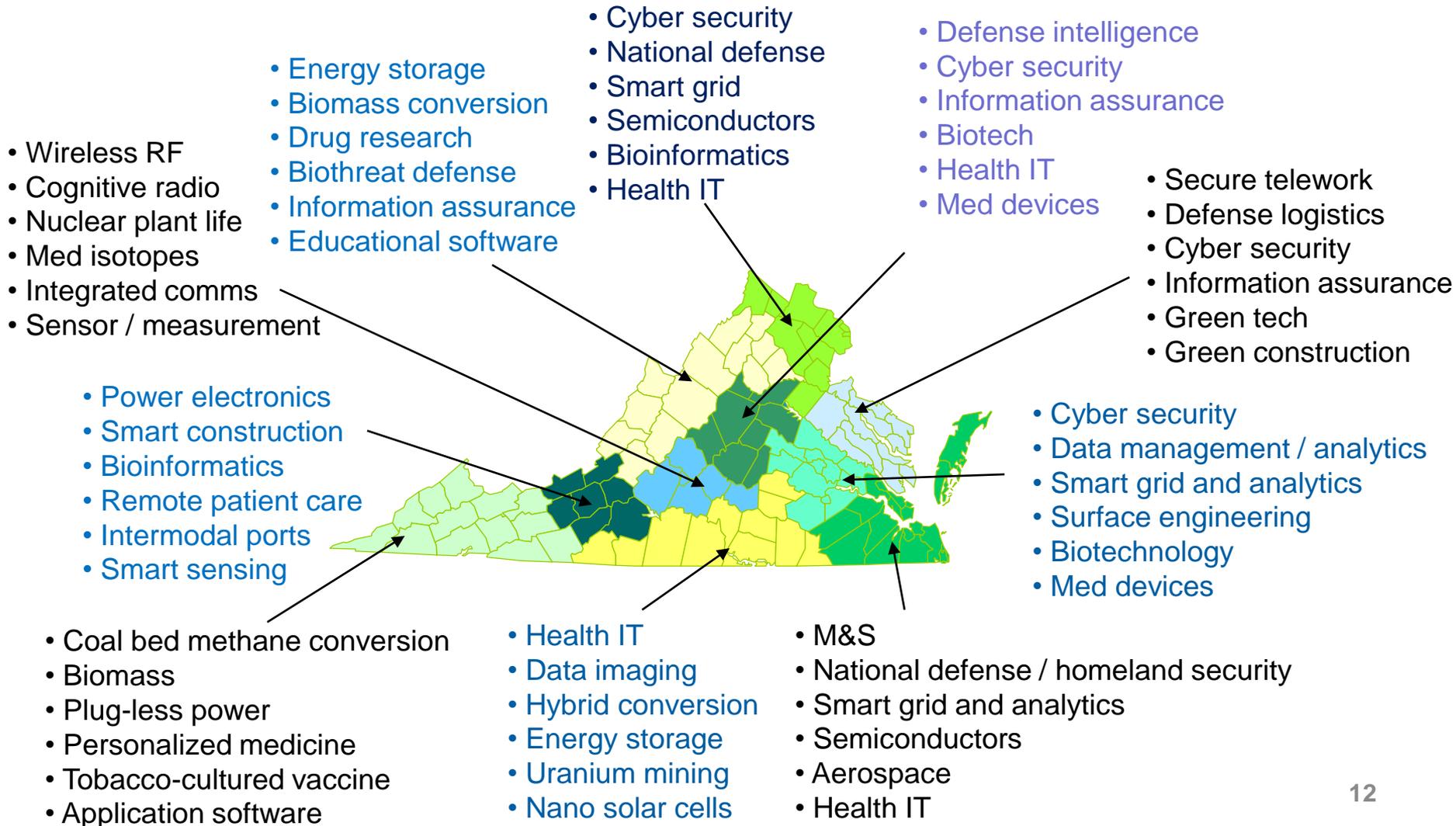
Approach

- Industry perspective – Innovation Index / bottom-up process identifying key industries
- Economic development priorities – VEDP
- Statistical foundation – Chmura Economics & Analytics

Findings

- High level – economic indicators support several sectors identified in Index, including Aerospace, Energy (including green tech), Environment, IT (including cyber security and modeling & simulation) Life Sciences, Transportation

Findings



Approach

- Survey Virginia public and private research universities on strategic research priorities, commercialization
- Identify common themes among academia and with industry and other research organizations
- Coordinate with synergistic initiatives, including Six-Year Plan

Findings

- Common themes: Aerospace, Communications, Energy / Environment, IT (including bioinformatics, cyber security and modeling & simulation), Life Sciences, Nanotechnology, and Transportation

Other R&D Assets



Approach

- Identify strengths and priorities of key research institutes
- Selected and interviewed six research institutes
 - JLab, NASA LaRC, NSCWDD
 - CCAM, NIA, SRI CADRE

Findings

- R&D supports key sectors, including: Advanced Manufacturing, Aerospace, Energy, Defense / National Security, IT, Life Sciences
- Basic research is eager for translational partnerships

FY2012 CRCF awards

- Reinforced Roadmap priorities
- 181 applications addressed all target industry sectors
- 47 investments in 9 target sectors
- \$5.85M invested in research-related programs
- \$4.0M invested in company formation / capital generation

Ongoing Commitment

- FY2013 / 2014 CRCF appropriations
- FY2013 Roadmap refresh underway
 - Validate priorities
 - Identify FY2013 CRCF opportunities
 - Engage with leadership
 - General Assembly, Administration, tech community

Roadmap Application



Value Add	VEDP	CRCF	Tobacco Comm.	Universities	Industry	Localities	CIT
Strategic planning	●	●	●	●	●	●	●
Investment vetting	●	●	●	●		●	●
Company recruiting	●		●			●	●
Research recruiting	●	●	●	●	●	●	●
Scholar recruiting		●	●	●			●
Investor recruiting	●		●	●		●	●
NewCo formation		●	●	●	●	●	●
Fed program dev	●	●	●	●	●		●

Key Program Drivers



- Roadmap – long-term focus eliminates trending expenditures
- Roadmap – community owned & developed
- Roadmap – CIT facilitated, reinforced Roadmap priorities
- Investments – linked to Roadmap
- Investments – serve only as seed capital
- Investments – diligence as a “contact sport”