

*Senate Finance Committee*

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# **Accelerating Innovation in Virginia: State Funding for Research**

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# Why does Innovation matter?

- Innovation penetrates all areas of endeavor
- **Artists** fill the blank canvas – through **innovation**
- **Poets** fill the blank page – through **innovation**
- **Research** creates growth – through **innovation**
- Innovation-based economies will provide for freedom, peace, and societal health



**Singapore**

**Silicon Valley**



# Game-changing start-ups are out there. We just don't know where to look.

*WIRED Magazine - Dec, 2009*

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- Today's giants have one thing in common: they tried to change the world!
  - Google had an audacious goal: “to organize the world's information”
  - Are today's states and universities moving fast enough to address public needs?

# Why is true innovation so hard to recognize?

- **A revolution makes life permanently different – people have trouble imagining change**
- **Innovation is invisible, until it bursts into view!**

# CHANGE

March 20, 2009 - 6 miles off of Tonga.



# Translating knowledge to society

## Universities - Leading a state transformation

Virginia will produce more jobs, exports, and health for Virginians via investments in research and innovation challenges.

**People ----- Patents ----- Products**



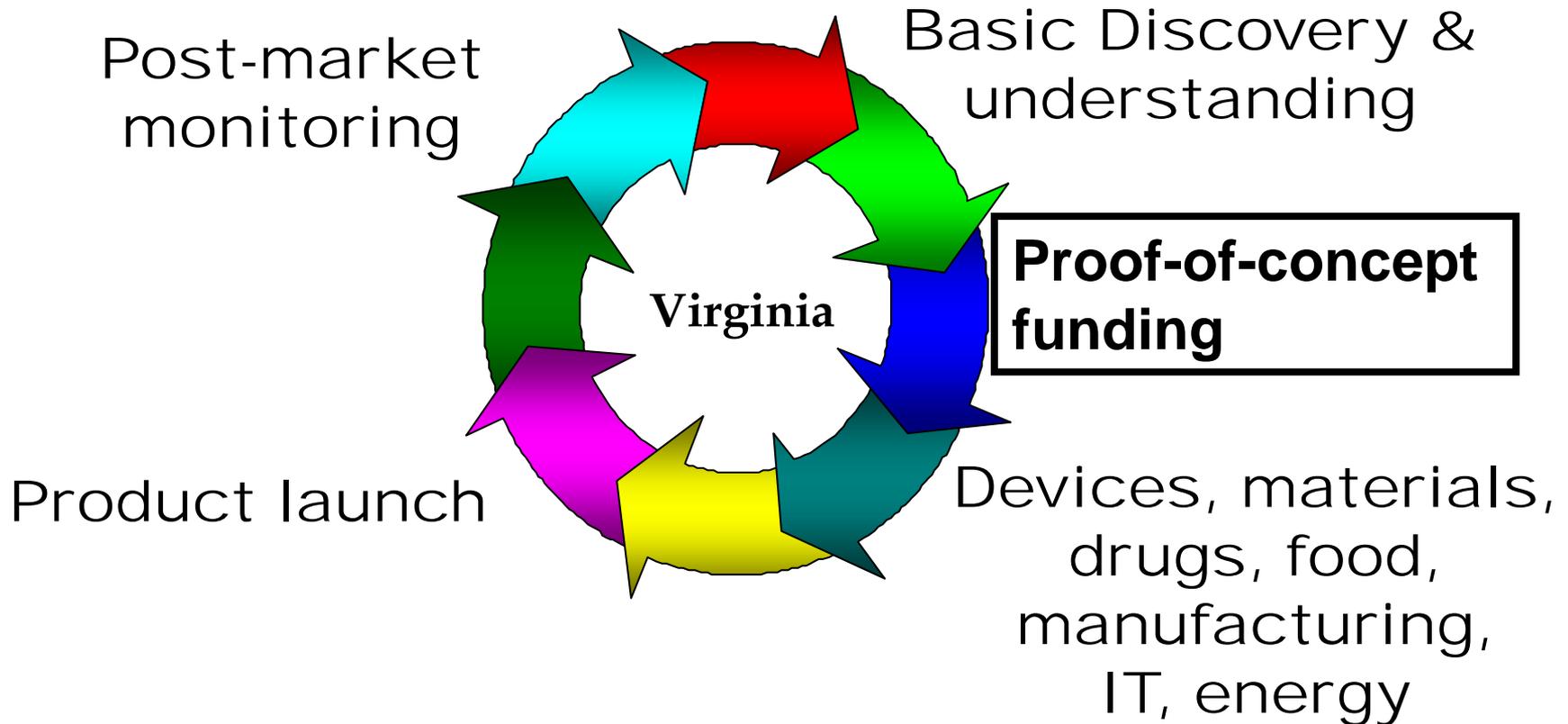
**Improving childhood surgery/imaging the heart/treating brain cancer**

**Producing sufficient and safe foods**

**Providing affordable and reliable energy sources**

**Insuring access to next generation information technology**

# The "Full Circle" of Innovation



**Outcomes: Jobs, GDP increases, Health, Security**

# Research funding - a competitive advantage

- Start-up funds for new STEM innovators
- Competitive research grants - build the future
- CRCF and CIT GAP funds for new ventures
- VA Life Sciences Initiative – proven ROI model
- Cancer Center and Focused Ultrasound Surgery
- VA Logistics Research Center – new technology

***“No amount of savings and investment, no policy of macroeconomic fine-tuning, no set of tax and spending initiatives can generate sustained economic growth unless it is accompanied by the countless large and small discoveries that are required to create more value from a fixed set of natural resources.”***

**- Stanford economist Paul Romer**

# A few ways that the world has been improved:



**“The Italians”**

**“The Virginians”**

**Ferrari (high-powered) Jet engines**

**Armani (cutting-edge) Composite materials**

**Alpha Romeo (fast) Medical imaging**

**Michelangelo (ageless) Cancer therapies**

**How things  
look:**



# A few ways that the world has been improved:



## “The Italians”

Da Vinci/ circulation

Galileo/ telescope

Columbus/ New World

The barometer

The telephone

The espresso machine

## “The Virginians”

Heart pumps

Cybersecurity

Clean Chesapeake

Solar/wind energy

Telemedicine

**Agricultural  
technology**

How things  
work:



# *The “young” appreciating the “old”*

**Padua,  
Italy**



**Research, innovation, and change are continuous.  
What are the things worth doing?  
How will Virginia accomplish these things?  
Fulfill our shared destiny – invest in research.**