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Innovation and Internationalization from a Global Perspective

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Sørlandets Kunnskapspark

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Agenda

- Perspectives on “Triple Helix” in Context of Internationalization, Innovation and Silicon Valley
- Innovation Processes and Role of Technology
- Scanning for Signals of Change → Anticipating Possible Future Trends
- Research, Innovation and Entrepreneurship Processes at Stanford University

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Elements of Silicon Valley Innovation Ecosystem

- Stanford
- UC Berkeley
- University of San Francisco
- San Francisco State University
- San Jose State University
- University of California, Santa Cruz
- Santa Clara University

Angel and Venture firms

Law firms

National and Regional Institutions and Policy:
- DARPA
- NIH
- NSF
- Joint Venture Silicon Valley
- Others

Universities

- Many with origin in local universities, research institutes and large firms
- Regional entrepreneurial and innovation culture encourages startups

Startups/ SMEs

INNOVATION ENGINE

Large Enterprises

- HP
- Intel
- Cisco
- Apple
- Oracle
- Google
- Sun
- eBay
- Yahoo
- AMD
- Nvidia
- Adobe

Research Institutes

Head Hunters

- SRI International
- Almaden Research Center
- Microsoft R&D Center
- HP Labs
- NASA Ames Research Center

Accountants

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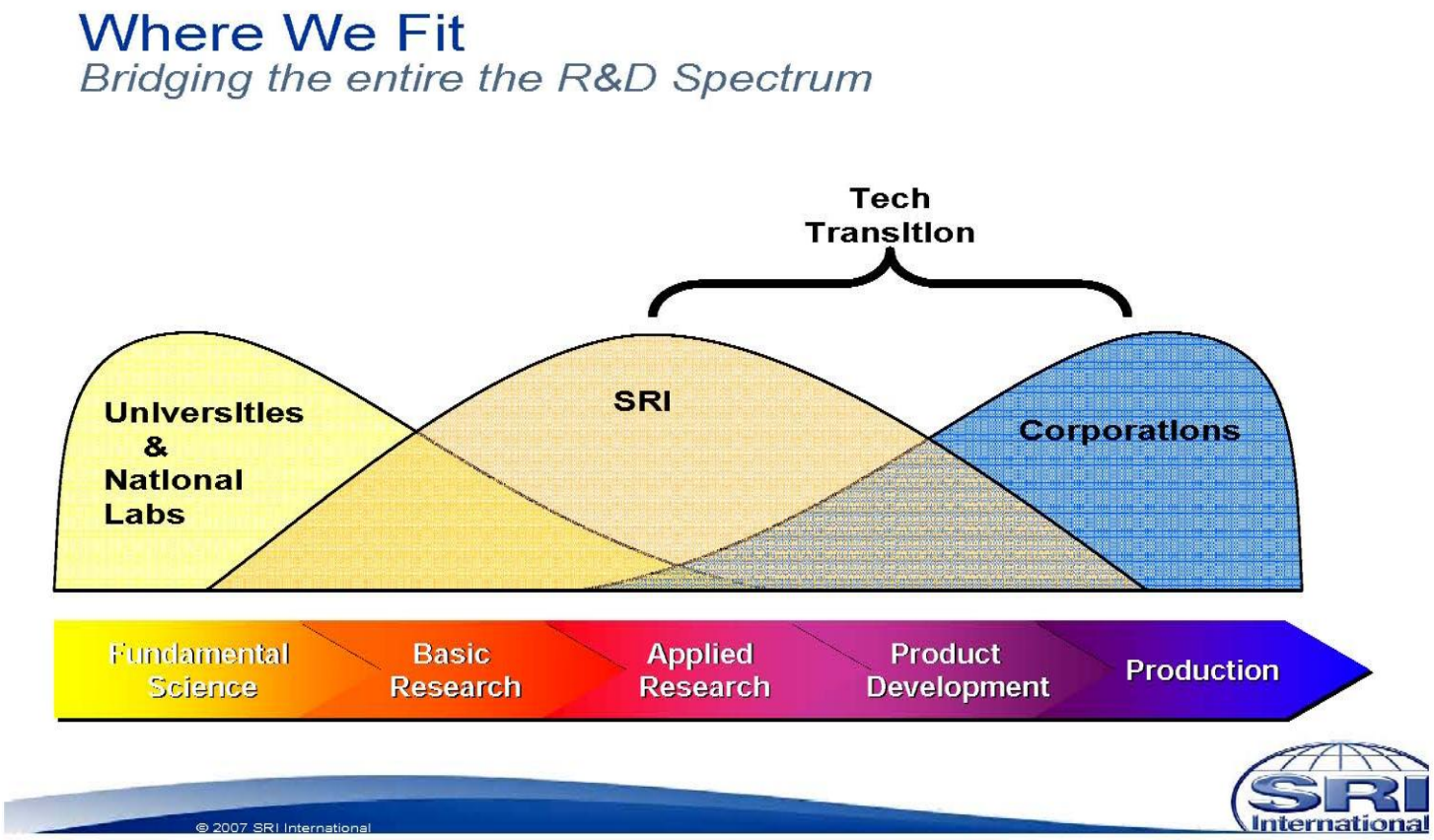
SRI Market Positioning



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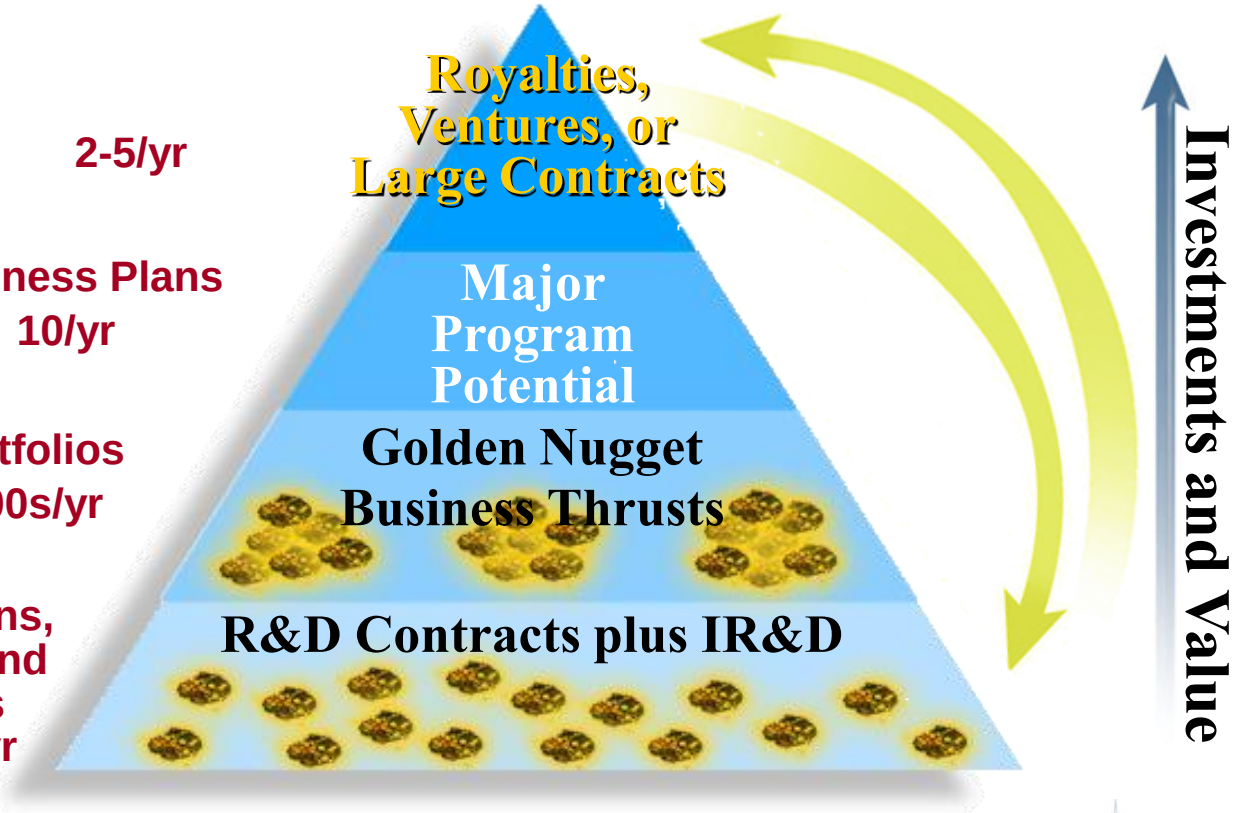
SRI's Systematic Value Creation Process

Value Creation Forum	**2-5/yr**
Ventures & Licensing Board	**Business Plans 10/yr**
IP Review Board	**IP Portfolios 50-100s/yr**
Strategic Investments	**Champions, Teams, and NABCs 1000s/yr**



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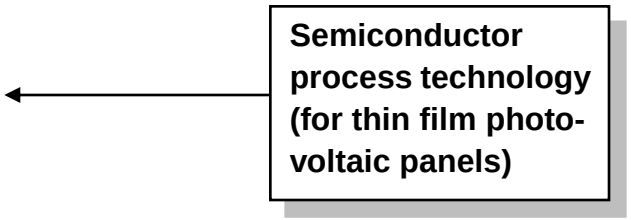
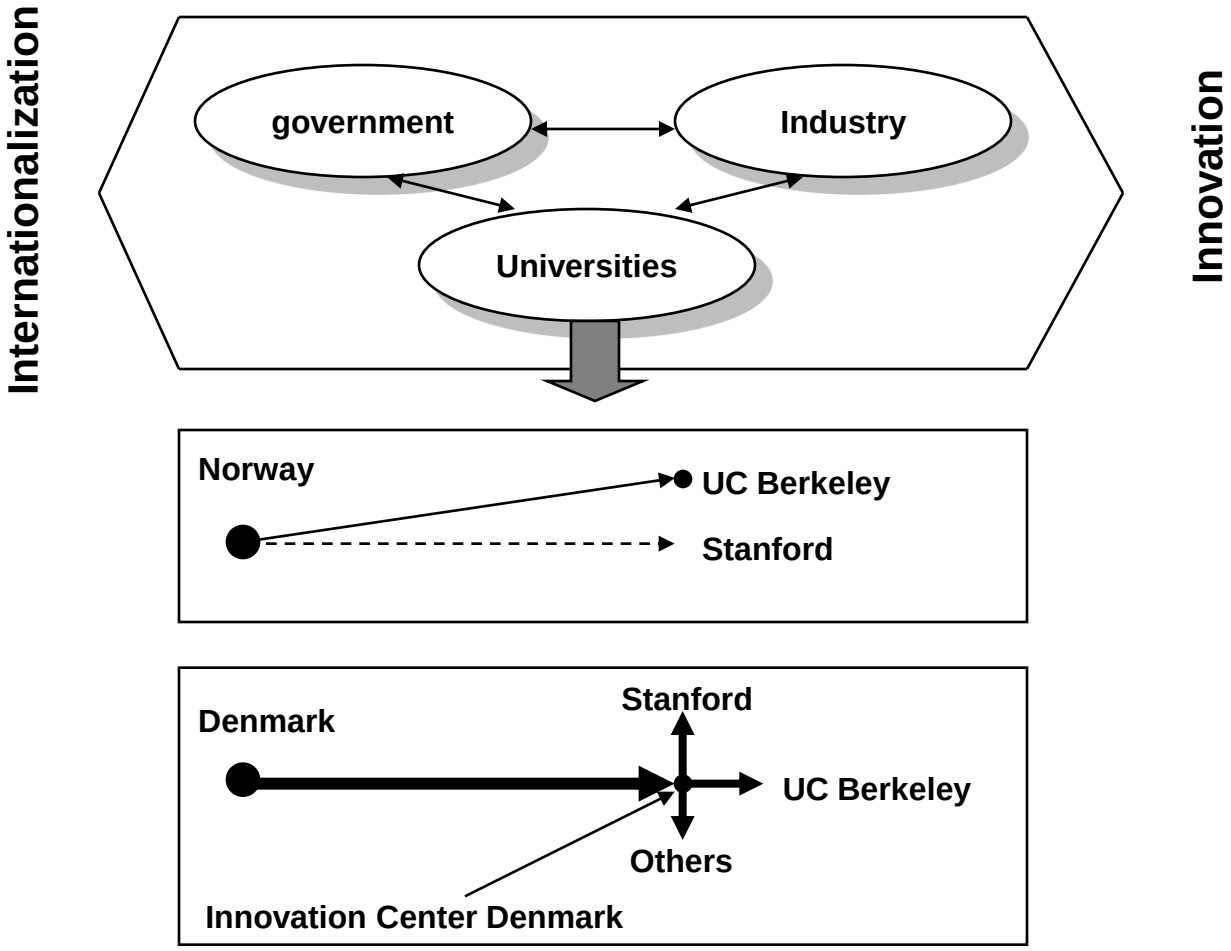
What will be the key Drivers of Silicon Valley's Future Growth Engine?

Candidates:

- **Clean/Renewable Energy**
- **Environmental Services**
- **Nanotech & New Materials**
- **"Smart Health"/Biotech**
- **Web 2.0/3.0—New Media**
- **Next Generation Online Entertainment: Virtual Worlds/MMOGs/Simulation**
- **Enterprise software and personal productivity software**
- **Next generation consumer electronics (Cisco and Intel entering fray and going up against Apple and others)**



Nordic-Silicon Valley Connections: "Triple Helix" Comparisons



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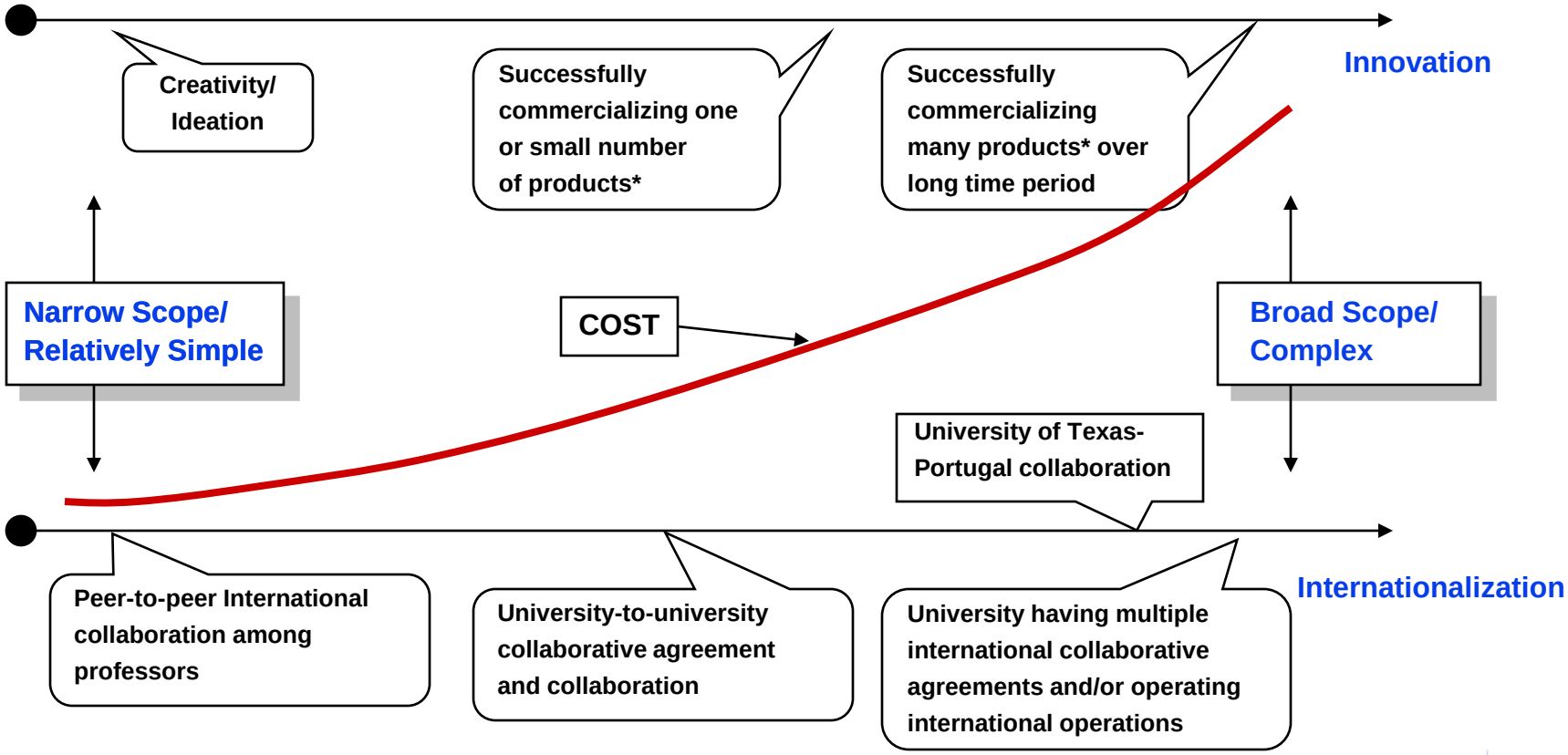
Continuum of Scope/Complexity of Innovation and Internationalization



* Could also be process, service or business model innovation

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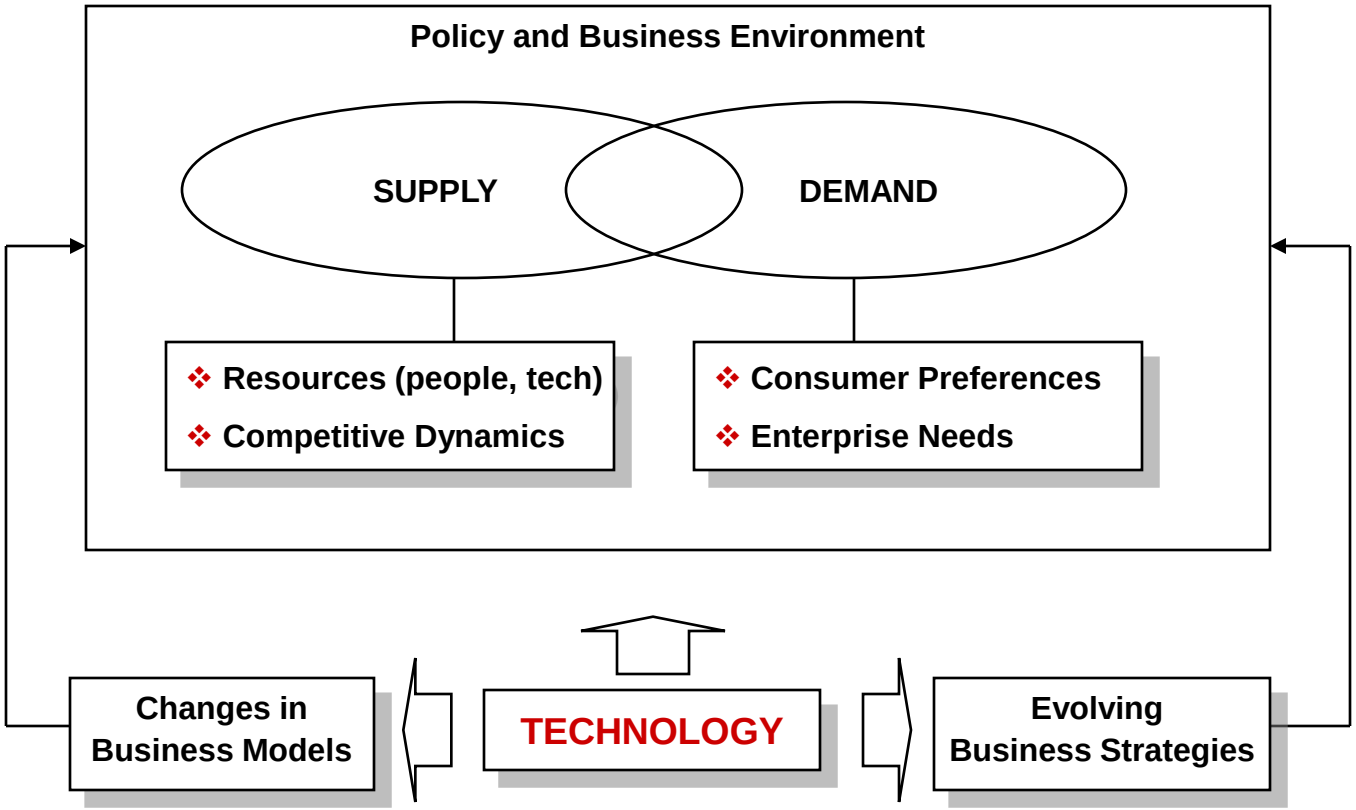
Innovation and Internationalization Opportunities & Challenges



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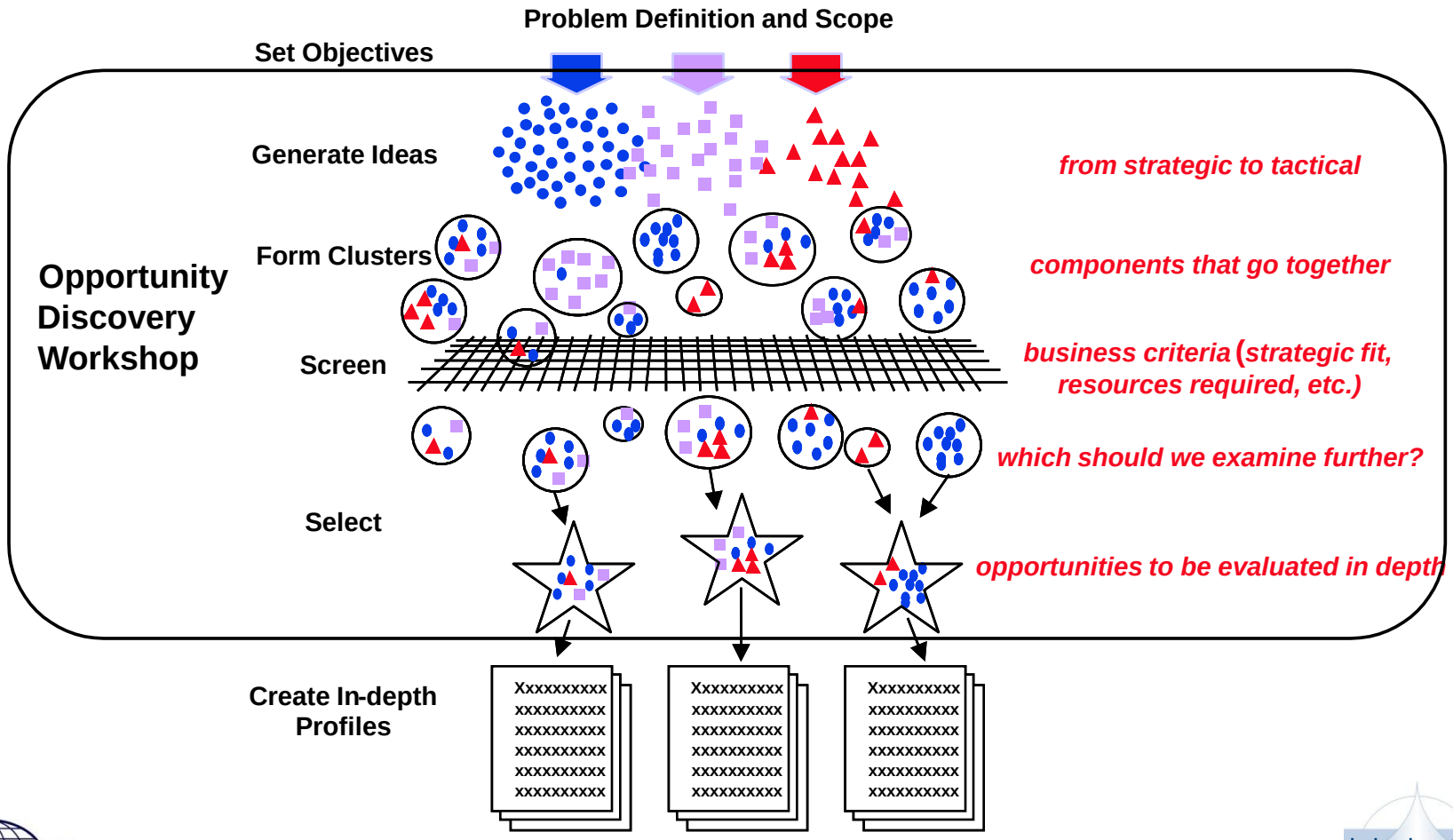
SRIC-BI's Opportunity Discovery: Process That Combines Ideation and Evaluation



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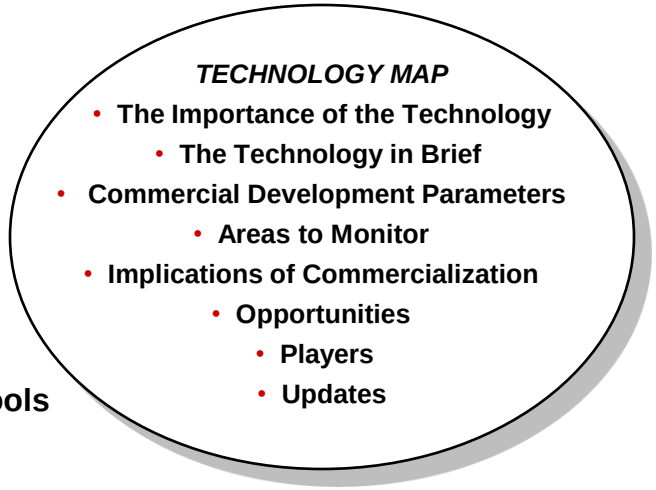
SRIC-BI Explorer Program: Technology Map and Technology List

Advanced Silicon Microelectronics/ULSI
Biocatalysis
Biomaterials
Biopolymers
Biosensors
Connected Cars
Connected Homes
Engineering Polymers
Flat-Panel Displays
Fuel Cells
Genomics
Knowledge-Based Systems
Knowledge-Management Tools
Membrane Separation
MEMS/Micromachining
Mobile Communications
Nanobiotechnology



Nanoelectronics
Nanomaterials
Novel Ceramic/Metallic Materials
Optoelectronics/Photonics
Organic Electronics
Pervasive Computing
Photovoltaics
Polymer-Matrix Composites
Portable Electronic Devices
Portable Power
Renewable Energy Technologies
RFID Technologies
Robotics
Smart Materials
Solid-State Microsensors
User Interfaces
Virtual Worlds

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Technology Trends: Two Perspectives

Six Disruptive Technologies
An SRIC-BI Perspective:

- **Biogerentechnology**
- **Energy Storage Materials**
- **Biofuels and Bio-Based Chemicals**
- **Clean Coal Technologies**
- **Service Robotics**
- **The Internet of Things***

An Accenture View of four major Technology trends (enabling "Elasticity"):

- **Internet Computing: Beyond Cloud Computing**
- **Data & Decision Making Tools and Technologies**
- **Mobility**
- **Convergence of Communications, Collaboration, Communities and Content**

- **Re Cisco's Telepresence technology**
- **Web 2.0 technologies**
- **Immersive 3D technologies**

		Depth of Penetration	
		Vertical Applications	Widespread
Timing of Developments	Expedited	Fast Burn	Ambient Interaction
	Evolutionary	Connected Niches	Slowly But Surely

*** Sensor data embedded in devices that communicate over Internet**

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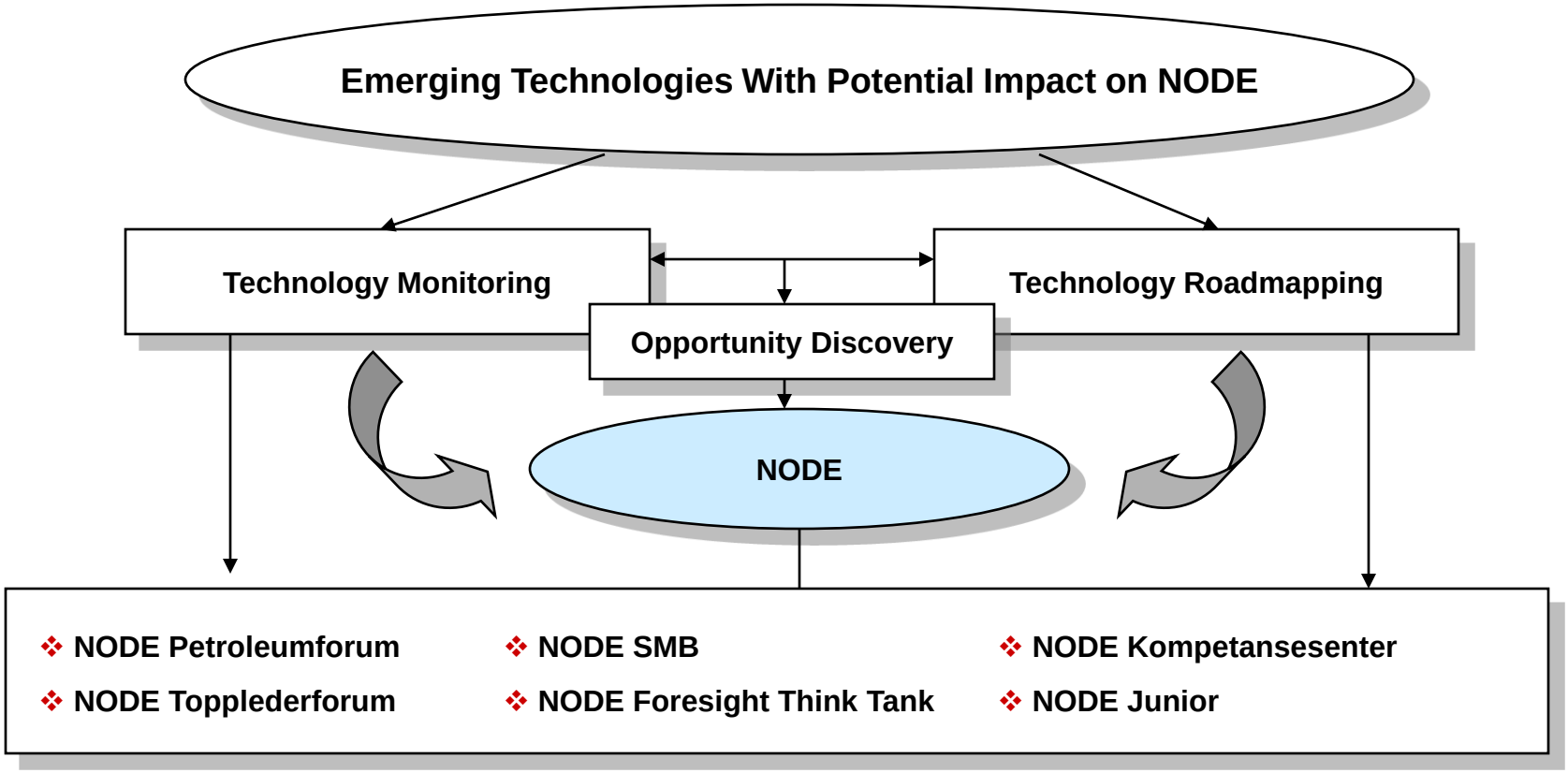
NODE Cluster and Future Innovation: Technology Focus



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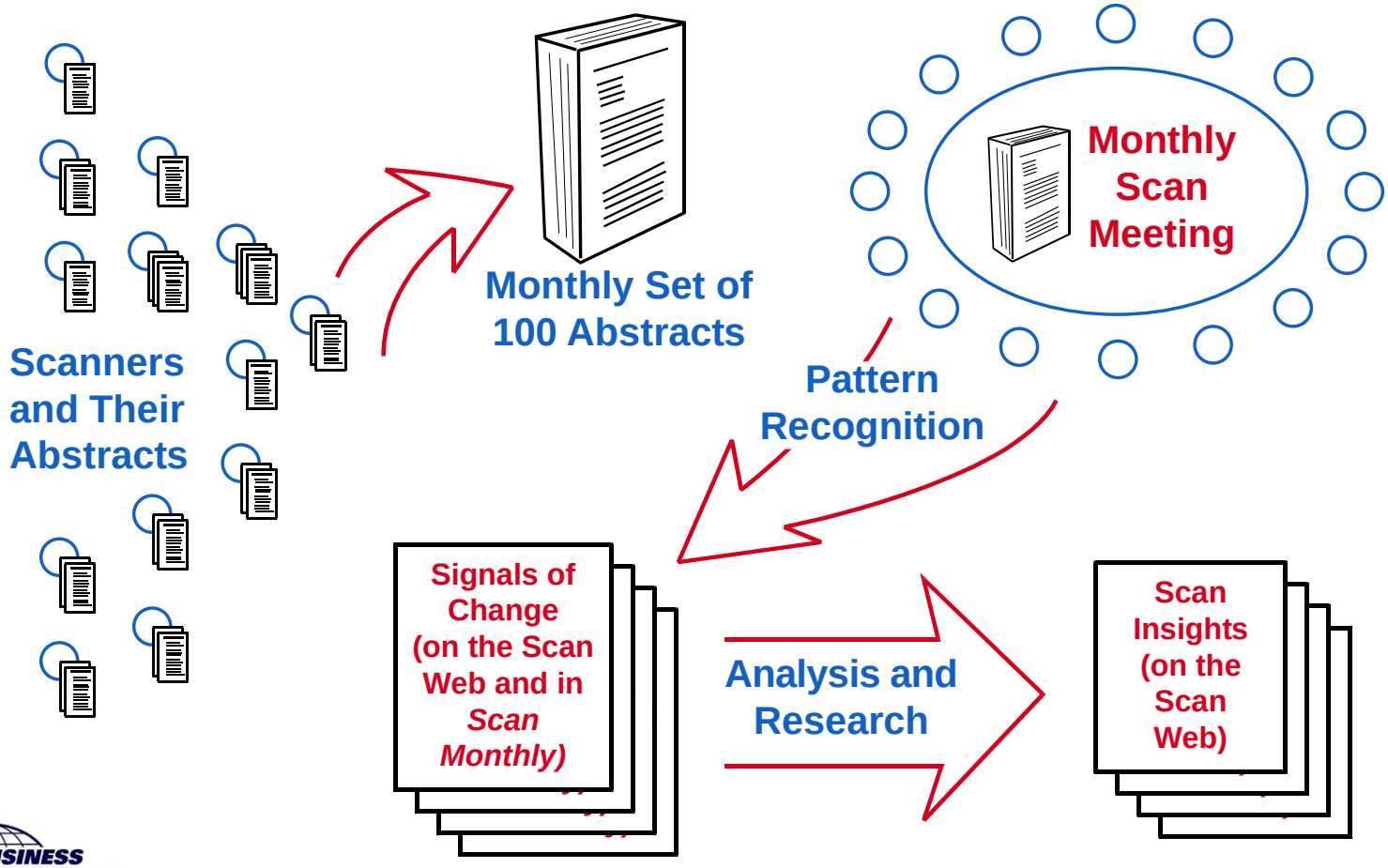
The Process of Scanning: Discovering Early Signals of Change as Part of Innovation System



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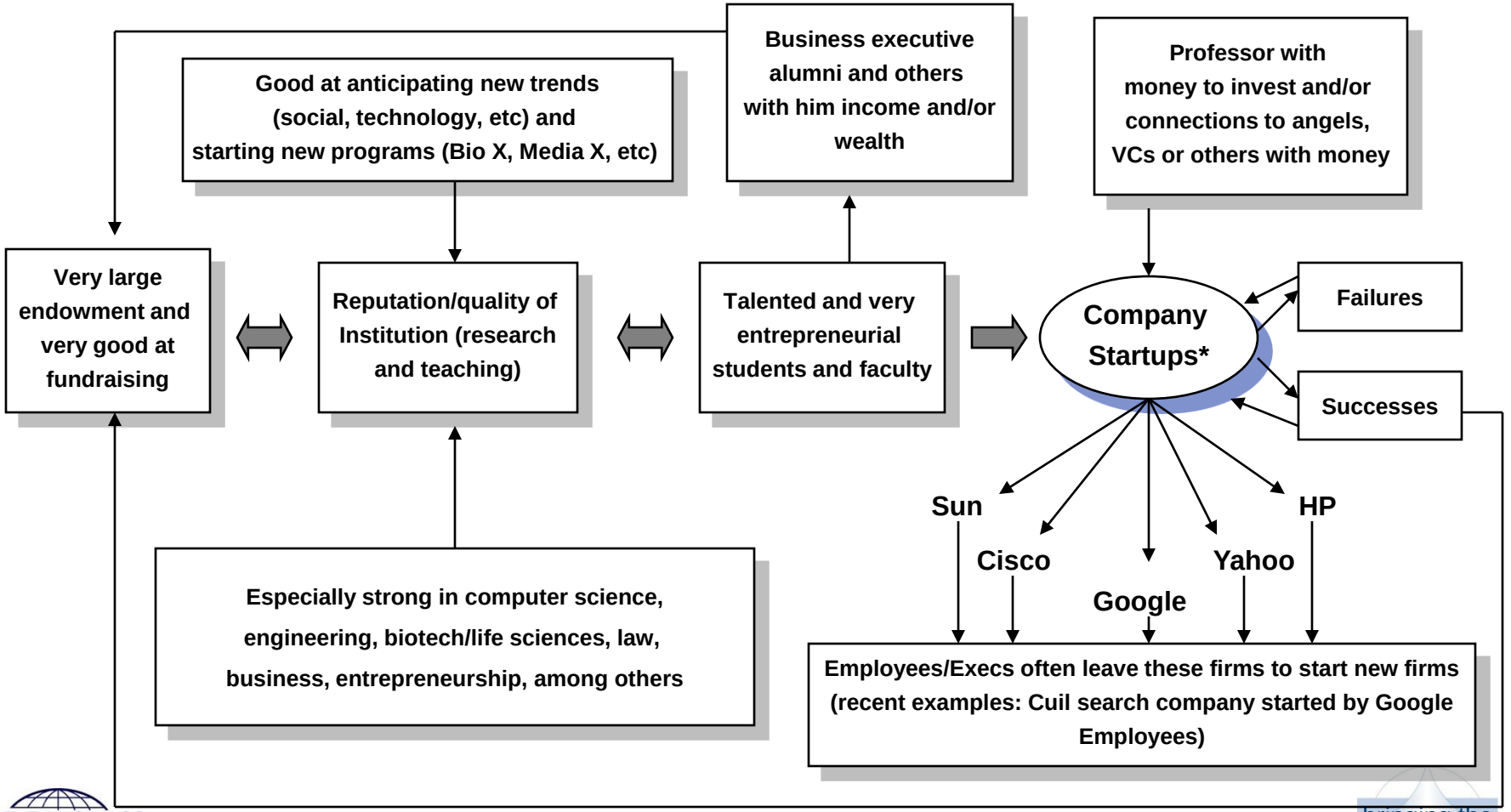
Stanford University—Virtuous Circle of Research and Entrepreneurship



* See "Wellspring of Innovation"; http://www.stanford.edu/group/wellspring/index.html

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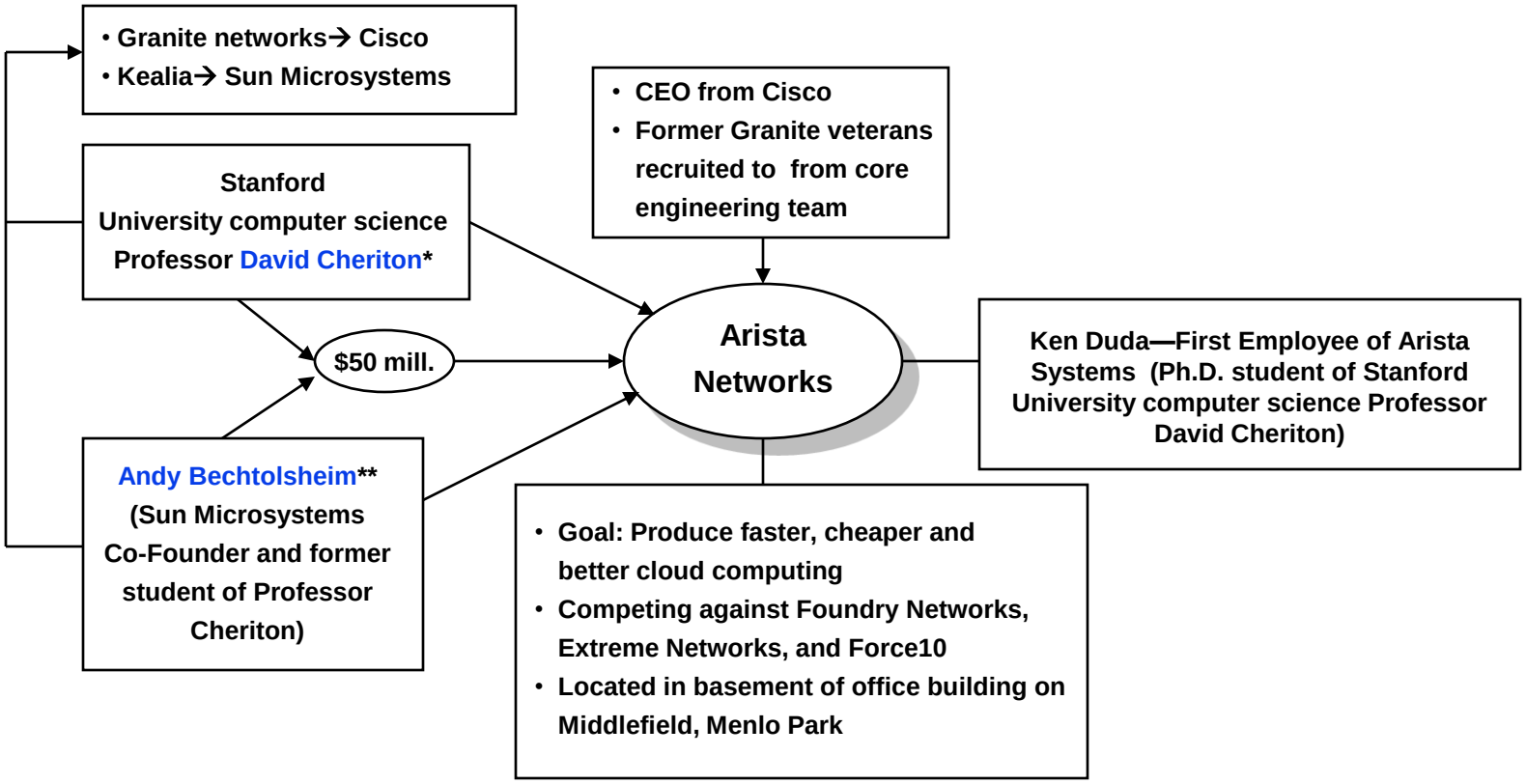
Arista Networks Illustrates Stanford University Role in Many Startups



* Introduced Larry Page and Sergey Brin to Bechtolsheim

** Provided $100,000 Seed Funding to Larry Page and Sergey Brin so they could Start Google (investment later estimated to be worth $1.5 billion)

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