

# Innovation Brokering in Federal Government Markets

John Michitson

Technical Manager and Researcher

MITRE Corporation

[michitson@mitre.org](mailto:michitson@mitre.org)

(C) 339-221-2276

# Outline

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- **Hypothesis**
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# MITRE Mission

- **Partnership with Government**
  - Working in the Public Interest – *Not for Profit*
  - Unique Access – *Strategic Insight*
  - Trusted Advisors – *Deep Understanding of Sponsor Needs*
- **Critical National Problems**
  - Strategic Impact – *Robust Solutions for Global Challenges*
  - Long-term perspective
- **Advanced Technical Solutions**
  - Promote Innovation
  - Objective, Highly-Skilled Analysis
  - Enterprise and Systems Engineering

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# Hypothesis

- **Three Constructs to expedite innovation transitions**
  1. Establish appropriate innovation **brokering business model** for Federal Government acquisition community
  2. Decompose Fed Gov **customer needs** and Commercial **innovations in compatible terms**;
  3. **Extend partnering** with social and open innovation networks;
- Value of open innovation model
  - System to **converge to solutions more efficiently**
  - **N<sup>2</sup> potential** with network of innovation brokers

# Types of Challenges

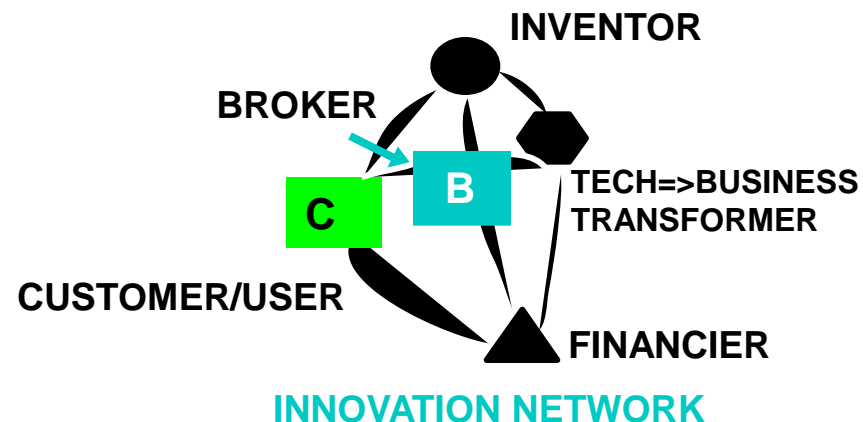
- **Unrecognized Needs**: Customer/partner poses a broad question formulated to discover new ideas in marketplace (smaller scale \$s or gratis)
- **Orphan Innovations**: Customers post and partners respond to challenges (larger scale \$s)
- **Incubation**: Seek partners & build teams
- **Key focus**: Drive front end of innovation – before RFP written

# Barriers to Innovation

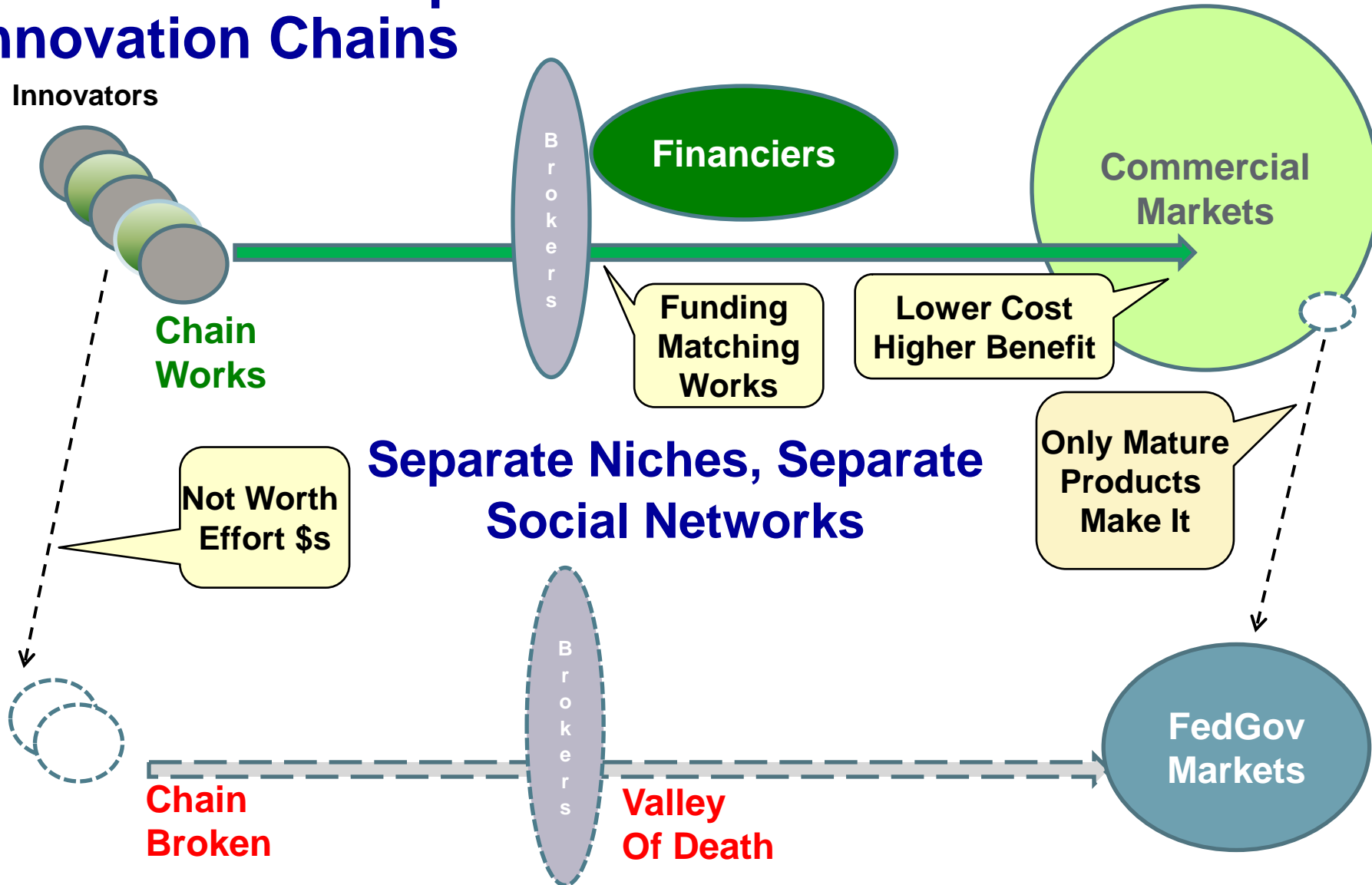
- **Innovators:** Lack of government expertise & understanding of value of government expertise
  - **Innovators:** Complex contractual regulations and unique operational domains
  - **Innovators:** Complex customer needs not decomposed in common commercial terminology.
- 
- **Sponsors:** Lack of broad & long term innovator partnerships, throughout the lifecycle
  - **Sponsors:** Difficult to mix, match and share intellectual property or talent to co-develop solutions with innovators.

# What is innovation brokering process?

- Ways to:
  - Bring together full life cycle partners (e.g. user/customer, inventor, transformer, financier and broker) at concept phase
  - Share expertise and Intellectual Property
  - Rapidly co-develop solutions
  - Bite-size chunks (to extent possible)
- For:
  - Collaborative R&D
    - New or extended technologies
  - Rapid acquisition
    - Cross-industry solutions
  - Expand the market

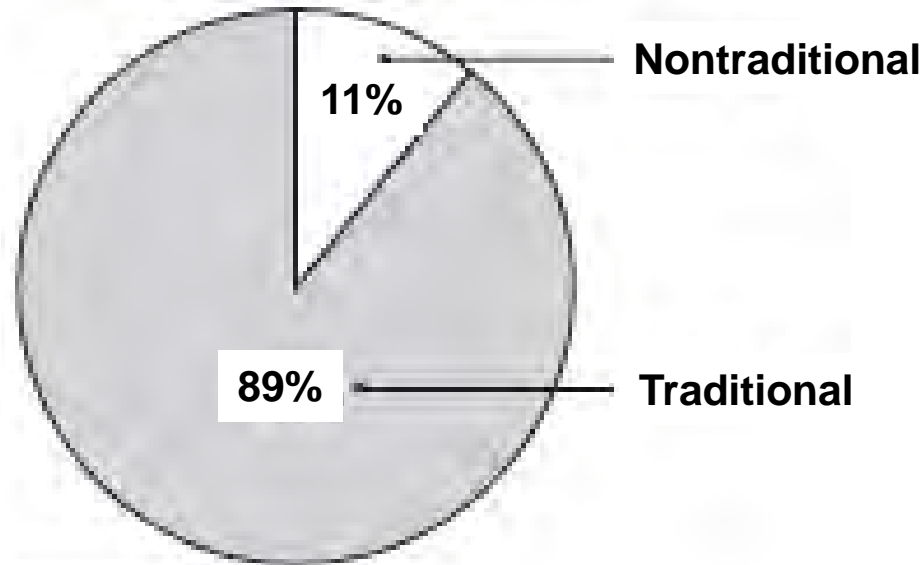


# Innovators Perception of Commercial & FedGov Innovation Chains





# Nontraditional vs. Traditional Air Force Commercial Acquisition Contractors FY2003-2004



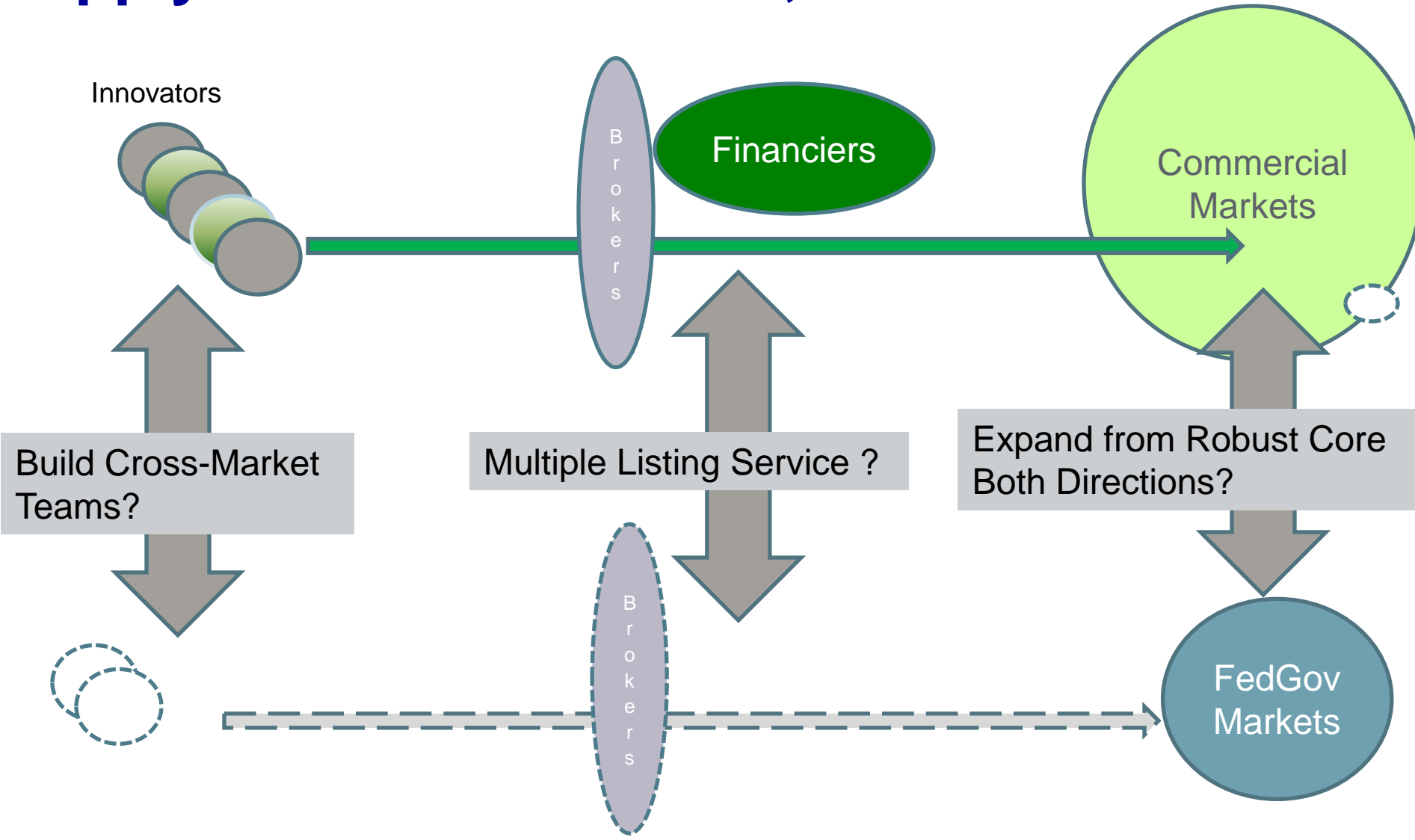
Source: GAO analysis of DoD data

❖ In a 2005 commercial acquisition study, RAND concluded that there is very little evidence that the use of commercial acquisition has encouraged greater numbers of civilian (non-DOD) commercial contractors to compete for DOD contracts for major military-unique items.\*

Source: GAO-06-995, dated 09/06

\*(RAND, *Price-Based Acquisition: Issues and Challenges for Defense Department Procurement of Weapon Systems*, (Santa Monica, CA: 2005)

# Apply iBroker Processes, Tools & Events



**Business Models ↔ Social Networks ↔ Interaction**

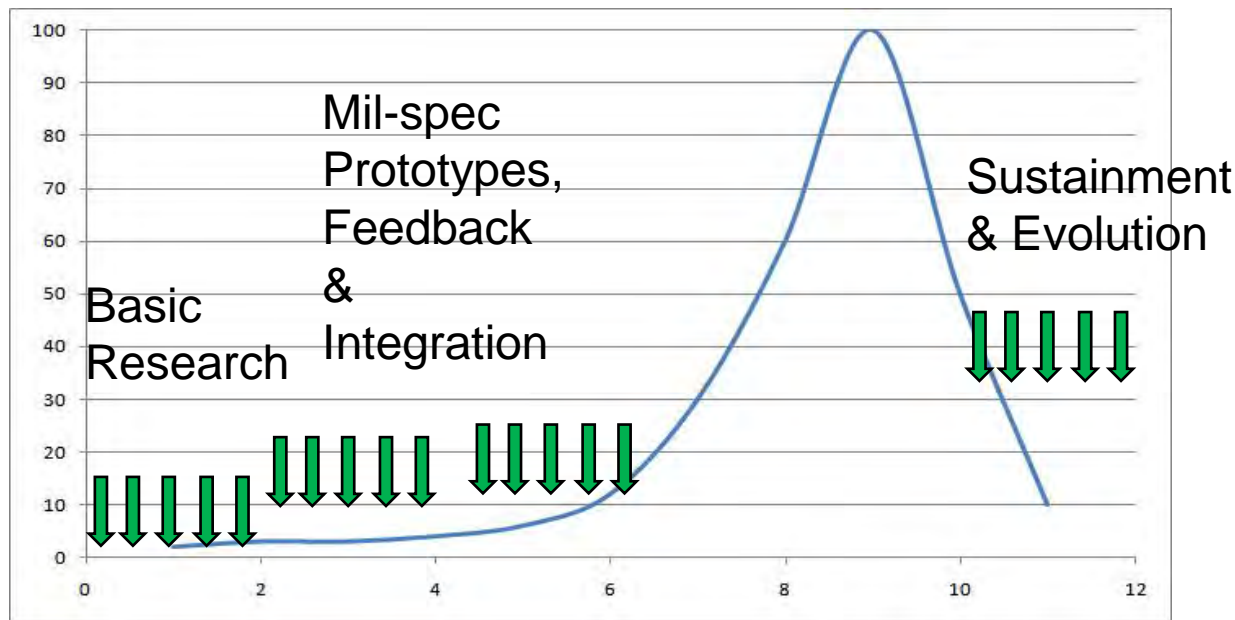
# FedGov Markets: Missed Opportunities

## Cons

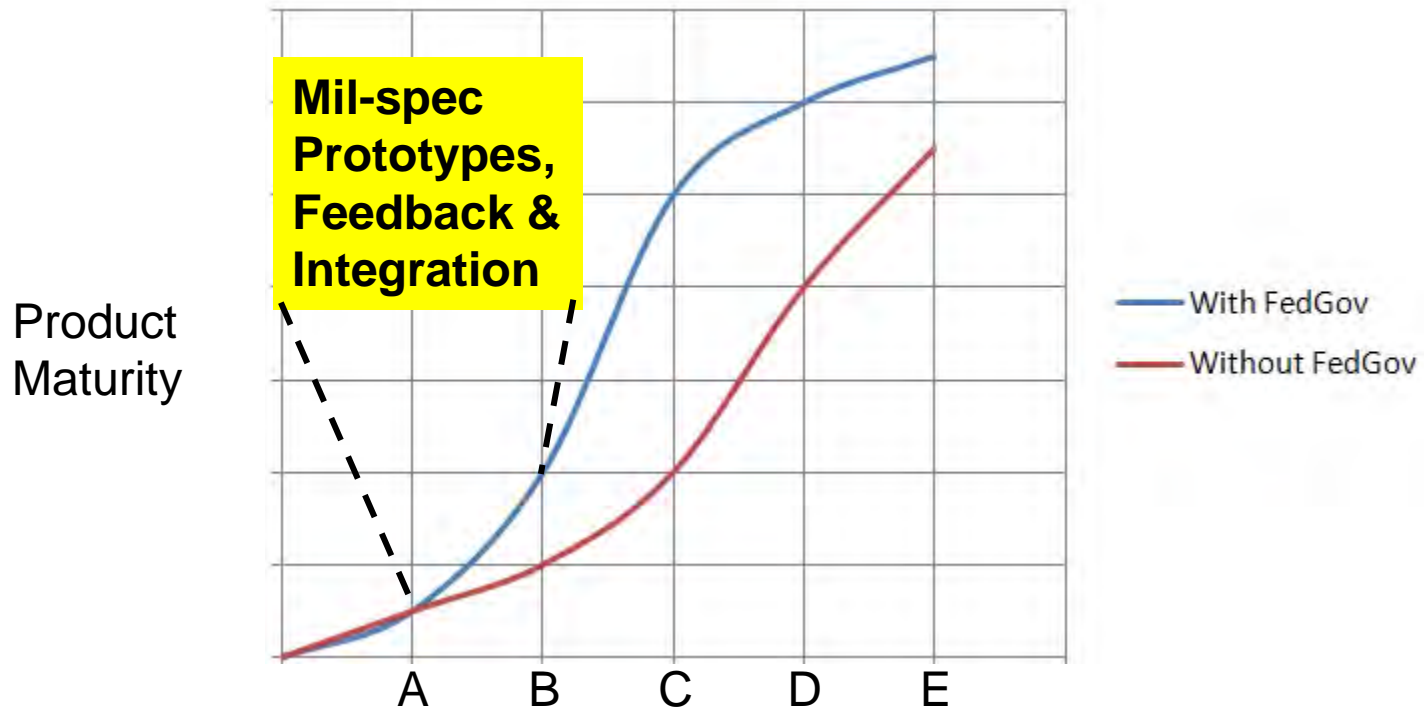
- Long development of Market Potential
- High regulatory costs
- Reduced early profit taking

## Pros

- Long revenue after development
- Protected niches
- Increased robustness, scalability and exponential growth
- Commercialization opportunities



# Example – Effects of Missed FedGov Opportunities



- A. Early influx of FedGov \$ enabled by iBroker
- B. Earlier influx of VC\$ due to maturity of product
- C. Later influx of VC\$ without FedGov \$ to mature product
- D. More maturity sooner with early FedGov\$

More Maturity = Proven = Low Risk = VC\$  
Earlier maturity = Earlier VC\$

# Bridges Control Information Release, Build Trust (Partial List)

Phase	Sponsor				Broker			Innovator				Inter-Broker
	Open	Limited Share	Close-Held / NDA	Human-in-the-Loop	Private	Human-in-the-Loop	Limited Share	Open	Limited Share	Close-Held / NDA	Human-in-the-Loop	
Harvest	1a				2			1b				1c
Broker Outreach				4	5	3,4					3	
Info Part Reveal #1		6b					6a, 6b		6a			
Analyze & Match					7	8						
Reveal Matches		9					9		9			10
Introduction				11b		11a, 11b					11a	
Partners Online Develop			12a		12b					12a		

# Harvesting: Separating Wheat & Chaff

	Sponsor				Broker		Innovator			
Harvest Phase	Private	Close-Held	Limited Share	Open	Limited Share	Limited Share	Open	Limited Share	Close-Held	Private
Sponsor Gap	Need / Vulnerability	Need / Vulnerability								
Innovator Idea									Intel. Property	Intel. Property
Sponsor Develop			Dual Use Need							
Innovator Develop								Value Offer		
Broker Develop					<u>Dual Use</u> Listing	<u>Early Adopter</u> Listing				
Posting				Listing			Listing			

# Harvest Participants by Building Community

- **Build a team with passion, purpose and character – push/pull**
  - **Establish/leverage multiple levels of:**
    - **Connectedness**
    - **Diversity**
    - **Character**
    - **Trust**
    - **Interest**
    - **Skills**
  - **Loosely integrate and leverage professional, personal and community networks (on-line & face-to-face)**
    - **LinkedIn (300+ connections, 44 Groups), Twitter, Facebook (500 friends), ...**
    - **Join LinkedIn Group: “Open Innovation & Brokering in Federal Government Markets”**
  - **Seek ways to automate, but...**
    - **Face-to-face networking opportunities have biggest payback**
      - **MIT Sloan Entrepreneurship Development Program**

# Build A Community-Based Practice

- **Identify key tools, techniques and processes**
  - **Leverage/integrate a multitude of available tools**
    - **Compelling, professional questions draw interest**
      - **Polls, surveys and prediction markets are more effective than “discussions”**
    - **Innovators seek:**
      - **Market research**
      - **Tools to test concepts**
  - **Help “partners” solve their problems to build relationships – participate!**



# Research Venue

- **Determine which types of challenges are best suited for innovation brokering**
- **Determine best approaches for converging a large group of candidate teams to a reasonable number of finalists**
  - **When to switch from open discussion to signing NDAs and creating private project rooms with each team**
- **How to pose market questions?**
  - **Balance between attracting interest and protecting sensitive information**
- **Culture and regulation adaptation**
- **Decompose challenges for open innovation**
  - **Describe challenges using industry friendly terminology**
- **Integration of smaller contracts – manageability**
- **Develop business savvy for brokering**
- **Intellectual property management amongst partners is complex**

# Research Pilot

## Literature (partial)

- Ahonen, M. and Lietsala, K., (2007) Managing Service Ideas and Suggestions – Information Systems in Innovation Brokering, Innovation in Services, Proceeding of Tekes- Haas Conference on Service Innovation. Berkeley, CA.
- Hargadon, A., & Sutton, R. (2000). Building an Innovation Factory. Harvard Business Review, 78(3), 157-166
- Alexy, Oliver, Paola Criscuolo, and Ammon Salter. "Does IP Strategy Have to Cripple Open Innovation." MIT Sloan Management Review 50.1 (2009): 71-80. Print.
- Boudreau, Kevin J. and Karim R. Lakhani. "How to Manage Outside Innovation." MIT Sloan Management Review 50.4 (2009): 69-79. Print.

## Outreach (partial)

- AFRL Open Innovation pilot
- DeVenCI, In-Q-Tel
- Innocentive, Yet2.com, NineSigma, Imaginatik, Spigit
- IBM, General Dynamics, Raytheon, ...
- MIT Sloan School
- UNH Interoperability Lab (IOL)
- Aerospace Corporation
- Sponsors such as FAA NextGen
- Users such as Foliage, ClearMethods, DataSynapse, ...

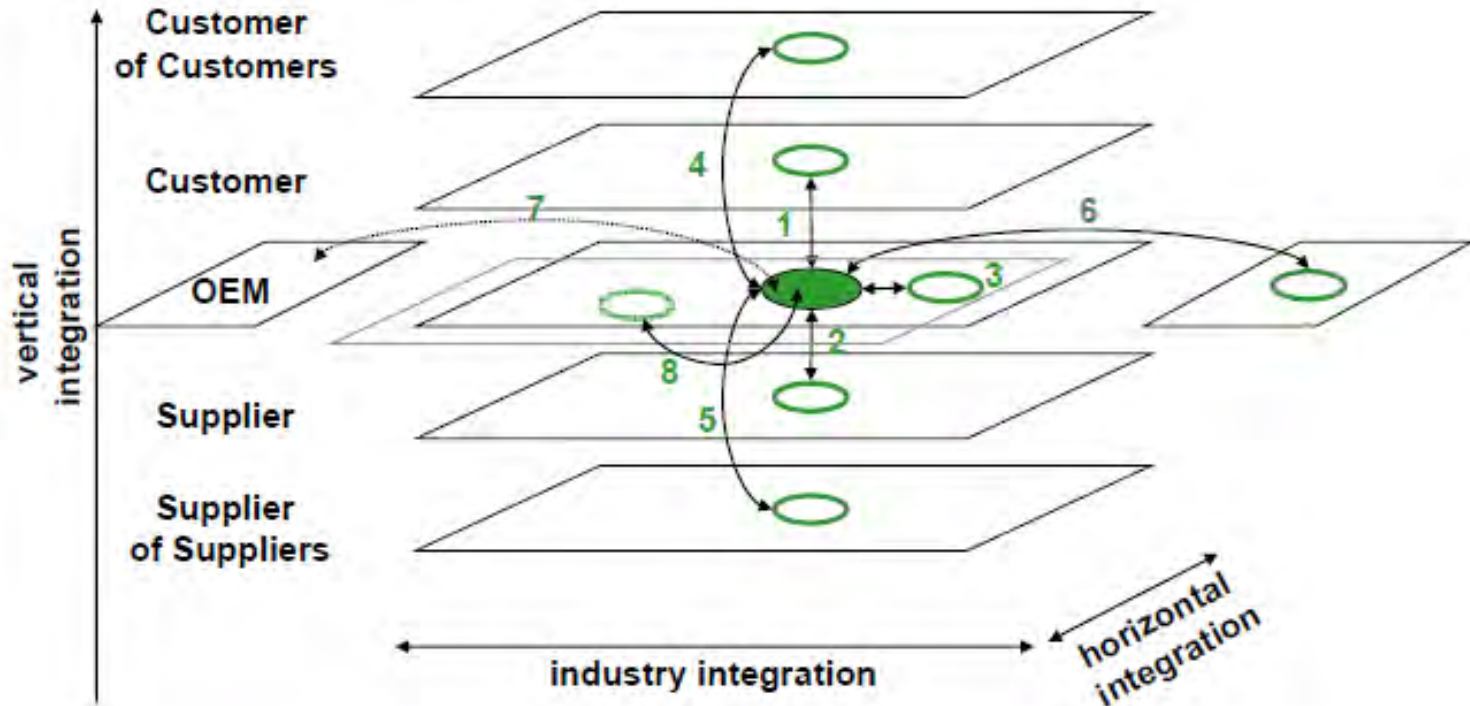


# Back-up

# Technology Vendor's View of Potential Partners

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## Possible cooperation partners

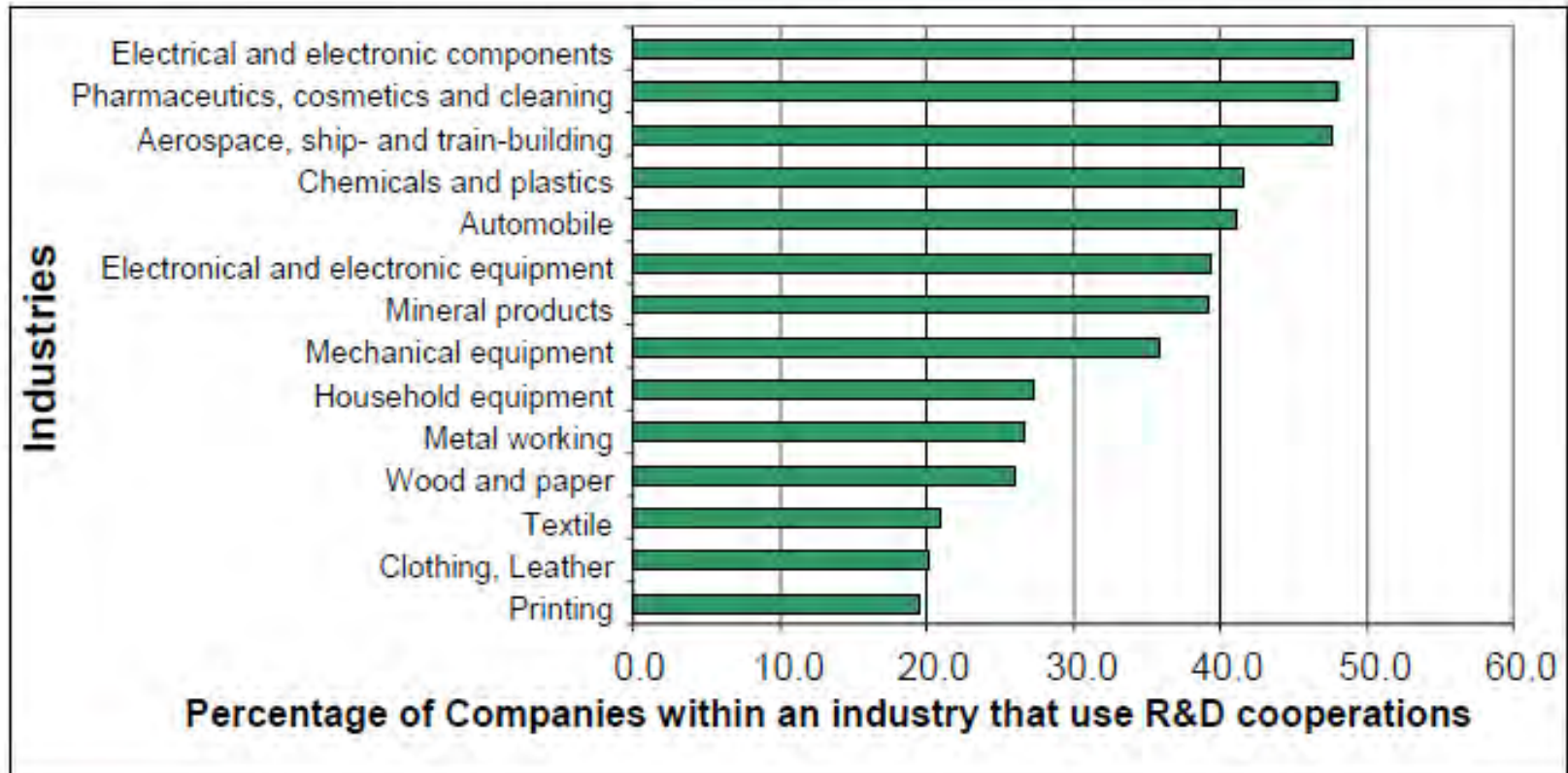


- 1 Customer Integration
- 2 Supplier Integration
- 3 Competitor Alliances
- 4 Customer of Customer Integration
- 5 Integration of 2nd tier Supplier
- 6 Cross-industry Innovation
- 7 University-industry cooperation
- 8 Globalization of innovation

# Industries Leveraging Open Innovation

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## Impact of Innovation Cooperation in different Industries





# Low Hanging Fruit for Innovation Brokering Pilot

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## Who profits most of Open Innovation?

**Company size and direction:** middle sized companies and multinational enterprises

**Complexity:** companies with complex products and technologies

**Strategy:** companies with clear growth and innovation strategy in existing and new markets

**Culture:** companies with an established innovation culture (empowerment of employees, autonomy, open for new ideas, business models, processes; low NIH, willingness to cooperate)

**Process:** companies with an innovation process that allows to integrate external knowledge; systematic analysis of ideas and projects regarding: make alone, buy or cooperate

**IP Management:** companies with active IP portfolio management, open to identify and integrate developments for other companies or industries, systematic analysis of the existing patents and their licensing potential

**Industry:** electronic and software sector

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# DoD Acquisition vs. Commercial Product Development Cycles

