



# **Commercialization and Regional Economic Development**

**Accelerating University  
Commercialization Timelines  
Alameda Innovations LLC**

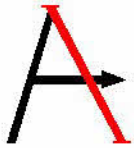
*“partners in successful commercialization”*

# A Why University Commercialization?

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## Where inventions happen

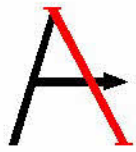
- **Large enterprises continue to cut research**
  - GE's R&D declined from 10% to 2% over 40 years
  - Focus on product improvements
  - Most university IP not ready for productization
  - Reduced licensing of university IP except for litigation purposes without actual product revenue
- **Startups focus on product development** not revolutionary developments from new inventions
  - Startup investors push for short time-to-revenue
- **Universities are last bastion of US research**
  - Many basic inventions occur at universities
  - Rarely do those inventions get to market
  - Most inventions are lost as reports on shelves



# Why Improve University Commercialization?

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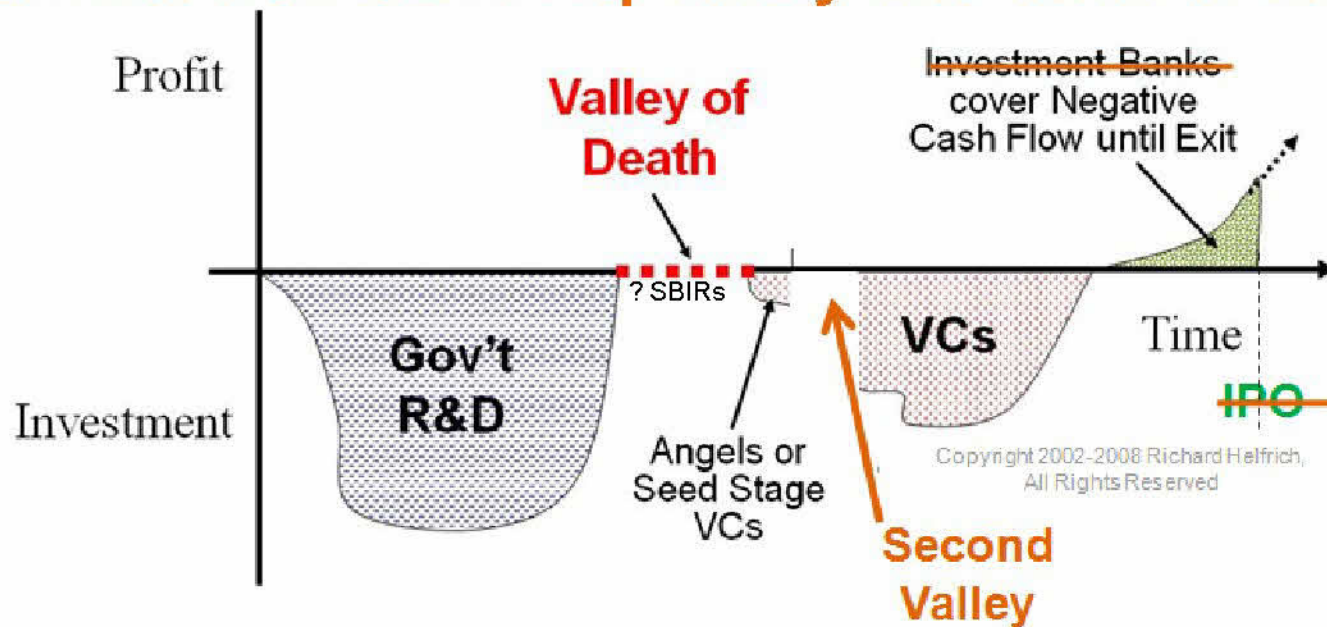
- About 0.5% of university inventions are utilized to generate commercial products (per market data)
- Products enabled by those 0.5% of inventions create many high-value US jobs
- Studies indicate about 5% of current inventions could become commercial products – but status of corporate licenses and current processes make that unlikely
- **Increasing commercialization moderately could create over a million new US jobs /year.**



# Dual Valley of Death – Few Exits

## Traditional risk capital model is broken

- Most believe it will be 4+ years before a new approach evolves naturally after economic downturn
- **Extended reduced US startup rate allows global competitors to build competitive commercialization capability and build workforce**



# **New Commercialization Model**

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Commercialization must adjust to new realities of 3 step process

## Universities

- Federally funded research
- **Inventors**
  - Professors, post docs & grad students
- **Inventions**
  - Patents
  - Know-how



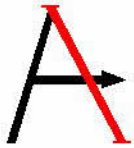
## Startups

- **Products**
  - Rapid and efficient development
- **Initial customers**
  - Focus on critical customer wins
  - Prove market viability
- **Demonstrate profitability**



## Enterprises

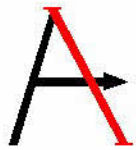
- **Distribution channels**
  - Global with product localization
  - Supply chain management
- **Support**
  - Worldwide tech support
  - Warranty
- **Manufacturing**
  - Efficient & global



# Commercialization Concerns

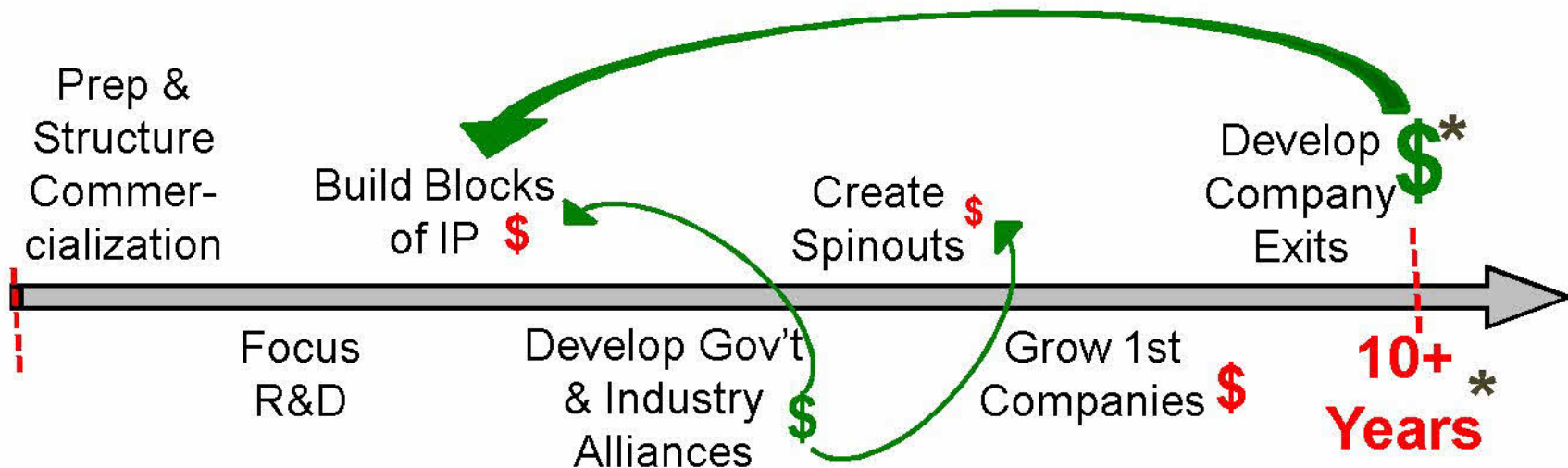
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1. Short-term results from commercialization activities will be minor while big wins take years
2. Funding via federal contract participation likely but not instant
3. Approaches to serious commercialization require funding during organization and ramp-up phase
4. **Target small successes near-term to prepare for great results long-term**



# Historical Sequence of Commercialization Activities

- Many phases of timeline
  - Initial results can take many years when done organically
  - Judicious use of external resources can accelerate measurable results



## LEGEND:

**\$ = capital used**    **\$ = capital generated**

\* Stanford required 15-years to become self-sustaining from revenue resulting from combined sources of equity in startups and patent licenses

# A Essential Elements of Sustainable Commercialization Spinouts \*

- 1 - Strong research institution with inventions
- 2 - Scientist group involvement at early stages (but not in executive roles)
- <sup>2</sup>3 - Space to grow companies in right location
- 4 - Large #s of serial entrepreneurs in region
- <sup>3</sup>5 - Service providers who take payment risks
- 6 – Investors/ VCs covering seed to pre-exit

\* Based on reviews by very successful technology centers such as Stanford, MIT and Caltech along with study reports by foundations and think tanks

- 1 – Could be improved rapidly via deal to partner on IP of others    2 - Space after acquiring facility  
3 – Attorneys, accountants, consultants support seed companies and take stock for payment for 2 years

