

Providing Quality Assistance To Inventors

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Introductions



Agenda



- Workshop goals
- AZ Technology Landscape
- Venture readiness level (VRL) concept
- Technology Programs

Workshop Goals

- Identify challenges to working with tech-centric clients
- Understand what makes tech-centric different
- Understand VRL assessment concept
- Comprehensive set of Programs for tech entrepreneurs
- Identify resources to address key questions

AZ SBDC Technology Landscape

- **Host: Community Colleges**
- **19 statewide SBDC centers**
- **Statewide counselor training program**
- **Use of technology to build network-wide capacity**
- **Promote shared resources among centers**
- **Formation of an Advisory Board**
 - charter and the member composition

AZ Technology Landscape

- **University R&D effort**
- **Incubator cluster movement**
- **ACA (AZ Commerce Authority) Initiative**
 - Newly formed Technology & Innovation Program
 - Overview of various grants and assistance to technology sector
- **Angel Investor groups**
- **One of the Clean tech Grant recipient**
- **Clean tech Grant Market Research**

Tech-Centric Challenges



Tech-Centric Challenges

“Entrepreneurs can easily get so wrapped up in the product that it’s hard for them to think in terms of core technology or competencies.”

▶ Rob Ryan, startups



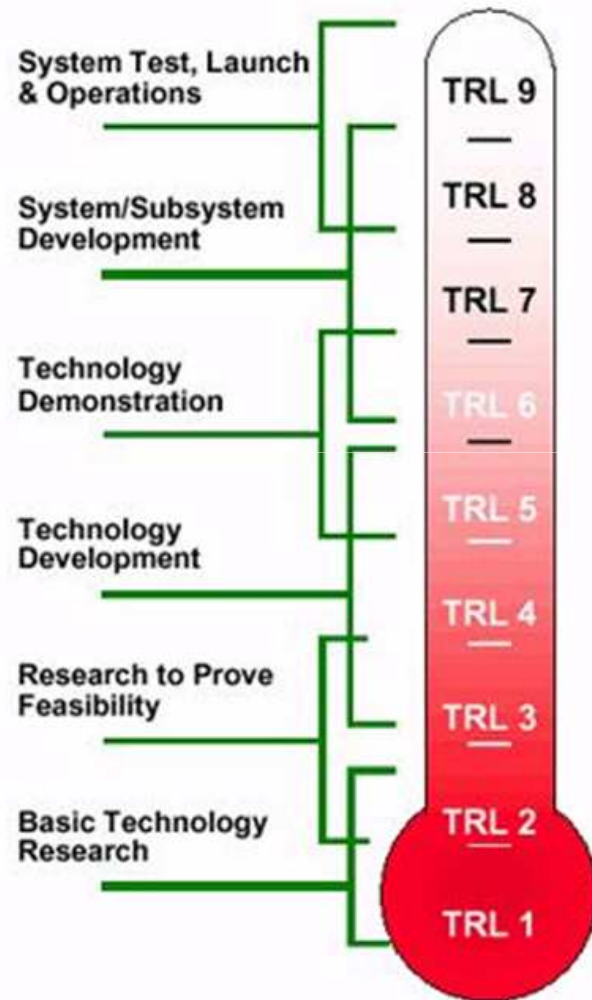
How Is Tech-Centric Different?

- For the counselor
- For the client
- For other stakeholders

How Is Tech-Centric Different?

- Technical orientation of entrepreneur/small business owner
- Markets not well defined
- Not well covered by small business information sources
- Emphasis on intellectual property
- Need for partners

NASA Technology Readiness Level (TRL)



- Developed in the 1980s
- Adapted for use by DoD and others
- Emphasizes need for proof-of-concept, development, and testing
- Helps assess technology development costs and risks

TRL Use



**Use the TRL as an awareness,
assessment and planning tool**

TRL Assessment

- **History**

- Developed by NASA . . . Used by most USG entities and NGOs. Nomenclature reflects its origin.
- Military Goal = Deployment
- Private Sector Goal = Commercially Viable Products

- **Features**

- Provides Common Language – Tradeoff Analysis
- Facilitates Risk/Reward Monitoring
- Aids Evaluation of Funding Readiness / Sources
- Enhances Resource Allocation Decisions
- Requires rigorous “Process” – knowledge, paperwork, reporting, reviews

TRL Does Not Tell You ...

- Is there a “real” market?
- Who your customer is?
- Your customer’s requirements
- Where and how to manufacture
- Best Manufacturing Practices – 6 Sigma
- Competitive Positioning
- Staffing
- Best Distribution Channels
- Best Sales Organization
- Pricing
- Profitability

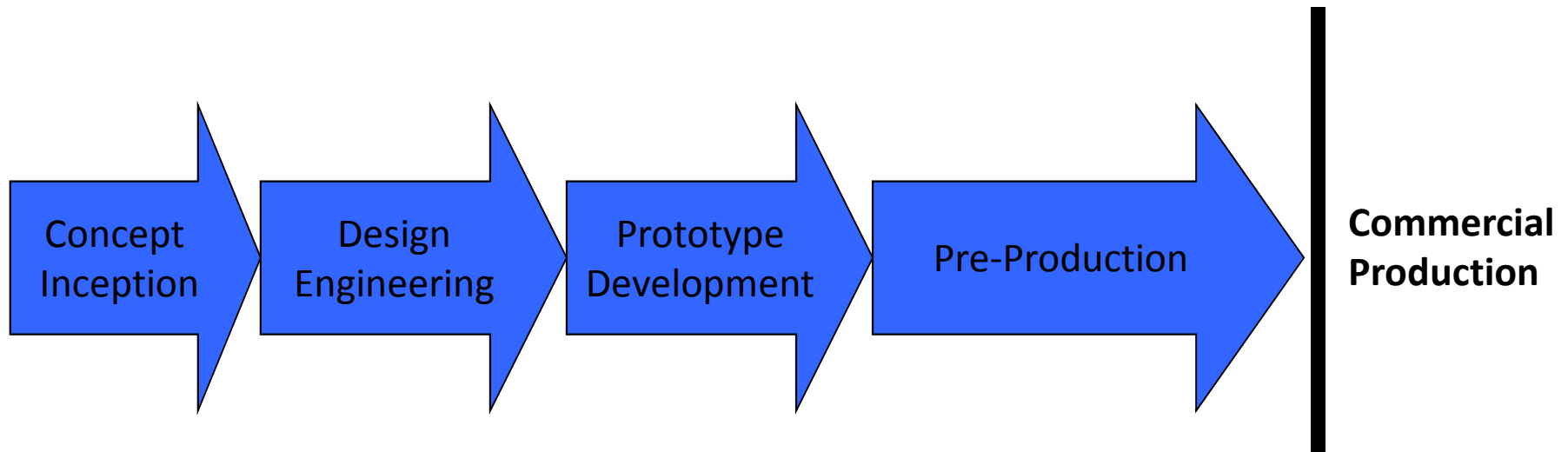
Commercialization Model

	<u>Technical</u>	<u>Market</u>	<u>Business</u>
<i>Investigation</i>	Technology Concept Analysis	Market Needs Assessment	Venture Assessment
<i>Feasibility</i>	Technology Feasibility	Market Study	Economic Feasibility
<i>Planning</i>	Engineering Prototype	Strategic Marketing	Strategic Business Plan
<i>Introduction</i>	Pre-Production Prototype	Market Validation	Business Start-Up
<i>Full Scale Production</i>	Production	Sales & Distribution	Business Growth
<i>Maturity</i>	Production Support	Market Diversification	Business Maturity

“Take Away”

While the "Technology Commercialization Model" does not provide the answers, it helps you to ask the right questions like "how do I get there from here?"

Technology Commercialization



Technology Programs

AZ SBDC VRL Survey

AZ SBDC VRL Origins

- NASA TRL concept
- Goldsmith Commercialization Model
- Professional experience

Business

Engineering

Finance

Technology commercialization

AZ SBDC VRL Survey

- Six levels x 3 functional areas = 18 sections
- 182 questions
- 5-14 questions per section
- 0-2 points per question
- Answer options: yes, no, not yet started
- Requires ~70% point total for good progress
- Can be completed in sections
- Can be completed alone or with the Counselor
- Can be scored on the fly or at a later date

AZ SBDC VRL Survey

AZ SBDC VRL Assessment

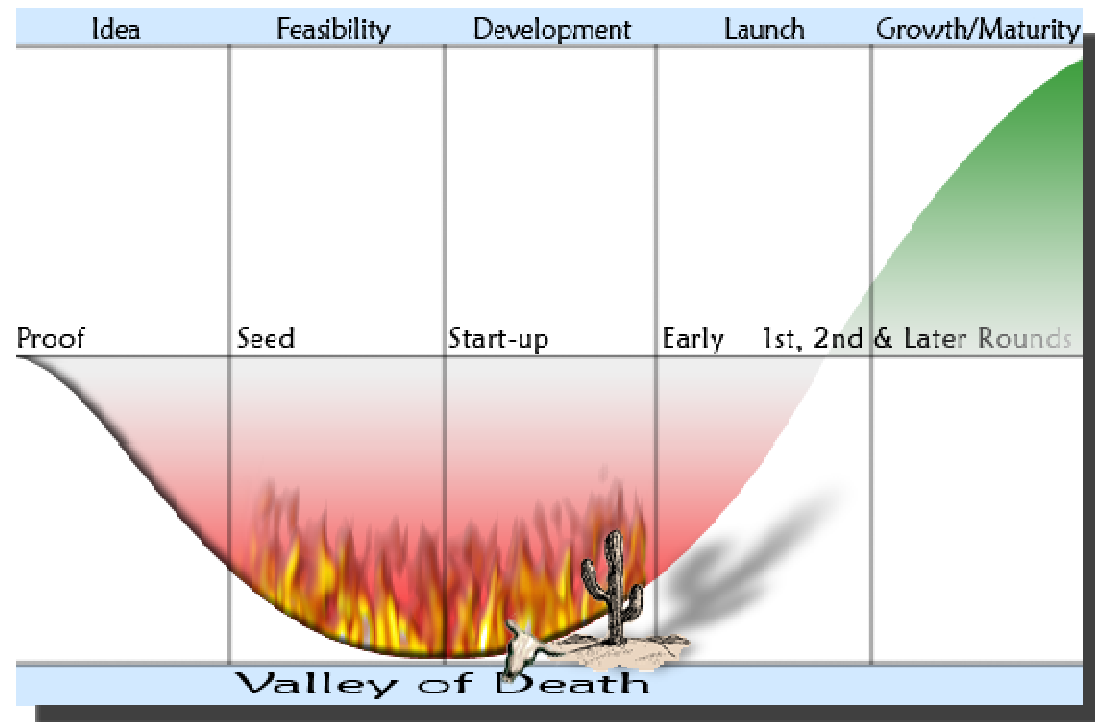
- Readiness to launch
- Information, decision & planning gaps
- Potential sources of funding

VRL & Funding Types

Venture Stage/ VRL	Deliverable	Funding Type
1.0 Investigation	Conceptual model	Proof-of-concept
2.0 Feasibility	Working model	Seed
3.0 Planning	Engineered prototype	Start-up
4.0 Introduction	Pre-production prototype/initial production	Early stage/A round
5.0 Full-scale production	Full production	Mid-stage/B round
6.0 Maturity	Full production/ increasing market share	Late stage/C round

Valley of Death

- The most difficult time for a business is surviving the Valley of Death.
- The Valley of Death is the funding gap between promising research and the transition to the marketplace.
- Typical stages of funding and potential funding sources a business can consider to successfully navigate its way through the commercialization process.



Technology Programs

AZ SBDC Technology Programs

Technology Programs

- **one-on-one coaching** program leading to a refined articulation of the entrepreneur's business concept and strategy including Business/Corporate Structure and Strategy. This may include analyzing business model options such as licensing, JV or build/sell.
- **In Depth Workshops** to help local entrepreneurs develop business plans aimed at accessing federal funding programs that finance early stages of technology and product development (SBIR and STTR).
- **The Mentoring Program**, a program designed to provide companies with the counsel they need to build their ventures into successful enterprises.
- **Intellectual Property (IP) Portfolio Management Program** is designed for researchers and innovators to give access to free initial consultation with IP attorney to design the technology licensing strategy
- **Investor Readiness Program**, a program designed for individuals interested in learning the basics of angel investing that provides instruction, exercises, pitching and coaching, complete with real-time feedback from coaches and investors
- **"Connector and Convener" Program** providing opportunities for innovators and entrepreneurs to access the Subject Matter Experts (SME), to meet local entrepreneurs, and for the entrepreneurs to connect with each other and companies throughout the region.

Technology Programs

One-on-One Coaching

Entrepreneur Assistance

- **Assess the commercialization stage of the venture.**
 - Venture viability
 - Likely funding sources
- **Business Model identification** (License, JV or build/sell)
 - Sunflower model
 - Osterwalder business model canvass
- **Commercialization roadmap planning**
 - Use of VRL assessment
 - Next Steps
 - Resource identification

One-on-One Coaching

- Sunflower model
- Osterwalder business canvas

Technology Programs

In Depth Workshops

Entrepreneur Assistance

SBIR /STTR Proposal Writing Workshops

- Partnered with local Universities to deliver these workshops
- Track upcoming grant opportunities with various agencies
- Grant Proposal Writing tips / Letters of Support
- Review and feedback of the Grant Proposals prior to submission
- Review and feedback on the agency comments for submitted grant proposals
- Identification of Strategic Commercialization partner
- Matchmaking opportunities with Program managers of various agencies

Leveraging SBIR for Growth

- **Background**

- Describe significance of the problem
- Reference Supporting data
- Current solutions, their limitations, Discoveries needed
- Show knowledge of published & unpublished work

- **Significance**

- Describe how your product is INNOVATIVE? (the wow)
- Commercial potential and research challenge
- How are you protecting IP?
- Why Phase I milestones will justify a Phase II award?

Leveraging SBIR for Growth

- **Don't be the "SBIR hog"**
- **Effective matchmaking of SB & Primes**
- **Work on Phase 0's with the Primes**
 - Be aggressive & proactive
 - Help write the RFP or SBIR solicitation
- **Sell Benefits! Not technology!**
 - Increased performance or capability
 - Increased reliability
 - Reduced cost

Technology Programs

The Mentoring Program

Entrepreneur Assistance

TechEDge consists of 10 modules including:

- Technology Readiness, Intellectual Property (IP), Corporate Structure, Business Model Development, Marketing, Business Plan Development, Systems & Logistics, Partnering, Financial/Operations, Capital Formation and Human Resources
- Each module includes one or more presentations from subject matter experts (SME). Attendees then break into small groups where they have the opportunity to meet directly with each SME to get advice on specific issues and dilemmas at their respective companies.

Technology Programs

IP Portfolio Management

Entrepreneur Assistance

General Counseling guidelines

- **Use of Confidential Disclosure Agreements (CDA) right from the start**
- **Record keeping**
 - Lab notebooks, witnesses
 - Accounting records to track cost of R&D projects
 - Patent application & tracking status
- **Employment Agreements**
 - Who owns what?
- **Proper marking of documents**
- **Have an IP strategy from the start**
- **Understand the difference between copyrights, trade secrets and patents**
- **Schedule and facilitate an introductory meeting with an experienced IP attorney**

Technology Programs

Investor Readiness Program

Entrepreneur Assistance

- **Identify if the business is ready for an investor pitch**
- **Provide access to free informational sessions to learn more about the investing process**
- **Help prepare the business plan**
- **Help with the investor pitch and presentation**
- **Host a mock panel of angel investors, corporate attorney, CPA, etc. for the pitch feedback / Review**
- **Refer to local Angel investor groups**
- **Capital Formation workshop / conference**

Technology Programs

Connector & Convener Program

Entrepreneur Assistance

Coffee & Connections

- Quarterly event held at the Chandler incubator
- Provides practical information and networking opportunities

Lunch & Learn

- Monthly event held in partnership with various community partners
- Provides an opportunity to network and learn about new industry trends
- To showcase new products or services to trade association members

Summary

- **No-charge confidential business counseling**
- **Provide practical information and networking opportunities**
- **Strategic business commercialization planning**
- **Risk Management**
- **Access to resources and connections**

Best Practice



Build your network
and ask for help
(often it will be both
good AND free)

One last thing....



Document
everything

Thank You!

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