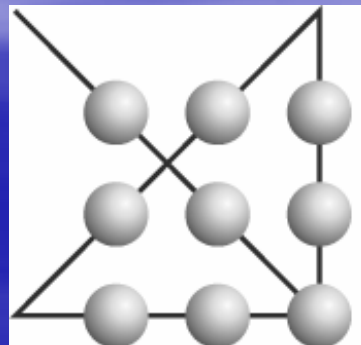


# Toward Commercialization

Commercializing R&D:  
Resources for Emerging Technology  
Companies

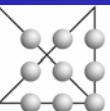
December 8, 2005

Rohit K. Shukla  
CEO, Larta Institute



# Areas covered today

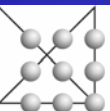
- About Larta Institute
  - Commercialization Clients
- The landscape of innovation
  - The commercialization imperative
- An entrepreneur's guide to this galaxy
  - Personal and motivational issues
  - Strategic and business planning issues
  - Navigation issues to launch and thereafter



# ABOUT LARTA INSTITUTE

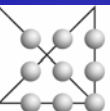
# About Larta Institute

- Founded in 1993
  - Defense downsizing, tech commercialization initiative
  - Funding and assistance programs
- A leading hub of innovation and services for entrepreneurs
  - 200+ companies each year spinning out of federal agencies, universities, global locations
  - Network of resources for a networked economy
  - Consortium of universities (Network T2)
  - Showcase events for industrial and investment communities



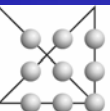
# Larta's Commercialization Clients

- **NIH-CAP: National Institutes of Health**
  - 9-month program for SBIR Phase II awardees across U.S.: Biotech, biopharma, medical devices, tools
    - Scenario-building, remote mentoring, access to industry, investment partners, business case presentation at Venture Forum, follow-up
- **NIST ATP: Advanced Technology Program**
  - Electronics, manufacturing, IT, shorter program (2 months)
    - Scenario-building, interactive sessions, mentoring
- **DARPA: Pilot program for high performers**
  - Scenario-building, mentoring, presentation



# Commercialization Abroad

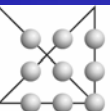
- Larta's Global Bridge program: training/mentoring/commercialization programs in and/or for:
  - Australia
  - Israel
  - Italy
  - Japan
  - Scandinavia (Sweden, Finland)
  - And soon: New Zealand, India, Mideast



# THE INNOVATION LANDSCAPE

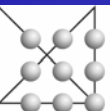
# Innovation

- Buzzword, catching on around the globe
- Important point of distinction, in post-manufacturing economy
  - Incremental improvement or great leap forward
  - Core technologies used across wide spectrum or continually increase efficiency, efficacy, capability
  - Discoveries, derivatives
- Remember: “Innovate or Die?”
- Often attributable to entrepreneurial ventures



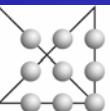
# The Innovation Landscape

- The need for nimble gazelles
  - Time to innovate in large organizations difficult to deal with: pressures of capital markets, for e.g.
- The continuing decline in corporate R&D
  - The game is afoot for smaller innovators
- Enterprise must demonstrate value that builds over time: constant innovation
  - A different perspective than the current game



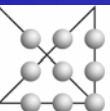
# Commercialization: What is it?

- Commercialization is the art of developing, mining and extending market opportunities based on a core expertise.
  - Value directly related to innovations over current practice, current players and current expectations
- A long and winding road that combines mindsets, assets and daring to achieve revenue, relevance and position in the marketplace.



# Our view of commercialization

- It's a body contact sport
- Must envision several scenarios and follow one: systematic, creative exploration
  - Small companies tend to use “scattershot” approach
  - Focus on one that can generate success:
    - significant size and ROI to pay for subsequent ventures
- Network with “power players” from the beginning!



# AN ENTREPRENEUR'S GUIDE TO THIS GALAXY

# Checklist for the launch

Do you have the right attitude?

Do you have drive and stamina?

Do you have the right temperament?

Can you make tough decisions?

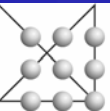
Are you a person of integrity?

Can you deal with setbacks?

Do you know your personal financial needs?

Can you afford to take the risk?

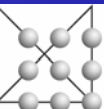
Is your family on board?



# The Mindset

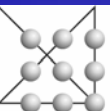
You must:

- Be positive and optimistic
- Be persistent: drive and stamina
- Enthusiastically attack problems and see them as opportunities
- Want to be your own boss (but be ready to take a back seat in running things).
- Be willing to “roll up your sleeves” and do whatever it takes.



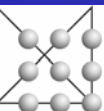
# The Imperatives of Leadership

- Be decisive
- Believe in your decisions and stand behind them.
- If they don't work out, be ready to admit mistakes and try another route.
- Sometimes needs of the business come ahead of the needs of the individual



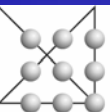
# The Qualities of the Leader

- You must have patience and a sense of humor
  - *“There must be a pony under all of this horse s--t”*
- You can't be afraid to make “mistakes”
  - Admit them and move on
  - Don't blame, don't make excuses
  - “It's in the past”
  - Setbacks are learning experiences, not failures



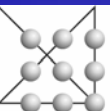
# Envisioning, or knowing what you want

- Be honest about your personal goals.
  - Are you looking to cash out?
  - Are you looking to grow a business your children can inherit?
  - How long are you willing to work at this?
- Are your goals compatible with the other stakeholders?



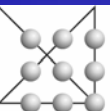
# Is Your Business Idea Viable?

- A great idea doesn't necessarily make a great business.
- How do you know if “the dogs will eat the dog food?”
- What problem do you solve?
  - Is it a “nice to have” or a “need to have”?
  - Who are the big players and what is the market size?
  - Are there threats on the horizon aside from the established players?



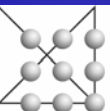
# Typical Early Stage Issues

- R&D: Proof of Principle, Prototype, Patents, Beta Test, Standard Cost
- Manufacturing: Build or Buy, Manufacture or Assemble
- Market: Product Definition & Positioning, Trade Mark & Branding



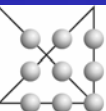
# Typical Early Stage Issues

- Management Team: CEO, CFO, BOD, Advisors
- Capital: Plant, Property & Equipment
- Business Plan (flows from vision, strategy)
- Finance & Investment: Source of Funds, Exit Strategy



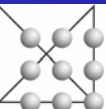
# 4 Elements of Strategic Planning

- Honest self-assessment
  - must be ruthless, and evaluate strengths, weaknesses, opportunities and threats (SWOT).
- Goal setting
- Resource landscaping
- Business plan
  - outlines strategic plan
  - must capture the attention of the audience you are targeting and convince them of your viability as a new business



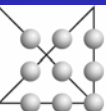
# Strategic Plan Elements

- Vision & Mission (Big Picture articulated)
- Situation Assessment (SWOT)
- Core & Supporting Strategies with Objectives (Goals and Objectives)
- Resource Landscaping (Who, What, Missing?)
- Actions: What, When, Who
- Contingency Plans
- Then, onto the Business Plan



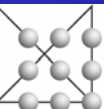
# Objectives and Goals

- Specific timelines, clear milestones; show progress in the attainment of the goals.
  - Focus and refine until they are specific, realistic and achievable.
  - For example, what is your hoped for exit, what is the end goal?
- Include goals relating to financing.
  - Angel investors or venture capital?
  - Bank loans, or family and friends for funds?
- Others' involvement: founding team members, advisors, mentors and other influencers.



# Resource Landscape

- Outlines who and what you have that will help you achieve your objectives.
  - Not merely an exercise in listing financial resources.
  - Check to see what's missing
- Include service firm relationships, management consultants, partnerships, marketers, etc.
- What other resources can you recruit?
- Do not limit yourself by only utilizing your established resources

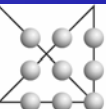


# From R&D to Product....

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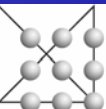
## The Business Plan

- Company Analysis
- Industry Analysis
- Customer Analysis
- Competitive Analysis
- Market Plan
- Operations Plan
- Management Team
- Financial Plan



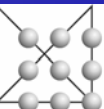
# Business Plan

- Concise explanation of the business
- Market the equity of your company
- Present a clear and compelling strategy/  
vision



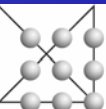
# Company Analysis

- Company Profile
- Past Accomplishments
- Unique Qualifications



# Industry Analysis

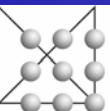
- Market Size
- Market Trends
- Customers
- Competition



# Customer Analysis

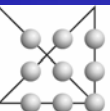
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- Customer Identification/Definition
- Customer Demographics
- Multiple Customer Targets



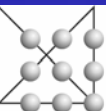
# Competitive Analysis

- Defining Competition
- Describing Competitors
- Competitive Advantage



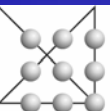
# Marketing Plan

- Products and/or Services
- Promotions
- Price
- Place
- Customer Retention
- Partnerships



# Operations Plan

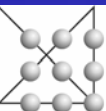
- Everyday Processes
- Business Milestones
  - Funding
  - Revenue Milestones
  - Employee Additions



# Management Team

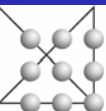
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- Description of Key Team Members
- Management Team Gaps
- Description of Board Members/Advisors



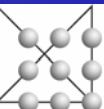
# Do you have the right team to pull it off?

- Do you have the right mix of leadership and experience?
- Do you share the same work ethic and core values?
- Are you a “team” or a group of individuals with talents in different areas?
- Have you surrounded yourself with good service providers and advisors?



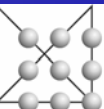
# If you plan to have partners:

- How well do you know them?
- How well can you trust them?
- Do you share the same work ethic and core values?
- Do you have a clearly written agreement that spells out EVERYTHING?
  - Roles & Authority
  - Ownership (equal partnerships are a big mistake)
- What happens if you or your partner is unable to continue in the business?



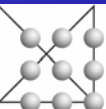
# Financial Plan

- Detailed Revenue Streams
- Pro-Forma Financial Statements
- Validating Assumptions and Projections
- Sources and Uses of Funds
- Exit Strategy



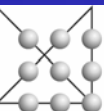
# You Will Need Money

- Make a realistic financial forecast
- Minimize your need for outside funds
- Identify sources of funds
  - Personal funds and credit cards
  - Friends & Family
  - Angel Investors
  - Venture Capitalists
  - Strategic Partners
  - Lending Institutions



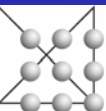
# You Will Need Money

- How much dilution are you willing to live with?
- Are you ready to be under the scrutiny of outside investors?
- When should you raise money and how do you decide how much?



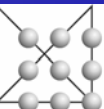
# Bootstrapping

- Are you resourceful enough to bootstrap successfully?
  - Get your customers and suppliers to finance your business
  - Keep your overhead low, low, low.
    - Learn to live with used furniture and equipment, and Spartan offices.
    - Keep an eye out for liquidation sales and other bargains.
    - Don't buy anything that doesn't directly lead to new sales, new product or cost savings.



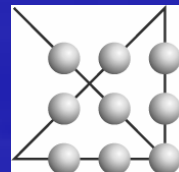
# Know your exit strategy

- Do you want to sell out, or would you prefer to keep the business in the family?
- Can you really grow the company to a size where an IPO is feasible?
- If you feel that you can be acquired, identify possible suitors, and focus your business toward their needs



# Announcing Our Partnership: TEDCO and Larta Institute

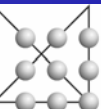
TEDCO will serve as Investment Advisor for and on behalf of Maryland companies working to commercialize their technologies in a variety of Larta Institute programs, including the NIH-CAP program



# A Thought for Always

*“Full many a gem of purest ray serene  
The dark unfathomed caves of ocean bear;  
Full many a flower is born to blush unseen  
And waste its sweetness on the desert air.”*

*From Elegy in a Country Churchyard by  
Thomas Gray*



Thank you!

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