

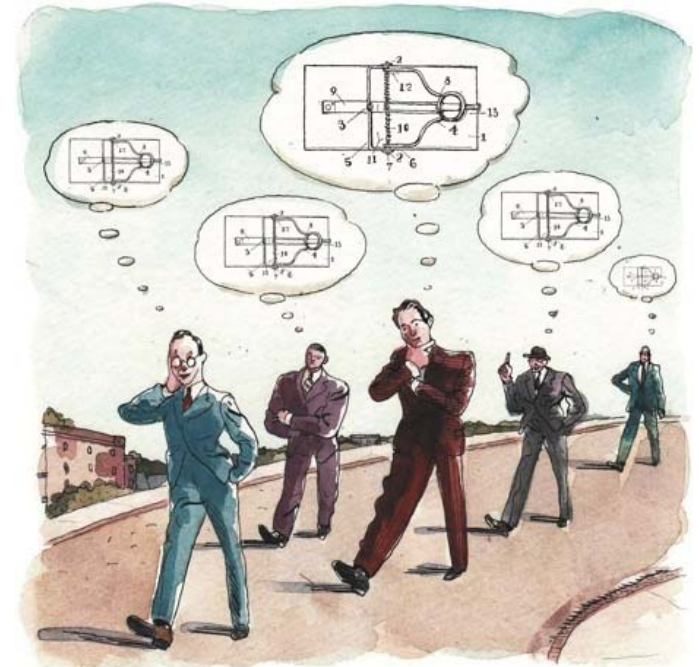
# Innovation Partners / Technology Scouting Program

Xi Technology, LLC

Robert Dunki-Jacobs

# Innovation

- Innovation is the life-blood of business
- Life science and Medical Device Innovation is fueled by the intersection of science, engineering, and clinical practice



Copyright The New Yorker, "Annals of Innovations: In the Air", May 12, 2008

# Innovation In The Air

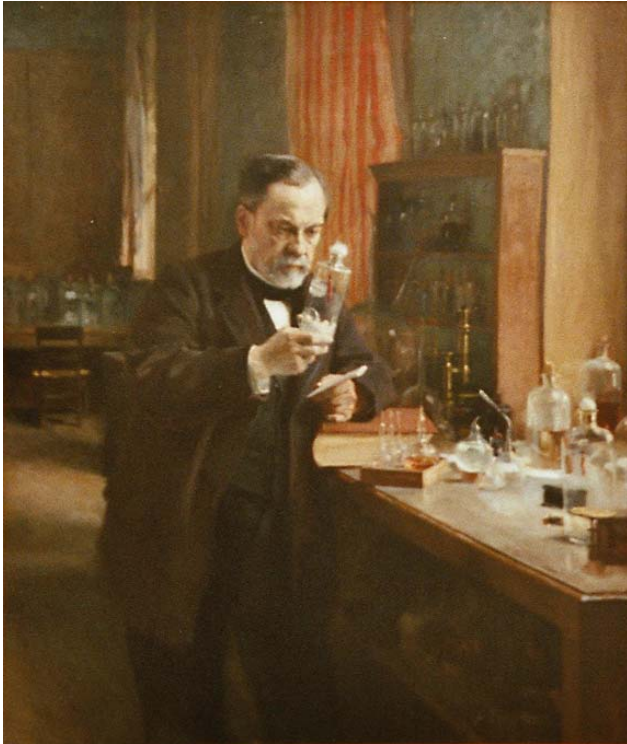
- Very similar innovation, solving very similar problems, occurs nearly simultaneously and in more than one location
- In a sense, Innovation is in the air!

## The phenomenon of simultaneous discovery

The law of the conservation of energy, so significant in science and philosophy, was formulated four times independently in 1847, by Joule, Thomson, Colding and Helmholtz. They had been anticipated by Robert Mayer in 1842. There seem to have been at least six different inventors of the thermometer and no less than nine claimants of the invention of the telescope. Typewriting machines were invented simultaneously in England and in America by several individuals in these countries. The steamboat is claimed as the “exclusive” discovery of Fulton, Jouffroy, Rumsey, Stevens and Symmington.

- Ogburn and Thomas , 1922 “Inventions and Discoveries Made Independently by Two or More Persons”

# Innovation, Insight & Readiness



“Chance favors the prepared mind.”  
- Louis J. Pasteur

- Innovation is a product of readiness and insight
- Uncovering innovation is a product of readiness and opportunity

# INNOVATION PARTNERS PROGRAM

*CONNECTING OPPORTUNITY AND INNOVATION*

# Innovation Partners Program

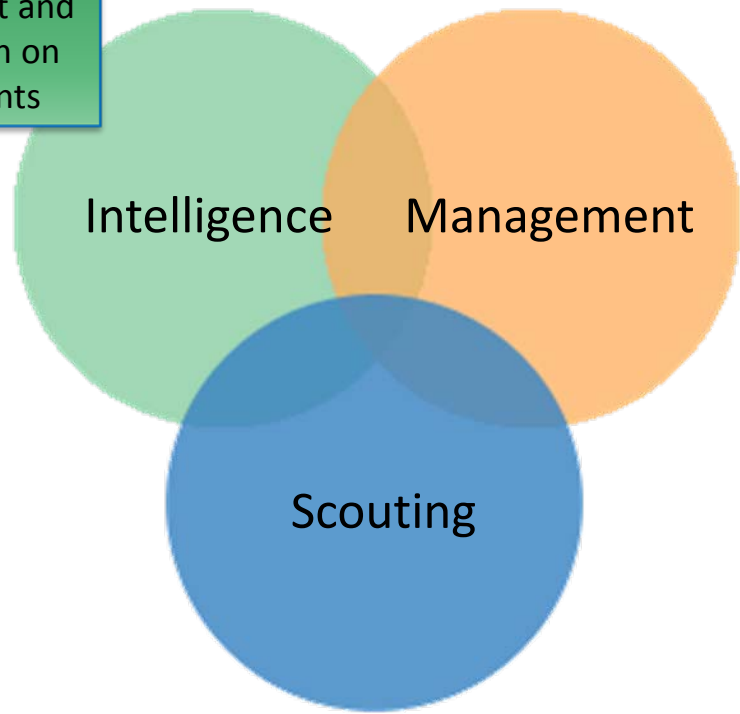
*Connecting opportunity and innovation*

- Market need - sourcing
  - Public / Large companies
    - Solve product development or pipeline challenges using “Open Innovation” model
    - Augment Licensing & Acquisition groups
    - Faster time to market
    - Maintain or enhance competitive position
    - Innovate outside of core competency
    - Expanded network of contacts to ID and acquire technology
  - Small / Start-up companies
    - Source solutions to product challenges that are outside core competency
    - Enhance pipeline through strategic alliances
    - Expanded network of contacts to ID solutions
- Market need – intelligence
  - Public / Large companies
    - Early identification of technologies, technology trends, technology shocks
    - Raising awareness of threats and opportunities of technology development

# Innovation Partners Program

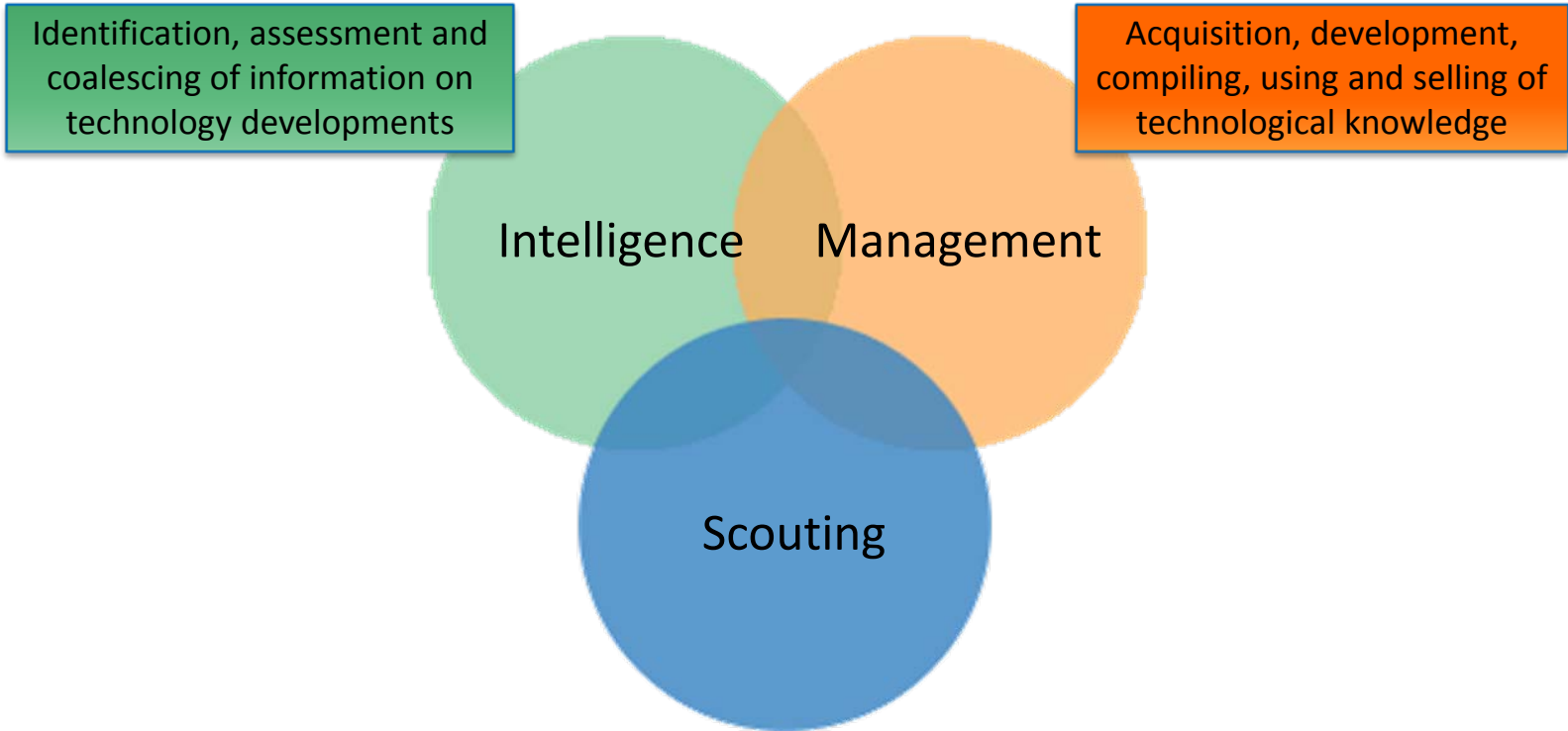
*Connecting opportunity and innovation*

Identification, assessment and coalescing of information on technology developments



# Innovation Partners Program

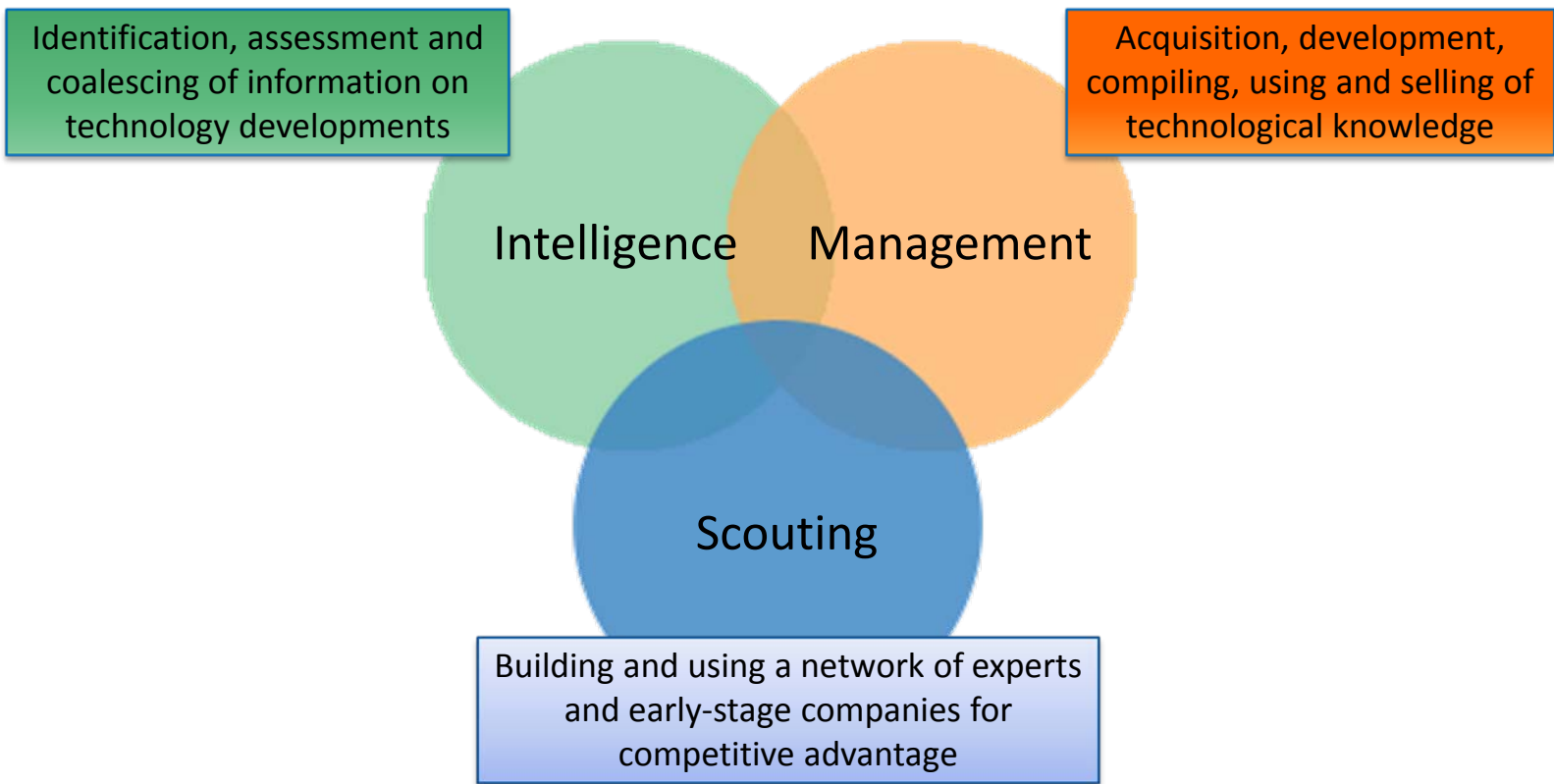
*Connecting opportunity and innovation*





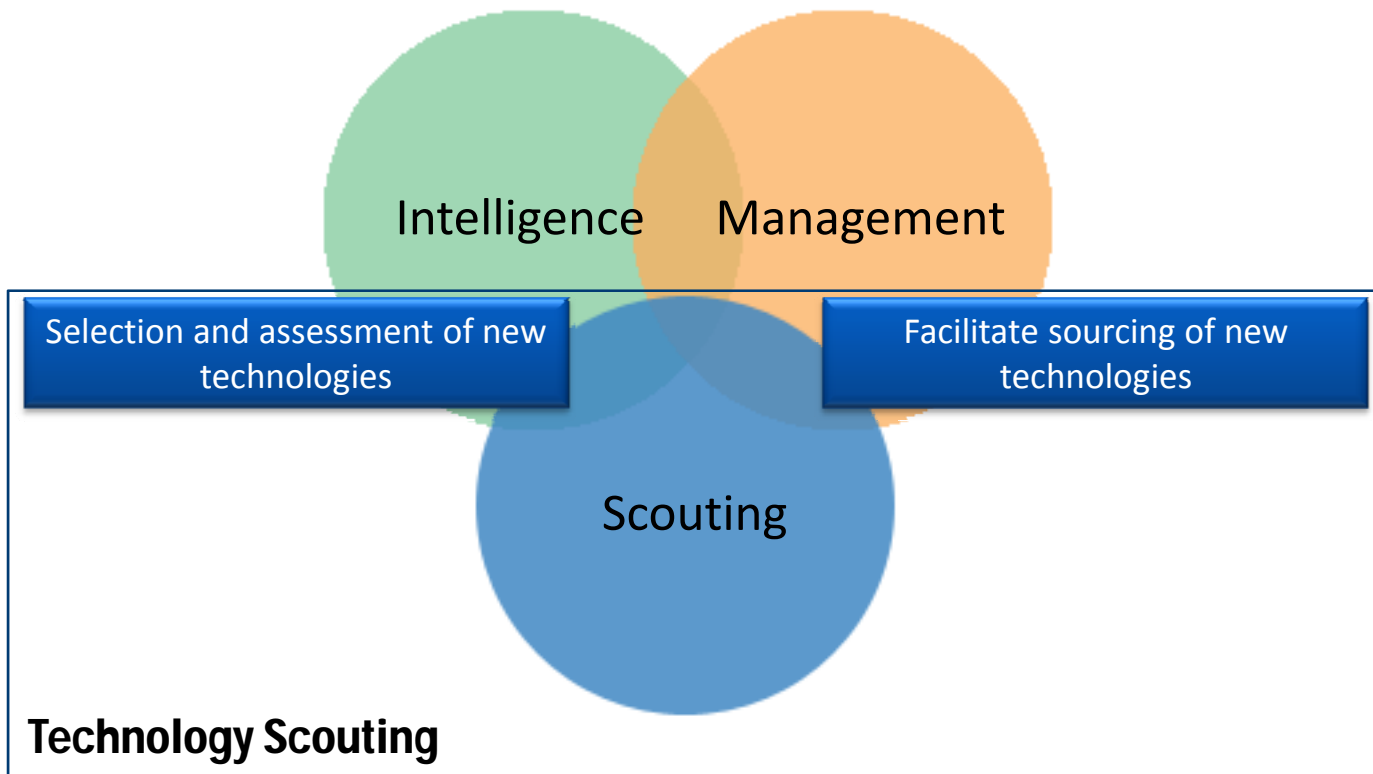
# Innovation Partners Program

*Connecting opportunity and innovation*



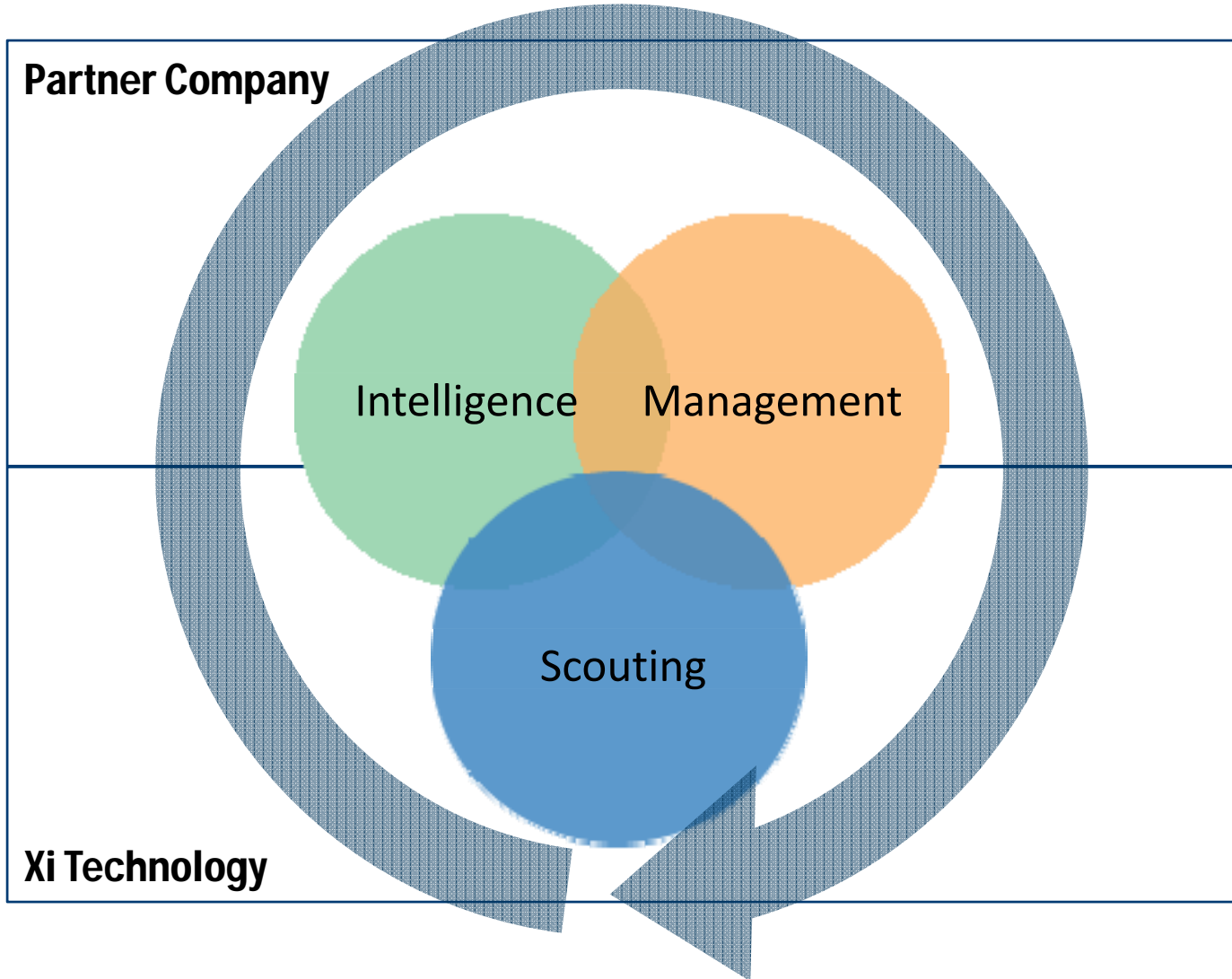
# Innovation Partners Program

*Connecting opportunity and innovation*



# Innovation Partners Program

*Connecting opportunity and innovation*



# IPP Overview

- Goals
  - Early identification of technologies, technology trends and technology shocks
  - Raising awareness of threats and opportunities of technology developments
  - Stimulating innovation by combining technology reports with business reality
  - Facilitation of external sourcing of technology by leveraging the scouting network of experts and early-stage companies
- Process
  - Identification / cataloging of technology opportunities
  - Selection of interesting opportunities
  - Assessment of opportunities
  - Dissemination of information

# IPP Process: Identification

- How
  - Networking to identify and access sources of information on technological developments
    - Academia
    - National labs
    - Private labs
    - Early-stage companies
    - Product companies
    - Tech transfer offices
    - Other incubators
  - Newsletters
  - Society Journals and News vehicles
- When
  - Continuous
- Process
  - Undirected (Technology Scanning)
  - Directed (Technology Monitoring)
- Deliverables
  - Keyword searchable database
  - Per technology
    - Description
    - Research / Commercialization status
    - Business potential
  - Per opportunity

# IPP Process: Selection

- How
  - Monitoring: Establish partner requirements
    - Core product
    - Whitespace
  - Scanning: Establish 'general interest' categories
    - VC activity
    - Partner interest surveys
    - Clinical thought leader surveys
- When
  - Monitoring: On request from partners
  - Scanning: Semi-annual
- Process
  - Database search as defined by partners for projects
  - Database search as defined by IPP for general interest
- Deliverables
  - Commissioned Reports as requested by partners for projects
  - General Interest Reports quarterly
  - Breaking News Reports as needed

# IPP Process: Assessment

- How
  - As defined by partner initiated project
- When
  - As commissioned by partner
- Process
  - Use Technomic Analysis™ stages as required by project definition
- Deliverable
  - As defined by partner project

# IPP Process: Delivery

- How
  - Newsletter
  - Partner Conferences
  - Reports
- When
  - Monthly newsletter
  - Quarterly conferences
  - As commissioned reports
- Process
  - Defined by partner needs
- Deliverables
  - Newsletter
  - Conferences
  - Reports



# The Ideal Technology Scout

An employee of the company , a consultant to the company:

⇒ **an innovation partner**

Engaged part-time or full time:

⇒ **an active partner**

A lateral thinker, knowledgeable in science and technology, respected in the community, cross-disciplinary orientation, *imaginative*

⇒ **an active network builder with broad-based experience, insight and demonstrated results**

# Technomic Analysis™ Case Study

Company desires to broaden its product offering to include new customers and revenue streams by bringing in a product line that does not fit with its technical and marketing core competency yet leverages its sales and distribution network.

# Technomic Analysis™ Case Study

- Desired attributes
  - a) Immediate and recurring revenue
  - b) CAGR > 25%
  - c) Competitive advantage ⇒ (i)technology and (ii)clinical
  - d) Robust pipeline built on core technology
  - e) Professional products today, consumer products tomorrow
  - f) Not tied to medical reimbursement system
- Process
  - Identified market that satisfied attributes b) and f)
  - Technology Assessment process identified several potential solutions for attributes a and c(i) with potential for d.
  - Clinical / Market validation validated c(ii) and e)
  - Healthcare market affordability was self evident due to self-pay market
  - Created business rationale for top three operational scenarios and using strategic market and financial analysis tools to recommend an acquisition strategy
  - Sold strategy to Corporate management and under confidentiality validated d)
- End result
  - Process and data gathered were recognized by corporate business and finance executives as the model by which future deals of this size would be measured

# XI TECHNOLOGY, LLC

# Overview

- Medical Devices and Life Sciences Technology Assessment and Strategic Market entry consulting company
- Founded in 2007.
- Principal – Robert Dunki-Jacobs
  - 35 years in industry
    - 8 years medical devices business development / licensing & acquisition (J&J, xi)
    - 6 years advanced R&D management (GE, J&J)
    - 8 years product development engineering (GE, Westinghouse)
    - 5 years R&D project management (GE)
    - 8 years advanced R&D development engineering (GE)
  - Prolific inventor
    - 11 issued US patents with multiple PCT counterparts
    - 25 published US patent applications
    - 1 unpublished application
  - Experienced scout
    - 8 years as Technology Scout following more than 20 technology spaces
    - Evaluated hundreds of opportunities: early-stage, early product, established private, public

# Selected Technology Scouting Projects

- **Conscious Sedation Alternatives (Final FDA approval being sought by J&J)**
  - Are there ways to improve ad hoc methods to control the delivery of fast-acting sedatives to improve control of conscious sedation for out-patient procedures?
- **Drug / Device alternatives for colorectal cancer screening (Timing)**
  - Are there ways to improve the sensitivity and specificity of colorectal cancer screening and simultaneously remove the psychological barriers to compliance?
- **Drug / Device alternatives for delivery of opioids for acute pain relief (Product on market)**
  - Alternative solutions to manufacturing issues uncovered during phase 3 clinical trials
- **Alternatives for radiation therapy delivery**
  - Alternative means to provide more effective and controllable radiation doses for localized tumors
- **Alternatives for endoscopic and laparoscopic visualization**
  - Are there viable methods for improvement of laparoscopic and endoscopic visualization that provide additional, clinically beneficial, information and allow reduction in visualization footprint?
- **Alternatives for bundling of imaging and therapeutic devices**
  - In response to competitive threats to a major product line, are there commercially viable opportunities to develop or acquire imaging technology to bundle with current therapeutic offerings?

# Services

- **Opportunity Assessment (Technology Scouting, Intelligence & Management)**
  - Drive investment, acquisition, and development decisions by analyzing technology and markets
  - Identify critical factors that differentiate the opportunity from direct competitors and alternative solutions
- **Market Entry Strategy**
  - Use unique concept and product market research techniques and environmental analysis to identify attractive market segments
  - Prioritize product and IP portfolios
  - Create a Multi-Generation Product Plan and sustainable growth
- **Business Case Preparation (Technomic Analysis™)**
  - Provide experienced acquirer perspective during the planning phases of business plan generation
  - Provide VC / funding source perspective during preparation of presentation materials in support of funding activities
- **Focused Innovation**
  - Leverage the broad physical and life sciences knowledge base of xi Technology and its network of clinical and scientific luminaries
  - Add value to the product pipeline by creating innovative solutions

# Experience is the difference

- Medical
  - Drug Delivery Devices
  - Drug/Device Combinations Devices
  - Surgical Devices
  - High Intensity Focused Ultrasound
  - Laser Therapy
  - Photo Dynamic Therapy
- Imaging
  - Ultrasound
  - Computed Tomography (X-ray, MRI, Ultrasound, Optical)
  - Nuclear Imaging
  - Laser Confocal Microscopy
  - Spectral Imaging
  - Molecular Markers
- Physics
  - Nuclear
  - Optics, Spectroscopy, Holography
  - Lasers
  - Acoustics & Ultrasonics
  - Nano structures
- Biology & Life Sciences
  - Cell cycle interventions
  - Energy – tissue interactions
  - Molecular Markers
- Other
  - 1D, 2D, 3D signal processing & analysis
  - 3D display systems
  - Special Purpose Computer Systems

Contact us at 513.204.5822 or by email to [rdj@xitechnology.com](mailto:rdj@xitechnology.com)



***“ACCELERATE WITH CONFIDENCE”***