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Finnish-Russian Innovation Alliance on
Nanotechnology
The Partner Day vol. 2

Lappeenranta, 14.6.2012

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Innovation Is a Commercialized Invention - A Sum of Three Components

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Commercialization
Creating wealth by turning Invention into a marketable product

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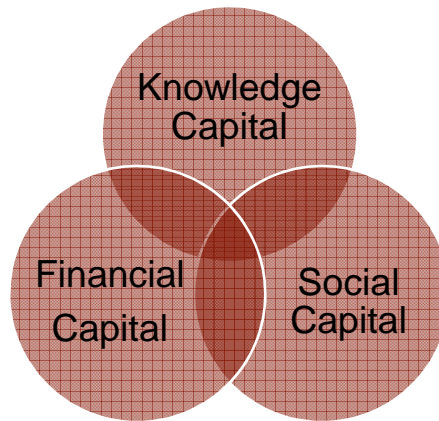
Invention
"A new, *useful* process, machine, improvement, etc., that did not exist previously and that is recognized as the product of some *unique intuition or genius*, as distinguished from ordinary mechanical skill or craftsmanship" (US Patent Law)

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Discovery
E.g. a new scientific finding

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Commercialisation Of Emerging Technologies Requires Three Kinds Of Capital



Each Stage Requires Different Competences, Partners, And Funding

	Basic Research	Applied Research	Commercialisation	Market Entry	Mature Markets
Knowledge Capital	Scientific Ability	Engineering Ability	Ability to combine technology and market knowledge	Sales and Marketing Ability	Ability to build reliable mass production and distribution
Social Capital	Research Centers and Universities	Research Centers Universities, and Industrial Researchers	Industry Expert Services	Lead Customers Expert Services	Industrialisation and distribution partners
Financial Capital	Governments, Public Funding Agencies, Foundations	Public Funding Agencies, Industrial Partners	Public Funding Agencies Angel/Seed Investors	Seed, Venture Capital, Industrial Investors	Customers, Banks, Industrial Investors
Deliverables	Discovery Publication	Invention, Technology Patent	Technology/market match Business Plan	First product sold to first customer Pilot contract	Many products sold to many customers €€€€€

Observations from Finnish-Russian Innovation Alliance on Nanotechnology

- Russia has a very strong scientific base
- Lots of underutilized commercialization opportunities
- Lack of tradition and resources necessary for international business development
- Patenting is a serious bottleneck
- Russian operating environment not very supportive for entrepreneurship

Finland and Russia can complement each others to accelerate the commercialization process, find experienced business staff and create presence in the European Union

Commercialization Difficulties Stem From Business Problems, Not From Technology

Over 50 commercialization cases evaluated

- | | |
|---|---|
| <ul style="list-style-type: none"> • No clear customer sector * 3 • Entering an existing market with a product that's advantages are not clear. * 3 • Benefits vs. costs are not clear * 2 • IPR issues, Global patents owned by competitors. * 2 • Lack of international experience • Lack of knowledge about how the market/customers operate. • Lack of knowledge about the customers/markets. • Financing, no money to build proof of concept, not getting investments before proof of concept. | <ul style="list-style-type: none"> • Idea already tried elsewhere with no success. • No market potential, solution with no real commercial problem to solve • No relevant interested partners identified • Not compatible with related western standards • Possible competitors are large multinational corporations • Problems with international partners • References are kept as a secret • The research the innovation is based on has not been published in international journals -> credibility issues |
|---|---|

Source: Finnish-Russian Innovation Alliance on Nanotechnology

There Is a High Risk of Failure in Technology Commercialization

1. Lack of International Commercialization Experience
2. Limited pool of internationally experienced business talent
3. Alarming situation in IPR management limits opportunities for international licensing and Start-Up fundraising



As a result, enormous hardware investment in science may **fail** to bring the expected **commercial** results and improvement of Russia's **international competitiveness**

Two Approaches To Technology Commercialization

"A **solution** looking for a suitable problem"

- Technology-centric approach
- Many possible applications
- Limited understanding of customer needs
- Lack of customer focus
- Impossible to prioritize the product features needed
- Difficult to assess the commercial viability
- High risk

Identifying a commercially relevant **problem**

- We have a hunch that only we could solve the problem...
- Assess the market potential for the solution
- Who are the customers, how many, where
- How much does the lack of solution cost?
- What's the maximum cost to offer attractive ROI to the customers

Few Basic Assumptions...

- Your technology works
- You can manufacture your product at reasonable price
- You can protect and defend your innovation
- You find financing to support your development and product launch to the market

This is necessary, but not sufficient to succeed in a competitive market place where customers have a lot of choice and very limited appetite for risk

Three Types of Challenges

Understand the customer's needs and make sure you satisfy them

Describe the customer benefits, not the product features

Eliminate show-stoppers, excuses and irritating factors

“There is no second chance to create the first impression”

- Credibility is an **impression**, only partly based on hard facts – Avoid surprises you need to justify
 - Would you buy snowmobiles from an Australian or Canadian company?
 - Consider establishing local presence in your main markets
 - Obtain patents, trade marks, product reviews, CE-Mark and other certifications
- Make sure everything you show, tell and do is in line with the impression you want to make
 - Look at Website, brochures etc. of your customers' other business partners
 - Make sure your people speak customer's business language

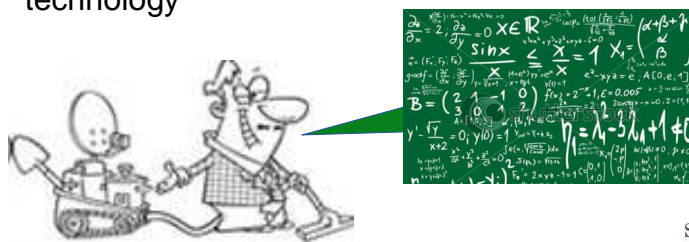
Market Validation – Find Fit Between The Customer's Needs and your Proposition

- What is the **customer's problem** or opportunity you help to address?
 - Can you quantify it?
 - What does it mean to different people in customers organization?
 - Have you talked to the right people – and all of them?
- Do you understand the **customer's decision process**
 - From a “innovation scout's” interest to real implementation of your technology?

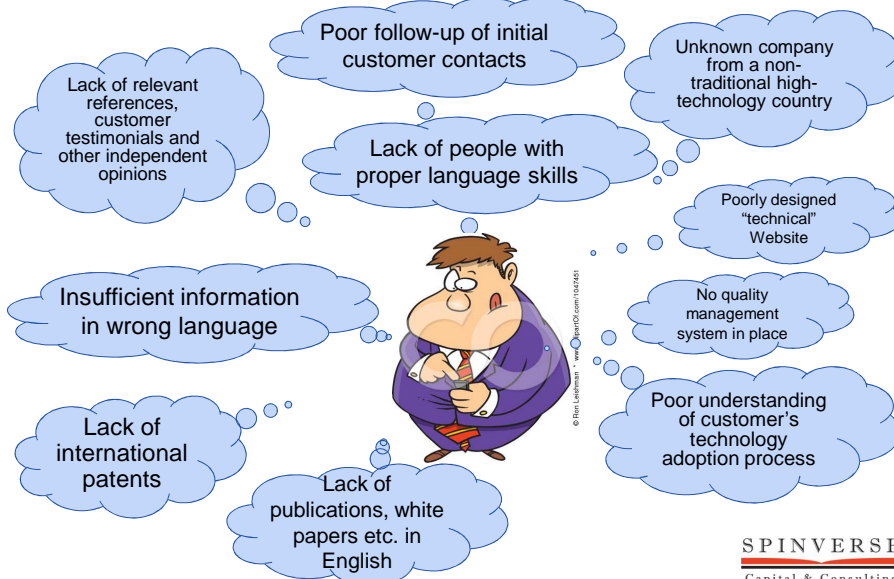
This is not about databases and desk study, but meeting real people in real companies and asking the right questions

Customers Don't Need "Technologies", But Solutions To Their Problems

- "What" first, "How" then - Describe the customer benefits, not the product features
 - We sell productivity, quality, profitability, market share...
 - We must tie our offering to the customer's problems
- Only after the customers understand the benefits, they get interested about the product features and underlying technology



Eliminate Show-stoppers And Irritating Factors

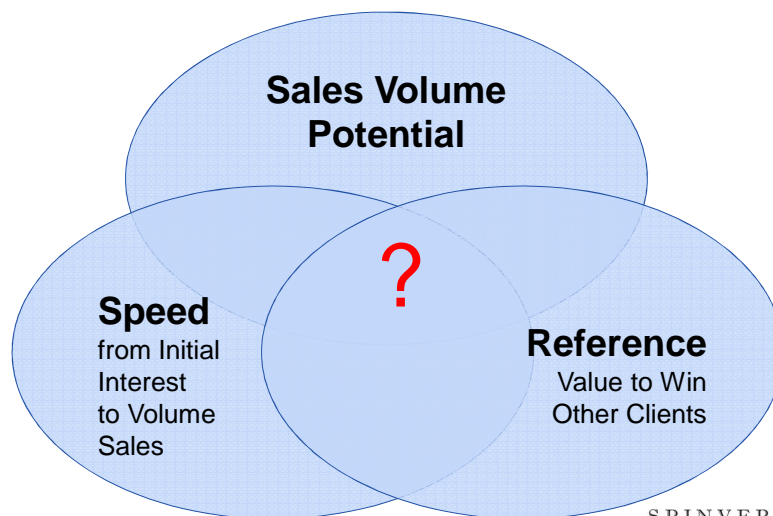


Quality of Industrial Design Can Attract Or Put Off Customers In Seconds



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Strategic Business Development Is A Mixture of Science and Art...



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У Вас отличные технологии



**Мы знаем как превратить их
в деньги**

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Спасибо!

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