



UsTech™ (YcTex™) Discovery LLC
TECHNOLOGY DISCOVERY & COMMERCIALIZATION COMPANY



Introduction to Technology Marketing and Business Strategy

Dr. Eugene Buff



Make Deals & Build Up Businesses

Introduction



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Postdoc, Harvard Medical School

Since 1999 – technology transfer, business development
consultant

Founder & President, *Primary Care Innovation Consulting*
Co-Founder, *UsTech Discovery LLC*

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Marketing. Why it is important?

- ▶ All inventions/innovations are 'genius'... Technical people/ inventors can't talk about them objectively.

Я (имя)..., изобретатель, г. N-ск.

У меня есть изобретение «...». Патент RU №1234567. Аналогов в мире нет. Это лучшее изобретение 21 века в области механики. Моя технология вытеснит с рынка все ныне используемые технологии, как двигатель внутреннего сгорания вытеснил с рынка паровой двигатель....

Сейчас в мире нет пионерных изобретателей в области механики. Я один. К тому же нет настоящих экспертов. Армия дипломированных специалистов, называемых экспертами, на практике только для отчётности. Помните о роли личности в истории. Через несколько лет меня признает Америка, а за ней другие страны лучшим изобретателем 21 века. Мне присвоят разные премии и награды, но у меня не будет прав на мои изобретения. Премии и награды это ничто по сравнению с правами на изобретение.

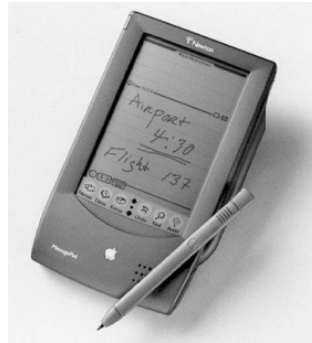
Россия будет внедрять мою технологию самой последней...

Если мне в США предоставят Конструкторское Бюро и Экспериментальную Базу, то через год я предоставлю для США Эффективную систему ... Я допускаю, что переоцениваю свои способности. Время покажет.

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Marketing. Why it is important? (2)

- ▶ Great innovations could fail:
 - microwave oven – first in 1947 (Raytheon)
 - PDA – first in 1992 (Newton by Apple)



Good, Patentable Science is Not Always Commercially Relevant

Lack of Market is a Deal-killer

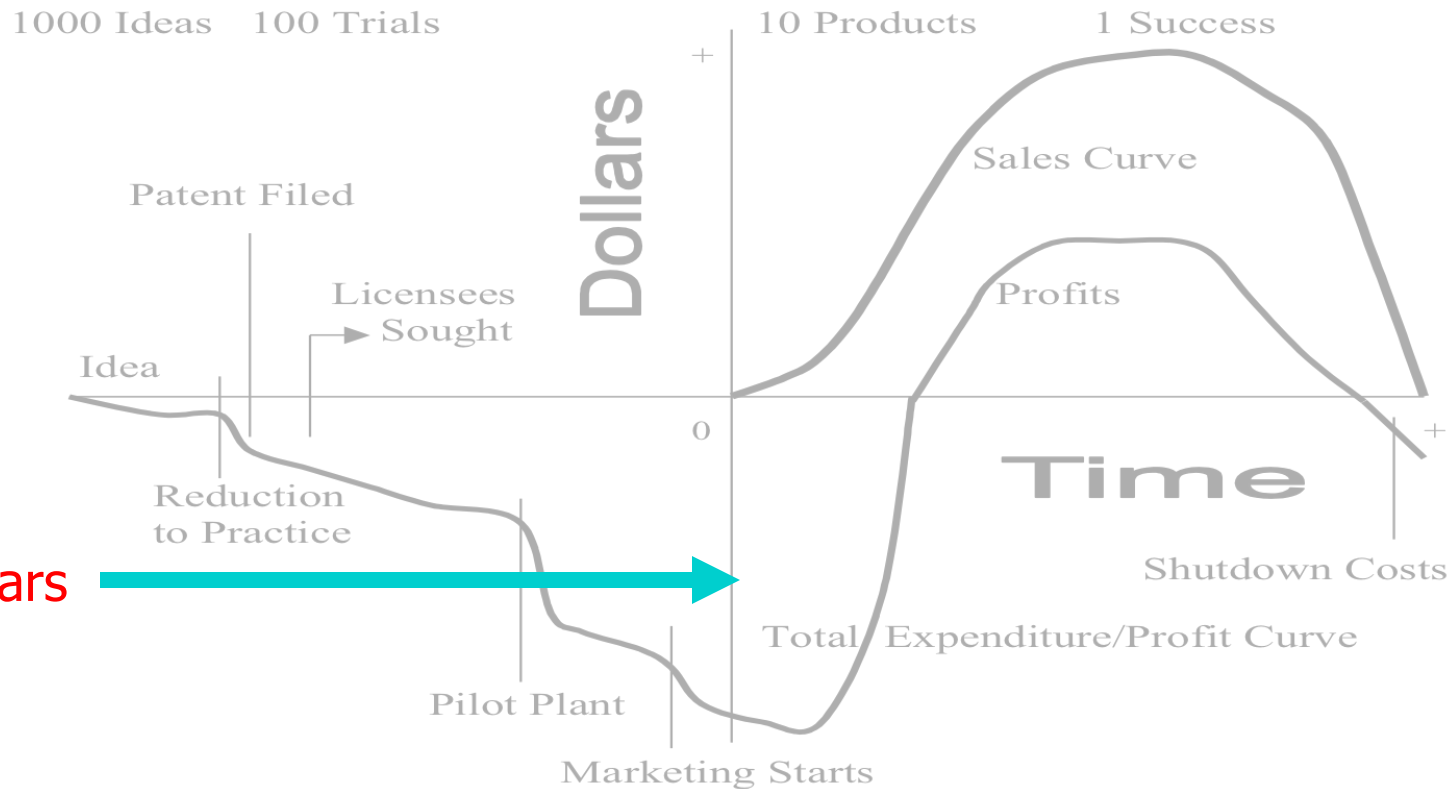
Marketing Needs to Communicate Value

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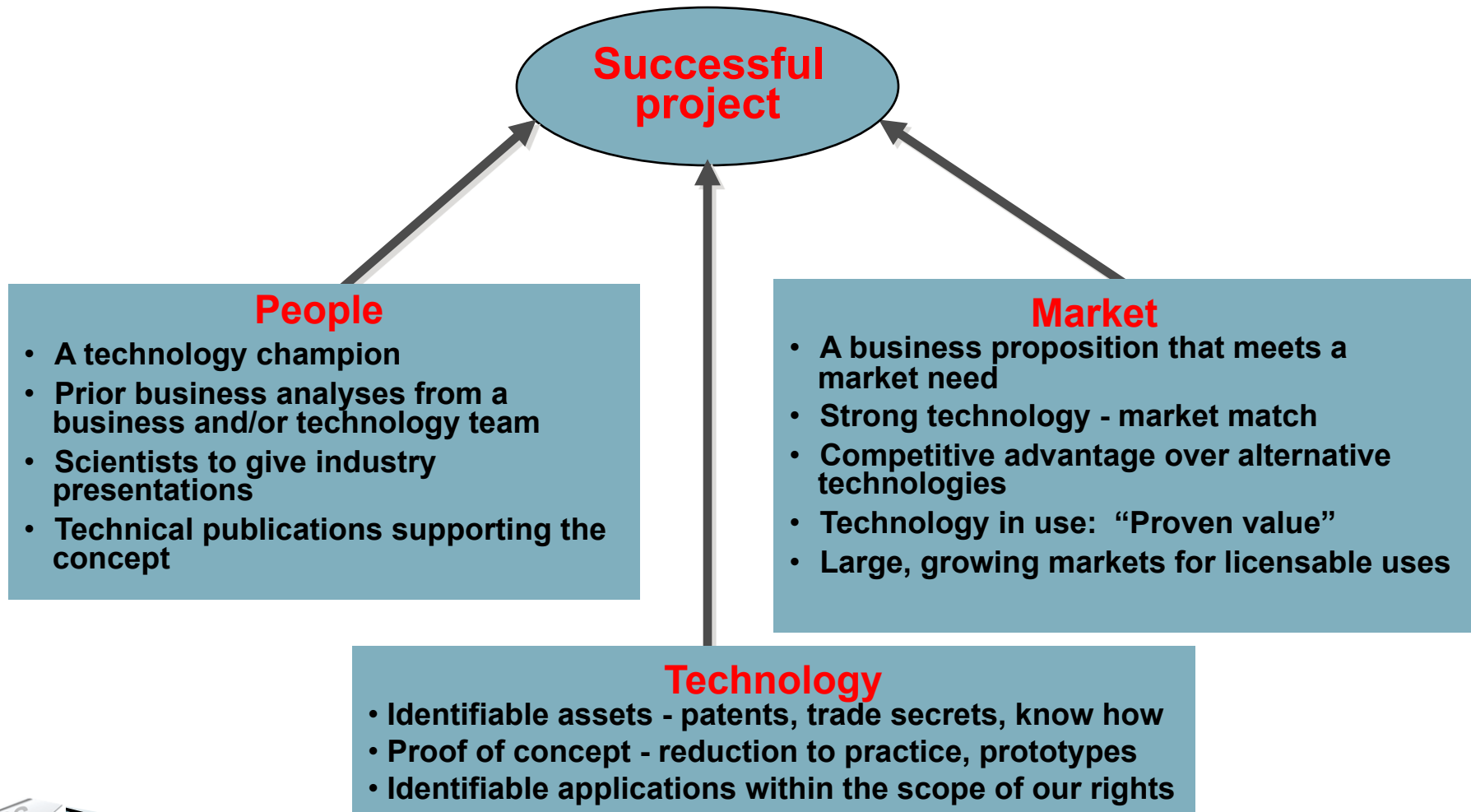
Product Development Timeline

Total Product Life Cycle Birth to Death Expenditures



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What's Needed to "Sell"?



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Formula for Success

- ▶ **W** – what – understand your technology
- ▶ **W** – why – what is the value proposition, why would anybody care...
- ▶ **W** – where – “where” are the companies who care are – markets, applications, value chain
- ▶ **H** – how – reaching out and delivering the three “W” message



Definitions

Technology – the totality of the means employed to provide objects necessary for human sustenance and comfort.

Webster's

... - the application of scientific knowledge to the practical aims of human life or, as it is sometimes phrased, to the change and manipulation of the human environment.

Encyclopædia Britannica

Technology Transfer Effectiveness is the degree to which research-based information is moved successfully from one Individual or organization to another.

Journal of the AUTM, Volume XII, 2000



A Technology \neq A Product

Technology – an applied science to solve a problem

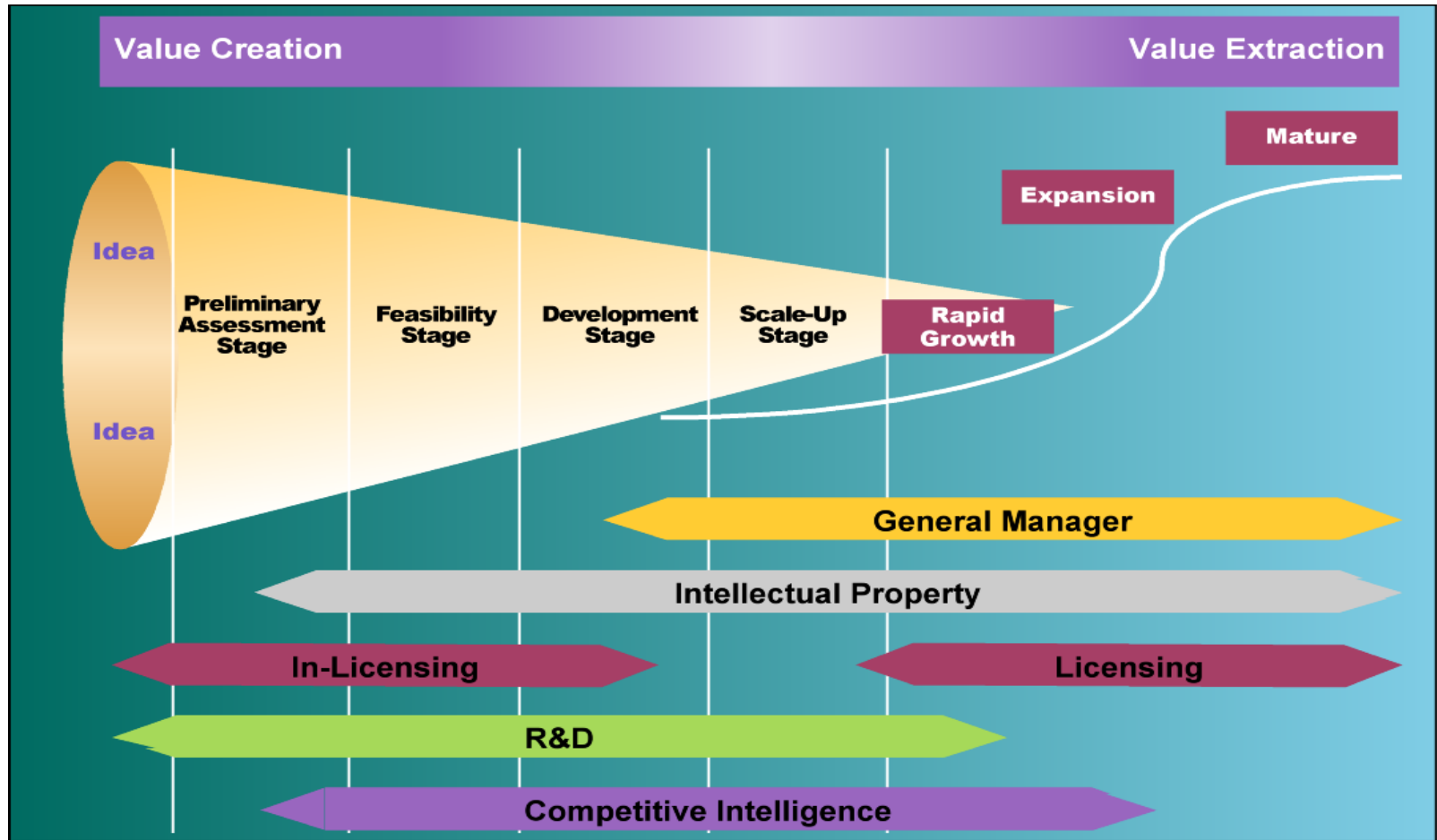
Many steps required to make a product out of technology

- Further Development
- Validation research
- Prototype
- Scalability
- Regulatory approval
- Partnership
- Market Research
- Initial sales...

Can require **MANY YEARS** and extensive resources



Stages of Technology Development



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Technology Classification

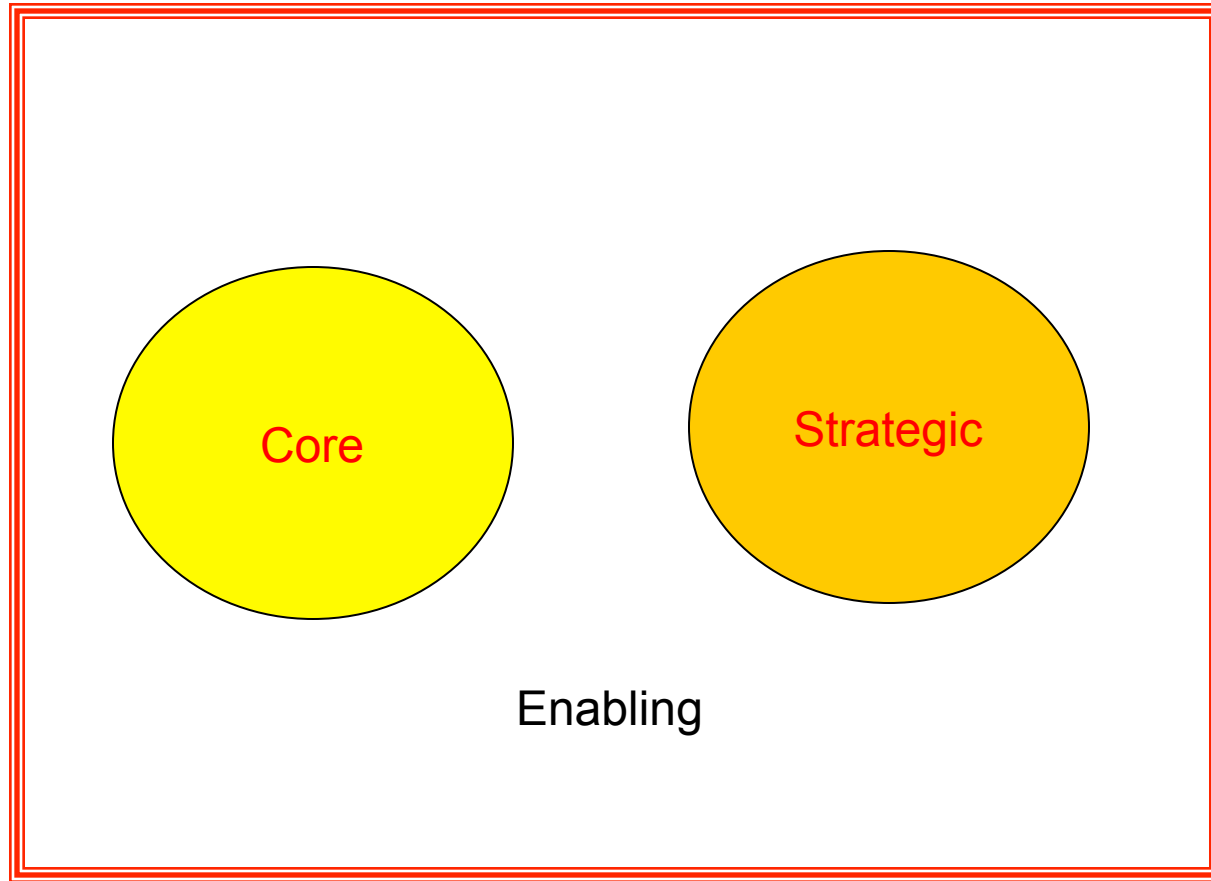
- ***Product***
- ***Process***
- ***Systematic*** (sends, processes, records, or receives data)

Physical Technology – material objects.

Biological – adapts to living things.



Understand your technology

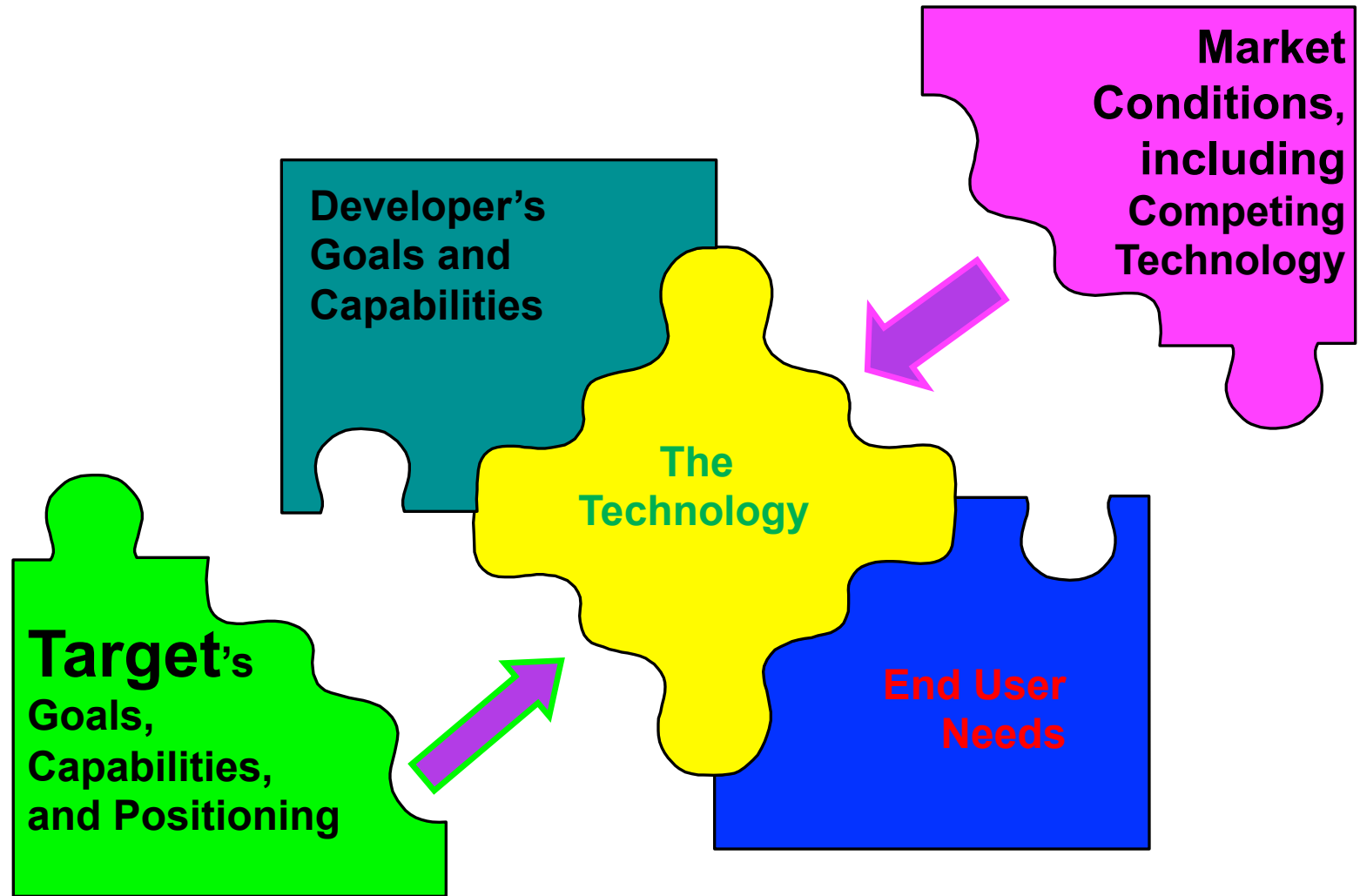


Time

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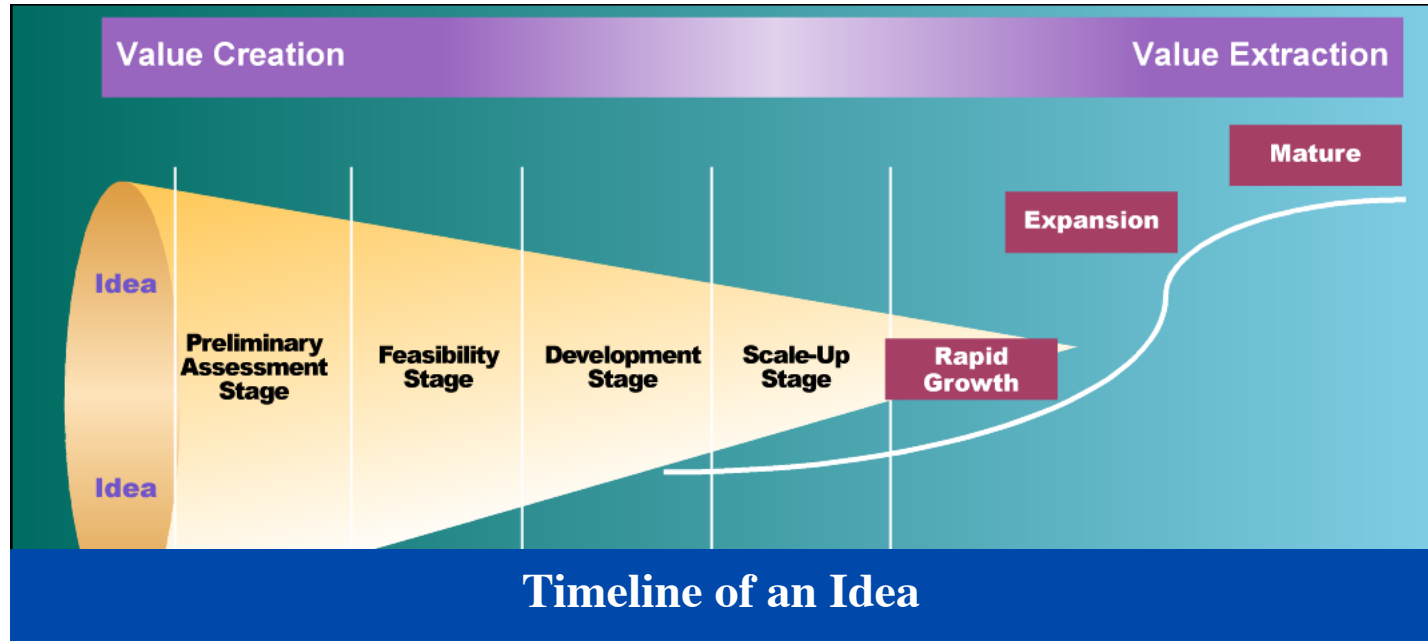
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Getting the pieces together



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Moving Through Stages of Technology Development



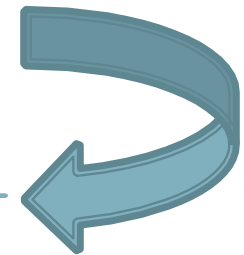
Idea Without a Use



Need help with transition

Idea With Intent (Business Plan)

Commercial Product/Service



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What sells?

▶ Three key dimensions:

- Value proposition
 - ? How does this technology outperform current best-in-class?
 - ? What are the key markets?
- Development status / transferability
 - ? What was the highest stage of development?
 - ? Can you support the transfer with samples? Data? People?
- Intellectual Property
 - ? How broad, defensible, and detectable are the patent rights?
 - ? What are the existing licenses / encumbrances?



Value Proposition

- Definition:
- Set of benefits offered that satisfy target's needs
 - Resides in the mind of the customer
 - Is a component of a brand image
 - Intangible made tangible via an offering

The Ratio:

$$\begin{aligned} \text{Value} &= \text{Benefits/Costs} \\ &= (\text{Functional} + \text{Emotional}) \text{ Benefits/} \\ &\quad (\text{Monetary} + \text{Time} + \text{Energy} + \text{Psychic}) \text{ Costs} \end{aligned}$$

- Raise Benefits and Reduce Costs or Both
- Customer Should Favor the Larger Ratio



Before talking to a partner/buyer

- ▶ Commercialization is a game of “**what does he need**” vs of “**what have I got**”!
- ▶ Understand the “field” from technical, legal and commercial bases



Targets perspective

Buy if do not
have a Substitute
and if Ready in Time

Invest Modestly
for now

Core

Strategic

Enabling

Wait

Time

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Key Market Differences

Electronics / telecomms

- Patent rights
 - Intellectual Ventures activity
- Standards licensing

Life Sciences

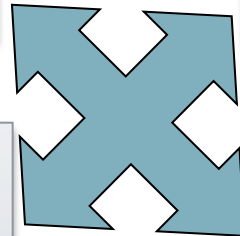
- Specific skills in drug development
- Active market in drug delivery & diagnostic devices
- New therapeutics

Consumer products

- Technology acquisition to fill product pipelines

Material sciences

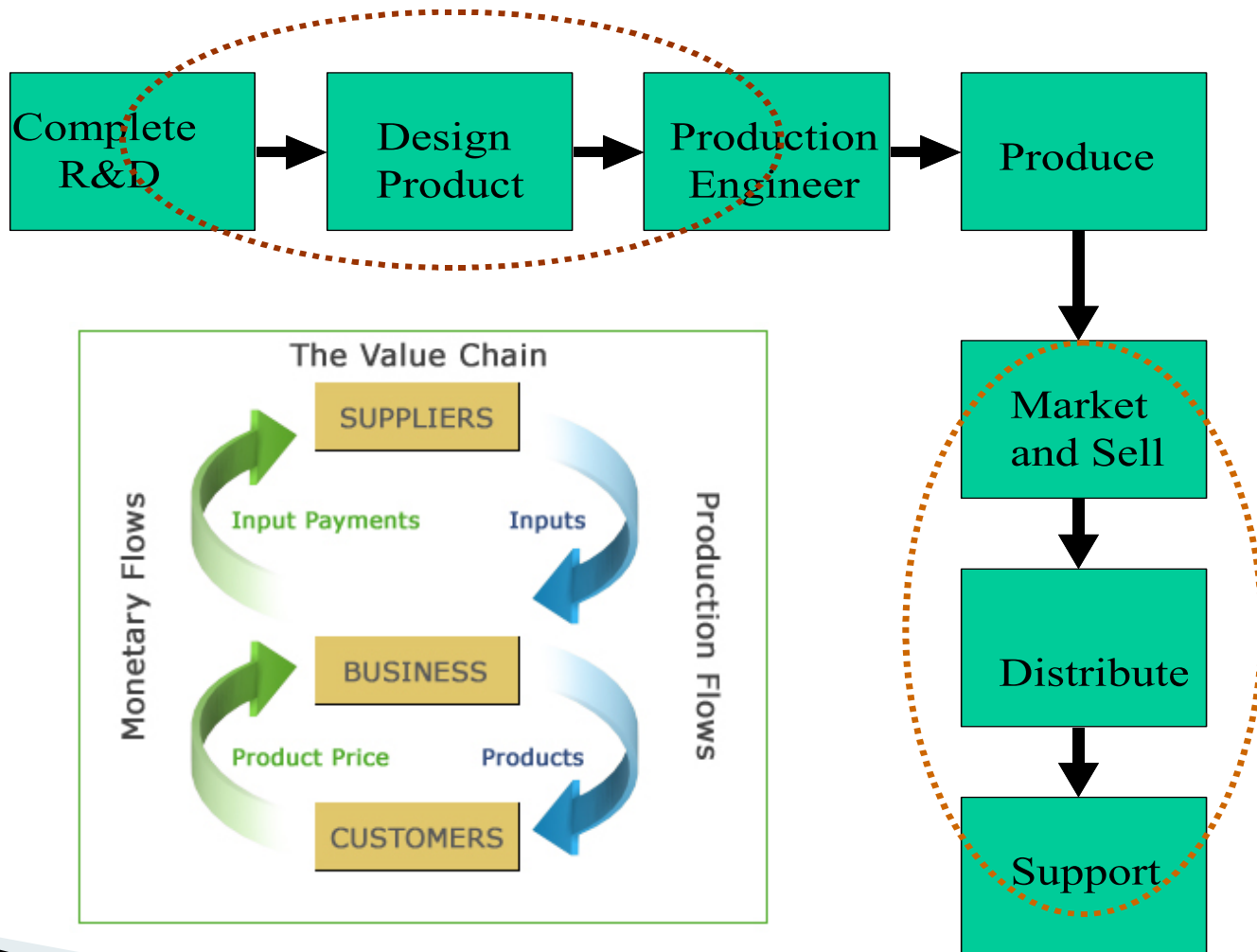
- Continued core process licensing



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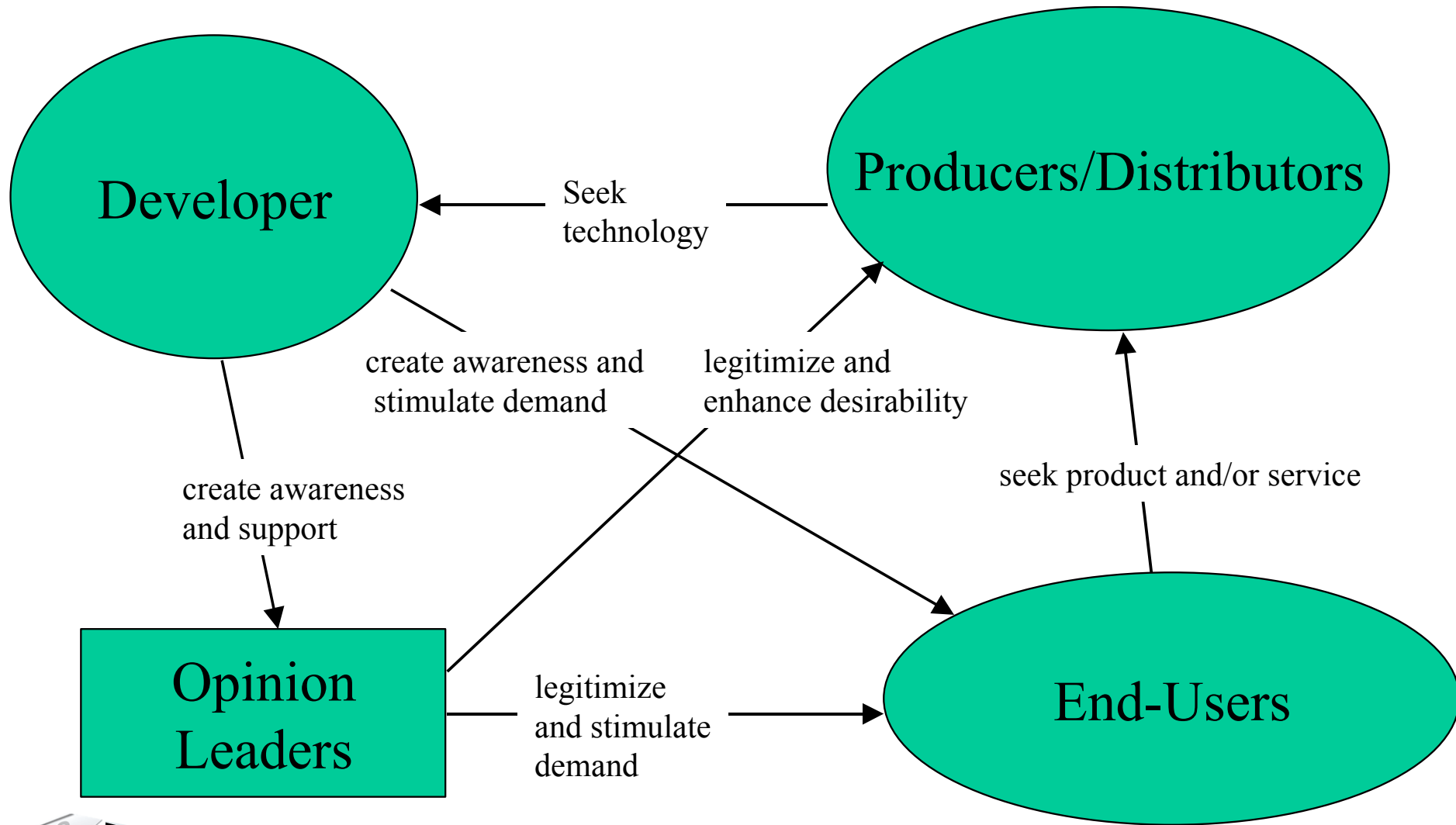
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Value Chain: Where are you and What are you missing?



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Creating Pull-Through



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Hierarchy of Market Credibility

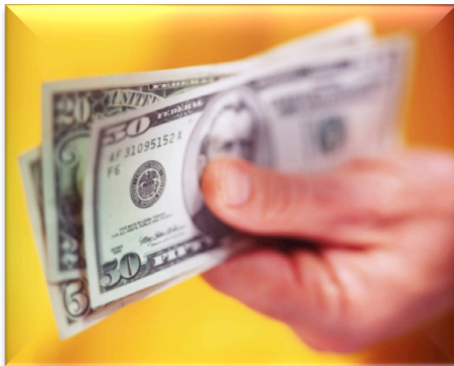
Show customers paying hard cash

Show customers willing to pay on results

Show industry experts investing time to find customers for you

Show gov't funding in your industry, involve colleges in 3rd party validation

Show media attention, industry awards



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What sells?

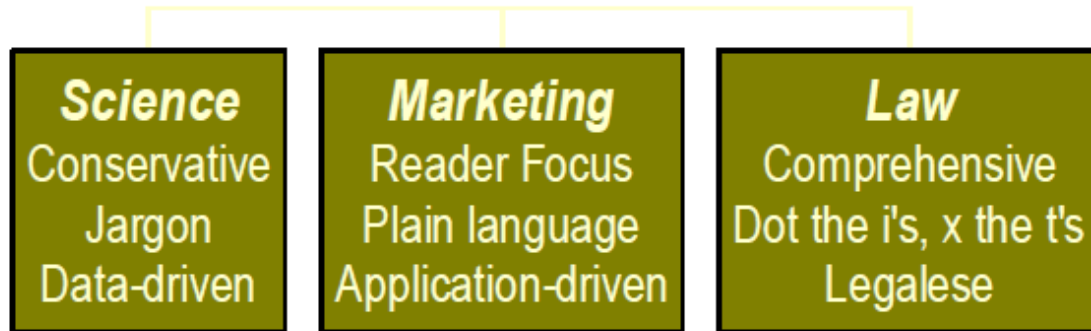
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When Selling a Technology

Communication Styles



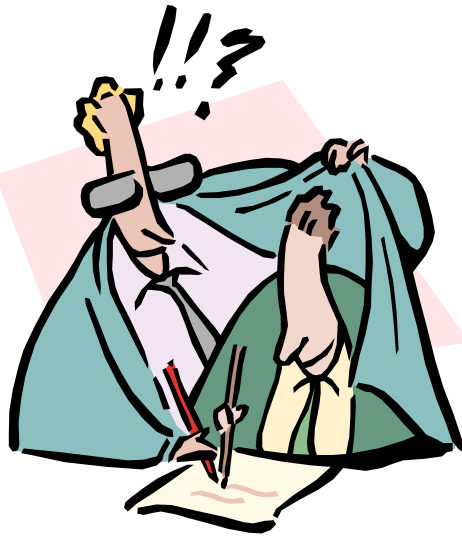
DO

- Use plain language, be direct
- Focus on benefits
- Use “so what” and “what next” approach
- Provide supporting data, be credible
- Use business focus

DO NOT

- Describe technology in excruciating detail
- Smother reader with facts
- Think like a scientist
- Put confidential matter
- Use jargon

Deal Preferences



How well
Technology
is Defined

How well Application is Defined

Control over
Knowledge
and
Know-How

Control over Use

Option or
license (IP)

Collaborative R&D,
Strategic Alliance

Venture

Application/geography
specific licensing

Sales, OEM

Venture
Capital

Buy all Rights,
Acquire Developer

Exclusive
General License

Joint Venture

Exclusive Limited
License. R&D agreement,
Strategic Alliance

Non-Exclusive
License

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Disruption Theory

Sustaining <ul style="list-style-type: none"> Better than existing products in market, independent of price 	Incumbent (3 of 4) Same product, same value prop, same customer, same channel	Succeed
	New Entrant	Fail
Disruptive <ul style="list-style-type: none"> Compete against non-consumption Lower cost <i>and</i> worse 	Incumbent	Fail w/o autonomy
	New Entrant	Succeed

*Paraphrased from Christensen & Raynor, *The Innovator's Solution*, Harvard Business School Press (2003)

Refined Methodology:

- Theory is 96% accurate
- 100% of the successes, 95% of the failures
- Correlation = 99.99% confidence
- Less than 1 chance in 14,126 that it was luck

Disruption = A strategic choice



Keys to success

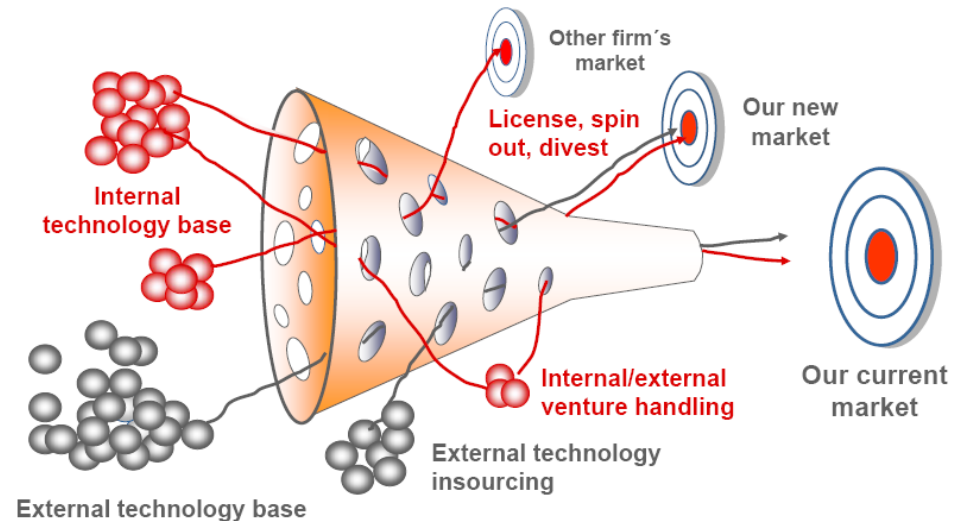
- ▶ Choose the right technologies (value proposition!)
- ▶ Well-constructed target list – multiple buyers
- ▶ Contact with the right decision makers – don't get stuck
- ▶ Well-supported technical evaluation
- ▶ Market-based (and reasonable!) expectations



Open Innovation – a new reality

- ▶ **Good ideas** are widely distributed today. *No one has a monopoly on useful knowledge anymore.*
- ▶ Financial managers **must play poker**, as well as chess, to capture the value in false negatives.
- ▶ We must **manage IP** in order to manage research:
 - need to access external IP to fuel our business model
 - need to profit from our own IP in others' business model
- ▶ **Not all of the smart people** in the world work for us.

Chesbrough's Open Innovation



Source: Henry Chesbrough UC Berkeley, *Open Innovation: Renewing Growth from Industrial R&D*, 10th Annual Innovation Convergence, Minneapolis Sept 27, 2004.



Major Problems

- ▶ “In theory, there is no difference between theory and practice. In practice there is.” Yogi Berra.
- ▶ “Not Invented Here (NIH)” syndrome
- ▶ “Do not teach me how to live, better help me financially.” I. Ilf & E. Petrov. *12 Chairs*.
- ▶ “The probability does not work in real world; it is pay off that matters.” Nassim Taleb. *Antifragility*.



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Now what?

- Feel free to connect and ask questions:
 - ✓ LinkedIn, <http://www.linkedin.com/in/eugenebuff>
 - ✓ Facebook, <http://www.facebook.com/eugene.buff>
- Next Presentation/Education/Mentoring:
 - ? deep dive into the topics;
 - ? available to speak at conferences, seminars
- Consulting Services:
 - mentoring on executive summaries & presentations
 - market assessment
 - strategy advisement
 - open innovation – training and implementation
 - technology scouting
- Become a partner





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"Yes, I do make things, son. I make things called deals."

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