

# From Rembrandts to Innovation Ecosystems:

## *Case Studies in Licensing for R&D Strategy*

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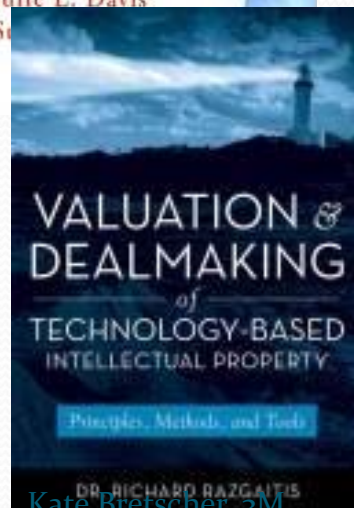
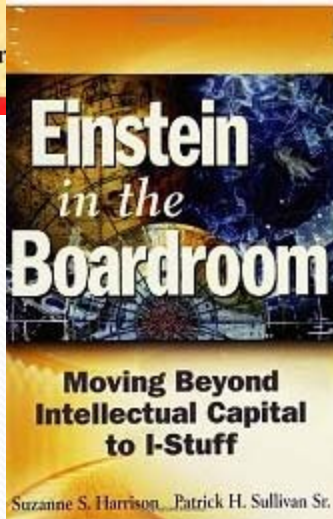
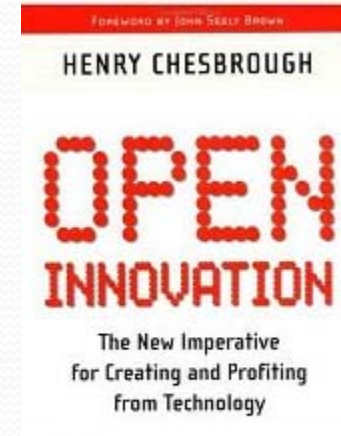
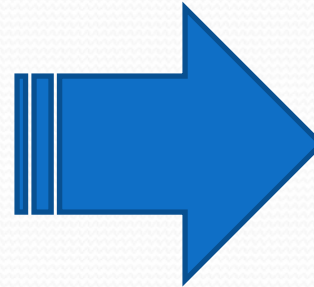
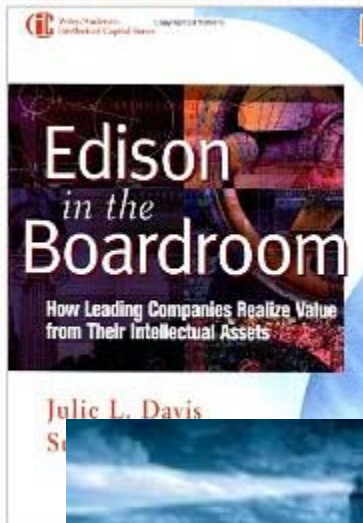
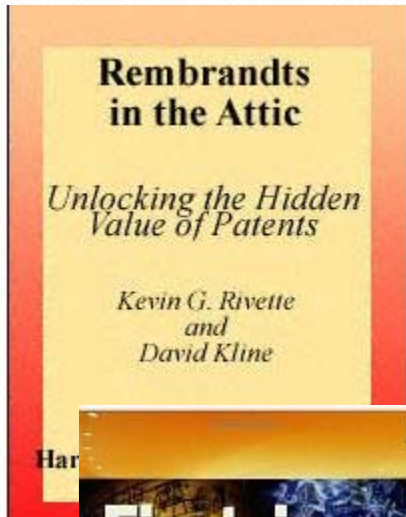
Life Sciences Alley, IP Corner  
December 7, 2011



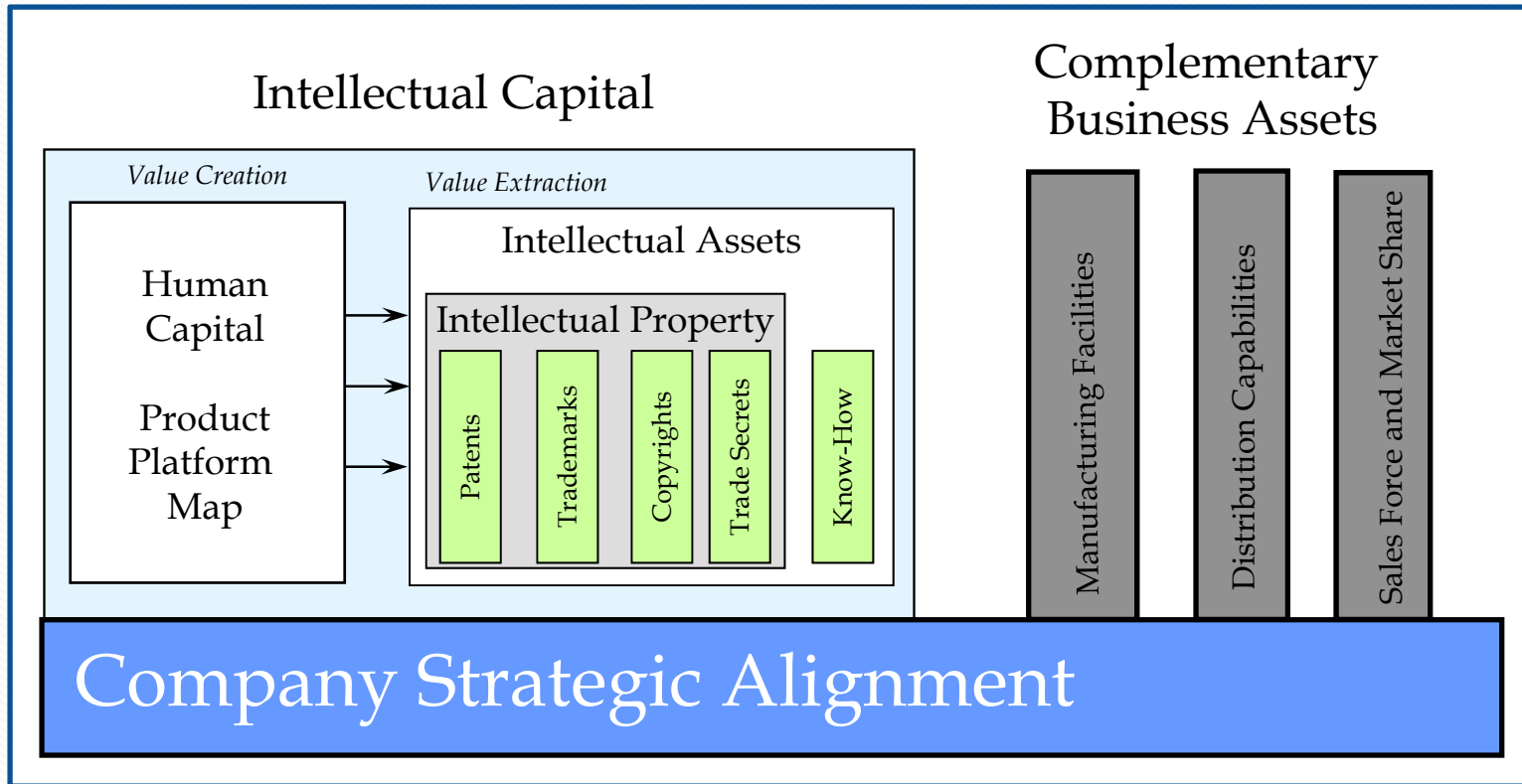
# Summary

- Case studies in Licensing
  - Technology spin-outs
  - Licensing multipliers
  - Customer focused licensing
- Open Innovation Marketplace
  - Drug Discovery
  - Patent Pools and Consortia
  - Technology In-sourcing through Open Innovation

# From Rembrandts to Open Innovation

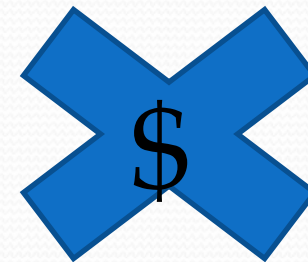
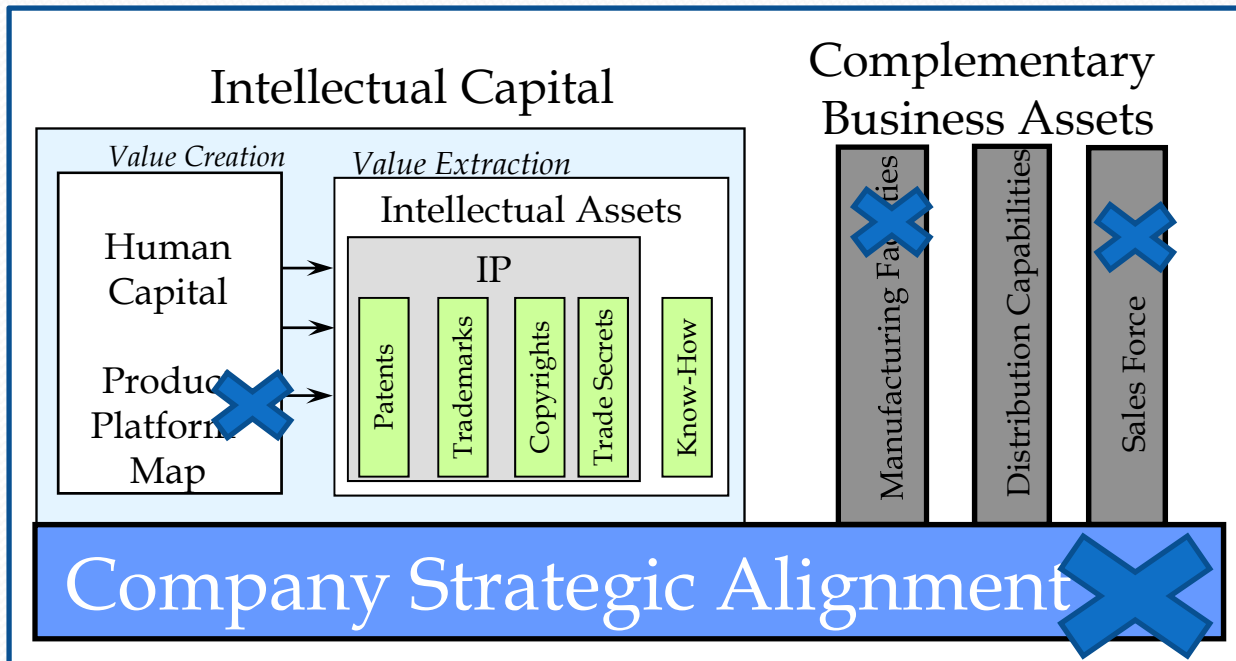


# Value Creation through IP

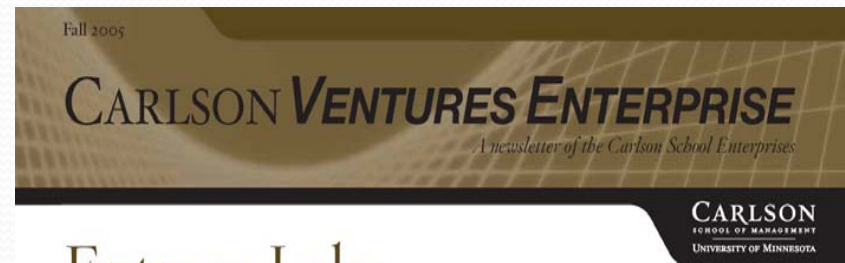


*Extracting Value from the IP Requires Strategic Alignment  
And Complementary Business Assets*

# Technology Spin Out: Transmucosal Drug Delivery



**Spin-out**

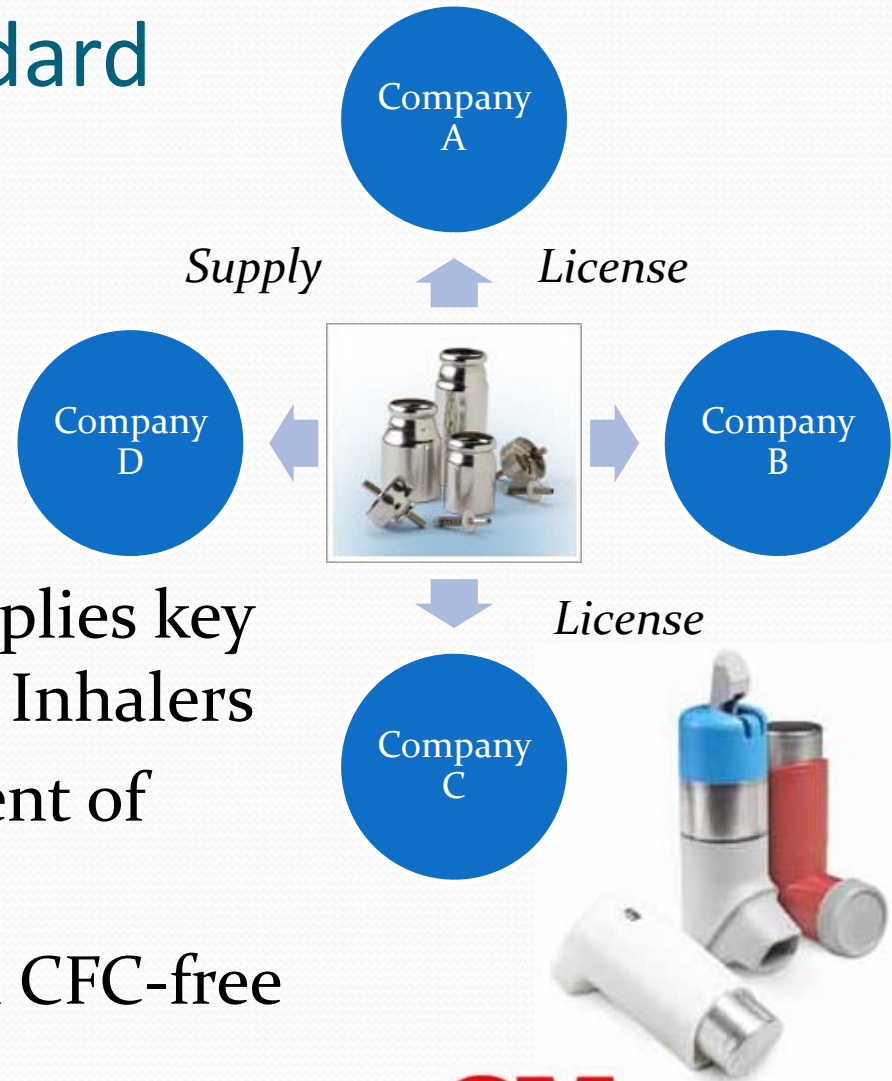


Entrega Labs

Carlson Ventures Enterprise analysts create drug delivery technology business plan



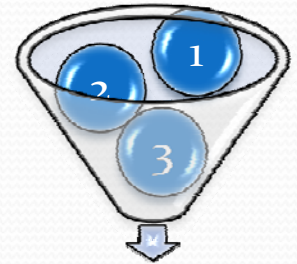
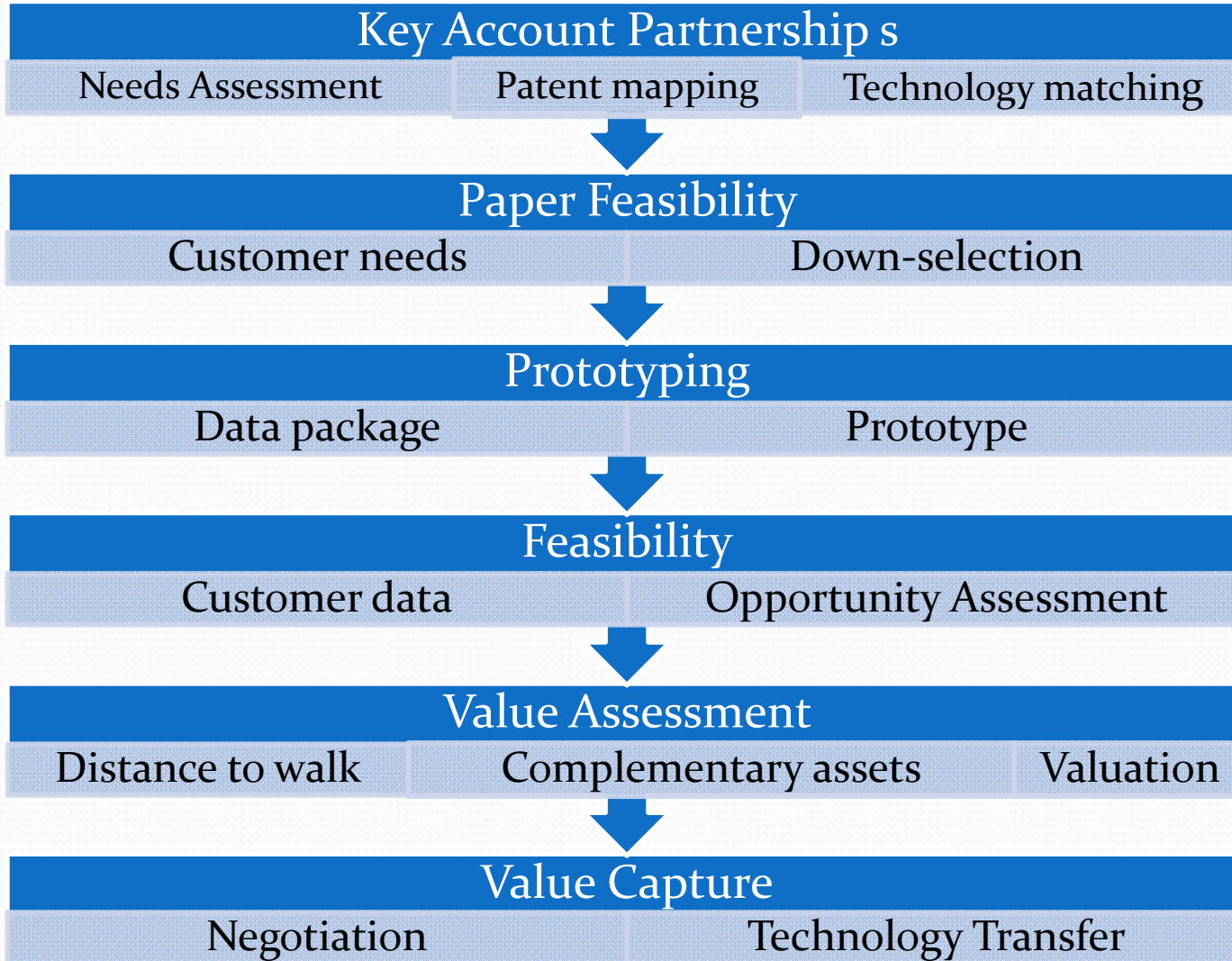
# Licensing Multiplier: Creating a *De facto* Standard



- 3M Drug Delivery Systems supplies key components for Metered Dose Inhalers
- Montreal protocol – replacement of CFC's with HFA's
- Outcome: Key partnerships in CFC-free MDI's



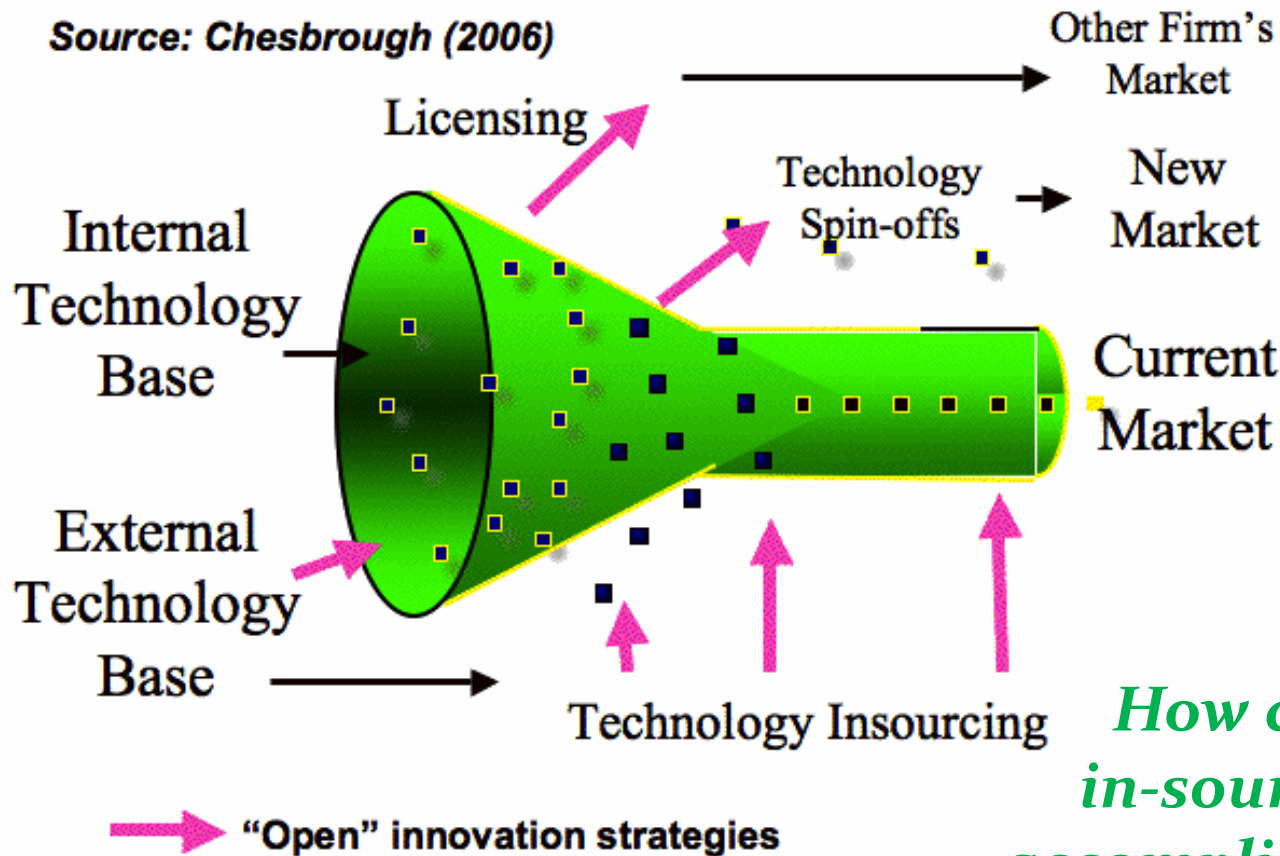
# Customer Focused Licensing



Top Opportunity

# Open Innovation (OI)

Source: Chesbrough (2006)



*How can technology in-sourcing be used to accomplish strategic plans?*



# OPEN INNOVATION DRUG DISCOVERY

## Phenotypic Drug Discovery

- *No-cost access to phenotypic assay panels for external investigators*
- *Focus: Small molecules and natural products for Alzheimer's, diabetes, cancer, bone formation*
- *Eli Lilly funds and tests the proposals submitted while the external innovator*
- *External innovator keeps all the Intellectual Property and documentation*
- *Eli Lilly has first right to discuss commercialization opportunities*



## Target Drug Discovery

- Target based drug discovery makes use of genetic sequencing, computational data and modeling
- Eli Lilly provides access to their capability to accelerate drug discovery at partners



# OI Patent Pools and Consortia

## Patent Pools

- GlaxoSmithKline (GSK) patent pool for neglected diseases
  - 800 GSK patents
  - 1500 Alnylam patents



Source: *Nature Reviews Drug Discovery*, 9, 87-88 (February 2010)

11/23/2011

Kate Bretscher, 3M

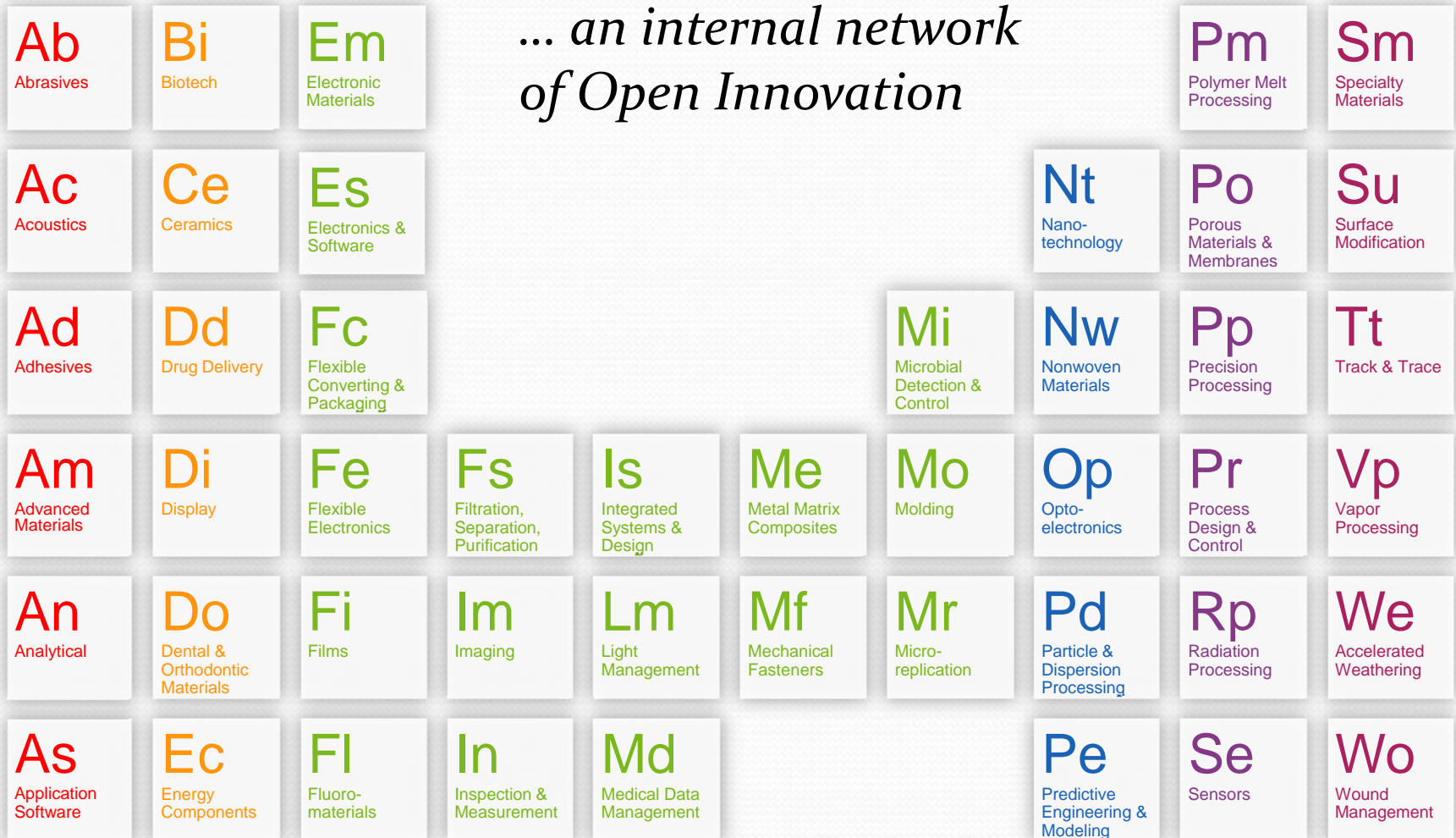
## Consortia

- **Diabetes Genetics Initiative**
  - MIT, Harvard, and Lund University and Novartis
  - Focus: Type II Genetic variants
- **Dundee Kinase Consortium (DSTT)**
  - AstraZeneca, Pfizer, SmithKline Beecham, Novo Nordisk
  - Focus: Kinase biology
- **Structural Genomics Consortium (SGC)**
  - Structural analysis of > 1000 target proteins and development of open-access chemical probes
- **Enlight BioSciences**
  - Focus: Develops platform technologies for 6 big Pharma
- **Centre for Inflammation Research**
  - GSK and AstraZeneca, Manchester University, UK



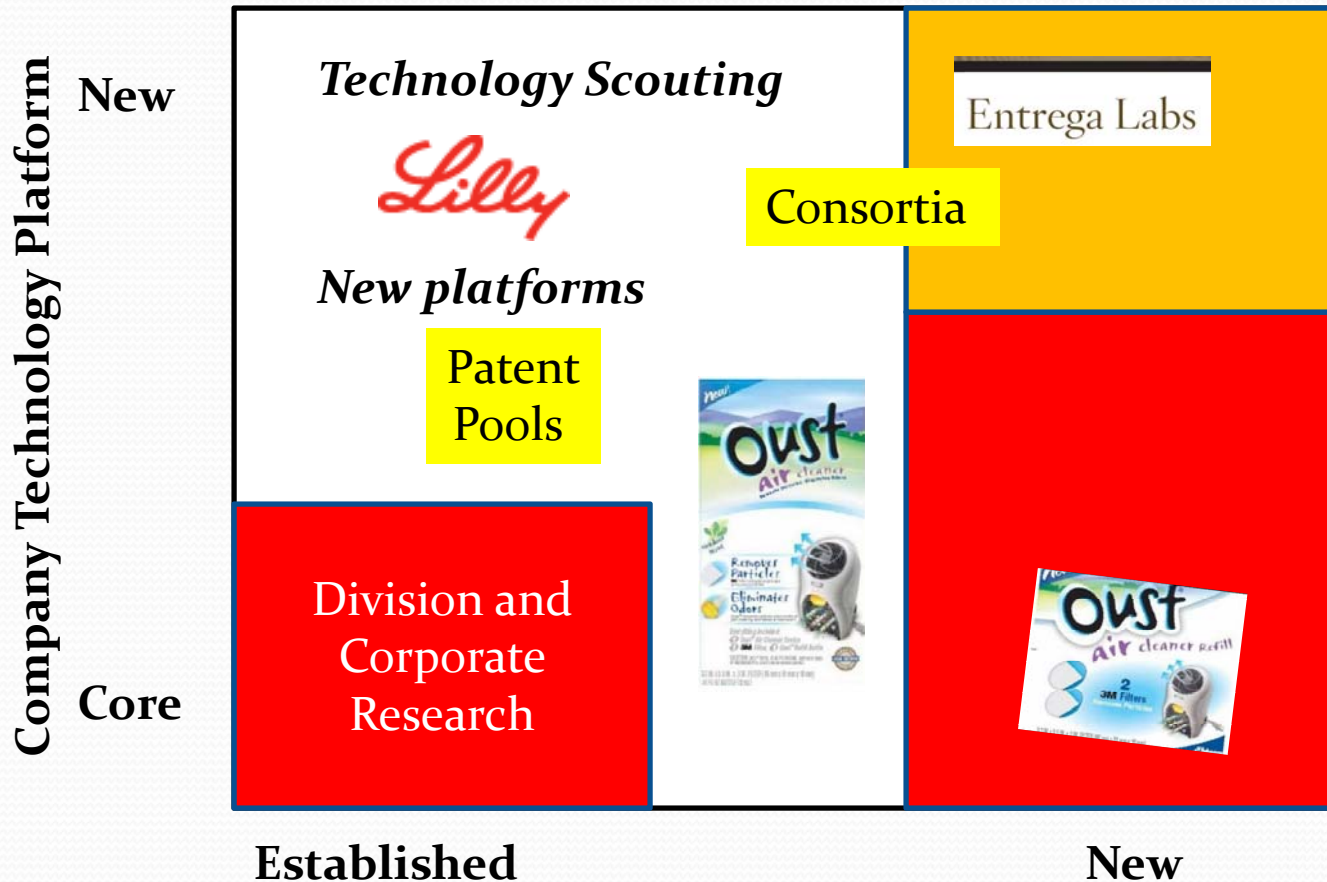
# At 3M Ideas Connect Across Diverse Technologies

*... an internal network  
of Open Innovation*



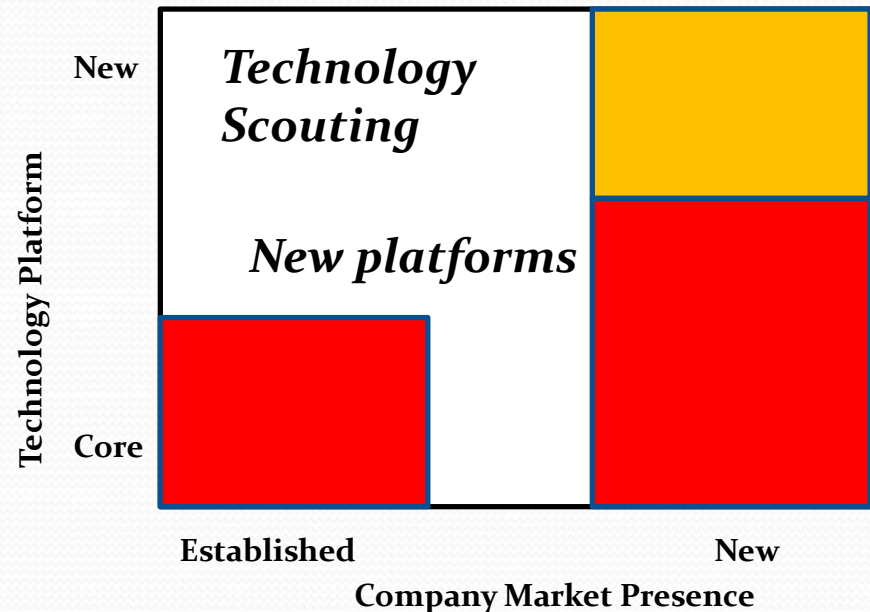
# Technology In-sourcing through OI

*Working hypothesis*



# Open Innovation Ecosystem

1. *Technology In-licensing*
2. *Technology Spin-In*
3. *University co-operation*
4. *VC-based Technology Sourcing*
5. *Strategic Alliances*
6. *Consortium project*
7. *Supplier innovation workshops*
8. *Supplier integration*
9. *Supplier innovation network*
10. *OI intermediaries*
11. *Listening posts/Technology scouts*
12. *Scientific Advisory Boards*
13. *Go-to-market Joint Ventures*
14. *Cross-industry innovation*
15. *High -tech campus*
16. *Supplier in residence*
17. *Academia/Start-up innovation network*
18. *Cross-industry and/or cross-science innovation hub*
19. *Competitive innovation race*



Source: Innovation -3

# References

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- *Nature Reviews Drug Discovery*, 9, 87-88 (February 2010).
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- “Open Innovation Drug Discovery: The Lilly PD2 and TargetD2 Initiatives and a New Paradigm for Open Innovation,” Alan D. Palkowitz, Ph.D. July 19, 2011 [www.openinnovationlilly.com/dd](http://www.openinnovationlilly.com/dd).





Thank  
You.

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