



Introduces...

Open Innovation Across Sectors For Pharma, Health and FMCG

Jim Bullock & Malcolm McKechnie

11th December 2015

Your Speakers

Jim Bullock



**iFormulate Case Studies:
Open Innovation with Pharma**

Malcolm McKechnie



**Cross-Sector Technology
Transfer in Open Innovation**

- This webinar is being recorded and will be made available
- The audience is muted and may ask questions using chat or question functions in GoToWebinar
- This webinar will last 45 minutes



A Little About iFormulate

A company founded in 2012 by two experienced industry professionals...

Combining diverse experiences, knowledge and wide range of contacts:

...polymers, materials science, chemistry, imaging, dyes, pigments, emulsion polymerisation, biocides, anti-counterfeiting, environmental, formulation, consultancy, marketing, business development, strategy, regulatory, training, events, R&D, innovation

Complementary network of Associates

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Our Services



Cross Sector Technology Transfer

A Vital Component of Your Open Innovation Strategy

Dr Malcolm McKechnie
Associate Partner, iFormulate



Sectorial Transfer within Open Innovation and Technology Sourcing

“Seekers” view but will also cover technology “offers” to a lesser extent

- Open Innovation
- Why companies use OI ?
- What, where and how to look with a focus on sectorial transfer
- Example Sectors
- Example common areas
- What can be the challenges?



Open Innovation is a term promoted by Henry Chesbrough, Adjunct Professor and Faculty Director of the Center for Open Innovation at the Haas School of Business at the University of California

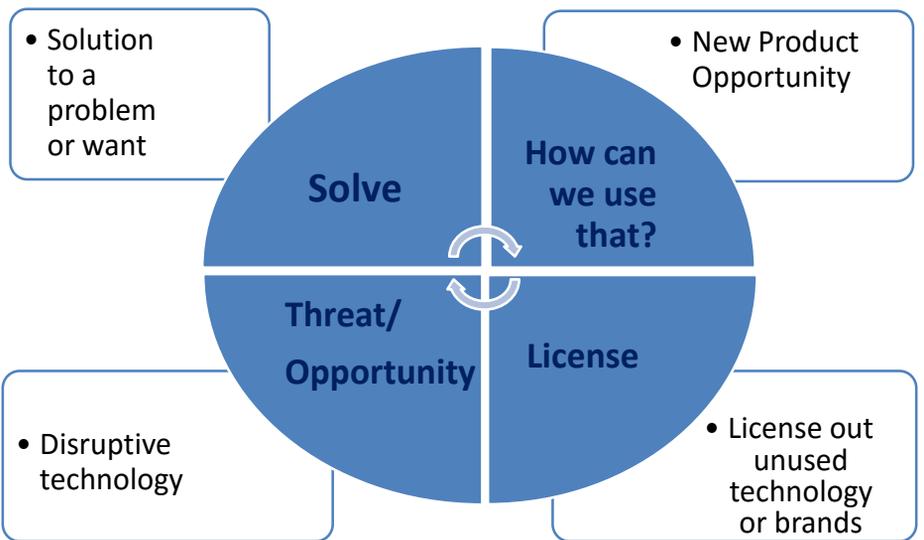
“Open innovation - companies do not rely entirely on their own research, but buy or license processes or inventions from outside their own organisation.....combines external input with internal ideas to advance a company's technology, processes or services.
In addition, internal inventions not being used in a firm's business may be taken outside the company

Chesbrough, Henry William (1 March 2003). Open Innovation: The new imperative for creating and profiting from technology. Boston: Harvard Business School Press. ISBN 978-1578518371.



What needs does OI typically meet?

Actively seek external partners to fuel internal innovation



Open Innovation - What do “seekers” look for?



Solution

Often will be well defined
 We need one of these
 How do we?
 Is there an alternative way to...?

Brief can be prepared

vs



Opportunity

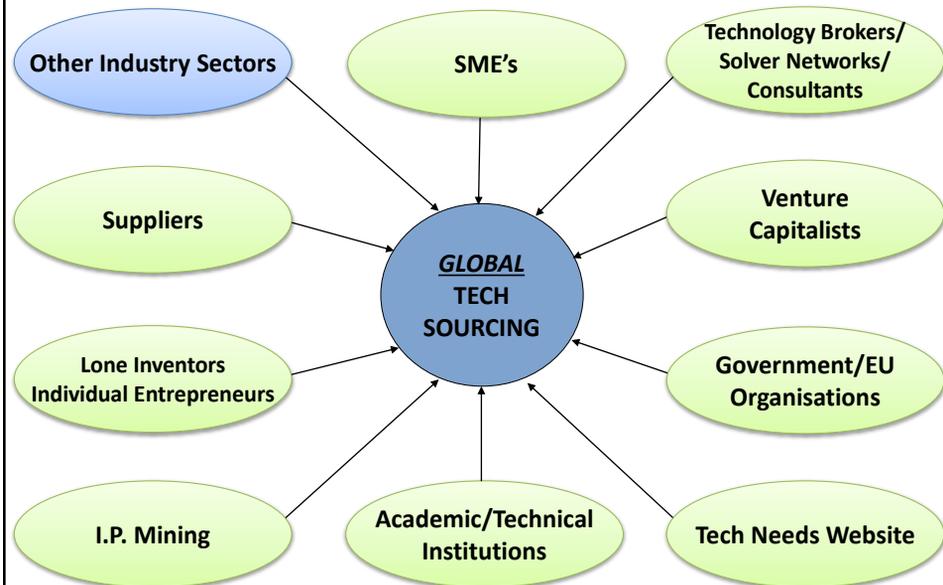
That’s interesting- what could we use that for? **Other sectors may have different approaches / technologies which may stimulate new product concepts**

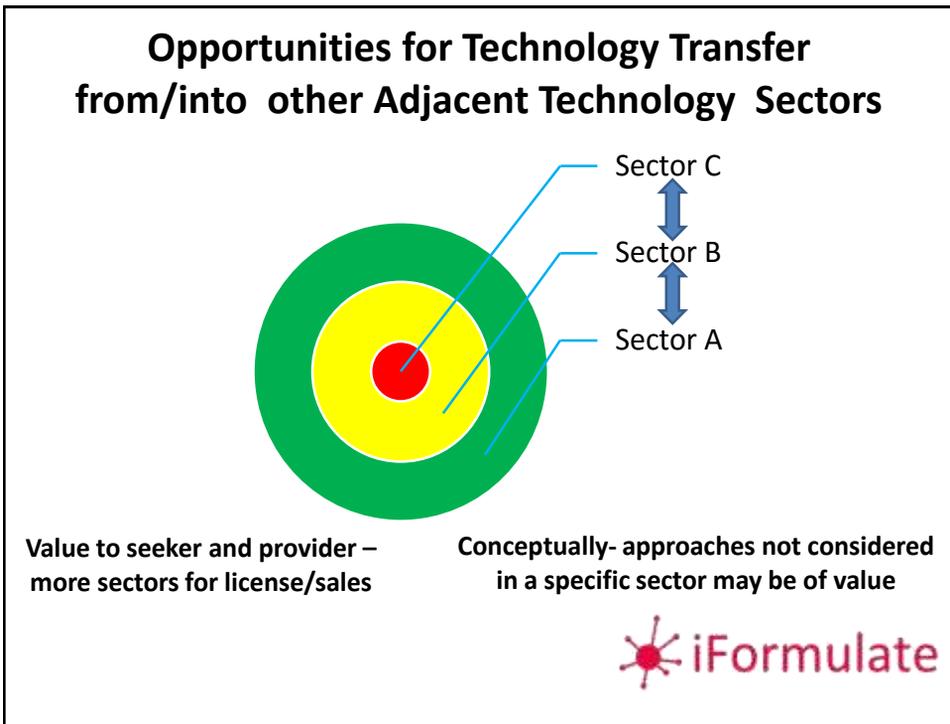
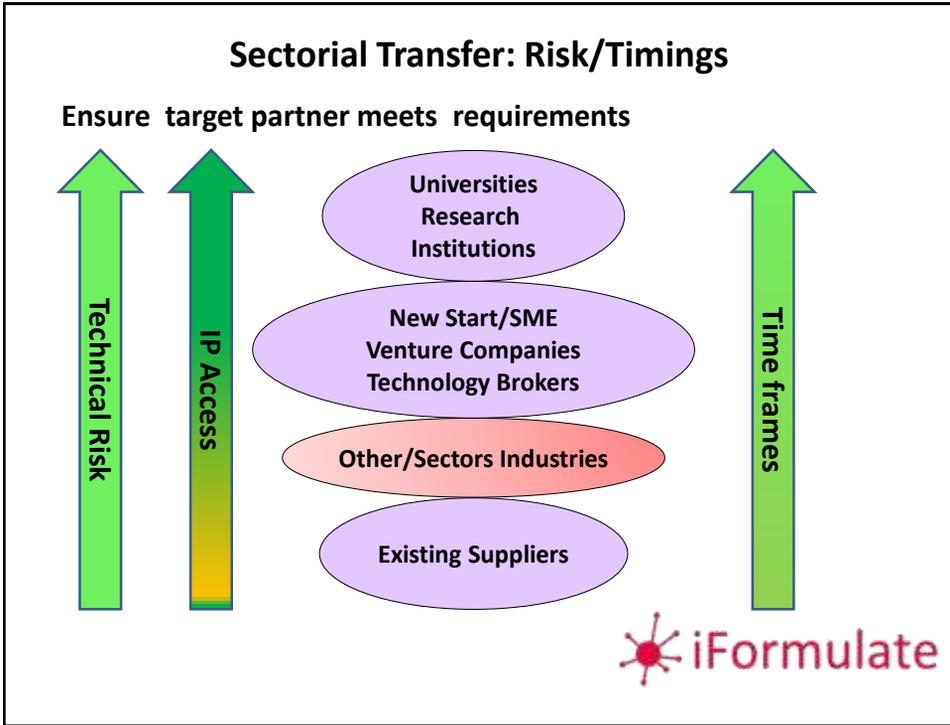
New offering
 New benefit –unarticulated?
 Disruptive

MR/Consumer research/ideation and concept evaluation needed



Open Innovation – Where to look





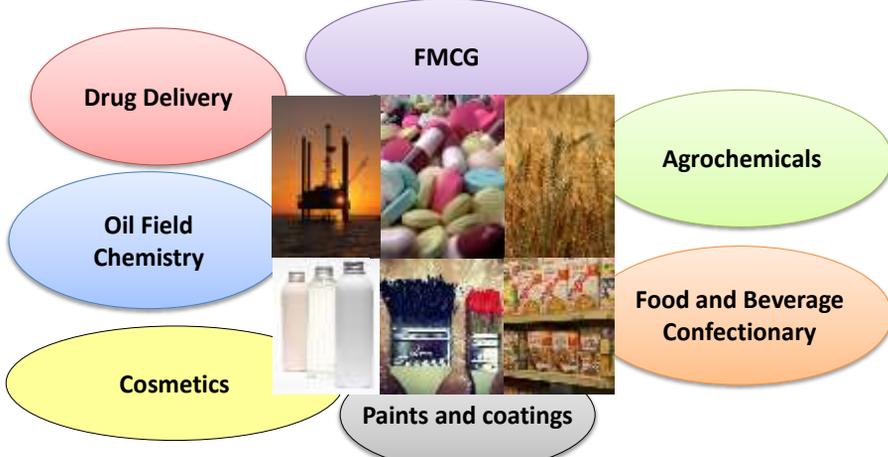
Why of Value?

- Rapid adaptation of technology/quicker to market. Already scaled up?
- New way of thinking of technology benefits and consumer claims
- Technology with some regulatory, safety, tox/environmental information.
- IP already developed scope for further applications IP?
- “Win Win” - recipient has a new product concept and provider has a new sector
- May tie back to your current supply chain – (often “siloed” into industry sectors)



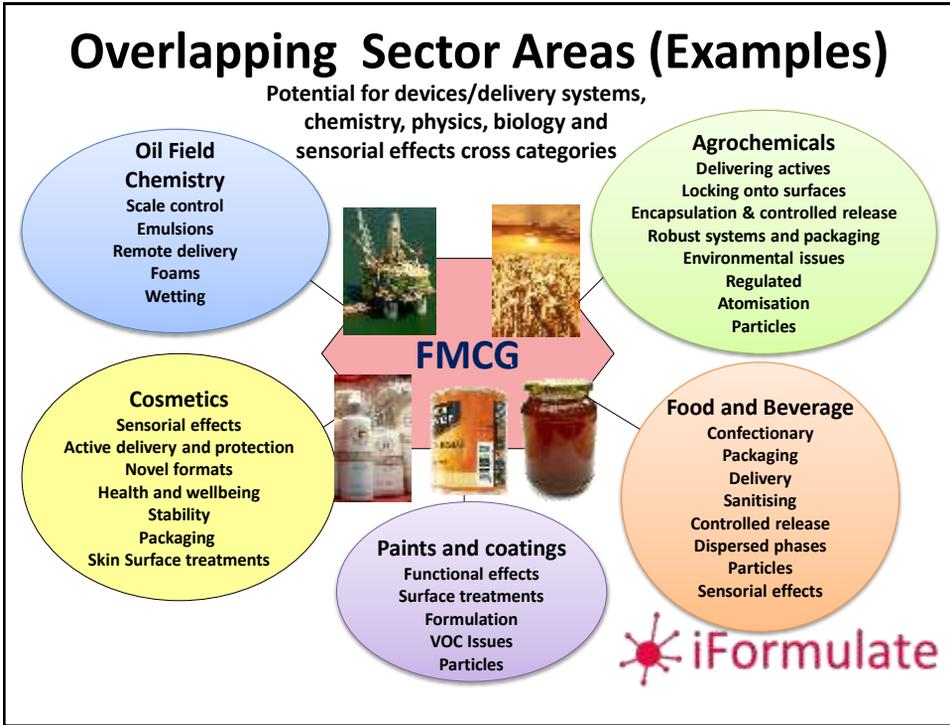
Example Adjacent Sectors

Non adjacent not as productive/simple but may be more creative

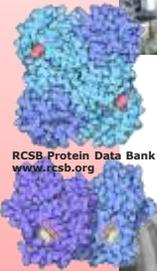


Regulatory approval in certain sectors not always transferable but relevant background data may be available





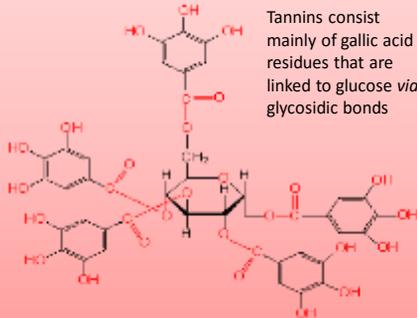
Enzymes in FMCG/Brewing

<p>FMCG</p> <p>Stain removal and washing (ADW/Laundry)</p> <div style="text-align: center;">  <p><small>RCSB Protein Data Bank www.rcsb.org</small></p> </div> <p>Lipases Amylases Cellulases Proteases Mannanase</p> <p><u>Primarily stain/soil removal or fabric care</u></p>	<div style="text-align: center;">  </div> <p>Brewing</p> <p>Amylases, peptidases and carboxypeptidase are present in the barley, β-glucanase, endo-proteases, α-amylase and pentosanases are formed during malting.</p> <p>Filtration improvers, reducing the presence of viscous polysaccharides -remove carbohydrates in the production of light beer and to induce chill proofing (papain)</p> <p>CIP detergents</p>
<p>Common theme of enzymes to break down larger molecules/proteins, carbohydrates</p> <p>Enzymes robustness to conditions, compatibilities, kinetics, degree of conversion, lower temp, new enzyme classes in a sector</p>	

Stain Treatments, Dye Transfer in FMCG/Brewing Example

FMCG

The most common chromophore or coloured stains are tea, wine, coffee, fruit juices and are polyphenolic in nature and are exemplified by the tannins



Beer Stabilisation

Removal of polyphenols/oxidised and polymerised flavanoids such as anthocyanogens, catechin and tanninogens using PVPP

Enhances colloidal stability of beers with no bitterness compromise.

Tannic acid used to precipitate complex nitrogenous material for enhanced stability

Common theme of polyphenol chemistry
Free dye capture in laundry



What Are The Common Challenges?

- Misaligned expectations –
 - Royalty rates
 - IP ownership
 - Timescale of commercialisation/revenue generation
- Quality of test/validation data that may require specific industry tests
- Registration/legislation in sector
- Cultural mismatch
- Change in business priorities



So We've Seen The Potential Benefits, What Can We Do About The Pitfalls?

- Concerns on IP and secrecy – how open can it be?
- Disparity in stakes, size, objectives, approach of partners
 - Typical model is large multinational seeking new technologies from (small) technology providers
 - What is “life or death” for the small provider might be “just another interesting project” for the multinational
- How to build trust?



Images: David Castillo Dominici at freedigitalphotos.net

Case Study 1:

Four Company Open Innovation Roadshows



How Could We Avoid the Pitfalls of Open Innovation?

Sharing Challenges

- Each party must contribute and potentially benefit in equal measure
- Each party is risking the same

Parties from non-competing industries

- Participants with common challenges
- No interest in IP for other industries
- Make ground rules clear

Trust

- Take time to get to know your opposite numbers and understand their businesses



Case Study 1: How We Made It Happen

iFormulate: Open Innovation Roadshows in Formulation

Invitation only workshops

Four participant companies

- Multinationals with depth in science and engineering
- Could work with smaller companies - need to be comparable and compatible – parity is important

Four different industries – not competing

- Food
- Pharmaceuticals
- Crop Protection
- Home and Personal Care



Case Study 1: How We Made It Happen

iFormulate: Open Innovation Roadshows in Formulation

iFormulate developed format with companies

- No NDAs. Use “Chatham House Rule”.
- Each company acts as host in turn – attendees from other companies
- Host sets (technical) challenges relevant to their businesses
- Small group sessions for idea and experience exchange
- Develop areas of common interest for collaboration

But it’s not just about the purely technical

- Host provides dinner for attendees – building trust, networking.
- Scene-setting keynote presentation from host side – business – the big picture
- Opportunities for lab / plant visits during day

“When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.” <http://www.chathamhouse.org>



Case Study 1: iFormulate Open Innovation Roadshows

Outcomes

- 108 “attendances” at four workshops over 11 months
- Mainly R&D scientists and engineers, also commercial, supply chain, manufacturing and OI practitioners.
- 15 company challenges worked on
 - Varied topics including stabilisation, formulation microstructure, delivery, formulation processing and manufacturing, end-user experience
 - Experience sharing, contact sharing, idea generation
 - Follow up options suggested
- Six concrete project areas defined for potential collaborative projects to be worked up
- Countless 1:1 discussions and several “offline” meetings” between participant companies.



Case Study 1: iFormulate Open Innovation Roadshows

Benefits, Observations and Some Surprises

- Participant companies need to be committed and have a named “leader” for the Roadshows.
- Selection of topics and participants managed carefully before Roadshow event.
- Seen as highly effective (and cost effective) by participant companies.
 - High degree of openness and trust demonstrated
- Beneficial technical exchange between specialists was expected
 - but companies also used Roadshows as a development opportunity for less experienced employees
 - Roadshows also enhanced communication within companies
- Discussions much more wide ranging than expected
 - Customer experience, regulations, manufacturing, supply chain...as well as R&D.



Case Study 2:

Targeted Innovation Workshop



Case Study 2: Targeted Innovation Workshop

- iFormulate commissioned by a large Pharma company to assist **with ideas, technologies, contacts and project building** to support the development of a specific theme related to sensorial properties
- Recognised opportunity to leverage **cross-industry** expertise for mutual benefit
- The chosen theme had links to required technical expertise in the food/beverage sector
- Objective: identify consortia and interest groups for future collaborative projects



Case Study 2: Targeted Innovation Workshop Food Expertise for Pharma

Steps:

- iFormulate researched theme and identified centres of expertise, individuals and technologies
 - Focused on food and pharma industries
 - Academic, large and small companies
 - Focused on expertise new to the client
- Produced report with recommendations
- Agreed format of workshop
- Hosted an invitation-only workshop
 - Additional attendees invited by client
- Produced final report and follow-up



Case Study 2: Targeted Innovation Workshop Food Expertise for Pharma

Workshop:

- Around 25 attendees, one day.
 - Scientists from client company
 - Academics, research institutes – focus on food
 - Innovative SMEs in food and pharma
 - Other pharma collaborators (CRO, big pharma)
- Structured networking session
- Introduction to the theme and industry relevance
- Two themes tackled in small group sessions
 - Explain theme context and importance in detail
 - Explain different approaches to tackle the topic
 - Idea generation, classification
- Large group wrap-up session
 - Develop ideas, identify interest groups



Case Study 2: Targeted Innovation Workshop Food Expertise for Pharma

Follow-Up/ Benefits:

- Beneficial workshop for all attendees
 - Identified significant areas of expertise and new understanding of value to the client which may be followed up individually “off-line”
 - Also provided new contacts and potential collaboration/development partners for academic and SME attendees
- Workshop identified three themes and members of potential consortia for R&D collaboration
- Project consortia could then be developed



Summary

- There is potential **value for pharma and related areas** in **new innovation models**, e.g.
 - Multi-industry **Open Innovation Roadshows**
 - Cross-industry **Targeted Innovation Workshop**
- **Topics** can be obvious common technical areas (e.g. formulation) – can also encompass manufacturing, quality, consumer insight, logistics etc.
- **Benefits and opportunities**
 - Expertise from other industries
 - Leverage collective resources
 - Expand personal networks. Personal development opportunity
 - Enables follow on consortia and collaborations
 - Companies large and small, academia and institutes can all benefit
- **The models can be adapted to suit participants needs**
 - Ask us!



Other Ways We Can Help You

Open Innovation

- Help evaluate, design or improve your OI system

Technology Profiling Assignments

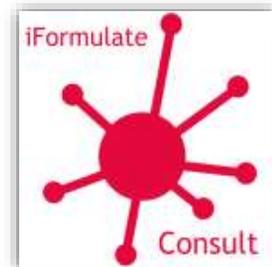
- “we need some new ideas for our development programme” (scouting)
- “we want to know about the pros and cons of technology x, and who we should talk to”
- “what markets could/should we enter with our technology?”

Problem Solving assignments

- “we want some help solving a problem with our formulation”
- “we want some help developing a new formulation”

Training in Formulation

- Custom “in-house” training designed with client
- Open short training courses



Thank You...and Questions

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Next iFormulate Webinar: Thursday 4th February 2016
“Crystallisation Science and Agrochemical Formulations”
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