

Spotting Market Needs

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University of Cambridge

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Characteristics of the Entrepreneur

Optimism, desire, motivation

Because of intention – (Bandura et al)

Entrepreneurial alertness (Kirzner)

In Cambridge – $f = (\text{networks} + \text{people with research based ideas} + \text{culture that says it is OK}) + (\text{sources of advice} + \text{funding} + \text{expertise})$

But where are the paying customers?

10 Lies (Guy Kawazaki)

If I have 1% of the \$5bn market... (one of the lies!)

But which 1%

Where are they?

Are they organisations or consumers?

What will it cost to reach them?

At what price point will they buy?

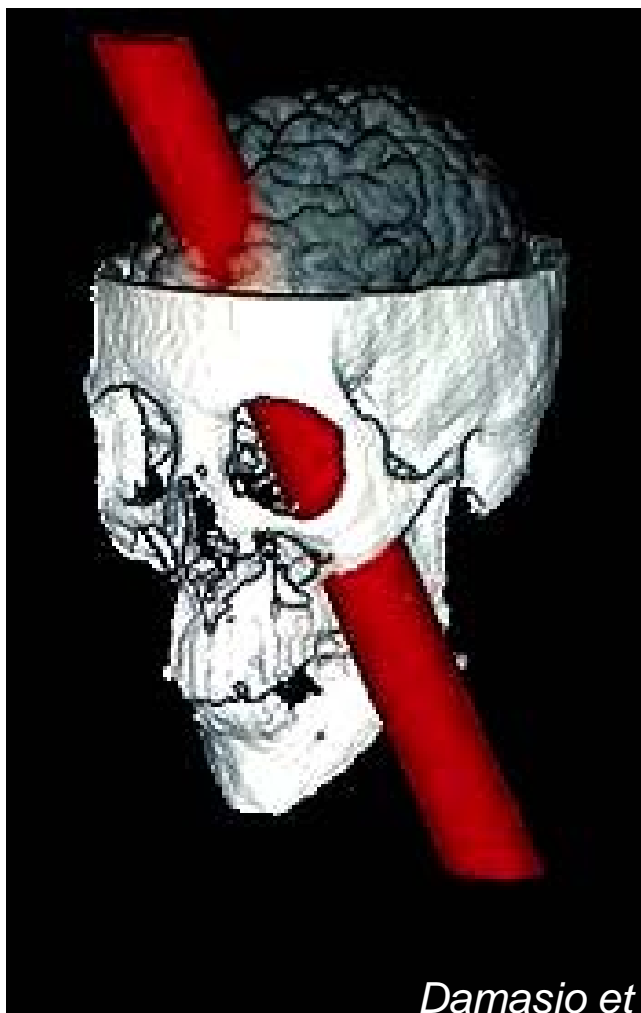
Will you be able to service them?

Are they part of a growing or shrinking trend?

Who is competing in the same space?

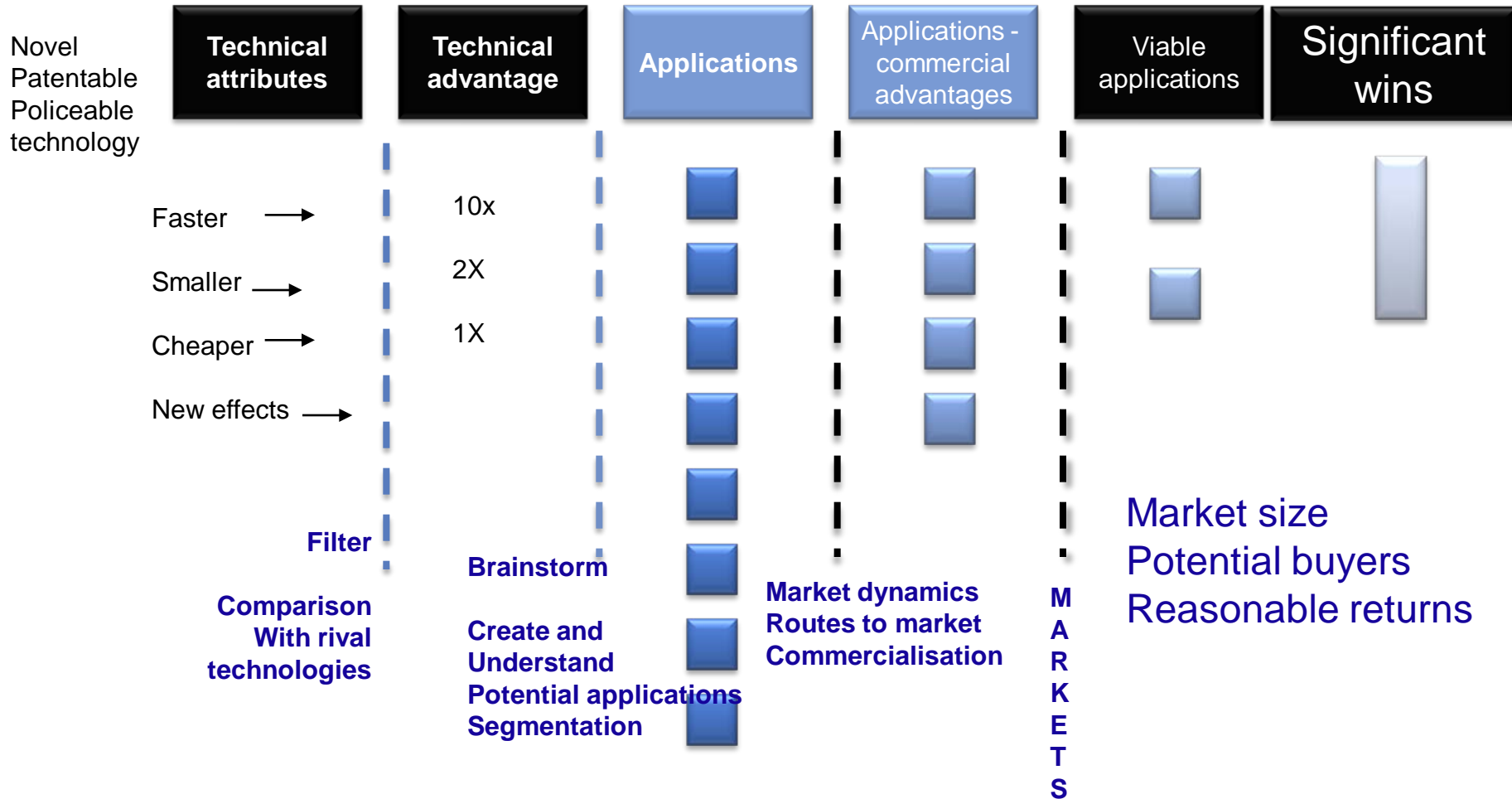
What makes your offer different?

Opportunity Recognition – Intuition and rational thought combination



Phineas Gage (1848)
Tamping Iron....

Methodical Translation journey



Innovation and the University's mission

The mission of the University of Cambridge is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence

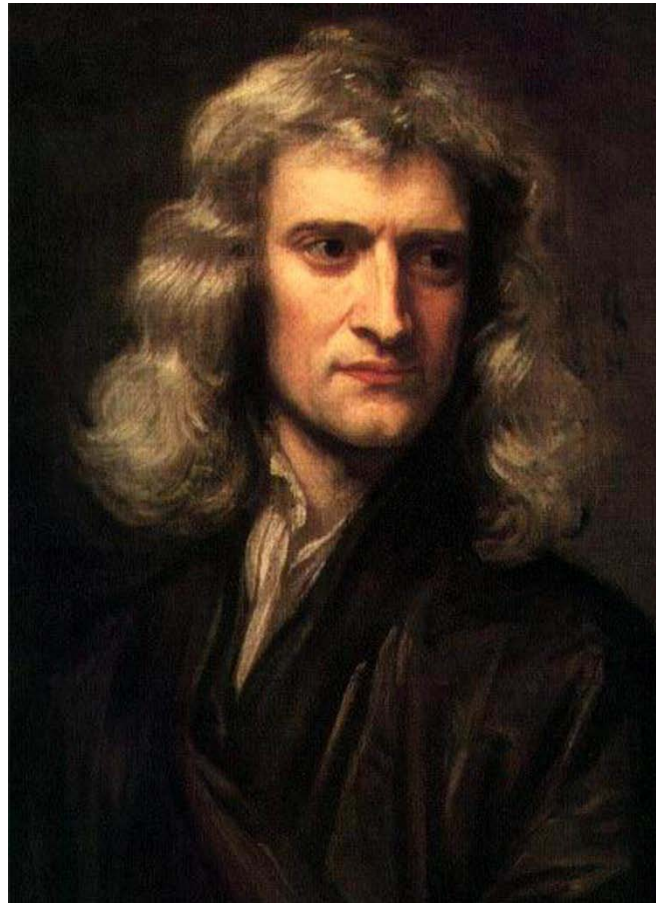
The Cambridge model

- Recruit the best academics in the world
- Give them the freedom to do what they choose.
- IP belongs to the University unless requested by the academics





Isaac Newton



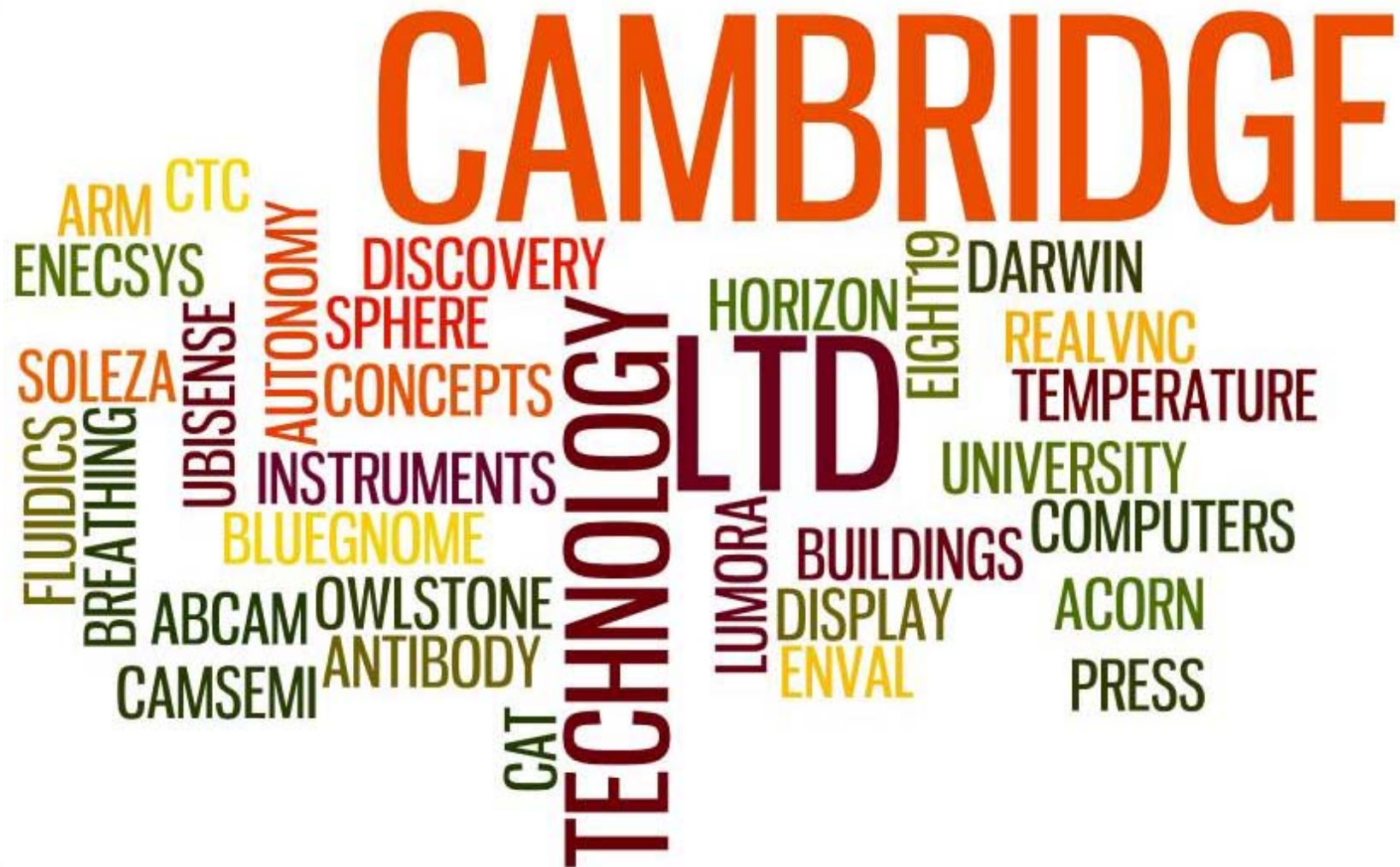
“If I have seen further it is by standing on the shoulders of giants.”

Isaac Newton, in a letter to Robert Hooke, 5 February 1676

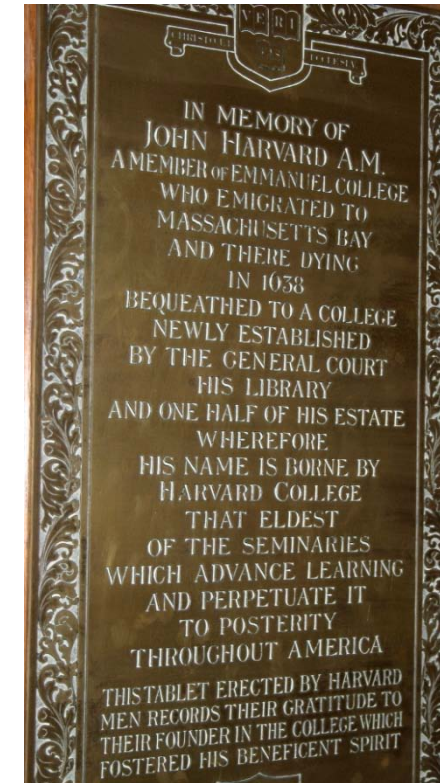
Cambridge ideas change the world



Cambridge ideas change the world



A long history of innovation



Cambridge University Press:
Established 1534

Harvard University:
Established 1636

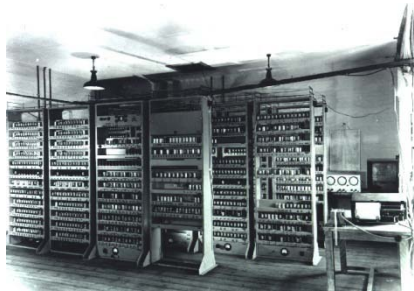
A long history of innovation

- More than 180 spin-outs from the Computer Laboratory alone; building on the legacy of Babbage and Turing



Cambridge ideas change the world

EDSAC



ARM



ARM®

Raspberry Pi



Crick & Watson



Solexa (acquired by
Illumina in 2006)

Solexa

DNA sequencing

BlueGnome (acquired by
Illumina in 2012)

BlueGnome

Screening for aneuploidy

Leading to Europe's most successful technology cluster

?

ARM[®]



Autonomy

2 x \$10bn companies

10 x \$1bn companies

abcam[®]
discover more

AVEVA
CONTINUAL PROGRESSION

CaT
Cambridge Antibody Technology

csr

DOMINO

IONICA

Solexa

Virata

a vibrant Cambridge Cluster Economy

1,500 cluster companies
54,000 employees

world leading underpinning science

Whittle Turing Darwin Watson & Crick
Babbage Rutherford Sanger.....
89 Nobel Prize Winners

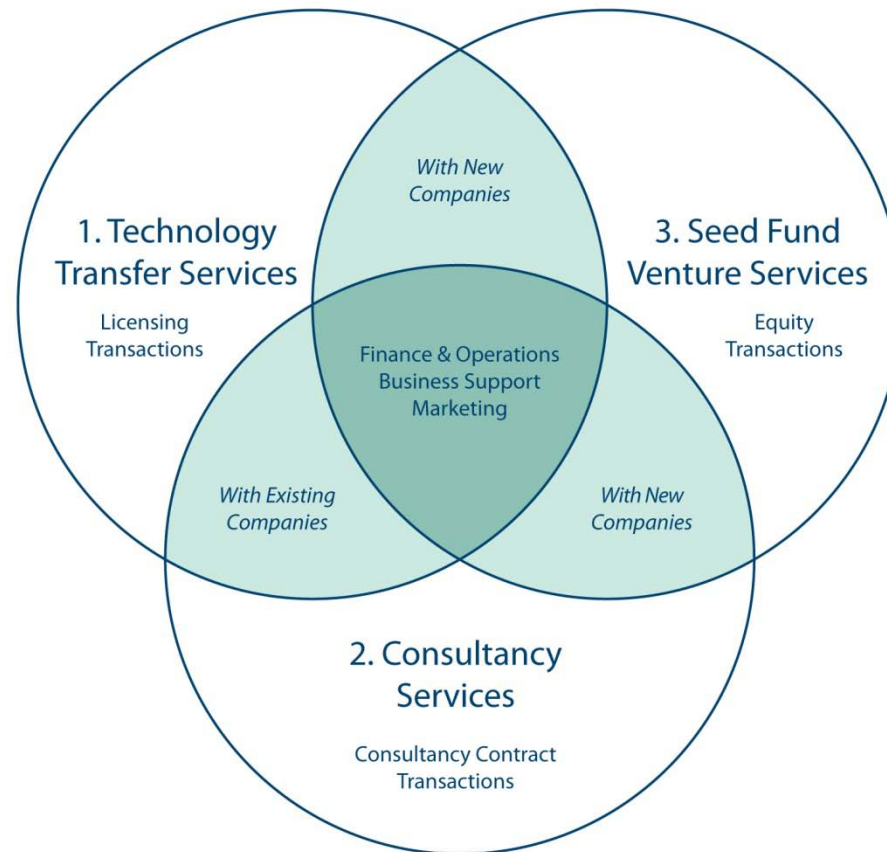
Cambridge Enterprise

“Cambridge Enterprise exists to help University of Cambridge inventors, innovators and entrepreneurs make their ideas and concepts more commercially successful for the benefit of society, the UK economy, the inventors and the University”

Cambridge Enterprise Group

cambridge **enterprise**
commercialising University science

cambridge **enterprise** seed funds
discovery fund | challenge fund | venture fund



cambridge university
technical services
limited

**CAMBRIDGE ENTERPRISE
PORTFOLIO COMPANIES
HAVE RAISED OVER
£1 BILLION
IN FURTHER FUNDING
..... to date**

Meeting customer Needs - PULL & PUSH



SPOTTING MARKET NEEDS

Remember

Universities tend to create technologies

Consumers buy products and services

How do you test lung
function on a child who is
unconscious?

The steps towards a solution:

One of the company Founders knew Philip Guildford in Engineering which led to Joan Lasenby and her work for the gaming industry

the algorithm

Hardware was needed to house the algorithm which led to a local consultancy firm Plextek

the design

It needed to be tested – Dr Richard Iles a consultant in Respiratory Paediatrics at Addenbrookes was keen to help

the clinical testing

A company is created

PneumaCare was founded in 2009 based on the clinical need for better lung function assessment in children



HOWEVER

Where are the markets? And why?

The Market Pull

There is a huge market need for a portable device - WHY?

If you need to have your lungs tested you have to be:

Mobile to get to the hospital testing area

Conscious to undertake instructions

Well enough to sit upright for a length of time while the tests are undertaken

And then there is the **cost**.....

The PneumaCare solution lowers healthcare costs by allowing **detection of diseases earlier and easier** in wider patient population.



Seven awards since founded

Launched two products

Used in hospitals in the UK & abroad

Funded by Cambridge Enterprise Seed Funds

Sometimes the best ideas are the most obvious ideas



Wittgenstein's Ladder

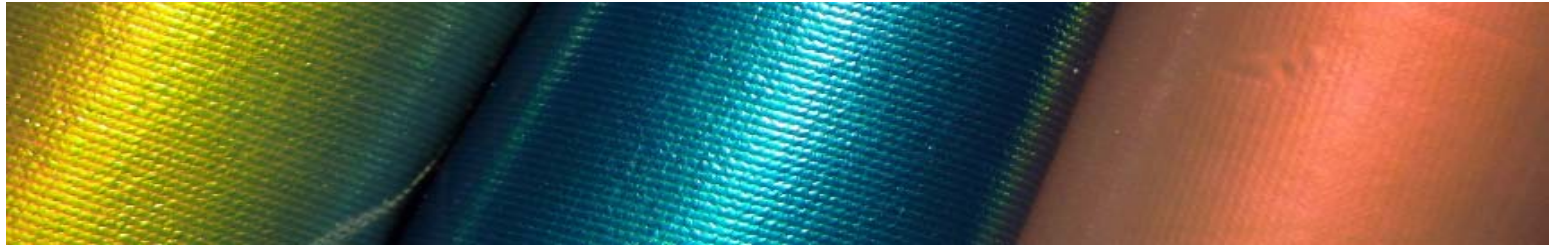
Wittgenstein's *Tractatus Logico-Philosophicus*

- 6.54 *"My propositions serve as elucidations in the following sense: anyone who understands me eventually recognizes them as nonsensical, when he has used them - as steps - to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed up it.)"*

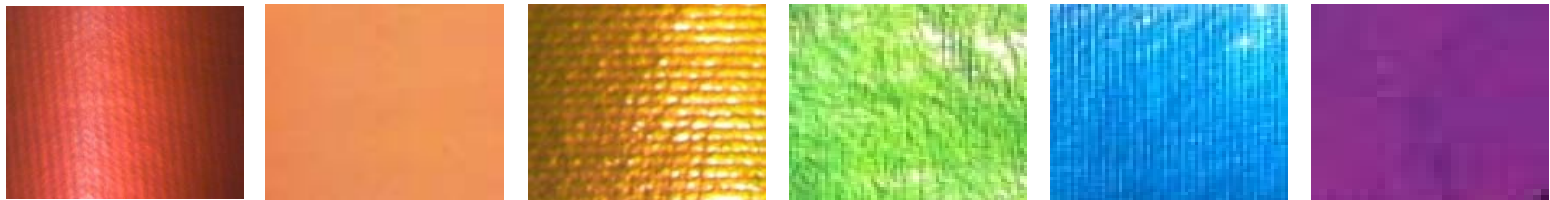
He must transcend these propositions, and then he will see the world aright."

Polymer Opals

- Polymer Opals are a new material that produce a range of pure, vibrant colours solely through their structure.



- Polymer Opals can be made to produce any colour on the visible spectrum, and even beyond...



- By layering differing Polymer Opals, or including dyes, the colour capabilities of Polymer Opals can be expanded even further.

<http://www.youtube.com/watch?v=v3jlooCt0yU&feature=youtube>

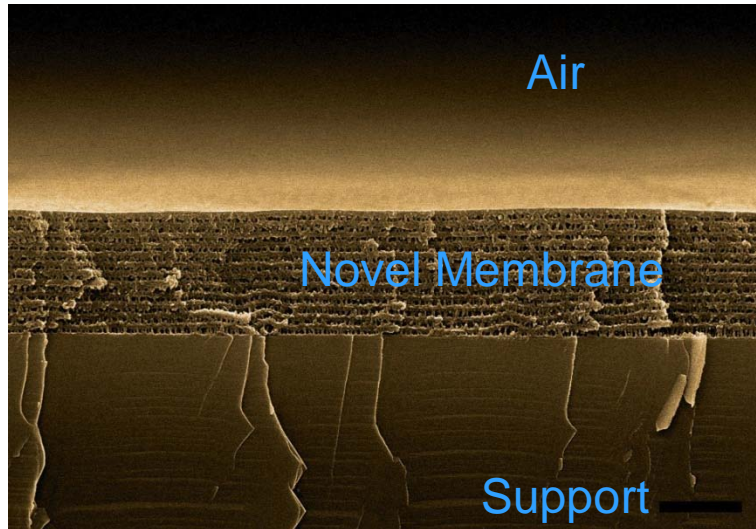
Where are the markets? And why?

What products or services might this technology lead us to?

Why would customers buy Polymer Opals?

If you were the scientist what would you do next?

Novel nano-porous membrane



Technology

It is a novel method of producing nano-porous material

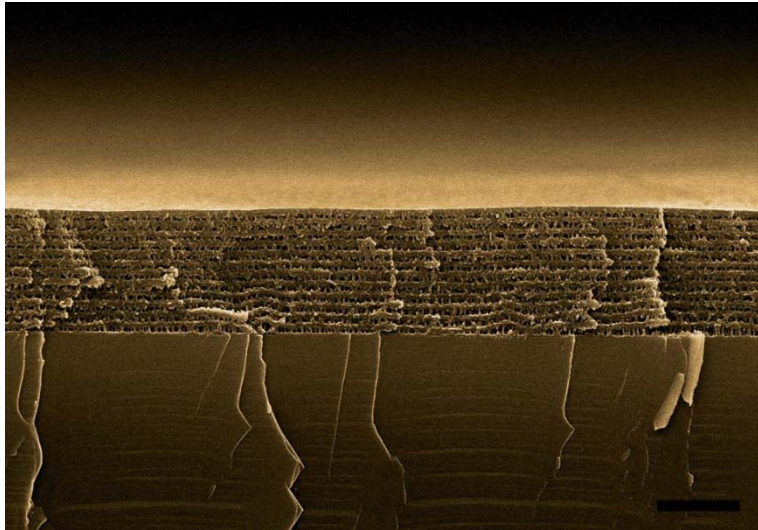
Advantages:

- Simple coating technology
- Cheap process
- Improved support performance by an order of magnitude



LifeStraw®

What markets would you focus on and why?



What have we done?

- Brainstormed millions of applications....
- Talked to people for each market/market segment
- Listened to their problems
- Think! Are the features of your technology benefits in those markets?
- What are the feasible applications?
- Talked with the market again, what would they want to see from a technology?
- Developed a Proof of Concept that will reduce their perception of risk
- Keep them involved in the whole process
- Keep our fingers crossed!

- Important: Talk with people and do not stand still!

You (think you) have an idea

Cambridge Enterprise



is happy to work
with you
to determine the best
route for
commercialisation

Innovation and the University's mission

The mission of the University of Cambridge is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence

Thanks



www.enterprise.cam.ac.uk