OXFORD UNIVERSITY INNOVATION

Intellectual Property &
Commercialisation

WIMM DPhil Course 2020

Intellectual Property & Commercialisation

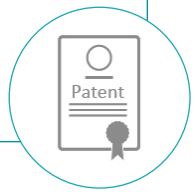
- Oxford University Innovation
- Intellectual Property & ownership
- Patents
- Third-party IP in research projects
- Commercialisation of University IP

Oxford University Innovation Ltd

Creating global impact from academic discovery and expertise

- ***Enabling impact from discovery*** through Licensing, IP and Patents, Spinout formation, Material Sales, Clinical Outcomes, Startup Incubator, Social Enterprise creation, Oxford University Hospitals NHS Foundation Trust

Licensing & Ventures



- ***Supporting researchers and external partners*** to utilise academic expertise and technical services

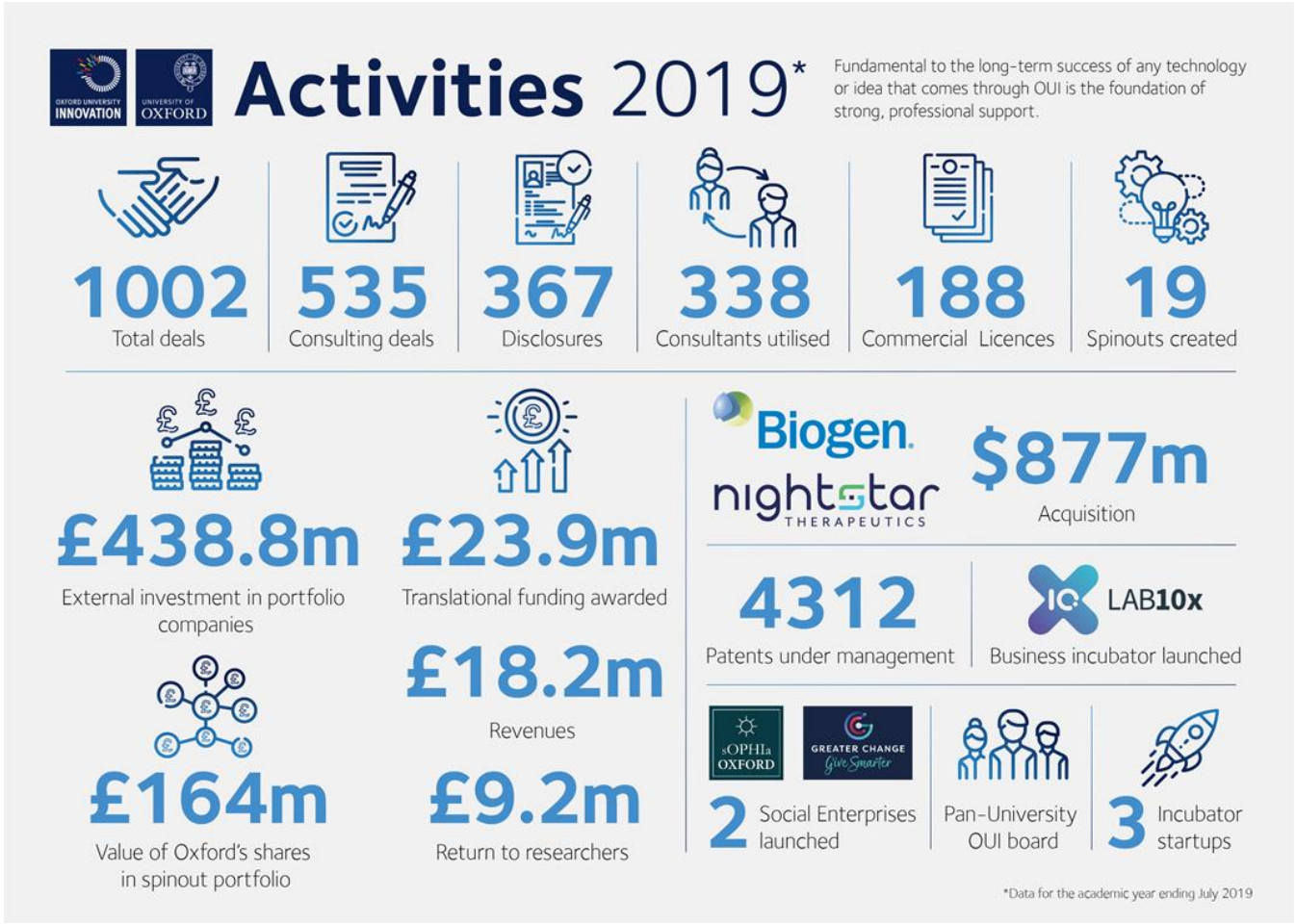
Consulting Services

- ***Enabling ventures to grow from concept to maturity*** through Seed Funds, Oxford Angels Network, Spinout Equity Management

Funding, Investment & Management

OUI at a glance

Data from the 2019 Annual Review



Intellectual property & IPR

- **Intellectual Property (IP)** is ideas, information and knowledge;
  - "**Intellectual**" because it is creative output; and
  - "**Property**" because it is viewed as a tradable commodity.

- **Intellectual Property Rights (IPR)** are specific legal rights which protect the owners of IP.
  - Includes rights like **patents** and **copyright**
  - Also **database rights, design rights, trademarks and know-how**

Intellectual Property Rights (IPR) **can be traded** and used to generate income

Intellectual property ownership - Oxford

The University claims ownership of all intellectual property* which is devised, made, or created (Statute XVI: Property, Contracts, and Trusts, PART B):

- (a) by persons employed by the University in the course of their employment; and
- (b) by student members only where:
  - i. it is created jointly with a University employee
  - ii. it is created using University facilities or equipment
  - iii. that intellectual property is subject to obligations that the University owes to a third party
  - iv. it is created using funding received from the University
  - v. the student is an employee or otherwise engaged or under contract to the University

* It will not assert its claim to ownership of copyright in books, teaching aids, theses etc

A product or service can be protected in multiple ways

Legal Right	Applicable to:	Driver
Patents	New inventions	**Stop others** from **making**, **selling**, or **using** the invention
Trademark	Product identifiers	**Stop others from using** your product names, logos and jingles
Registered design	External appearance	Stop others using the appearance: **shape**, **packaging**, **patterns**, **colours** and **decorations**.
Know-how	Information not publically known	Can be licensed to others to generate revenue
Copyright	Original creative or artistic forms	Stop others from using writing and literary works, art, photography, films, TV, music, etc.
Database rights	Databases	Can be licensed to others to generate revenue

Multiple layers of IP protection can be used simultaneously

Patents can be used to protect new inventions

- Prevents unlicensed **manufacture, use, importation** and **sale**
- Can **choose to let others use under agreed terms**
- Gives breathing **space to develop a business based** on an invention
- **Society in general benefits** from improved products
- Can be **licensed** before it is granted

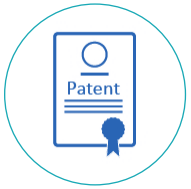
- **Formal application** required
- Time until protection granted: **3-5 years**
- Duration of protection: **20 years**
- Full description of **invention published** after 18 months
- Do not confer a legal right to exploit the invention
- **Geographic** dependence
- **Costly**

HUMIRA adalimumab

OPDIVO (nivolumab)

Remicade INFLIXIMAB

Herceptin trastuzumab



Criteria for patentability

Novel

Never been disclosed or made public before the application (priority) date

Inventive

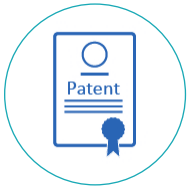
Involve an inventive step (**not obvious** to somebody skilled in the art)

Applicable

Capable of **commercial application**

Enabling

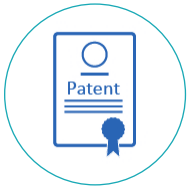
Sufficiently **describes the invention** for others to practise it (it teaches)



What is prior art?

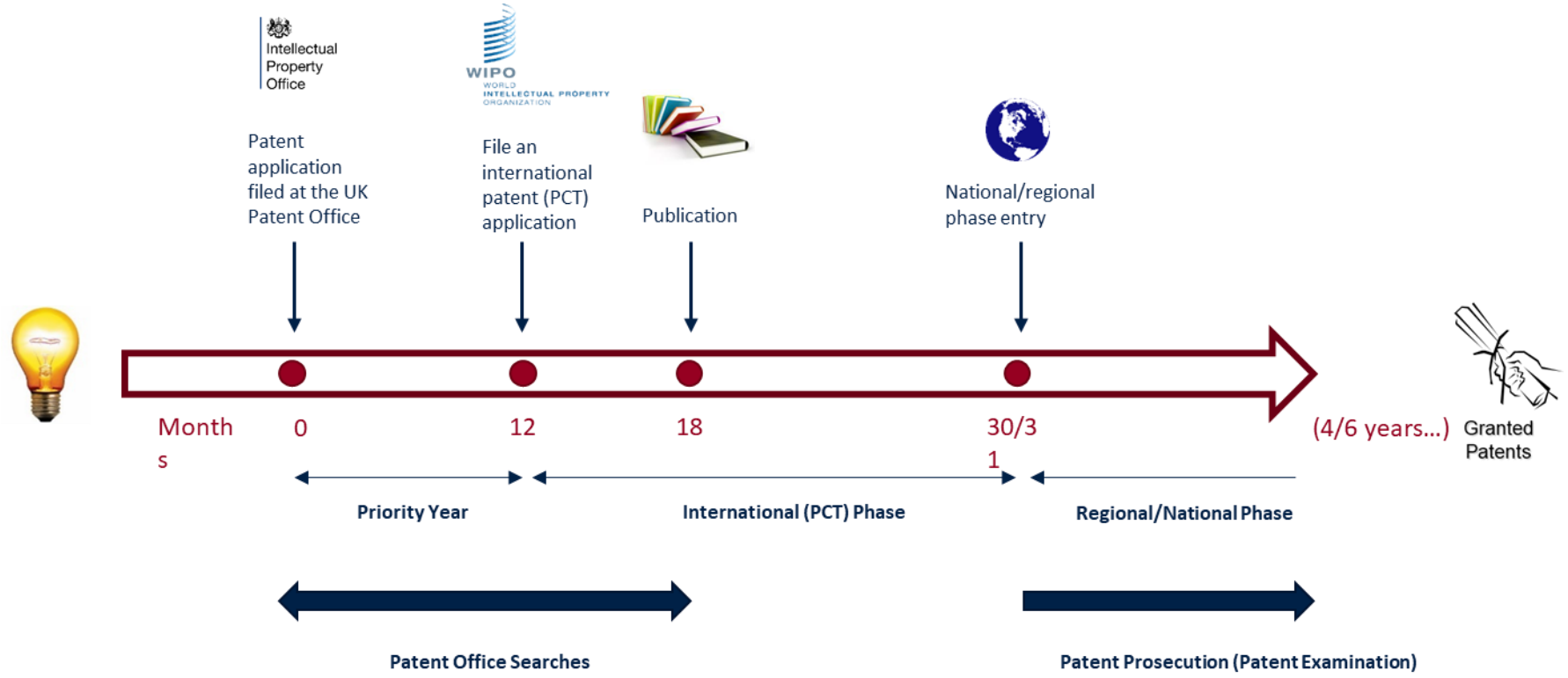
Prior art is **any** evidence that your invention is already known (i.e. informs on novelty and inventiveness)
This includes…

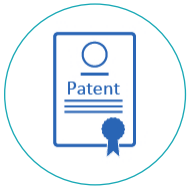
Anything publically disclosed about your invention (by you or anyone else)		Anything that suggests or alludes to something very similar to your invention (or part of it)	
Conference posters or talks	Blogs or website posts	Patents that overlap (part of/all of) your invention	Publications
Papers and theses*	Videos about the invention	Centuries old technologies	Cave paintings, The Beano and Star Trek…



* Unless subject to embargo

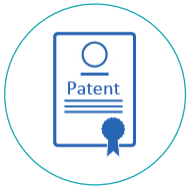
Patent application process





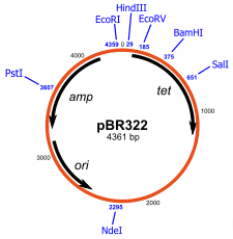
Using patented technologies in research

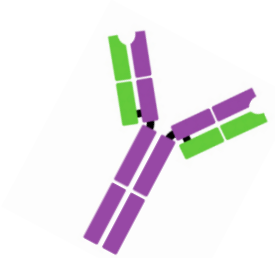
- "Experimental use exemption":
  - activity conducted for the purpose of discovering something new about the subject matter of the invention but not merely verifying what is already known (e.g. regulatory approval of generic)
- "Bolar Exemption":
  - exempts from patent infringement activities conducted only for the purpose of obtaining an abridged marketing authorisation application by a generic manufacturer.
- New Experimental Use Exemption in the UK (2014):
  - the preparation and running of clinical trials on innovative drugs for marketing authorisation are also exempt (e.g. new medical use, additional market authorisations etc)

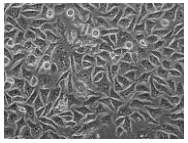


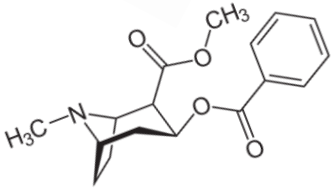
Using proprietary materials: Material Transfer Agreements

- document the transfer of scientific material (e.g. plasmids, drugs, antibodies, cell lines etc)
- benefits to the provider may include:
  - control over further distribution
  - restrict use to non-commercial research
  - ownership of improvements to the materials
  - limit liabilities associated with use of material
  - access to results of the research



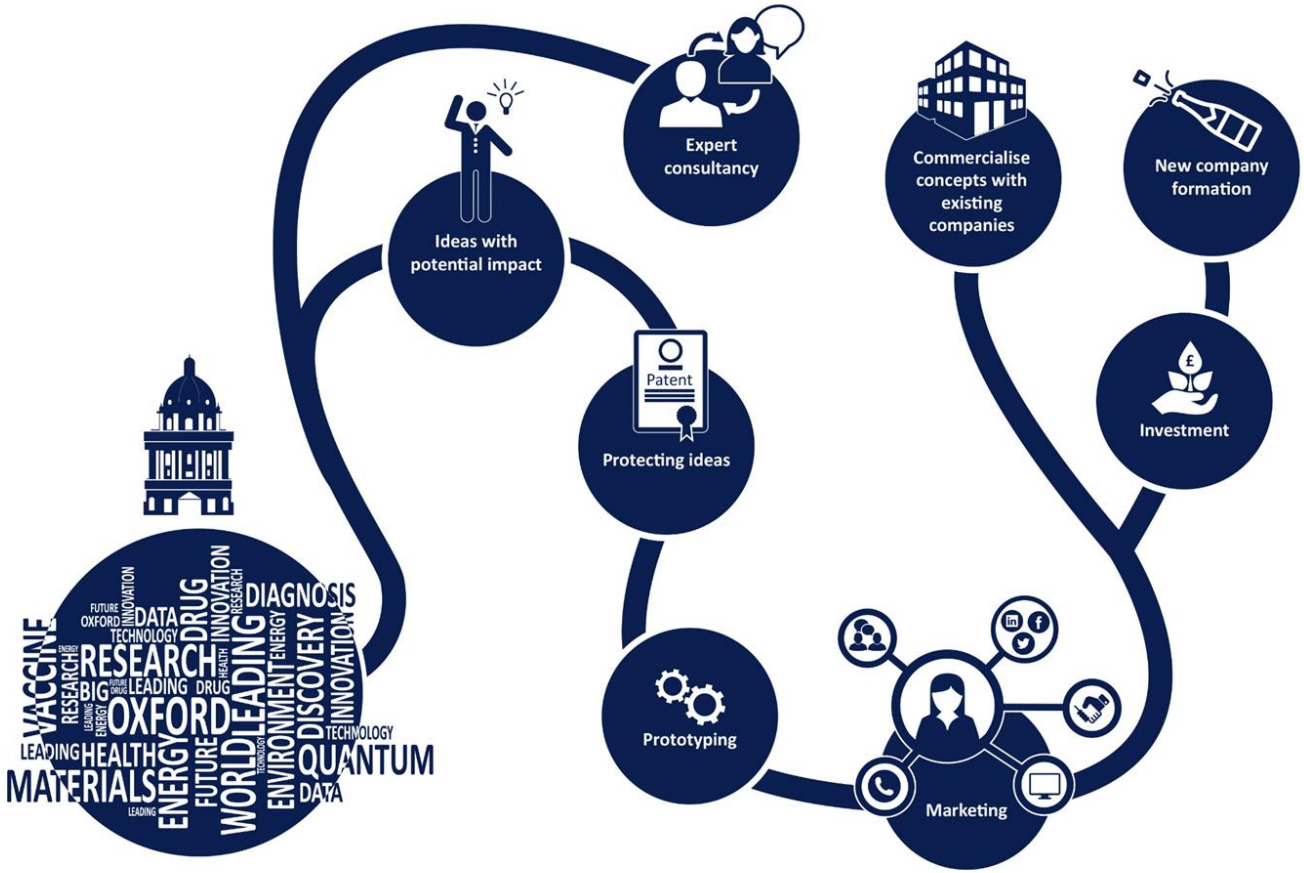






- MTA terms may be included in purchase orders (e.g. ATCC, ECACC etc)
- MTAs are negotiated and signed by Research Services

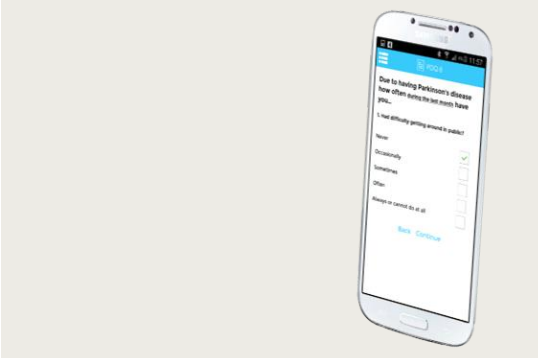
Routes to commercialisation



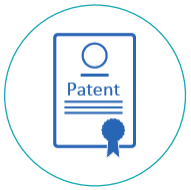
Licensing of Intellectual Property

Access to technologies and IP developed in Oxford

- **100+ commercial licenses/year** concluded with companies small and large
  - Includes **Clinical Outcomes** assessment (COA) measures - mostly Patient Reported Outcome Measures (PROs or PROMs).



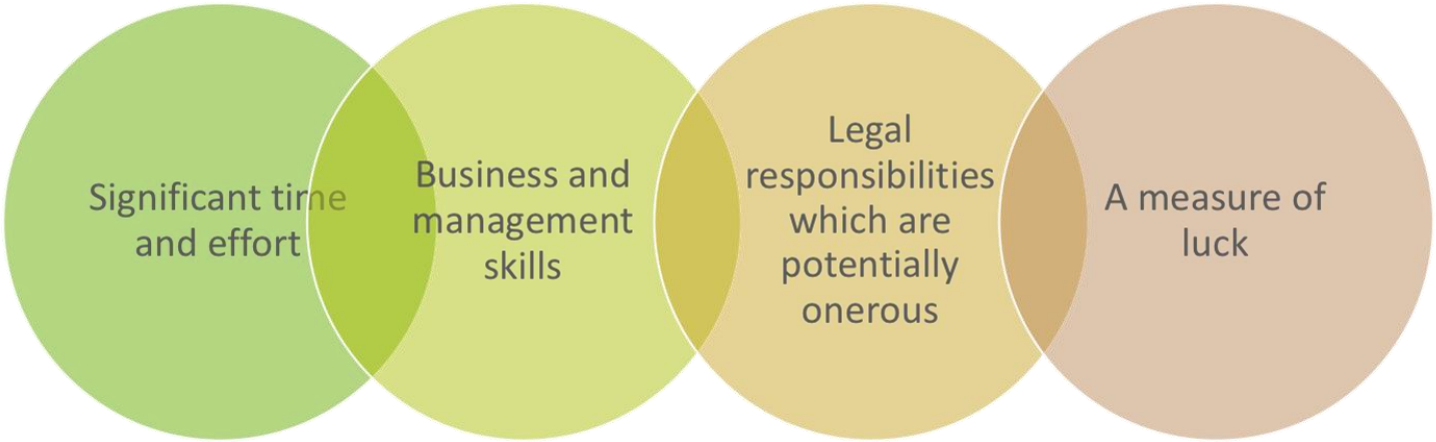
- Example : suite of digital health products for data analysis, decision support and patient safety information
  - **Machine learning artificial intelligence software**, developed at Oxford University's **Institute of Biomedical Engineering**.
  - Will improve **patient health outcomes** and reduce **healthcare costs**.
  - Licensed to **Sensyne Health** (formerly Drayson Technologies) to lead evaluation and deployment across the NHS.



Spin-out Companies

In some cases setting-up a new company (a “spin-out”) can be a more appropriate route to commercialisation

Successful spin-outs involve:



Recent WIMM spin outs

zegami

Image and data management

ORBIT DISCOVERY

Peptide Therapeutics

MiroBio

Novel anti-inflammatory therapies

Nucleome Therapeutics

Unlocking the non-coding genome for human health

OXSTEM

Regenerative medicine

iOx THERAPEUTICS

iNKT agonists for immuno-oncology

Oxford Startup Incubator

Supporting entrepreneurial ventures from Oxford

- Assist in the creation and development of non patent led businesses
  - Open to researchers, employees, students and alumni
- Comprehensive support includes
  - commercial advice & mentoring;
  - workshops and training sessions;
  - desk space; and
  - access to business and investment networks.

THANK YOU

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