Imperial College London

A College guide to working with industry and commercialising your research

This guide is published by the Enterprise Division:

Industry Partnerships and Commercialisation

User guide

The Industry Partnerships and Commercialisation[1] (IPC) team have developed a user guide enabling you, whether you are an early career or an experienced enterprising researcher, to have an overall view of the process leading to working with industry and the commercialisation of your inventions. The information in this guide is not exhaustive and will be updated regularly. Please do not hesitate to contact us to find out more and provide your feedback.

All your suggestions for improvements are welcome!
Please email **enterprise@imperial.ac.uk** with any suggestions.

Thank you.

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Innovation and impact

How to create impact?

The main aim of the Industry Partnerships and Commercialisation (IPC) team is to maximise the impact of your academic discoveries by stimulating, identifying, managing and progressing opportunities to develop research and technologies through collaboration and commercialisation.

Activities include:

- Promoting Imperial's capabilities, licensing portfolio and securing collaborative research and commercialisation income;
- Carrying out the assessment of research discoveries, analysis and evaluation, and advancement of those technologies through to market adoption via collaboration with industry, access to translational funds, licensing or startup;
- Managing industry partnerships and key stakeholder relationships.

What is in it for you?

Real-world challenges and application of your research

Increased and more diverse research income for your group

Access to resources, facilities, and explicit knowledge from industry partners

Broader public and corporate access to your results

An opportunity to grow your network with increasing number of industry contacts

A chance to grow your REF score through industry partnerships and patents

Potential to increase your publication citations through industry partnerships and patents

Among the most effective ways that you can address real-world business challenges is through industry partnerships and commercialisation of your ideas.

INDUSTRY PARTNERSHIPS

Industry collaborations can help improve idea generation, increase research capabilities, and grow translational potential, at the same time increasing commercial R&D innovation.

INCOME AND EQUITY

Turn your academic discoveries into new inventions leading to successful licensing deals and/or a startup company.

COLLABORATIVE FUNDING

Industry funding can boost your research goals in a direction that has real-world impact.

Why would industry partner with you?

Return on Investment: new or improved products and/or services, better understanding of existing products and/or services, and improved business outputs

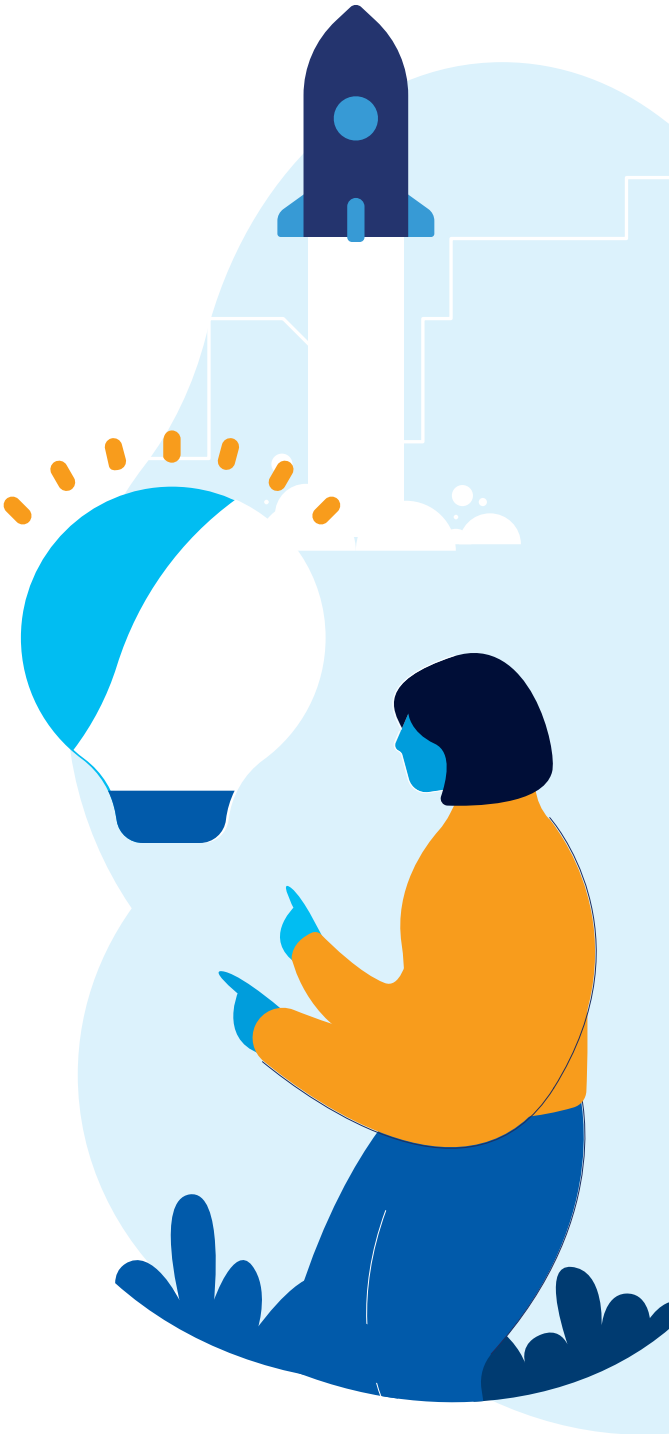
Remain competitive: outsourcing research and accelerating innovation and association with a global top 10 university

Exposure to world-leading research, with advanced facilities, and multidisciplinary working

Access to talented students and researchers, leading training centres and bespoke courses

Supportive translation and knowledge transfer environment, technology transfer, consultancy, and medical campuses

Being part of an exciting ecosystem and being exposed to cutting-edge innovation



How can we help you?

INDUSTRY PARTNERSHIPS

We are here to link business interests with your research capabilities (and vice-versa) and we would like to help you develop impactful research partnerships.

We help you design bespoke collaborations between industry and academic teams by helping to facilitate interactions and shape challenge-led research programmes or flagship industry-funded centres.

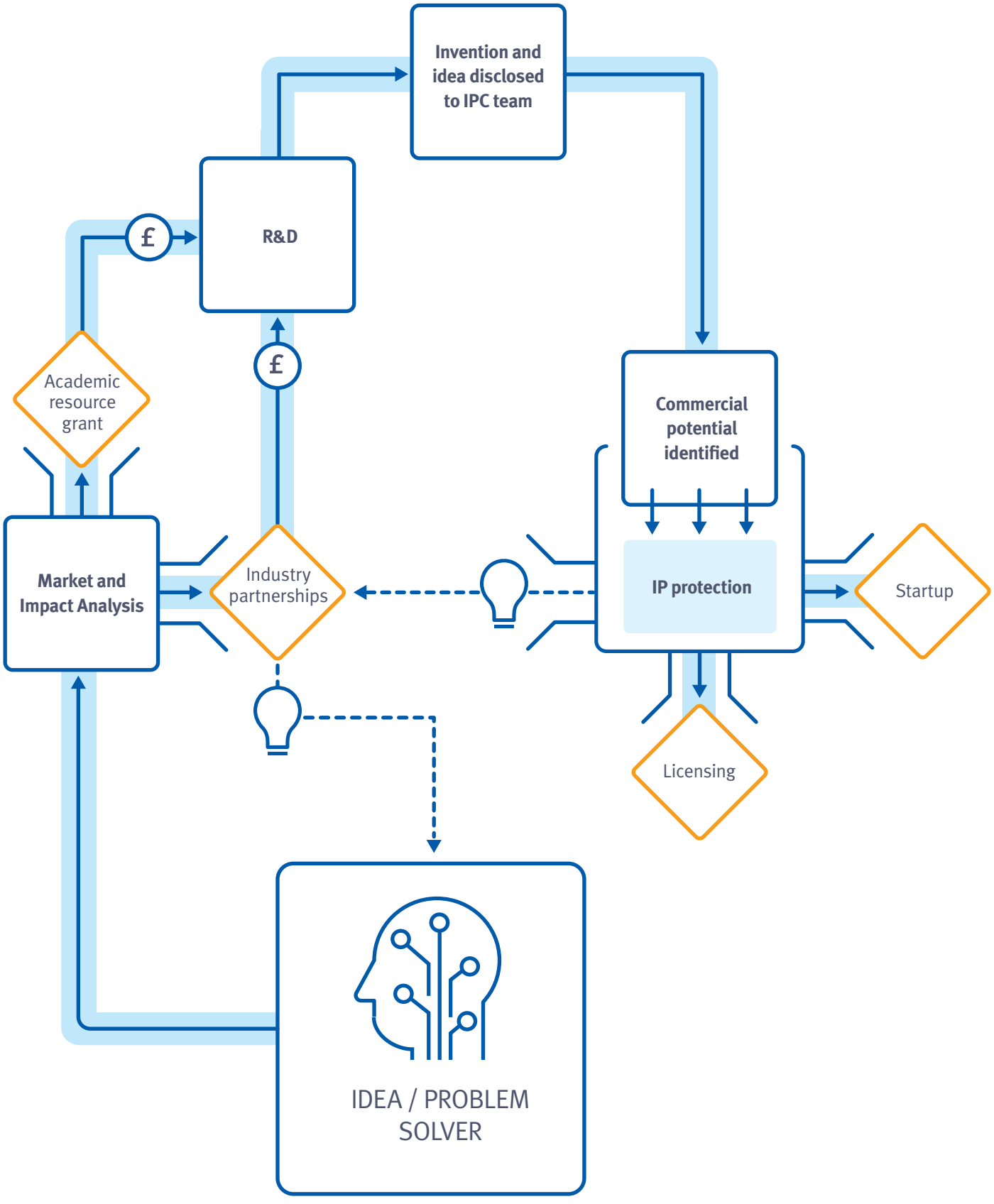
TECHNOLOGY COMMERCIALISATION

We work with you to help translate your research and inventions into new businesses, products or services.

We help connect industry to technologies developed by you at Imperial. We have experience in managing the process of translating technology from the laboratory into commercial practice.

Learn more about us and see some of the exciting partnerships we have supported, by visiting our website[2]

Industry partnerships and commercialisation journey



2. Working with industry - Collaborative research

Idea to impact

NOTE:
IP terms in the research contract will cover ownership of arising IP, which will be negotiated before the collaboration starts.

SIGNING AND BEYOND
Account & relationship management, keeping track and oversight additional funding.

NEGOTIATION
Negotiate IP strategies, ensure consistent pricing strategy, optimal recovery risk assessment and ethics assessments.

SHAPING OPPORTUNITIES
Shape the opportunity and design collaboration and licensing models.

PITCHING
Develop value proposition brief and align all parties.

IDEA CAPTURE
Identify potential industry partners. Promote technologies and help access development funding.

Engagement and funding

Modes of engagement

There are many different ways to engage with industry and build mutual benefit.

We can help you shape your engagement to suit your research needs. Before entering into discussions you should consider what type of engagement you are looking for. The partner might be expecting this from the collaboration. We can work with you and the industrial partner(s) to find a flexible mode of engagement that is attractive for all parties involved. Some examples might be:

Direct research funding:

- Funded studentships.
- Research programmes involving students and postdocs.

Leverage funding:

- Co-funding with research grants.
- Centres for doctoral training.
- Jointly funded studentships.

See our website for some examples of successful industry collaborations[3]

Research Costs

All research projects are costed using the Transparent Approach to Costing (TRAC) methodology, developed with the Higher Education (HE) sector to cost HE's activities. As part of the TRAC methodology Full Economic Costing (FEC) was implemented by Government in 2004 to cost research projects. We will work with your Department and Faculty to ensure we get the best possible collaboration deal for you and your Department/Faculty.

Please see the Research Office costing page for more information on standard costing[4]

Translational research funding opportunities

When looking for funding it is important to consider what type of funding sources might be relevant to your project, where this funding comes from and if there are any 'strings' attached when obtaining that funding. There are lots of opportunities for funding from industry in many different forms.

Please see the IPC's website for a list of open translational funding sources[5]

3. Working with industry - Commercialisation

3.1 Protecting your invention

What is technology commercialisation?

Discoveries from research activities can be transformed into commercial products, increasing research capabilities and economic impact. There are different routes to commercialisation such as licensing to an Imperial startup, SME or large industry firm.

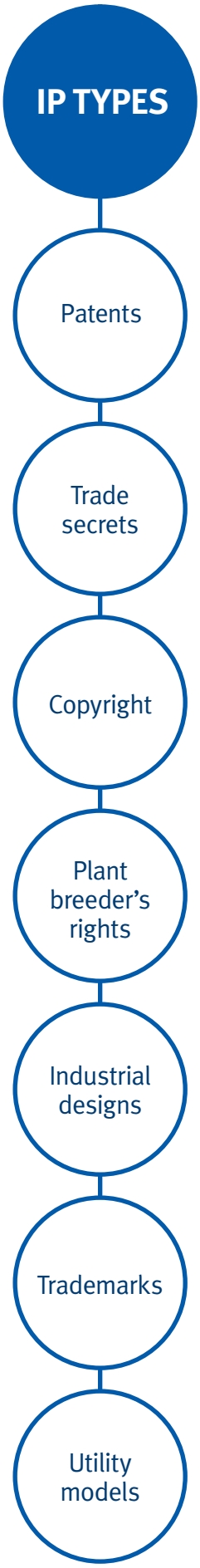
Imperial's staff are encouraged to collaborate and engage in the commercialisation of technology developed at the College and there is a reward scheme[6] for inventors. You can also find more information at the end of this **guide**.

If your invention is novel and inventive and there is commercial potential, it can be protected. Intellectual Property rights (IPR) prevents anybody who is not the owner to use, manufacture or sell the invention during the protection period and in those territories where it is granted. They need a licence to exploit your invention commercially.

Your IP can be introduced to a project as background IP for internal use for the purpose and duration of the project and the industry funder can negotiate a commercial licence to it if/when appropriate.

Our support ranges from protection of your IP to licensing to an external third party or to helping you form a startup company to exploit said IP. You can find more details on our website.[7]

There are different types of IP as shown in the diagram on the right and we can advise you on which one is the best to protect your technology.

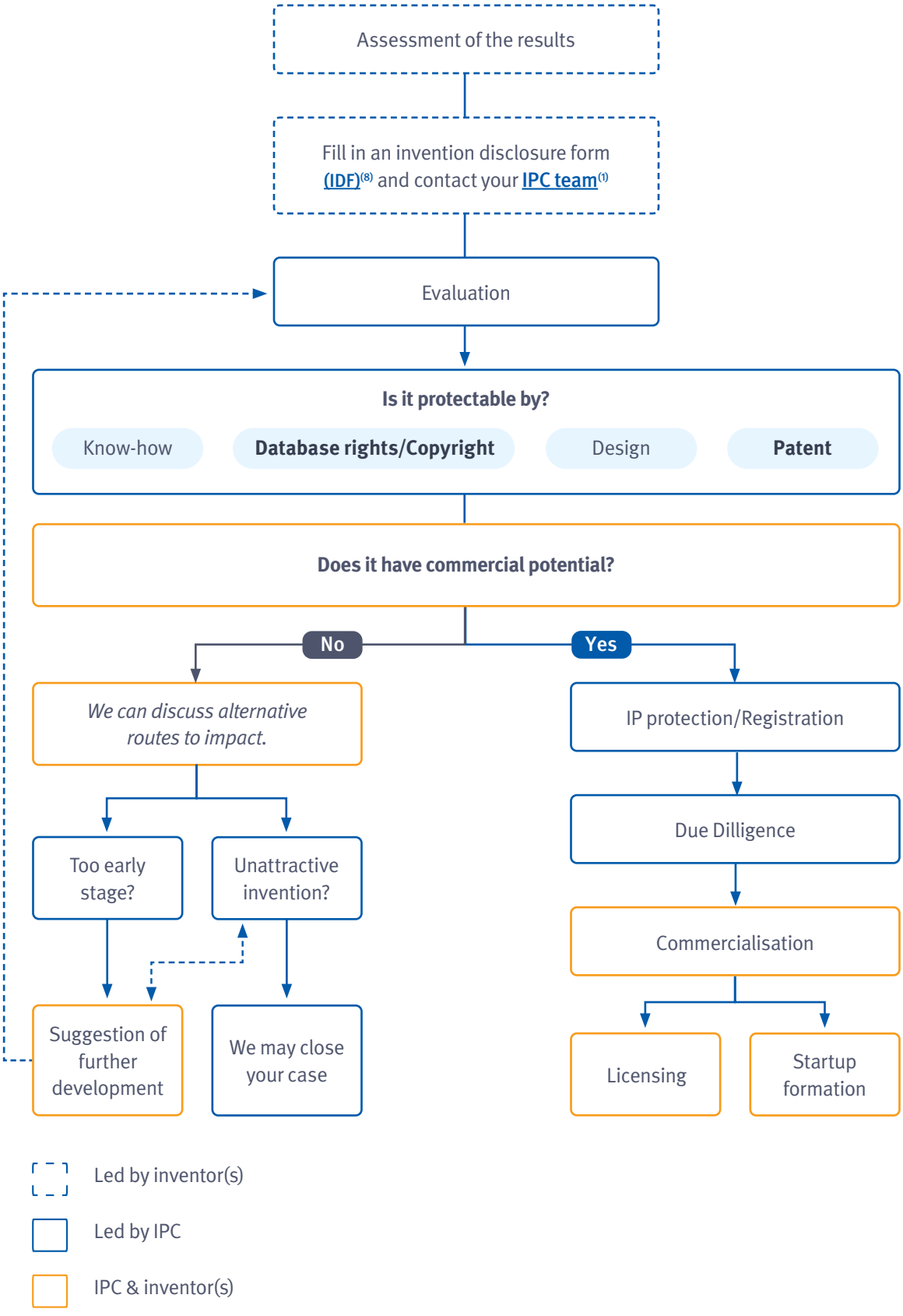


When to disclose your invention?

Data, information, methods, processes and/or products which result from your R&D could potentially be protected.

Common IP requirements when seeking protection are that your invention must be new and inventive. This implies that it must not be available in the public domain. Therefore, **you must contact us before any information is made publicly available (e.g. submission of an article or paper, grant proposal, abstract or presentation for a conference)** or presented to a third party without a Confidentiality agreement. We will work with you, Department Champions and industry experts to assess the novelty and the commercial potential of your invention. We are unlikely to protect it if there is no commercial interest and strategy. Please contact the team at least 3 months before the planned publication.

From invention disclosure to commercialisation: the process



Disclosing your invention

Submit an **invention disclosure form (IDF)**[8] describing the technology, how it works, what problem it is trying to solve, and how it compares to competing technologies. The potential commercial value and the developmental status must also be included.

You can contact us for an initial discussion and/or your Department Champion (available in FoE).

You should provide all the relevant information about your invention, as we may not be able to fully assess a disclosure until we receive a complete IDF.

Evaluation

We review the IDF and arrange a meeting with you and the Department Champion (available in FoE) to discuss your invention, the prospective commercialisation plan and the best way to protect it.

We assess two key factors:

- **IP strength**. We conduct a prior art search (see page 15) to check the novelty and inventiveness. We need your assistance during this process. This could take several iterations.
- **Commercialisation**. Market analysis to evaluate the prospective commercial value of your invention. We work with a network of Innovation Experts available in (FoM) and Imperial Technology Experts Service, ITES (available in FoE and FoNS) who review inventions under confidentiality. They provide advice on IP strength and value, technology development and route to commercialisation.

If the invention is protectable and has a commercial value, we support you during the protection process and also with the identification of prospective licensees or towards startup formation.

We may suggest you do further development if the technology is at very early stage see **Technology Readiness Level (TRL)** (see page 30), in which case we will re-evaluate the invention once further details are provided.

If your technology is commercially unattractive we may decide to close your case.

IP Protection

We help you with the protection of your IP. We liaise with the attorneys for the preparation and filing of the patent specification, design or trademark applications. We also provide support at the different stages of the IPR prosecution.

It is essential that your team is available during the drafting of the application and the patent prosecution to provide all necessary information in a timely manner.

Due Diligence (DD)

DD[9] will be undertaken to identify any encumbrances. You must complete a form that includes the name of the inventors, role and/or position, co-owners, collaborators (including from a third party) as all the inventors must be identified, project funding, samples and other arrangements used during the inventive period. This will also form a guide as to how revenue will be shared between the inventors in case of commercialisation.

You have to provide a copy of the IP (i.e. patent specification, know-how, database, software) to be able to undertake the DD.

This process enables the IP assignment from Imperial College to Imperial College Innovations Limited (ICIL) for the IP registration and commercialisation of the invention. **Commercialisation cannot happen if DD is not completed.**

Commercialisation

We work with you to identify and negotiate with prospective licensees and also support you during your startup formation if that is the chosen route to develop the IP. You can find more details on **Commercialising your research** section in this guide (page 23).

Working on the technology commercialisation can occur in parallel to IP protection and may start during the evaluation stage. In fact a commercialisation route must be established for us to continue maintaining and supporting the IP protection during the whole protection period. If the likelihood of licensing your technology is low, the case may be **abandoned**[10].

Patents

A patent **is an exclusive right that protects new products or processes** that provide an **inventive functional or technical solution to a problem.** Patents cover how products work, what they do, how they do it, what they are made of and how they are made.

The patent grant process

A patent gives protection to the features of the invention detailed by the claims. It is granted by the national patent office in which the application is filed (e.g. UKIPO, USPTO) or by a regional office that covers a number of countries that are members of that region (e.g. European Patent Office (EPO)). After substantive examination the patent will be granted or rejected. The examination could take up to 4–5 years. Once the patent is granted, the protection covers the allowed claims and lasts a maximum of 20 years (from the filing date). It prevents others from making, using, importing or selling the invention in those territories where it is granted.

The patent owner could give permission to a third party to commercially exploit the patented invention according to the terms and conditions established in a licence agreement.

You should note that a granted patent does not guarantee a 'freedom-to-operate' (FTO), as third-party's IP could be infringed. When introducing the product and/or process covered by the patent into the marketplace, a FTO analysis must be done to search for pending and/or granted patents in the geographical area where your product is going to be commercialised. We don't perform FTO analysis, and this should be done by you and/or the licensee prior commercialisation.

Initial patentability checklist	Yes	No
Is the invention new?	Y	
Have you only discussed your idea with the College's internal parties and/or external co-inventors under confidentiality?	Y	
Is it inventive and non-obvious?	Y	
Does it have an industrial application?	Y	
Can you describe the invention in sufficient detail to allow someone else to practice it?	Y	

The information must be kept confidential while applying for patent protection. Therefore, if you intend to publish your work in a scientific journal and/or present it in a conference or public meeting, the patent application must be filed first.

A non-disclosure agreement must be in place prior to any discussion with third parties (please see **agreements** section). Any discussion with Imperial staff is under confidentiality by contract, but this does not apply to students.

BENEFITS

The owner has exclusivity to exploit the invention in the territory where the patent is granted (if third-party IP is not required).

It can give a strategic advantage over competitors.

It gives inventors and companies (e.g. patent box) incentive and recognition for their creativity.

DRAWBACKS:

The application is published after 18 months of filing and your invention becomes public.

Extensive process of examination. It could take five years for a patent to be granted.

Patent claims cannot be enforced until the patent is granted.

Protection is only for 20 years (from filing date) upon payment of renewal fees.

Prior Art Search (PAS)

Your invention must be novel and inventive to be patentable. Therefore, it should not be available in the public domain (e.g., a published article, presentation in a conference, press releases, or grant proposals made available on a website)[a]. Prior Art Search (PAS) is performed to check the patentability of your technology. This involves searching all the information, patents, articles or other publicly available documents to determine if there are competitive technologies with similar features before the filing date of your patent application. There are different resources to run a prior art search:

Google Patents (https://patents.google.com)

Patent Scope (https://www.wipo.int/patentscope/en/)

Espacenet (http://worldwide.espacenet.com)

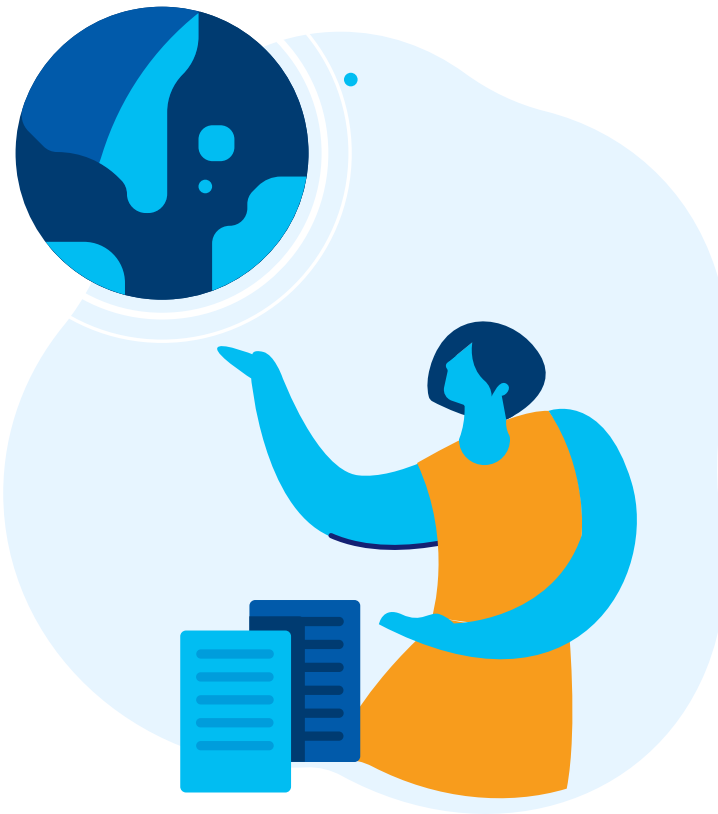
We will run a PAS and send you the findings. It is important that you review all the documents and provide enough information on the main differences and benefits of your technology in solving a technical problem when compared with previous inventions. If during the evaluation of your invention, we find that it is patentable and there is prospective commercialisation, we will work towards the protection and registration of your IP.

Patent application

A specification is a legal document that is the basis of a patent application. This is prepared by a patent attorney. The IPC team will liaise with an attorney (from one of the preferred firms) to work with us towards the preparation and filing of the patent application. You are expected to provide as much detailed information as possible and review the draft before the filing.

It contains:

- A short **title** indicating the general subject of the invention.
- An **abstract** that summarises the invention and accompanies the specification. This should include the most important features.
- A **description** which explains the invention in detail and it should contain enough information so other people can construct or perform the invention. The description should include background of the invention, the problem that it tries to solve and what it does.
- One or more **claims** describing the distinctive technical features of the invention. They must be supported by the description. The claims define the invention; therefore, they must be clear. The scope of the patent is determined by the claims and it should be as broad as possible but also specific enough to distinguish key features from all prior technologies.
- **Drawings** support the description and the claim(s) by showing the different views of the product, or steps taken to perform the method described.

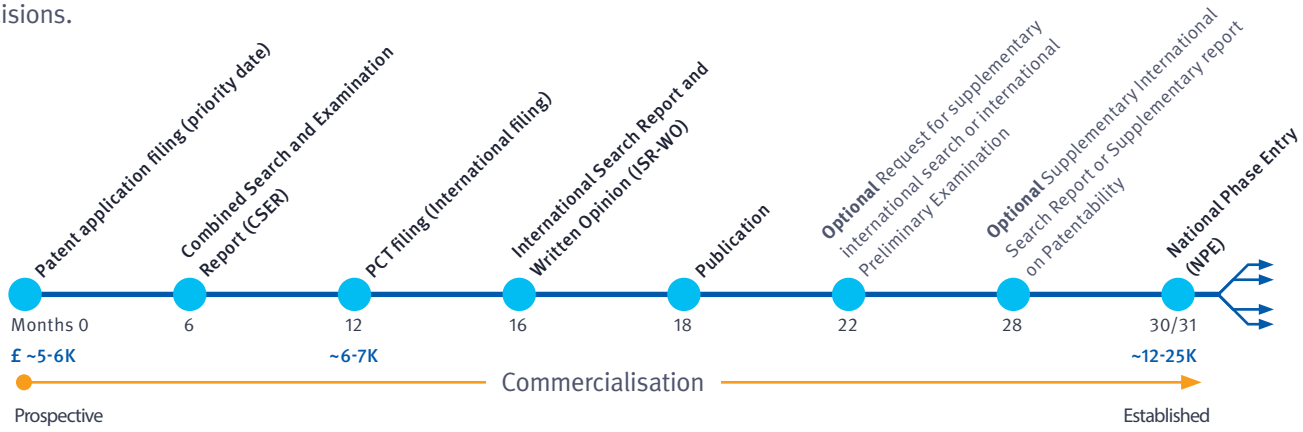


NOTE:
Please see the US patent for electric bicycle[11] as an example. More details on patent specification:
www.gov.uk/government/publications/patent-fact-sheets

[a] Some grant proposals are published on websites, you must take this into account.

Patent timeline

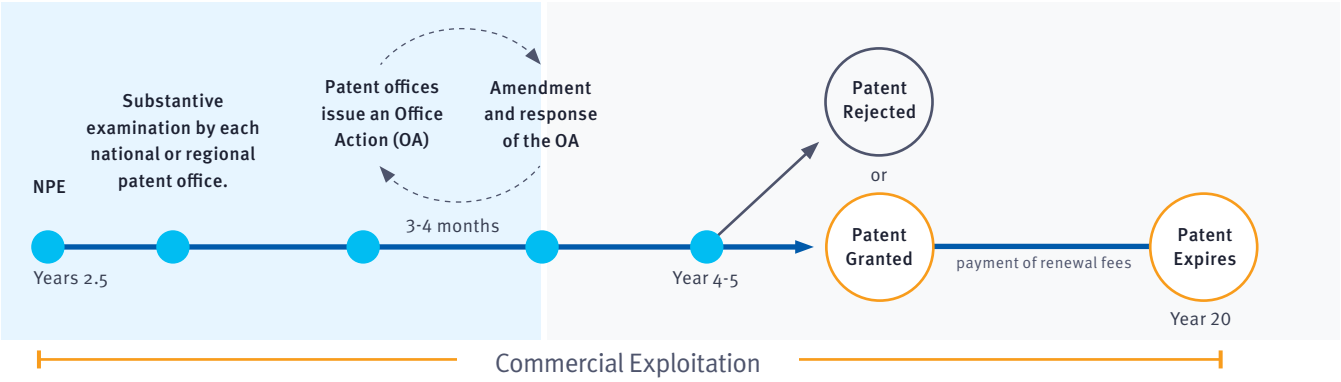
Imperial's preferred route for patent protection is outlined in the following timeline. This follows the PCT route, a worldwide system with a simplified method to file patent applications and providing additional time to consider different options for your invention. A feedback on the patentability is received during the international phase to support the patenting decisions.



Timerline adapted from WIPO-Introduction to the Patent Cooperation Treaty.

Stage	Month	IPC's role	Inventors' role
Patent application filing	0	We facilitate discussions with Champions/ITES/experts to ascertain patentability and commercial potential before making the decision to file. We arrange an initial meeting with you and the attorneys to discuss your invention, and liaise with them during drafting and filing of the specification . The application is normally filed in the home patent office (e.g. IPO in the UK).	Send us all the relevant information about the technology. Indicate other co-owners and inventors, including from another institution and/or company. Provide technical feedback during draft preparation. Outline commercialisation potential and whether you have a commercialisation plan. The clock starts ticking at the point of filing.
Combined Search and Examination Report (CSER)	6	We send you the CSER issued by IPO with some comments. The Examiner reports any prior art (if any) and if the invention complies with patentability requirements.	Review the CSER and documents cited within the report. Send us comments on CSER, especially if the Examiner has found prior documents that may describe similar technical features and question the claims of your patent.
Month 6-9	We will be working with you post-filing towards commercialising the IP. We work with you, the Dept. Champions (FoE) and ITES experts to assess the IP strength and also the prospective commercial potential to decide whether to proceed to the next stage of patent prosecution. If the potential for commercialisation has not been established by month 9 we are unlikely to proceed with PCT filing.		
International filing (PCT)	12	If the IP is strong and has commercial value we will proceed with PCT filing to seek protection in multiple territories. We will send new data (if available) to the attorneys to incorporate into the specification.	At this stage it is possible to incorporate additional data to support and strengthen original claims. Send us any new data produced during the last year. Provide feedback during drafting.
International Search Report and Written Opinion (ISR- WO)	16	We will send you the ISR and the WO issued by the nominated International search authority (ISA). It is equivalent to CSER issued during the priority filing. We might do a re-assessment of the commercialisation and IP strength in light of the Examiner's comments.	Review ISR-WO and send us your comments and feedback. This is important as similar objections may arise during the examination of the application during the national phase. Engage with us to plan your commercialisation route, if this has not been decided already.
Publication	18	International patent application is published and your invention is publicly revealed. We will notify you of the publication number and date.	No action.
Month 18-24	We will continue working with you, the Dept. Champions (FoE) and ITES experts assessing the IP position and establish the commercialisation route. If no strong commercial leads are established by month 24 we are unlikely to proceed with NPE filing.		
National Phase Entry (NPE)	30	Selection of all the countries in which protection is sought. NPE deadline is after 30 or 31 months of the claimed priority date depending on the territories. Deadlines by country can be found here.[12] We will liaise with the attorney for filing.	We need your input for the country selection as it would have a great impact on the exploitation of your invention. This selection should be made based on the market and where your technology has commercial value. You are expected to sign several formality documents to progress with the application in the chosen countries.

** For example, a European patent validated in the UK, France and Germany can cost £35k–£38k from filing until the patent expires.*
You should note that translation of the specification may be required in certain territories (e.g. China and Japan), incurring additional costs.



Timerline adapted from WIPO-Introduction to the Patent Cooperation Treaty.

Stage	When	IPC's role	Inventors' role
After NPE: Substantive examination of the patent application will be carried out by each national or regional patent office.			
Patent office issues an Office Action (OA)	From month 30	We send you the notification of the OA. In this, the Examiner reports if the invention complies with patentability requirements for the specific Regional or National Patent Office regulations. Objections to the drawings may also be raised. We can provide advice on the Examiner's objections.	Review and send your comments based on the objections and/or amendments suggested by the Examiner to help with the preparation of the response for the OA.
Amendment and Response of the OA	Within 3 months of receiving the OA	We send the attorney your comments to support the preparation of the draft response and the appropriate amendments.	Review the proposed amendments and draft response prepared by the attorney prior to submission.
A Patent Office can issue more than one OA.			
Patent Rejected	After 4-5 years from priority date	During examination the patent office may decide to refuse the patent application. We will let you know if this is the case.	
Patent Granted and republication	After 4-5 years from priority date	A 'Notification of Allowance' or 'Text for Grant' is sent to approve the text after successful examination. We send this to you for approval. For European Patent applications (EPO), the countries to validate the patent must be selected. Translation of the claims to French and German is also required.	Review the 'Text for grant' and confirm if you agree with the text proposed. Assessment the possibility of filing a continuous or divisional application. Let us know validating countries for the EPO. You must provide a justification of the market and commercial value of your technology in these countries.
Renewal fees for granted patent	Until year 20	We do a continuous assessment of the commercialisation. If it is justified, we will proceed with the payment of the corresponding renewal fees in those countries in which the patent has commercial value.	You may need to provide updates in terms of commercialisation plans depending on the route selected.

Copyright

Copyright protects the form in which an idea is expressed, not the idea itself. The idea must be protected by an alternative form of IP such as a patent. For example, the computing codes can be protected by Copyright but not the method.

It is an automatic right (although it is possible to register in countries like China) acquired when the work is generated and the original owner is a physical person who created the work. The duration is usually the life of the author plus 70 years after their death. After this period it becomes public and protection is not longer applicable.

Copyright checklist	Yes	No
Is it original?	Y	
Can it be materialised? (e.g. written down, recorded)	Y	

TO KNOW:

Copyright does not protect data as an output of numbers, images and other measurements, because it is not considered a creative process. Tables are protected by copyright since arranging data in a table is considered a creative process.

TO KNOW:

Copyright is an essential IPR for open technologies discuss in the next section. Some of the open source licences (e.g. copyleft) are based on copyright principles.

Databases may be protected by copyright or by database rights (for more information visit Library services webpage)[14]

Copyright Features

The copyright owner has the exclusive right to control and exploit their creative works. It grants:

- Moral right of disclosure, to claim authorship and right of integrity.
- Economic rights allow for dissemination and economic exploitation (e.g., reproduction and communication, right of adaptation and translation).

If someone else would like to use the work, they must request permission from the author to avoid copyright infringement. The rights can be licensed to a third party.

Exceptions

There are some exceptions that apply to the research environment, such as quotation and use of work for purposes of teaching and research if the author's name is acknowledged. You can find more information about exceptions[13] on the Library's webpage.[14]

BENEFITS

It is automatic

No need to register or renew

DRAWBACKS:

It protects the expression of the idea but not the idea

Software & Hardware - Open technologies

Open technologies can apply to hardware and software. They can be protected by diverse IPR as copyright (e.g. software), trademark (e.g. logo), design (e.g. user interface), patents (e.g. methods and hardware) and database rights (e.g. presentation of data). The software protection must be aligned with the intended purpose and your commercialisation strategy.

There are different types of licences that may grant different rights. If you wish to generate software for a particular purpose, it is important to ensure that the terms governing the incorporation of any open-source software are compatible with the intended end use. Before starting the creation of your technology you should take into account:

SPONSOR'S TERMS

Before releasing the software:

- Consider any sponsor rights as they may prevent the source code of the software from being publicised as open source.
- Any programme, containing other software/code provided by a third party or downloaded as open source software may contain specific or restrictive licence terms.

TERMS FOR USING EMBEDDED CODE

- All third party code and materials which have been embedded in the software should be considered.
- The related licensing terms should be reviewed and complied with.

If you believe your software has commercial potential, we can advise on the best way to protect it and how to commercialise it. Please send the software disclosure form when contacting us.

STAND-ALONE SOFTWARE

GPL-licensed software may be distributed alongside, i.e. in addition to the software of a commercial system. For this to be valid and not infringe the licence terms, the free and non-free programs should communicate at arm's length, in a manner that they are not combined in a way that would suggest they are effectively a single program.

MULTIPLE OPEN SOURCE LICENCES

- Any application linking different components may be covered by different licences.
- You should list each component that the program uses and prepare the licence for that component.
- When selecting a licence for derivative software that includes code acquired under several open source software (OSS) licences it is wise to release the derivative work under the licence with the strongest terms.

Type of licences

OPEN SOURCE/FREE(DOM) LICENCES

Open source/free(dom) licences allow the use, share and modification of the design and source code.

CLOSED SOURCE LICENCES

Closed source licences do not allow the copy or modification because the source code is secured under encryption. These licences may grant simple permission to use under certain terms and conditions and commercialisation is not allowed.

PROPRIETARY LICENCES

Proprietary licences can be open, but generally are closed-source licences in which the creator retains the intellectual property. Know-how may be protected with a proprietary licence.

The best type of licence depends on various factors such as backward compatibility, commercial strategy, permission of use, liability and warranty. We can work with you on the selection of the appropriate licence for your software and business proposition.

You can find more information regarding the considerations and how we can support you on our **website**.[15]

Open source licences

Open source licences can be classified into two categories:

- **Restrictive licences**, also known as copyleft, make the technology available and allow modification. However, they come with the obligation that all modified, derivative and extended versions must be made available under the same terms (i.e. the software to be distributed under the same open source licence terms).

  The GNU family of licences promoted by the Free Software Foundation are within this category. You can find more information at **www.gnu.org**.

- **Permissive licences allow** for modified or enhanced technology to be released under any new form of licence including a commercial licence. For example, an open source software (OSS) code can be combined with proprietary code to form a software product that can be sold under a commercial licence.

There are more than 100 open source licences that sit within these two categories depending on the degree of permission, attributes and conditions. You can find some hardware and software open licences on page 32. Imperial's preferred OSS is the BSD (3-clause) and GPL. ***As a good practice before you start writing your code, you should check the licence compatibility.***

For more information regarding Open Source licences, please visit: **www.opensource.org**, **www.oss-watch.ac.uk** and **www.choosealicense.com**

You don't need an OSS licence to license your software for free (i.e. object code only). In this case you should contact Research Services for a bespoke, free software licence or an academic software licence.

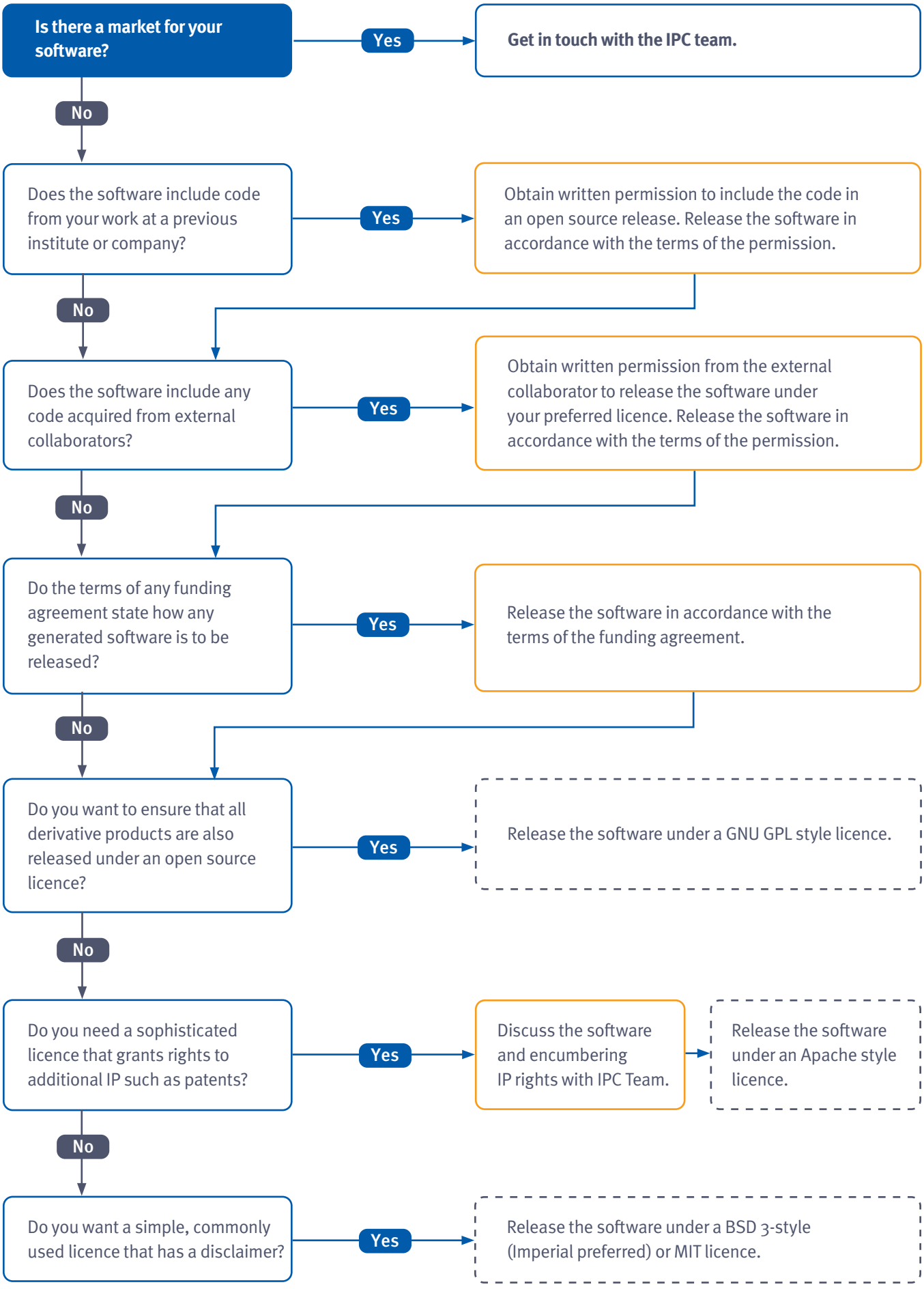
For a **standalone software**, which does not incorporate or is not a derivative of other software, the most appropriate licence is determined by following the steps in the diagram on page 21.

NOTE:
You can find full details here.[15]

Open source licence information is under review. Check the website for updated information.

DUE DILIGENCE
As for other IPR, due diligence is performed for any open technology created at Imperial. The information required in this case is:

- Invention disclosure form[8] with the technical description of how to use the software.
- Copy of the software and/or code produced by Imperial researchers. You should not include any third party software in the code you submit for due diligence.
- Copy of the patent (if applicable). For more details visit the due diligence[9] section on our website.


Is there a market for your software?
Yes
Get in touch with the IPC team.
No
Does the software include code from your work at a previous institute or company?
Yes
Obtain written permission to include the code in an open source release. Release the software in accordance with the terms of the permission.
No
Does the software include any code acquired from external collaborators?
Yes
Obtain written permission from the external collaborator to release the software under your preferred licence. Release the software in accordance with the terms of the permission.
No
Do the terms of any funding agreement state how any generated software is to be released?
Yes
Release the software in accordance with the terms of the funding agreement.
No
Do you want to ensure that all derivative products are also released under an open source licence?
Yes
Release the software under a GNU GPL style licence.
No
Do you need a sophisticated licence that grants rights to additional IP such as patents?
Yes
Discuss the software and encumbering IP rights with IPC Team.
Release the software under an Apache style licence.
No
Do you want a simple, commonly used licence that has a disclaimer?
Yes
Release the software under a BSD 3-style (Imperial preferred) or MIT licence.

Other types of Intellectual Property

Name	Definition	Requirements	Validity	Disadvantages
Trade Secret (Know-how)	Confidential technical data and/or information, processes that are combined with accumulated skills and knowledge to assist the manufacture and/or operation of a product.	Identifiable. Substantial. Confidential. College owned. Has commercial value.	Unlimited until disclosed to third party or public.	Protection ends if the information is revealed. If a third party gets the information by retro-engineering, no actions can be taken against them.
Utility Model	Protection of technical inventions. Small improvements and/or adaptations. It can protect products with short commercial life. It can be granted in 3 to 6 months.	Must be novel but the level of inventiveness is lower than for a patent. Requirements are less stringent than for a patent.	6 to 15 years.	Not available in all territories such as the UK and the US. Shorter protection period than a patent. This varies with the country.
Industrial Designs	Protection of the aesthetics (appearance) of an object. It can be a 2D or 3D design. They can be classified in unregistered and registered designs. For a registered design the process can take 4 weeks.	Original and new. Has individual character. Not be contrary to the public order or good morals.	Up to 25 years (subject to renewal every 5 years)	**Registered designs:** Payment of registration and renewals fees. Duration: 25 years. **Unregistered designs:** Offer less protection. Duration: Varies depending on the territory (e.g. in UK can be up to 15 years and 3 years in Europe)
Trademarks	Protection of a brand. It distinguishes the goods and services of one trader from another. The registration can take 4 months.	Distinctive. Legal. Available.	Unlimited (subject to renewal every 10 years)	Territorial. Must be registered in multiple countries for broader protection. Must be renewed. Unregistered trademarks are less reliable.
Plant Breeder's Rights	They provide protection to new plant varieties for agriculture, horticulture and forestry.	New. Distinct (it can be distinguished from other known varieties). Uniform (in the relevant features). Stable (features must not changed over propagation). Has a denomination.	Trees and vines: 25 years. Other plants: 20 years.	Territorial: it is only granted at national level. Somebody else could use the plant variety, without asking breeder's permission if their purposes are: Non commercial. Experimental. Breeding and exploiting other varieties.

The disclosures forms can be found here.

More details on the different intellectual property can be found on **www.gov.uk/intellectual-property-an-overview**
You can check some examples and case studies of the different IPR on **www.wipo.int/ipadvantage/en/**

3.2 Commercialising your Research

LICENSING

A contract in which the IP owner permits the licensee to use the IP in return for payment.

With a partner ready, licensing the technology to industry could provide financial income to you and your department, and allow a reputable company to bring the technology to market. See page 25 for more information.

TRANSFER OF MATERIALS

With a Material Supply Agreement (MSA) in place, you may supply research tools to commercial or academic organisations in return for payment.

A broad range of patented or non-patented research tools developed in your research group could be commercialised. Some of the examples are: reagents, probes, beads, antibodies, cell lines and mouse models. Please contact IPC for more information.

ROUTES TO IP COMMERCIALISATION

CONSULTANCY

A short term arrangement to provide advisory services, insights, analysis and training to an external party with a fee involved.

An opportunity to exploit your knowledge and expertise. See **Imperial Consultants**[16] for more information.

STARTUP

An Imperial startup is a company created with the aim to further develop and commercialise a technology originating from Imperial laboratories.

A startup can bring together various assets and resources, including the founding team to commercialise IP that has high potential. See page 25 for more information.

How we can support you with commercialisation?

IP PROTECTION

Seek the IP protection and cover costs.

FORMULATING A COMMERCIALISATION PLAN

Assess the commercial potential and route to market.

Assist in developing a plan to progress the idea and take it to market.

Advise on sources of funding for proof of concept, market assessment or other activities.

Identify and introduce you to industry experts who may give advice on routes to market.

Training in relevant aspects of commercialisation.

DUE DILIGENCE

Coordinate the IP due diligence review.

Support the IP assignment to Imperial's commercialisation subsidiary - ICIL

ADVISE ON STARTUP FORMATION OR LICENSING

Review with you the requirements of forming a startup and licensing.

Liaise with Enterprise, ITES, your Department Champion and inventor(s) to make a decision for startup formation.

LICENSING THE TECHNOLOGY TO INDUSTRY

Access market conditions.

Evaluate the capabilities of a licensee.

Review products to be licensed.

Identify and approaching potential licensees.

Negotiate licensing deals working alongside Enterprise teams.

SUPPORTING THE STARTUP FORMATION[17]

Founders Choice scheme allows startup founders to choose between greater support from the Enterprise Division and lower equity, or reduced support and greater equity. The different levels of support are explained in the **Founders Choice Mini-Guide.**[18]

Support the IP management.

Assist with your business planning and market research.

Advise on potential investors/funding.

Licensing vs Startup

The key factor to consider when deciding to create a new startup or license to an existing company is the route to market for the invention to achieve the optimum chance of success. Transferring technology from a university into industry is rewarding, both in finding a potential financial investor for your startup or looking for a suitable licensee to develop your technology. IPC works with you to identify the most appropriate route to commercialise your invention, including building business relationships with industry partners, establishing new technology applications and supporting fundraising or grant applications.

LICENSING

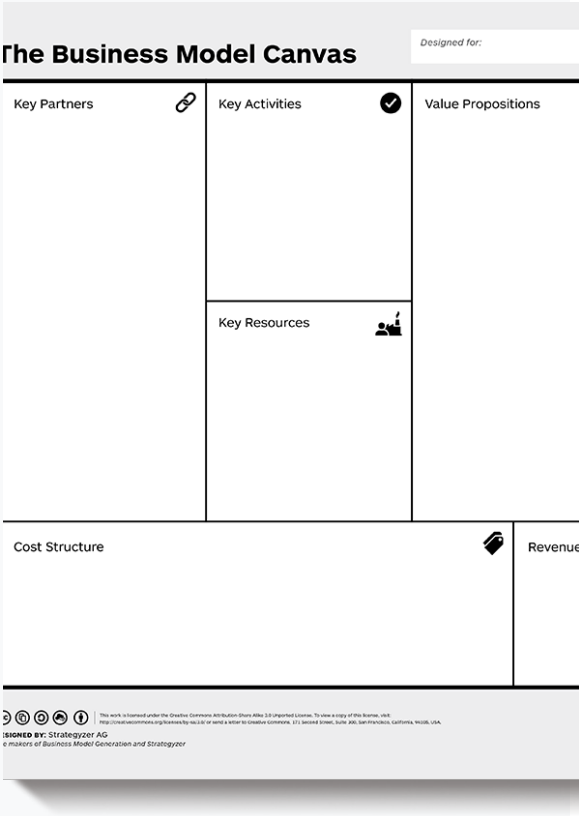
- Receive royalty income and retain ownership of the IP.
- Opportunity to enter a market with an existing customer of the licensee.
- Not required to invest in marketing and distribution.
- Market dominated by incumbent companies.
- Opportunity to turn a potential competitor into a partner.
- High short-term incentive.
- The return could be one-off (exclusive licence).
- Risk of under-performing licensee.

STARTUP

- Likely to involve substantial time and effort from the founding team to establish a startup.
- Potential to capture high proportion of value generated.
- Provides focus for commercialisation effect.
- Known investor appetite is expected.
- Building entrepreneurial experiences.
- Inherent risk.
- Medium-long time before receiving return.

TOOL TO FORMULATE YOUR BUSINESS PLAN - BUSINESS MODEL CANVAS

The Business Model Canvas [19] is a great tool to help you understand a business model in a straightforward, structured way. It is about the customers you serve, what value propositions are offered through what channels, and how your company can make a profit.



BUSINESS PLAN PRIMER

The Business Plan Primer provided by the Startup team is another great tool to formulate your business plan. It is a useful template with guidance on description of business, product, governance, market analysis and operation.

GLOSSARY OF LICENCE TERMS

The Licensing glossary [23] explains the meaning of some common words and phrases found in the terms of licence agreements. It is part of the Enterprise Division's commitment to provide you with support during the commercialisation process. Licence agreements are needed not only when IP is licensed to external organisations, but also when Imperial staff launch their own companies using Imperial's IP. Learn more about the guide to licensing IP to a College startup [24]

Setting up a startup?

1 Company formation

College/Department Funds
Impact Accelerator Account
External Funding for Startup
External Seed Funds

- Market testing
- Prototyping
- Further proof of principle
- Shareholders' agreement
- First Directors appointment
- Business planning
- Financing / investment
- Networking
- Forming partnership
- Incubators premises

2 Commercialised product/service

Angel Investor VC Series A

- Early trading
- Financing / Investment
- Insurances
- Service contracts
- Business contracts
- Investment agreement
- Financial direction & accounts

3 Growth

VC Series B and Onwards Initial Public Offering (IPO)/ Exit

- Drive for volume sales and profits
- Business premises
- More financing / investments

You will work with us to:

- Identify and secure the intellectual property.
- Complete IP due diligence.
- Develop a forward-looking IP startegy.
- Facilitate introductions to market/ industry experts.

You will work with the Startup Team to:

- Assess potential customers and the market for your startup and identify the key value proposition.
- Support towards developing financial and business models.
- Develop an executive summary and investment pitch to help you access funding in the future.

Imperial's staff startup programme - Founders Choice

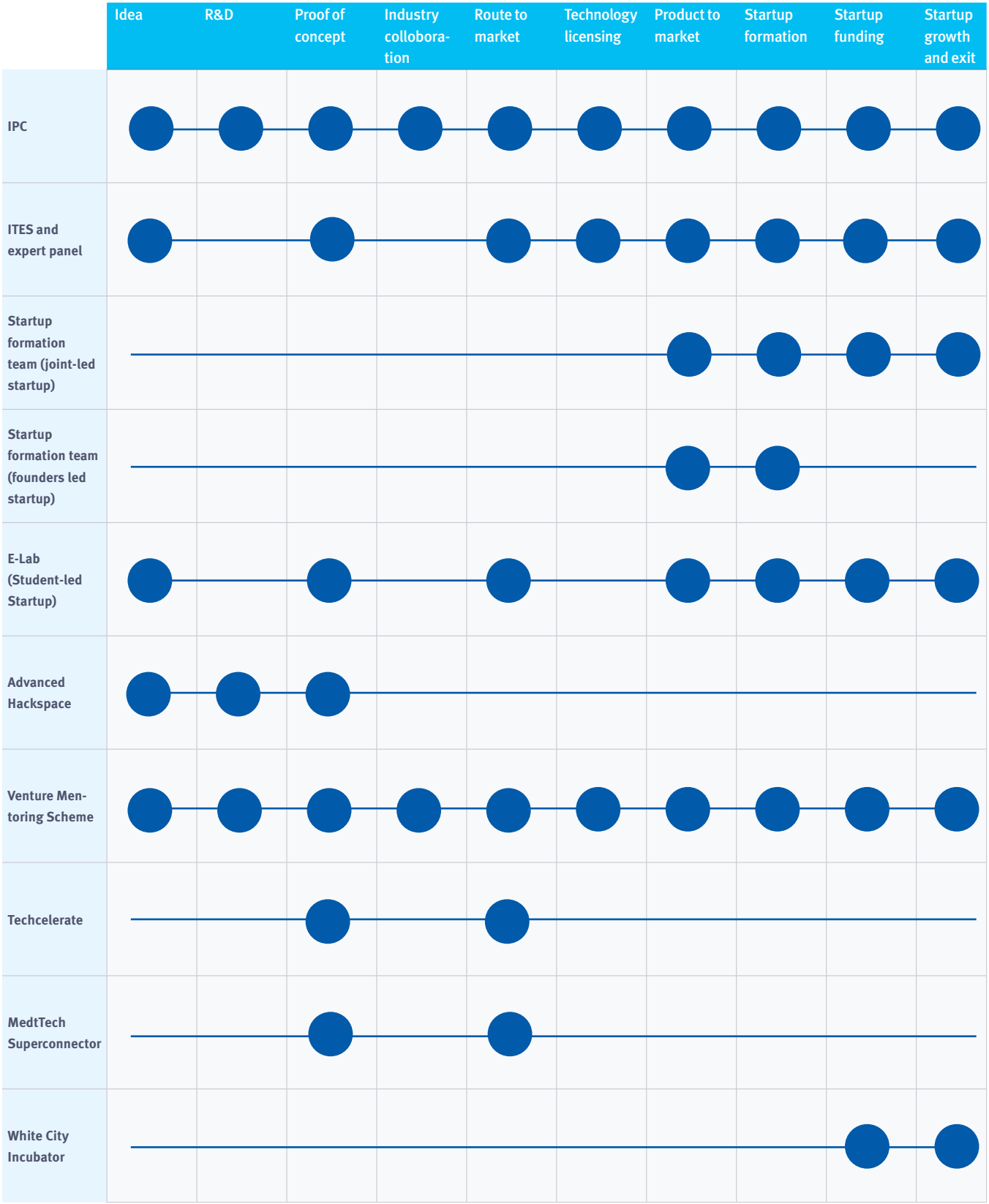
The two options under Founders Choice™ are the Founder Driven route and the Jointly Driven route. Founder Driven route allows founders to receive the basic support package from the IPC team and the Startup team, while those who opt for the Jointly Driven route receive an enhanced support package. The different levels of support are explained in the Founders Choice Mini-Guide.[18]

For more details, please refer to the startup process at Imperial[20]

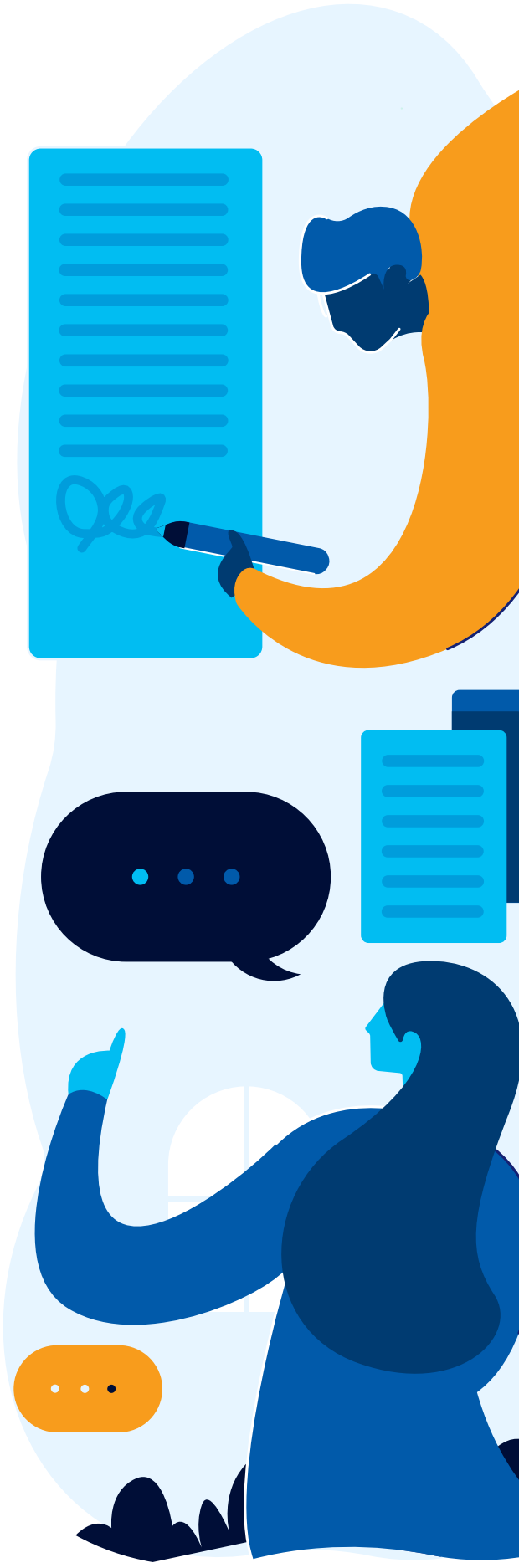
Additional Information

Support available from idea to impact

At Enterprise we aim to provide you with as much support as possible. The table below is indicative of areas where Enterprise can add value to your journey. Come and talk to us to find out how we can assist you to generate more impact.



Agreements



CDA or NDA

When discussing undisclosed inventions with external collaborators or partners a Confidentiality or Non-Disclosure Agreement (CDA or NDA) must be in place to protect your ideas and inventions. Please contact the IPC team to obtain the appropriate CDA.

MTA and MSA

A Material Transfer Agreement (MTA) is for the transfer of material between two organisations (public or private entities) for research purposes only.

MTA - covers the transfer of materials from the College to another institution (**dealt with by Faculty Research Services teams**)

MSA – covers transfer materials to a commercial company (dealt with by IPC team).

MoU

A Memorandum of Understanding (MoU) is used to describe a bilateral or multilateral agreement between parties. It is a preliminary document not intended to create a legal commitment.

HEADS of TERMS

HoTs is a document which sets out the terms of a commercial transaction agreed in principle between all parties in the course of negotiations, however it is not a legally binding document.

RESEARCH PARTNERSHIP AGREEMENT

Sets out the responsibilities, roles and rights of collaborating parties working on a specific research project or set of projects. All parties will be bound by the same terms and conditions, and the agreement will usually set out how the overall project will be managed between the parties.

IP EVALUATION AGREEMENT

Used to facilitate a short-term licence to a company for a trial period to enable the company to evaluate the technology before committing to a full licence.

LICENCE AGREEMENT

A licence is an agreement between Imperial's tech transfer subsidiary ICIL as the IP right owner and another party. It grants them permission to do something that would be an infringement of the rights without the licence. IP can be "licensed-out" or "licensed-in". You can "license-out" to another company in return for a fee. You can "license-in" if you want to use another company's IP to develop your own business and products.

REVENUE SHARE AGREEMENT

A document signed by all partners involved in a partnership that outlines the criteria to be followed when distributing business profits or losses. The agreement may be made as part of, or as an attachment to, a partnership agreement.

Phases of a project or invention

What are TRLs?

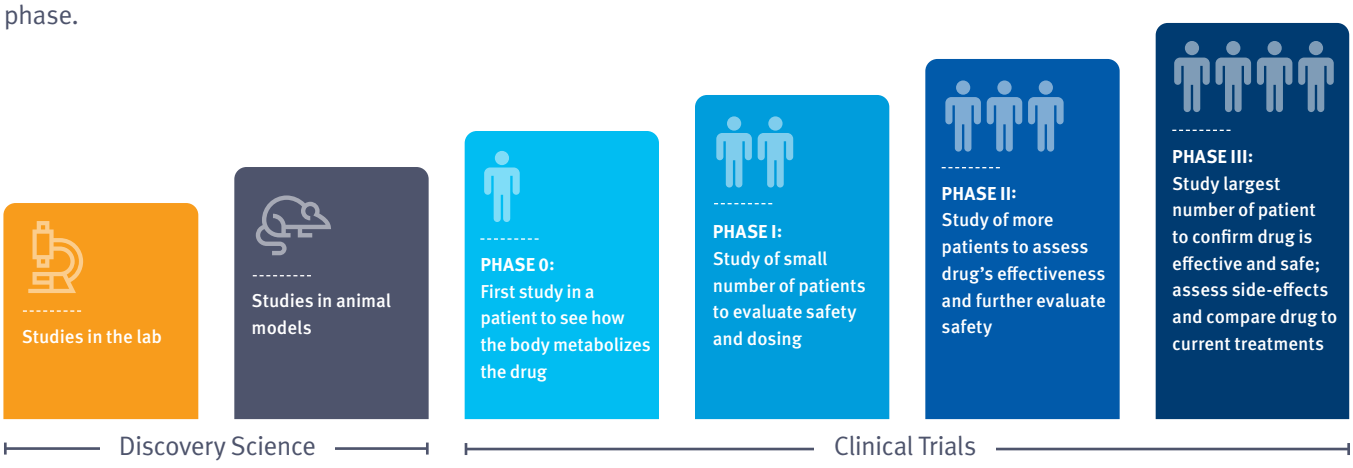
Technology readiness level (TRL) determines the development stage of a technology towards a practical application. The TRL framework is useful as it provides a common reference framework for defining and evaluating objectives, risks and investments by the parties involved in a collaboration or commercialisation project.

9. SUCCESSFUL PRODUCT	Product suitable for different applications and subject to competitive production
8. MARKETED PRODUCT	Product completed and qualified; commercial product is available
7. MANUFACTURED PRODUCT	Product prototype approved in an operational environment
6. PRODUCT DEMO	Technology demonstrated in a relevant environment
5. PROTOTYPE PRODUCT	Technology validated for all of its functions in a relevant environment
4. INTEGRATED PROTOTYPE	Validation of the technology in the laboratory
3. FEASIBILITY	Experimental proof of concept
2. INVENTION	Technology concept and/or application formulated
1. IDEA	Basic principles observed and described

Adapted from TRL definitions from European Commission and NASA.

What are clinical trial phases?

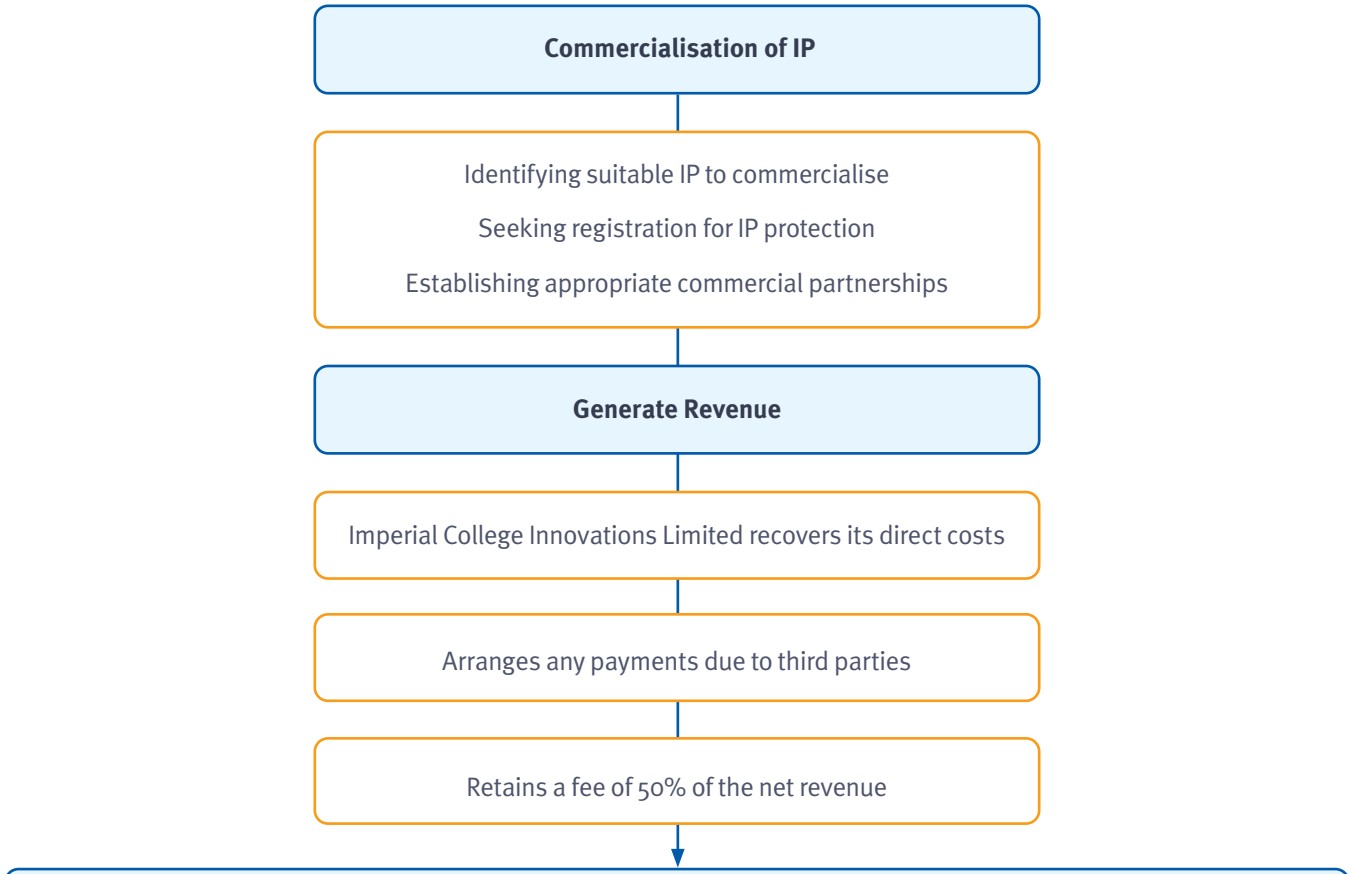
Clinical trial phases are important when looking at a project in the field of medicine. For either industry partnerships or commercialisation potential industry will want to know where you are in the clinical trial phase.



Adapted from a clinical trial image from Google.

Reward to inventors scheme

Upon the successful commercialisation of Imperial's IP and the generation of a revenue stream. Imperial's discretionary Reward to Inventors Scheme provides eligible individuals involved in creating the commercialised IP a proportion of the revenue.



Reward to Inventors Scheme

Cumulative College Revenue (i.e. gross revenue net of cost, fees and tax)	Inventor	Department
First 50K	100%	0%
£50K – £1 million	80%	20%
Over £1 million	60%	20%**

** A further share of surplus net revenue may be distributed to the inventors' Departments on an annual basis following recovery by Imperial College Innovations Limited of its costs in running the technology transfer service.

IP Startup Equity split will depend on whether the startup is an Imperial Jointly Driven IP Startup or Founder Driven IP Startup. Please refer to **Imperial Reward to Investors Scheme**[6] and **Founders Choice Mini-guide**[18] for the details.

Hardware and software open source licences

Licence	Modification and distribution	Patent Grant	Main Differences
CERN	Yes- Copyleft. All modified documentation under the same, or future versions of the licence.	IP rights are not transferred with this licence.	Documentation, distribution and manufacture of hardware.
TARP	Yes- Copyleft. Distribution of unmodified documentation must include original package. Modified documentation must be released under the Open Source Licence. Products can be commercially released with unmodified documentation.	Licensed design waive patent rights.	Documentation and products. All modifications must be well documented and original designers notified.
Creative commons	Yes	No	No restrictions. Available for software and hardware.
No licence	No	No	No permission to do anything. For software and hardware.
GPL	Yes - copyleft. It can be distributed with same original GPL licence.	Yes	GPL software can be run for all purposes, including commercial purposes. Modifications of GPL code must be distributed with a GPL licence.
LGPL	Yes - copyleft (It has restrictions)	Yes	Allows the LGPL code to link with non-GPL code (including proprietary). The non-GPL software can then be released under any terms if the LGPL code is not modified. Any distribution of modified LGPL code must be distributed with LGPL licence.
Apache 2.0	Yes - permissive.	Yes	Allows proprietary use. Derivative works are not required to be distributed with same licence. Changes must be stated. Unmodified parts require the same licence. Licensed files must preserve the same copyright notices. Gives licensees a grant to use patent necessary to run software.
BSD new (3-clause)	Yes - permissive.	Not implied	Allows proprietary use. No requirement to distribute source code. If source code is redistributed then it must retain the BSD licence notice.
MIT	Yes - permissive.	Not implied	Allows proprietary use. Very minimal restrictions. Reasonable licence compatibility vis re-licensing under different licences.

Documentation = schematic diagrams, designs, circuit or circuit-board layouts, and mechanical drawing

Abbreviations

CO	Commercialisation Office includes the Startup team (SUT), Patent and licence management (PALM) and the Due Diligence teams. Contact details can be found here.[21]
CSER	Combined Search and Examination Report, issued by Intellectual Property Office in the UK after 6 months of priority filing of a patent application.
DD	Due Diligence.
FEC	Full Economic Costing.
FoE	Faculty of Engineering.
FoM	Faculty of Medicine.
FoNS	Faculty of Natural Sciences.
ICIL	Imperial College Innovations Limited is a wholly owned subsidiary of Imperial, similar to ICON and IPROJ. As Imperial College is a charitable institution these companies enable commercial transactions. Any licences signed with a commercial partner will involve ICIL as a party.
IDF	Invention disclosure form.
IP	Intellectual property refers to intangible assets that results from the creation of the mind.
IPC	Industry Partnerships and Commercialisation.
IPR	Intellectual property rights are granted when IP is protected. The owners have the right to use their invention exclusively during the protection period. During this time, the owner can take legal action under the civil law on others that are using and/or commercialising the invention.
ISR-WO	International Search Report and Written Opinion issued by the International Search Authority after the international patent application filing (16 months after priority filing).
ITES	Imperial Technology Experts Service. We work with a network of industrial experts that help us to evaluate the inventions arising from Faculty of Engineering and Natural Sciences and their commercialisation route. Innovation Experts support the inventions from Faculty of Medicine.
NPE	National Phase Entry. Stage of the patent prosecution that occurs after 30 months from priority filing.
PALM	Patent and licence management team.
PCT	Patent Cooperation Treaty.
TRL	Technology Readiness Level.
SUT	Startup team. Visit this link[22] for SUT contact details.

Useful links

1. IPC team: https://www.imperial.ac.uk/enterprise/about/meet-the-enterprise-team/industry-partnerships-and-commercialisation/
2. Enterprise: https://www.imperial.ac.uk/enterprise/business/industry-partnerships-and-commercialisation/
3. Featured industry partnerships: http://www.imperial.ac.uk/enterprise/review/3-corporate-partnerships/
4. FEC and costing: http://www.imperial.ac.uk/research-and-innovation/research-office/preparing-and-costing-a-proposal/costing-pricing-and-infoed/costing/
5. Funding sources: https://www.imperial.ac.uk/enterprise/staff/funding-opportunities/
6. Inventors' Reward Scheme: https://www.imperial.ac.uk/research-and-innovation/research-office/ip/ip-policy-college-login/
7. IPC support overview: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/introduction/
8. Disclosure forms: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/intellectual-property-guidance/
9. Due Diligence: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/intellectual-property-guidance/completing-an-ip-due-diligence-form/
10. IP assignment that Imperial has abandoned or rejected: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/intellectual-property-guidance/assignment-of-ip-the-college-has-chosen-not-to-commercialise/
11. Patent example: Electric Bicycle: https://patents.google.com/patent/US10202161B2/en?oq=US10202161
12. Deadlines for NPE: https://www.wipo.int/pct/en/texts/time_limits.html
13. Copyright exceptions: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/375954/Research.pdf
14. Library service website: https://www.imperial.ac.uk/admin-services/library/learning-support/copyright-guidance/copyright-for-researchers/
15. Open Source licence information: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/intellectual-property-guidance/open-source-software-licences/
16. Imperial Consultants: https://www.imperial.ac.uk/enterprise/staff/consultants-area/
17. Supports for Imperial entrepreneurs: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/forming-a-startup/
18. Imperial Founders Choice mini guide: https://www.imperial.ac.uk/media/imperial-college/administration-and-support-services/enterprise-office/public/Imperial-Founders-Choice-Mini-guide_2020_v1.1.pdf/
19. The Business Model Canvas: https://ecorner.stanford.edu/in-brief/the-business-model-canvas/
20. Startup process at Imperial: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/forming-a-startup/the-startup-process-at-imperial/
21. Commercialisation office contact details: https://www.imperial.ac.uk/enterprise/about/meet-the-enterprise-team/commercialisation-office/
22. Startup team contact details https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/forming-a-startup/the-startup-team/
23. Glossary of licence terms: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/intellectual-property-guidance/licensing-glossary/
24. Guide to licensing IP to a College Startup: https://www.imperial.ac.uk/enterprise/staff/industry-partnerships-and-commercialisation/commercialisation/intellectual-property-guidance/licensing-startup/

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Imperial College London

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