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THE UNIVERSITY OF WARWICK

INNOVATIONS

Innovation @ The Junction

Licensing

Dr Francesco M. Colacino

Warwick Innovations

Thursday 6 June 2024

We are the WI – not the WV

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Subsidiary company of the University

Group within the Warwick Innovation Group

Warwick Innovations Team

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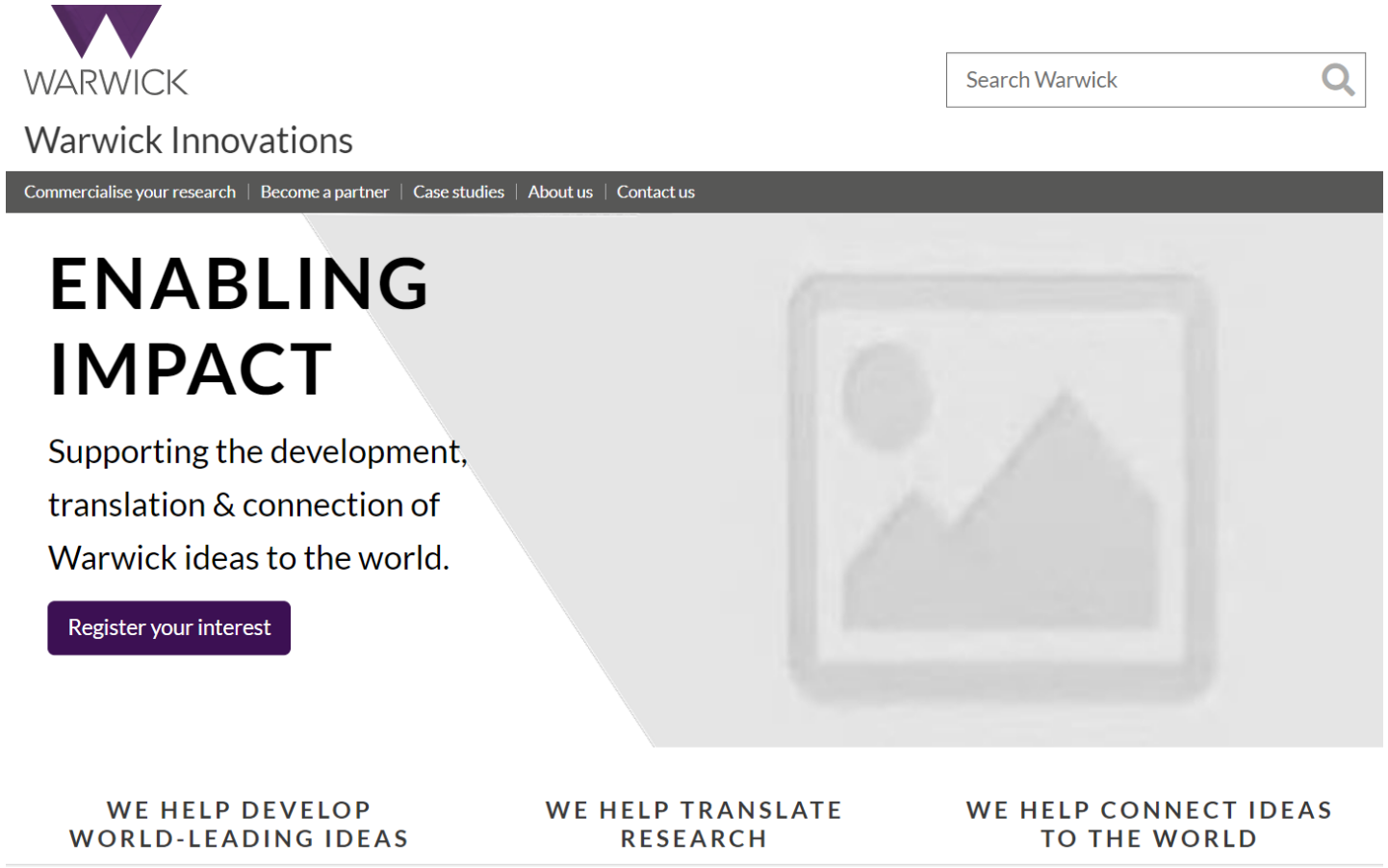
What we do?



Deliver impact through commercialisation

Manage university research intellectual property

Why we do it?

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WE HELP DEVELOP WORLD-LEADING IDEAS

We provide expertise and resources to help Warwick academics to develop skills and world-leading disruptive ideas.

WE HELP TRANSLATE RESEARCH

We help Warwick academics to translate their ideas, protecting IP & making research commercially viable.

WE HELP CONNECT IDEAS TO THE WORLD

We identify end users for innovations and deliver real world impact through commercialisation.

WARWICK ACADEMICS & RESEARCHERS

Explore how we can support Warwick academics and researchers to achieve commercial success.

Get started

PARTNER OPPORTUNITIES

Make connections and discover a range of exciting and beneficial opportunities to work with us.

Work with us

Because it benefits the public (taxpayers) who funded our research in the first place

Where Does IP Come From?

Research grants

Contract research

Studentships / student projects

Teaching material

Consultancy

Experience

“In the bath”

IP includes…

- ✓ Inventions/patents
- ✓ Know-how
- ✓ Trade secrets
- ✓ Data
- ✓ Databases
- ✓ Formulae
- ✓ Algorithms
- ✓ Software
- ✓ Drawings
- ✓ Specifications
- ✓ Biological materials
- ✓ New molecules
- ✓ Methods
- ✓ Teaching materials
- ✓ Etc.

The Plan

THE WHAT

What is Licensing?

THE WHY

What are the benefits for the Academics and the University… and society?

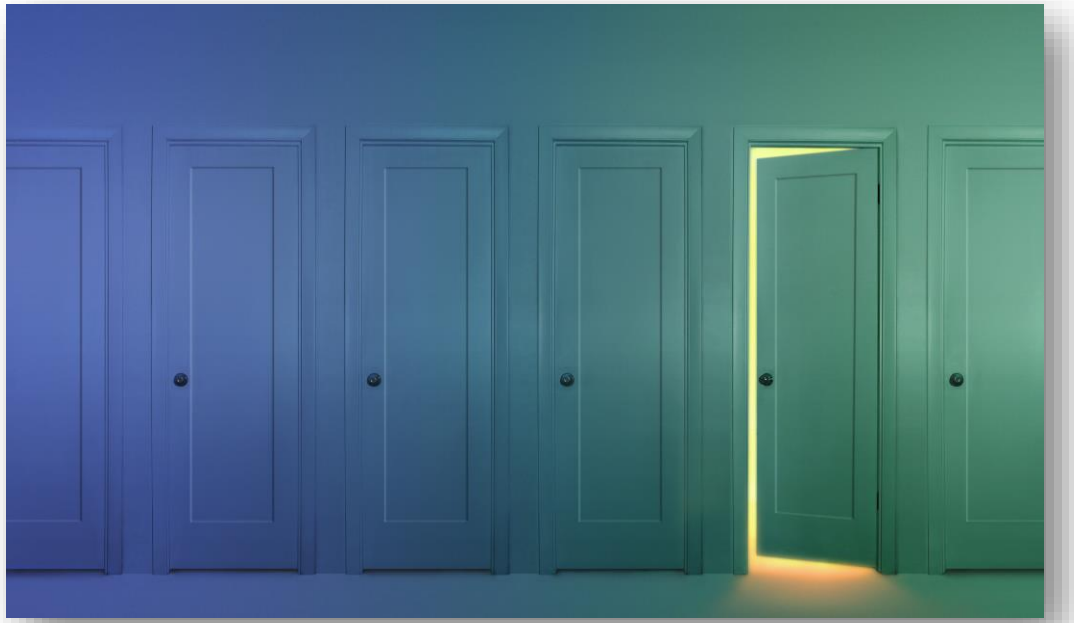
THE HOW

How does licensing happen?

The What

IPR commercialisation routes

- **Licensing**
- Assignment / sale
- Spinout
- Direct sale of products and services
- Research collaboration



Licensing at its core

…one of the exploitation routes

Granting rights to use Intellectual Property while retaining ownership.

Licensor

Granting licence

Licensee

Holding licence

Licensing Deal:

3rd party further develops,
and uses or sells

Licence vs. License

Noun vs. verb (UK)

Licensing transactions

Licensing IPR is a transaction:

- It may involve monetary consideration – signing fees, milestone fees, royalty payments….
- It may involve “just” permission to use … with conditions, e.g. recognising the source
- It may be time-bound or perpetual or task focused (e.g. evaluation licence)
- It may in a specific technical field and/or geography
- It may be exclusive or non-exclusive
- ….

Licensing is hard work…

Statistics reported (British Business Bank's presentation at the University of Birmingham, 2018-ish)

- **88.9%** of University Research does not have a place in the market…

- It does not mean that it is not relevant to society…

- It may mean that it is not **immediately** relevant… too ahead of the game?
  - Timing is of the essence!... Too late is also bad.

- It could be developed **further or in another direction**…

- Or, sometimes, it is not relevant to **how** Industry would make it happen to solve societal problems… and make profits
  - Their industrial plans are already committed to a technology roadmap
  - The new technology, even if superior, does not justify investments
  - The new technology does not pose a threat if adopted by competitors

Licensing is hard work…

Marketing Campaigns – 12 months (5 out of 43 active unencumbered cases)

Department	Companies Contacted	Marketing Campaigns	Replied	Discussions	Status	Outcomes
Dept. A	31	1	4	1	Ongoing	Sourced collaborator (UK); submitted commercialisation grant applications for TRL5+.
Dept. A	55	1	5	1	Abandoned	Abandoned - Poor feedback and little interest helped in decision to drop patent.
Dept. A	57	2	9	1	Ongoing	Discussion with DE/US company over a period of 6+ months, then not interested. Target sector adjusted based on feedback.
Dept. B	On Hold	On Hold	On Hold	1	Ongoing	Exploring a warm collaborator (UK) from the academic's before moving to full-blown marketing stage.
Dept. C	32	2	8	In progress	Ongoing	Targeting a list of preselected companies at an industry event.

Feedback from 1 Potential Licensee

- “It is too early for us as we consider it to be at TRL2”… We thought it was TRL4!
- “We can think of developing it further when we plan for the next R&D projects, talk to us in August 2025…”

Positive comments from the Academic on how to start again…

- “We did get some useful information from them in terms of ranges etc.”
- “I've built a new prototype that will do higher speeds and have another in development to get to even higher speeds still by using some new electronics - I did this following the steer we had on the desired speed range”
- “We'll have a bunch of data to go with any pitch next time from the tests we are running - so we did get some useful input from them”.
- “If we take this any further up the TRL ourselves, then we might like to consider setting up a spin-out.”
- “As long as after each of these we take a step forward, then we are not wasting our time.”

The Why

So, what's in it for me?

There is a lot to be gained…

PROMOTION
Appraisals are being amended to recognise innovation & impact activities

NEW FUNDING STREAMS
Translational & collaborative funding calls with industry

SKILLS, KNOWLEDGE & NETWORKS
Opportunities to explore research in action

FINANCIAL REWARDS
Consulting fees, licensing income, share value in spin-outs

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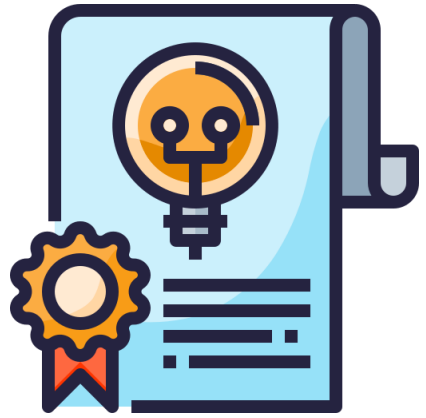
Financial Rewards – Licensing income

- Relevant when IP is licensed by the university where you are a named inventor (Creator) on the Division of Proceeds form.

- Licensing income is distributed back to inventors in the following proportions:
  - 50% to Creators
  - 25% to Department
  - 25% to Warwick Innovations

- Payments are made once external IP and associated legal costs have been covered.

- Payments are normally made annually following the end of the academic FY.



Financial Rewards - Consulting

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CONSULTING FEES

- FP10 describes the procedure to enable academic staff to engage in permitted external activities for up **to two days per month.**

- Academics are responsible for all their **own tax and legal liabilities**. **Day rates** vary and must be negotiated.

- Consulting work can lead to wider, longer term **research collaborations**.

Benefits to the University

- Reputation with Industry, Gov, UKRI, other Universities, etc.
- More industrial partnerships
- Research contracts from industry partners
- Edge when it comes to submit research proposals
- REF returns and IMPACT cases
- Possibility to involve industrial partners in teaching and students' placement
- Possibility to be involved in Policy making
- …

Licensing to exploiters… not for shelving!

Licensing implies development plans and go-to market

Remembering different reasons for licensing – blocking, really want something else

The ‘value’ of university research

If we are using the People’s money, we best make sure they get something back for it!

That’s why we innovate & commercialise research.

Licensing vs Assigning IPR

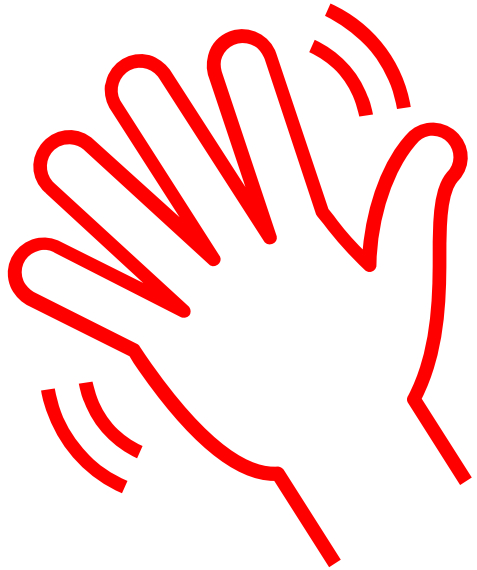
Assigning is…

Granting rights to ~~use~~ the Intellectual Property while ~~retaining~~ **relinquishing** ownership.

Give up all rights to the IP, usually for a fee or for shares/equity

- Problem:
  – No control over what happens to the IP in the future
  – May lose your use of the IP for further development
  – May not require real involvement by inventors

- Not generally used by public research institutions



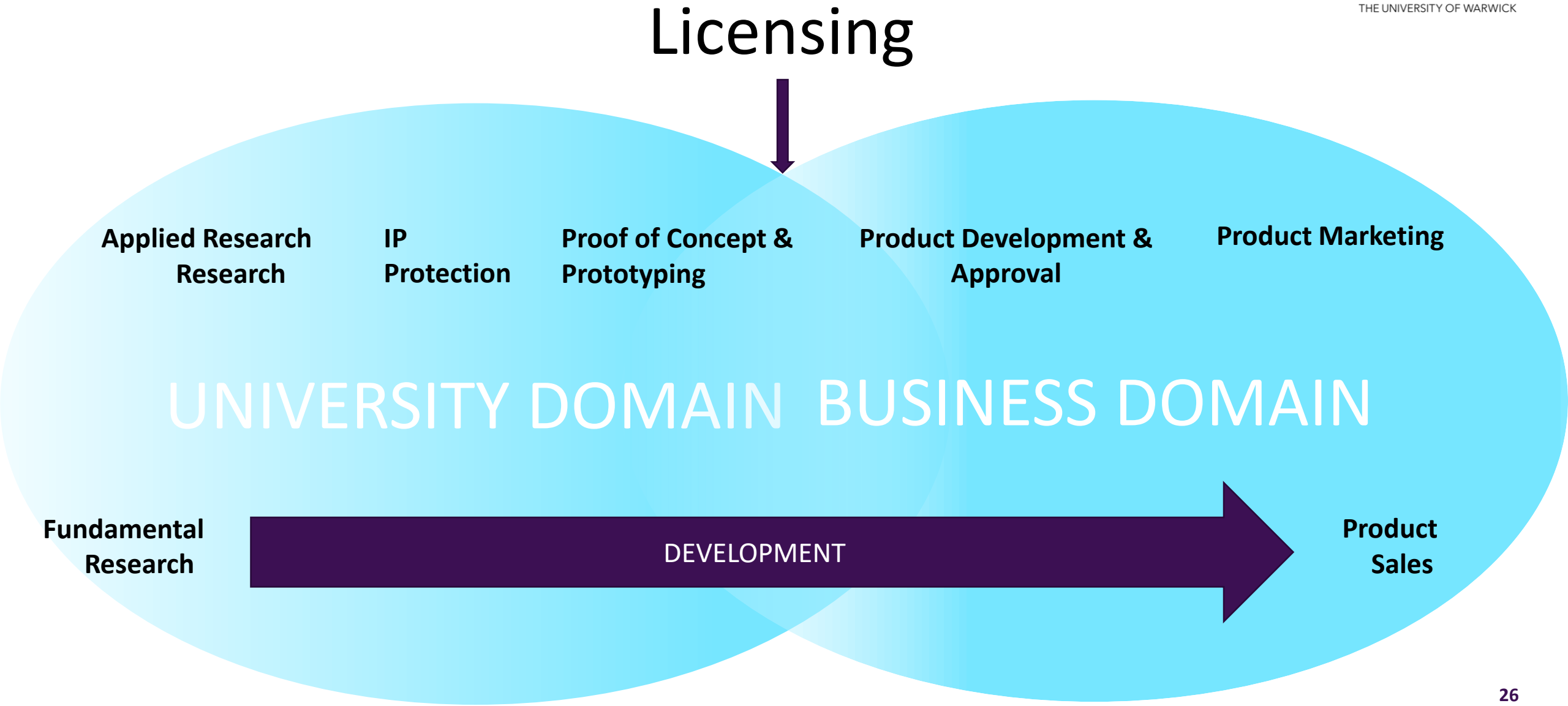
WHY?

Why do companies may want to license IP from Universities?

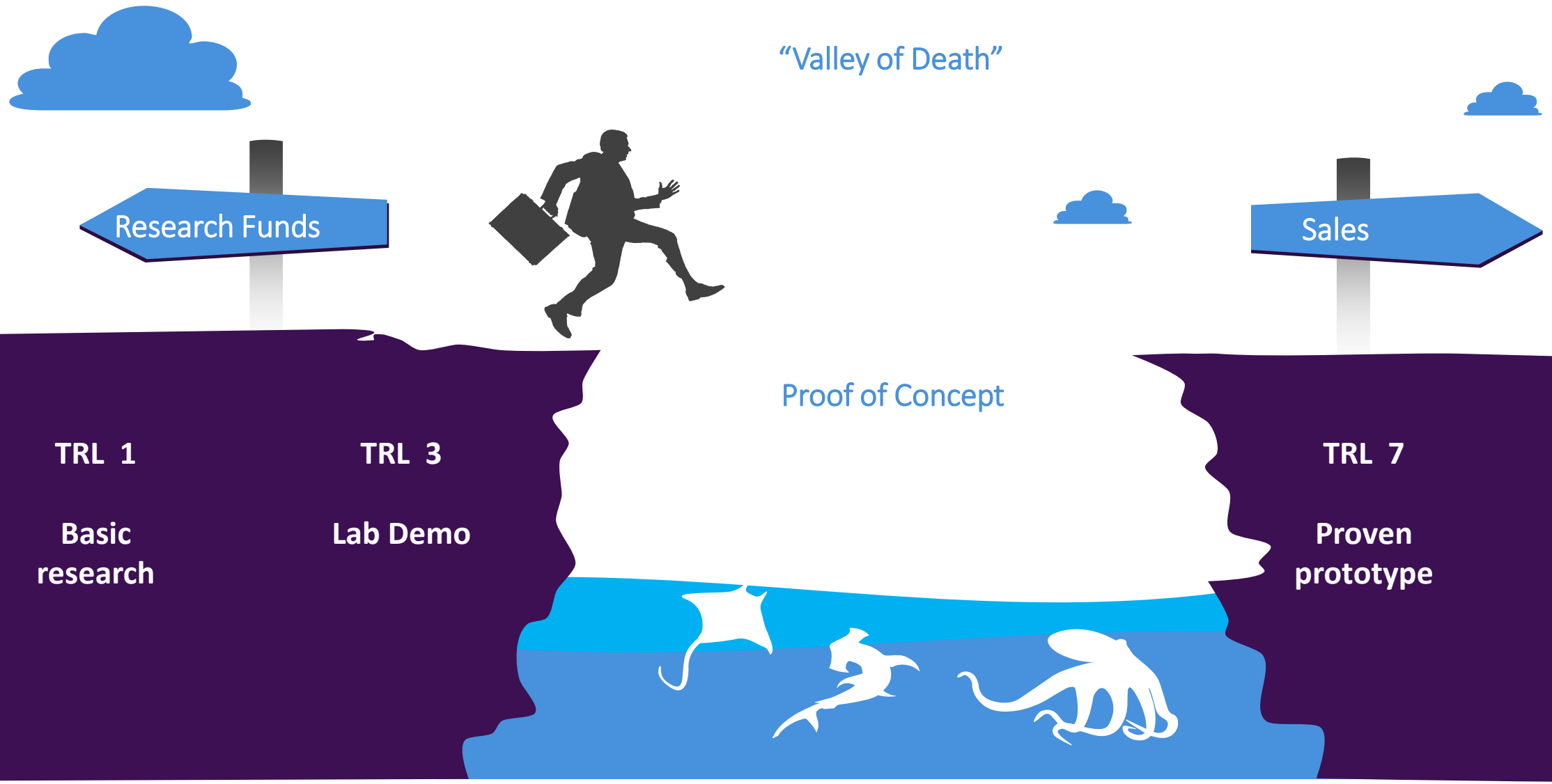
- Quicker to market
- Reduce costs (e.g. internal R&D)
- Share the market
- Enhances products & portfolios
- Acquire know-how and market knowledge along with the IP

The How

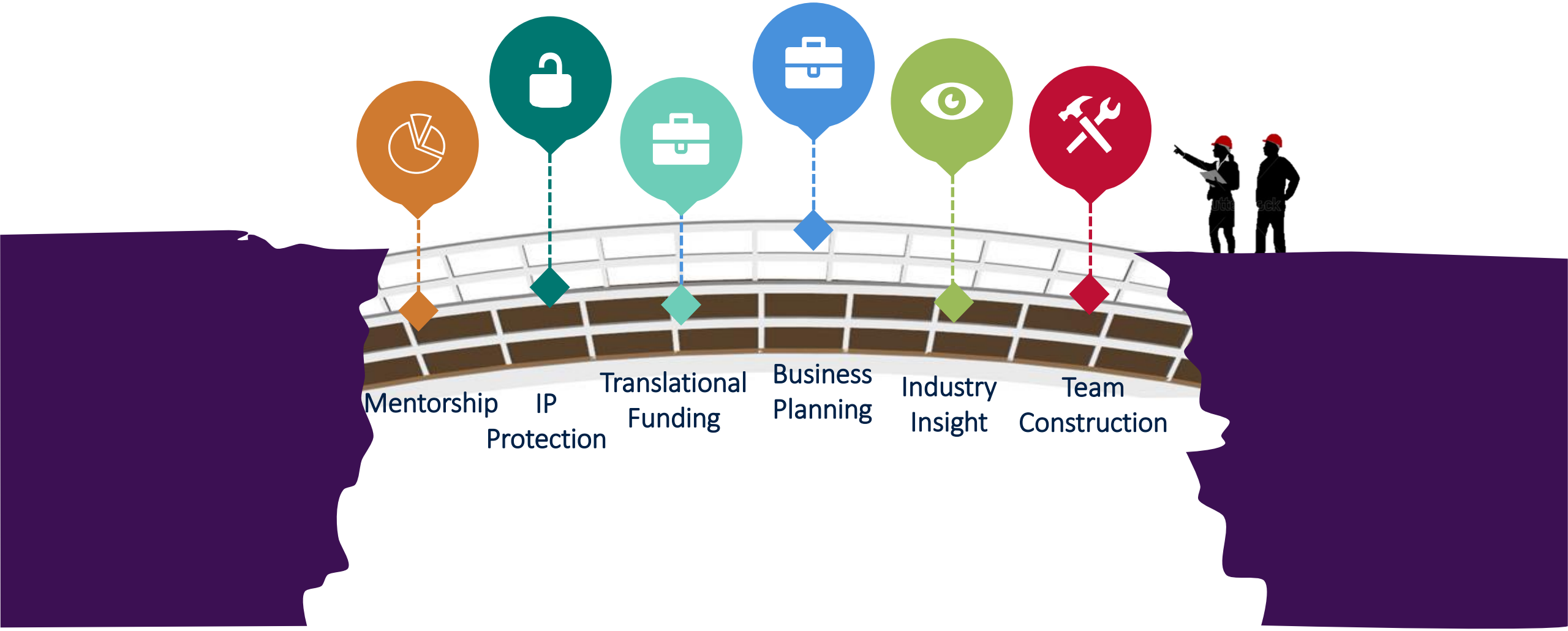
Licensing domain



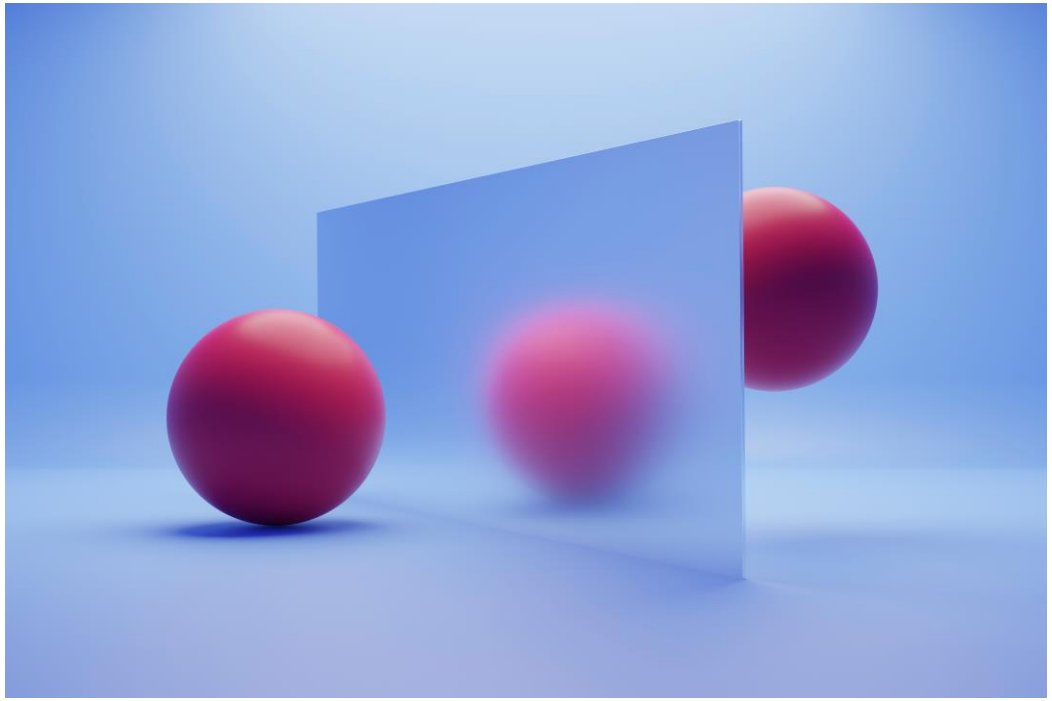
Bridging the gap



Type of support

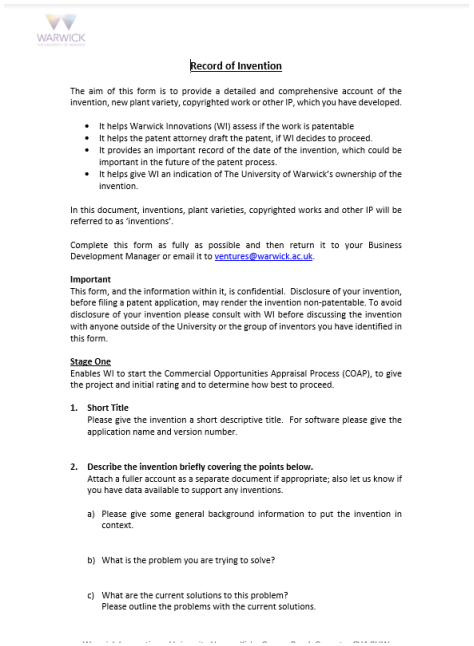


Two-sided approach – Internal & External



Our key process steps - Internal

Engage with the research community → Capture disclosures (ROIs) → Convert to a resourced project (COAP) → Develop & Transact the IP → Post-deal management



Record of Invention

The aim of this form is to provide a detailed and comprehensive account of the invention, new plant variety, copyrighted work or other IP, which you have developed.

- It helps Warwick Innovations (WI) assess if the work is patentable
- It helps the patent attorney draft the patent, if WI decides to proceed.
- It provides an important record of the date of the invention, which could be important in the future of the patent process.
- It helps give WI an indication of The University of Warwick's ownership of the invention.

In this document, inventions, plant varieties, copyrighted works and other IP will be referred to as 'inventions'.

Complete this form as fully as possible and then return it to your Business Development Manager or email it to ventures@warwick.ac.uk.

Important
This form, and the information within it, is confidential. Disclosure of your invention, before filing a patent application, may render the invention non-patentable. To avoid disclosure of your invention please consult with WI before discussing the invention with anyone outside of the University or the group of inventors you have identified in this form.

Stage One
Enables WI to start the Commercial Opportunities Appraisal Process (COAP), to give the project and initial rating and to determine how best to proceed.

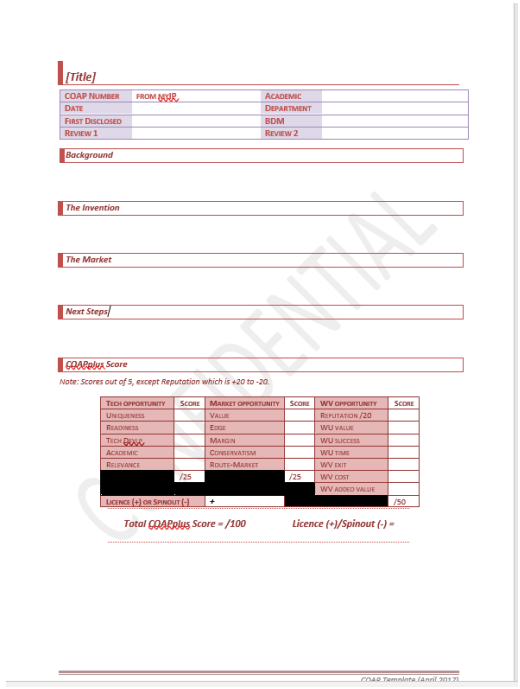
1. **Short Title**
   Please give the invention a short descriptive title. For software please give the application name and version number.

2. **Describe the invention briefly covering the points below.**
   Attach a fuller account as a separate document if appropriate; also let us know if you have data available to support any inventions.

   a) Please give some general background information to put the invention in context.

   b) What is the problem you are trying to solve?

   c) What are the current solutions to this problem?
   Please outline the problems with the current solutions.



[Title]

COAP Number	from WIIP	Academic	
Date		Department	
First Disclosed		BDM	
Review 1		Review 2	

Background

The Invention

The Market

Next Steps

COAPplus Score

Note: Scores out of 5, except Reputation which is +20 to -20.

Tech opportunity	Score	Market opportunity	Score	WV opportunity	Score
Uniqueness		Value		Reputation /20	
Readiness		Edge		WU value	
Tech Devt.		Margin		WU success	
Academic		Conservatism		WU time	
Relevance		Route-Market		WV exit	
[redacted]	/25	[redacted]	/25	WV cost	
				WV added value	
Licence (+) or Spinout (-)		+	[redacted]		/50

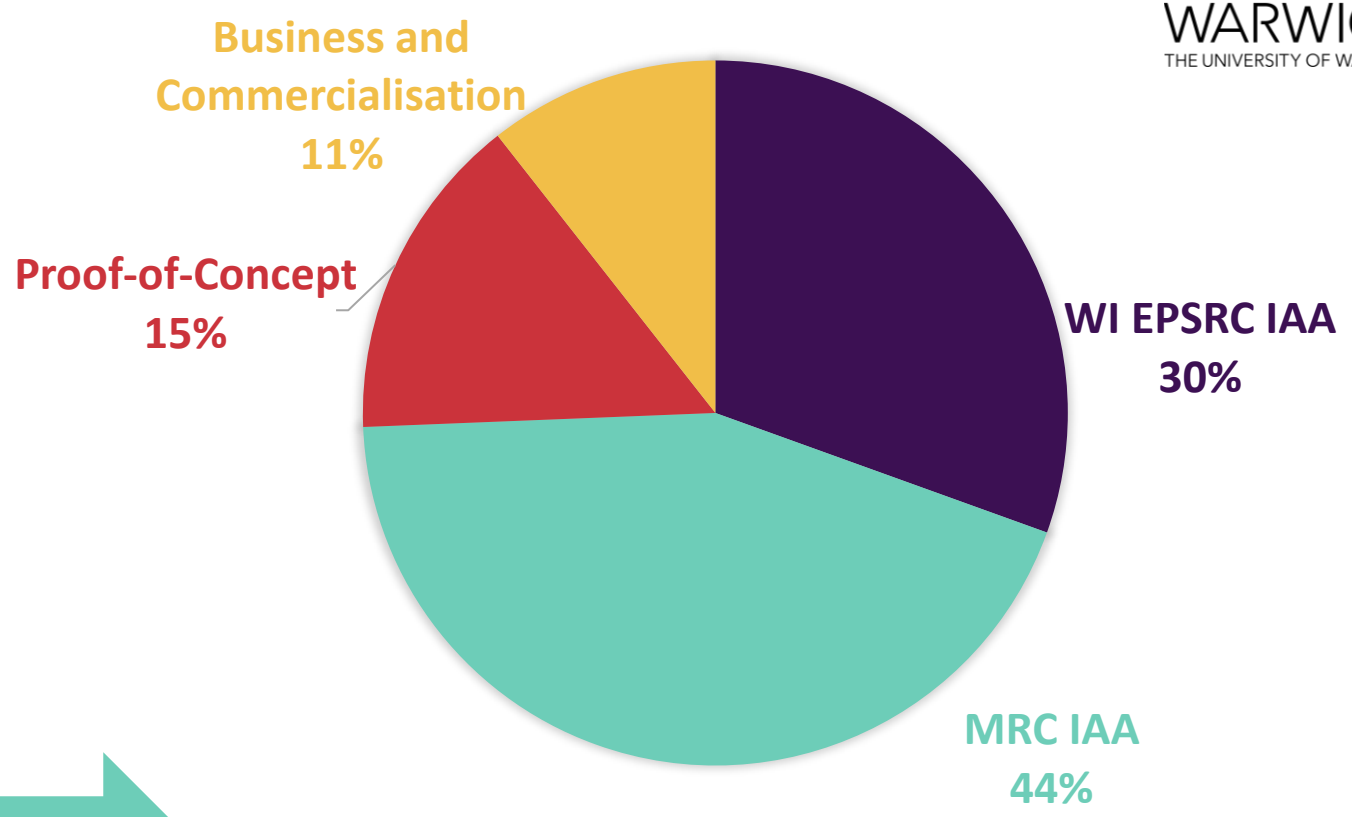
Total COAPplus Score = /100 *Licence (+)/Spinout (-) =*

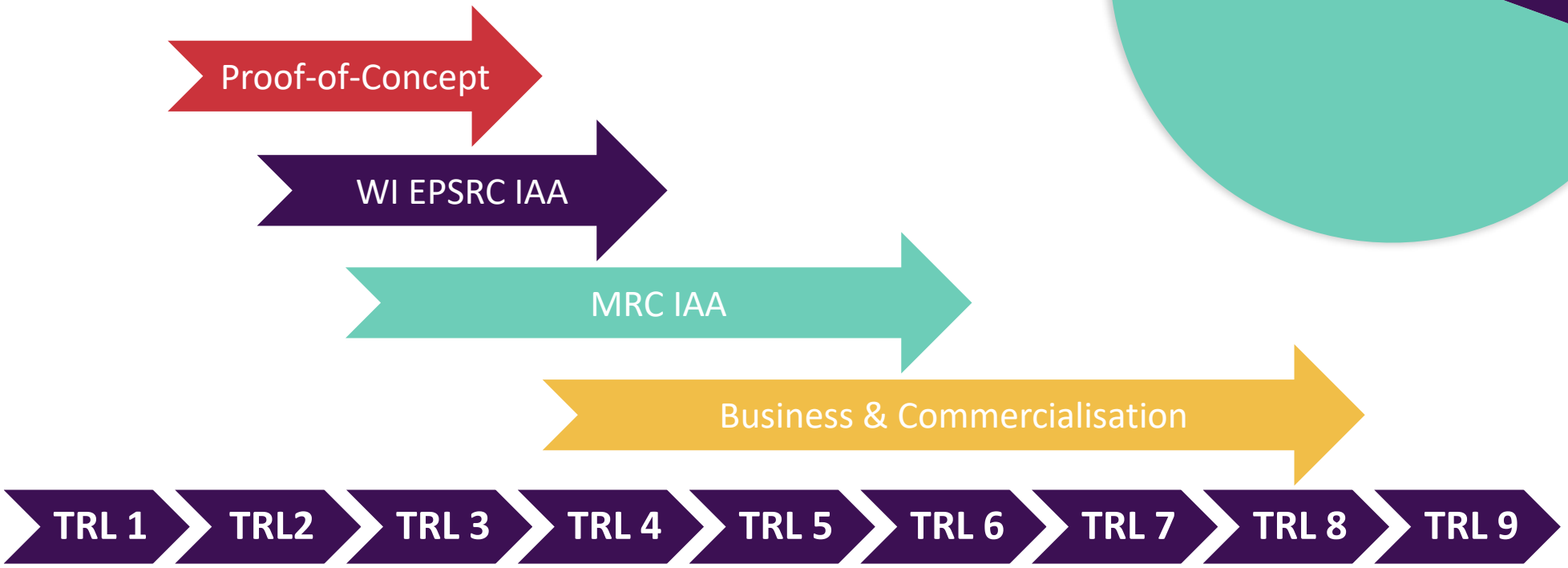
Translational Funding

Increase the TRL level of your technology

>£1.15M till 2026

(~50% spent)



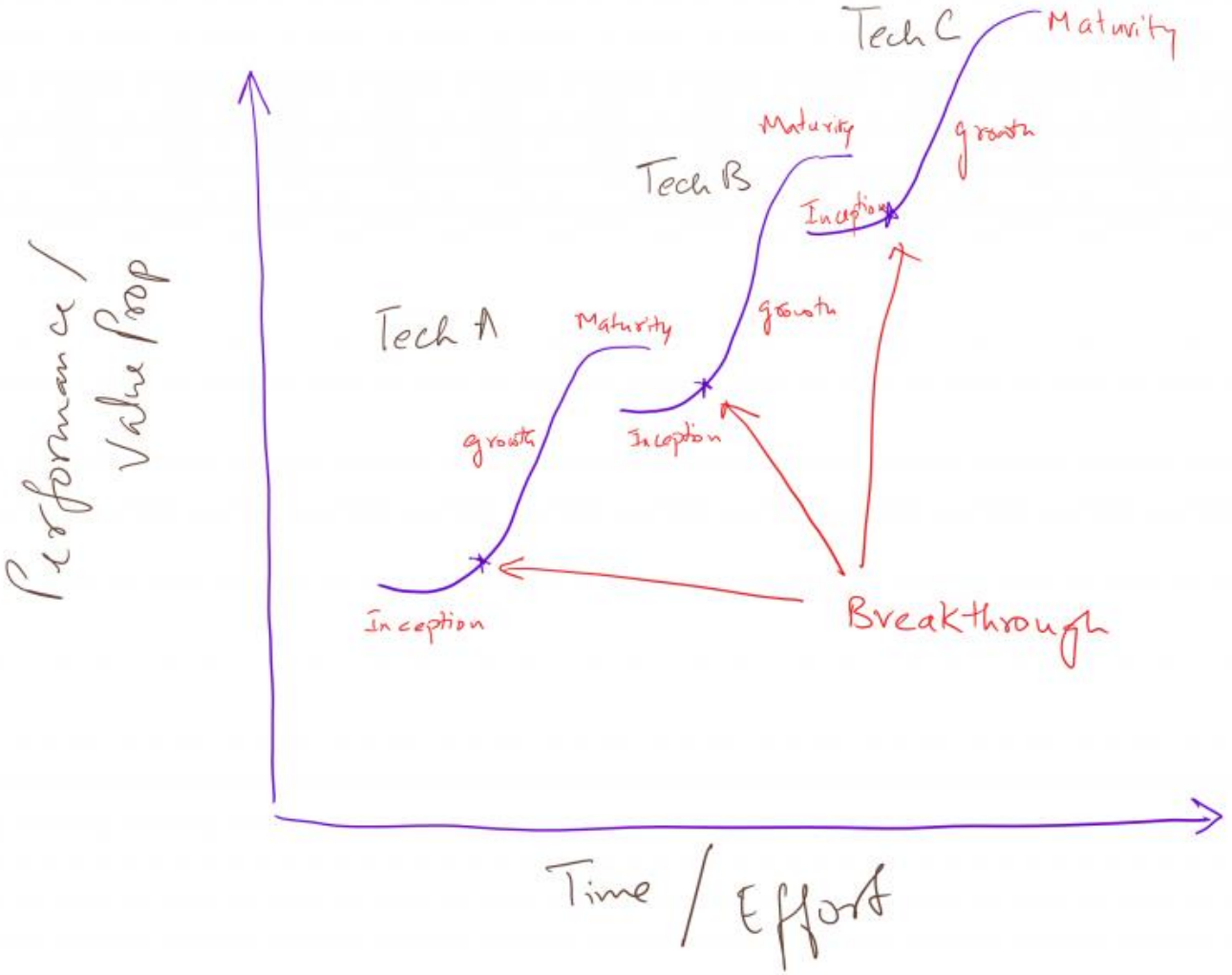


Value inflection

How to make best use of translational funding

A value inflection point in technology transfer is a **pivotal experiment** that helps determine if an invention is worth pursuing or if it has commercial appeal.

- Is your technology development on the same development curve of your potential licensee/target market?
- Is your experiment going to be pivotal for that technology development?
- Can you reach the “wanted” breakthrough?



https://kumarblog.org/index.php/why-is-building-a-trust-bridge-critical-at-technology-inflection-points/

Research Commercialisation & Training Programmes

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Upcoming Cohorts

UKRI Innovate UK ICURe

engage
BBSRC ICURe Engage April 2024
Applications Open: 04/03/2024
Start Date: 22/04/2024
Delivery Partner: The Helix Way
More Info>

discover
ICURe Discover April 2024
Applications Open: 12/02/2024
Start Date: 15/04/2024
Delivery Partner: NxNW Partnership & The Helix Way
More Info>

explore
ICURe Explore April 2024
Applications Open: 07/02/2024
Start Date: 29/04/2024
Delivery Partner: Midlands Innovation
More Info>

engage
ICURe Engage May 2024

engage
BBSRC ICURe Engage

explore
ICURe Explore September 2024

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PG Certificate (PGCTSS) | Modules | Workshops | People | Partner with us | More about Transferable Skills

CH957 - Business, Innovation and Commercialisation for...

CH957 - Business, Innovation and Commercialisation for Researchers

Module summary

Module Leaders: Dr Shum Prakash and Dr Tim Francis (Warwick Innovations)

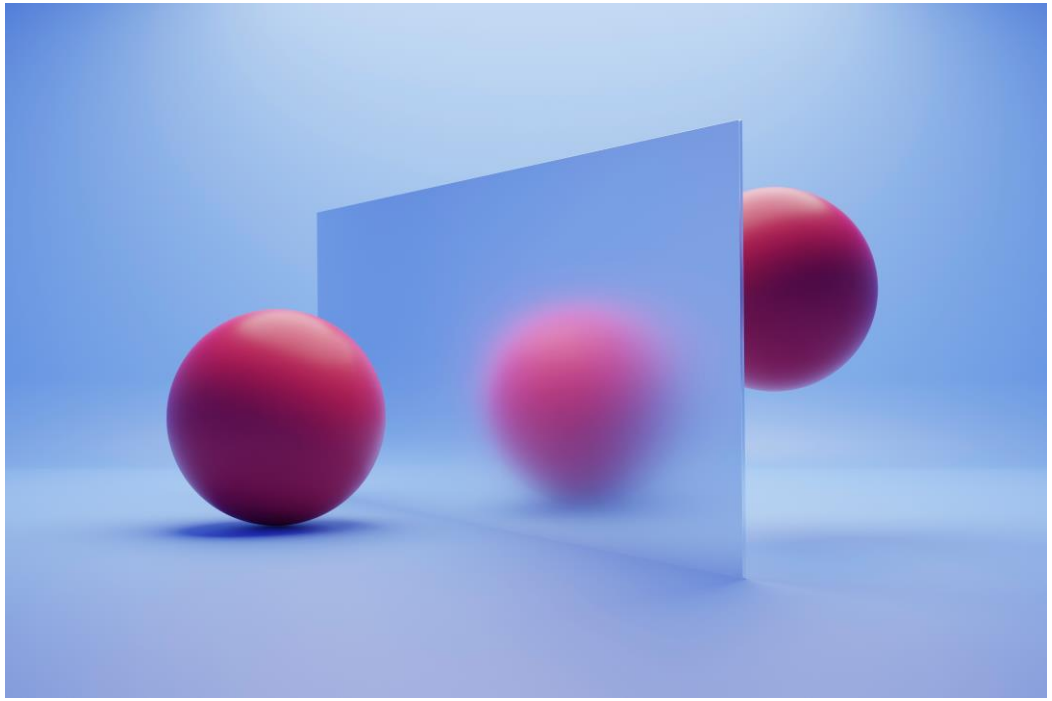
In a world with constant change, often dynamic, with far reaching global impact - economically, socially, and environmentally - **there are many opportunities to develop solutions to meet the challenges ahead.**

CH957 handbook

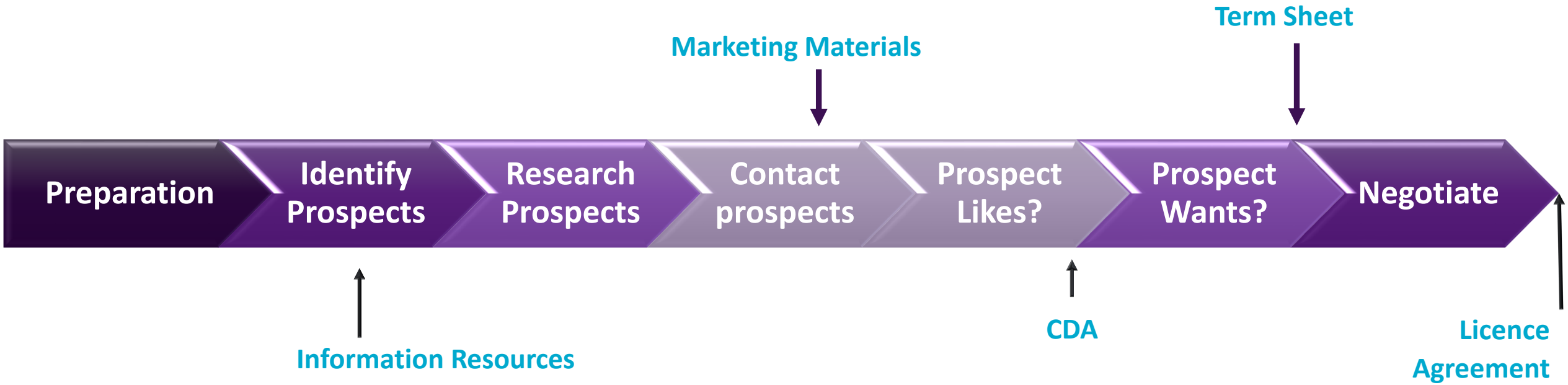
Dates for 2023/2024

This module has Seven sessions, dates are as follows:

Two-sided approach – Internal & External



Our key process steps - External

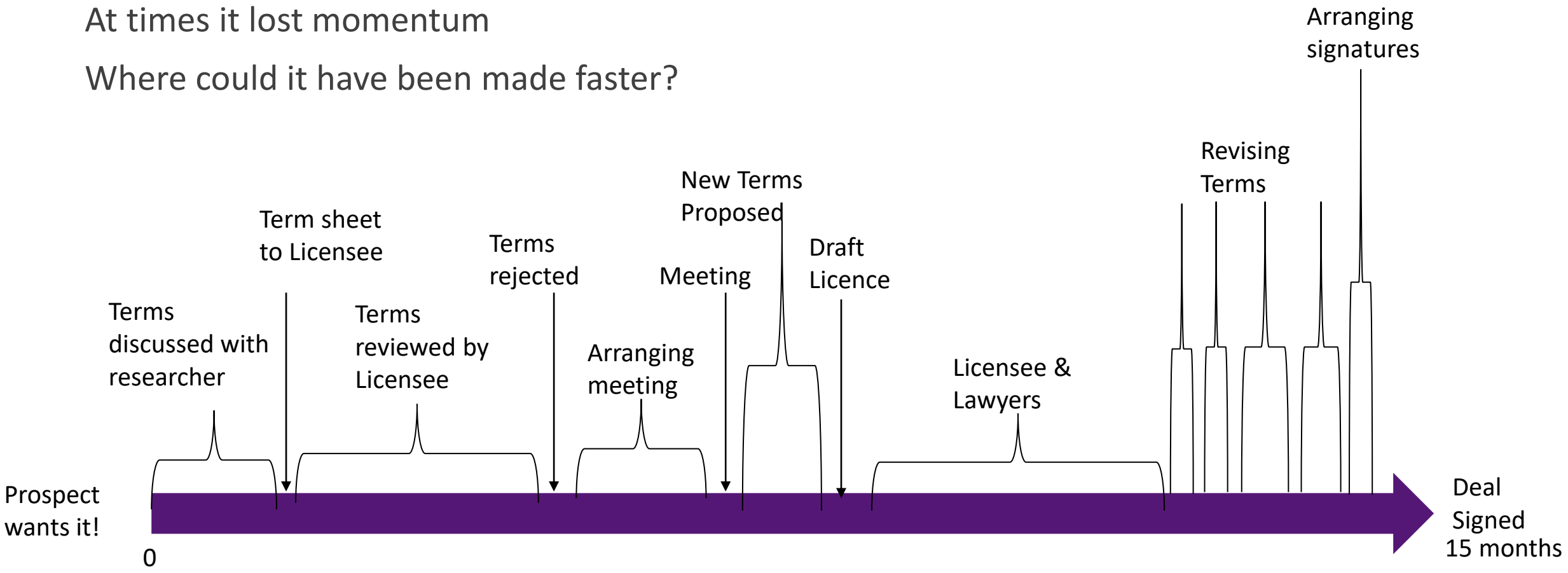


Case Study – negotiation timeline

15 months in total!

At times it lost momentum

Where could it have been made faster?



Why may it take so long?

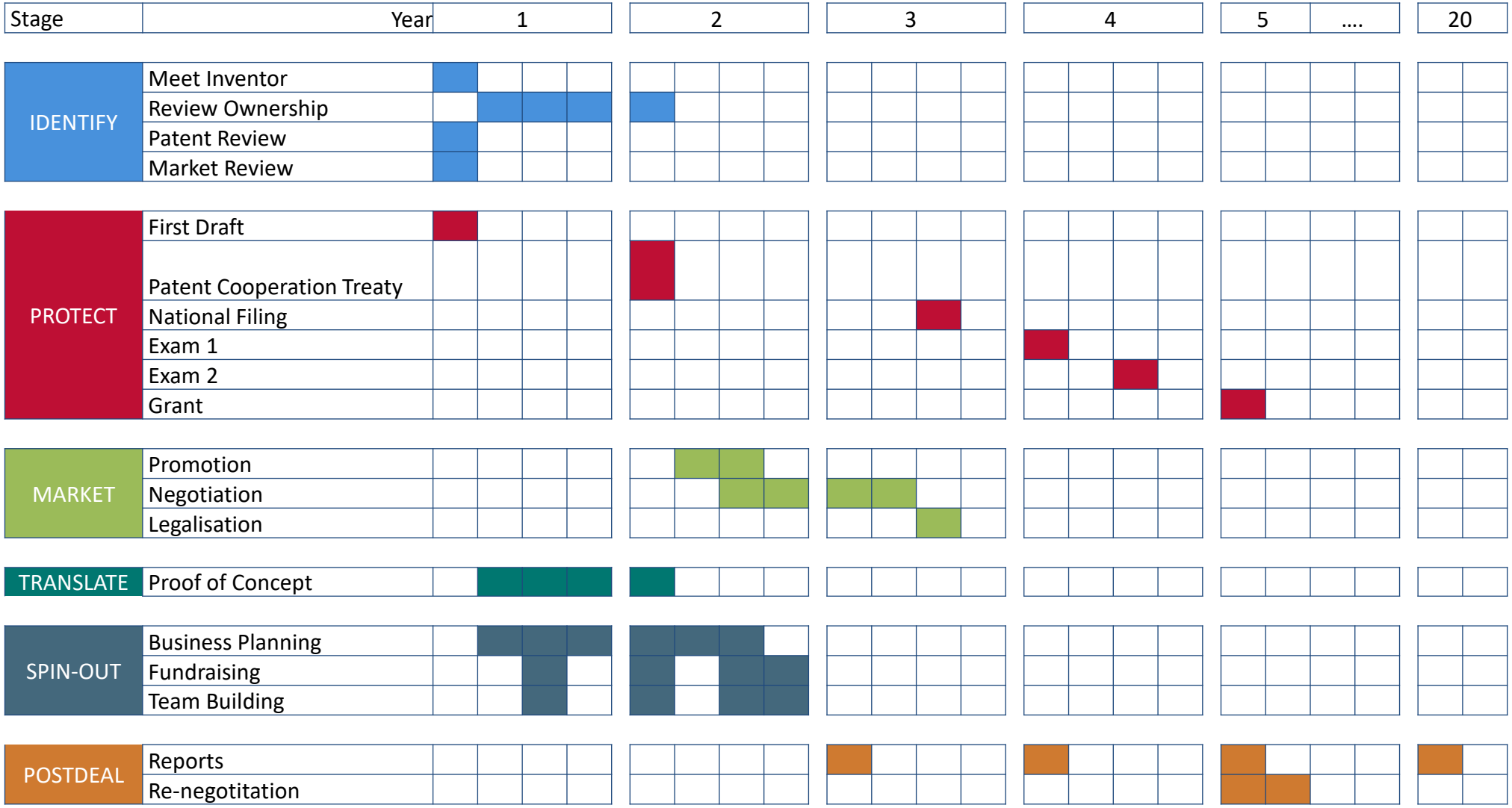
- Technology transfer is not like building a block-brick wall

Concrete masonry unit wall
Creator: Skepticsteve

Dry stone wall in Yorkshire Dales
Creator: Lupin

Each technology has its own features that uniquely shape the licensing deal

Overview of the licence and spin-out process



Patent prosecution process and time to license

30-months window of opportunity

National Phase
(£5k-£6k per territory)
A national filing in one territory

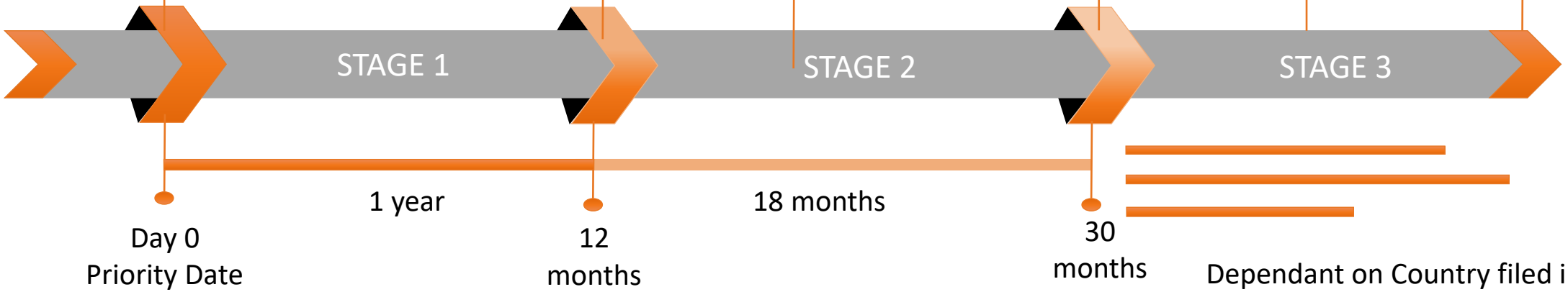
Priority
(£5k-6k)
A national filing in one country

Examination
(£10k-£15k per territory)
Occurs independently in each territory filed

Patent Co-operation Treaty (PCT) Filing
(£5k-6k)
Reservation right for most countries of the world

Grant
The application becomes a granted patent in a specific territory

Publication



Technology valuation

- Valuation is very difficult ☺

- There is no single correct methodology or answer.

- There are a number of different methodologies, each of which is sensible in its own way.

- There are many courses, titled ‘valuing technology’, no-one ever leaves satisfied because everyone wants the single answer and there isn’t one.

- In technology transfer we have a set approach to liabilities, indemnities, warranties, publication rights, improvements, etc. This fundamentally affect perceived value

“Price is what you pay, value is what you get.”

Warren Buffett

Some methods for Technology Valuation

Cost	Market	Buyer	Royalty Rate	Rule of Thumb
Total cost of goods sold	Business value comparables	Value of product to the buyer	Benchmark Industry Averages	25%

- No single method is sufficient
- Sometime not all methods are appropriate or possible

A combinations of assessment of the fundamental position of the invention coupled with a good market research to benchmark with pricing of other inventions is important for obtaining the ‘big picture’

Royalty Rates – Benchmark Industry Averages

Typical royalty rates by industry

Industry	Low %	Average %	High %
Medical Device	3.71	4.35	5
Pharmaceutical	4.75	5.66	6.57
Chemicals	2.82	3.7	4.57
Electronics	0.5		5
Machinery	0.33		10

Pharma royalty rates at different stages

Stage	Typical Royalty (%)
Pre-Clinical	0 – 5
Phase I	5 – 10
Phase II	8 – 15
Phase III	10 – 20
Approval	20% +

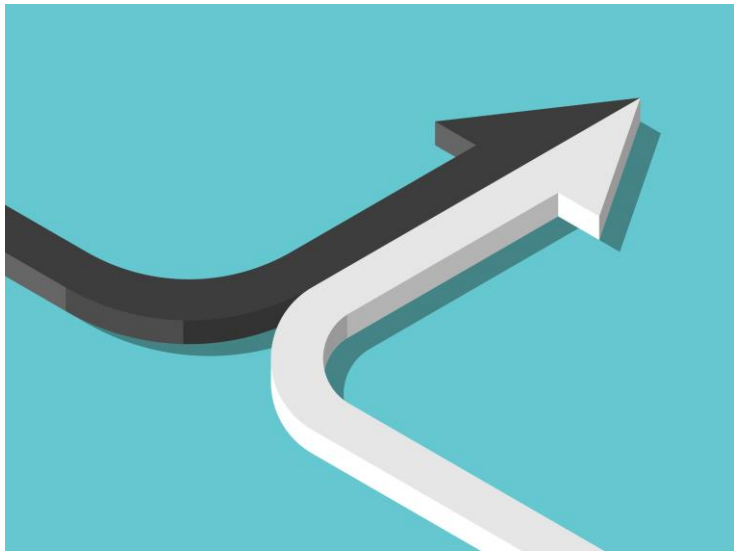
Source: Porter et al., *"Industry Norms and Reasonable Royalty Rate Determination"*, Les Nouvelles, March 2008. Parr, *"Determination of Royalty Rates"*, 2006.

Role of an Academic

Yes, you have a fundamental role!

Key contributions of researchers

- Generate brilliant ideas which provide the basis for societal solutions.
- Disclose inventions with societal or commercial potential to the TTO.
- Assist the TTO in seeking protection (e.g., patent) before publishing the results of the research.
- Tap into their networks and help raise money, engage with potential licensees, investors, and other partners.
- Support further development of the inventions (e.g., as a consultant to a licensee or by engaging in translational funding).
- Support students that want to take technologies developed from their studies further.
- Ensure continued enthusiasm from the whole TT team.



https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2002-en-incentives-in-technology-transfer.pdf

What about when IPR is jointly owned?

Unless already determined in research collaboration agreements…

- Inter-Institutional agreement are put in place to nominate the **lead exploitation partner**
- The lead exploitation partner… leads on IP exploitation (doh!)
- Plans for exploitation may or may not be negotiated at the outset (depends on who the partner is!)

Licensing to spinouts

Advantages

Spin out will be dedicated to developing the invention as its first priority

Will work closely with one or more of the inventors

Research institution knows the people involved

Financial arrangements may include shares so upside even if technology doesn't work

Disadvantages

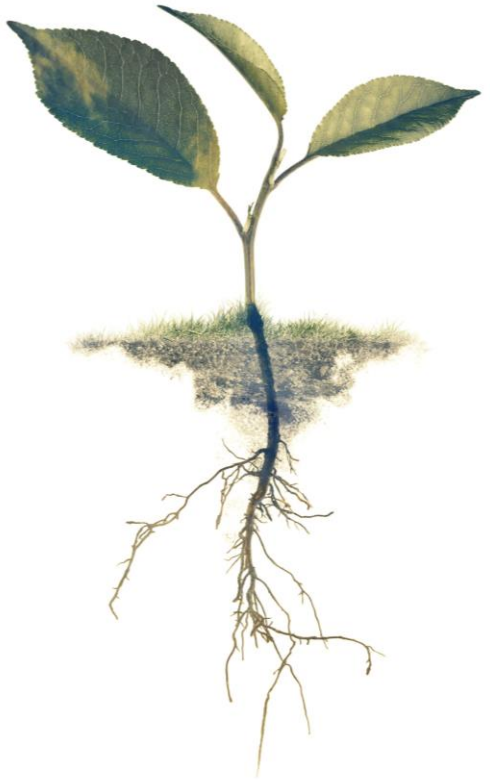
Substantial risk of conflict of interest

Concessions on future IP

Misuse of institutional resources or staff time

Must find management talent and raise investment money

Difficulty in marketing and developing distribution channels



What happens after a licence is granted?

- Scheduled (yearly or more frequent) monitoring of IP development & go-to market planst
- Monitoring of sales & share of proceeds (where applicable)
- Monitoring (via R&IS) of potential impact cases
- May involve some consultancy work for the academic team to support development by the industrial partner
- Sub-licensing may occur
  - To novate the same terms to a third party (basically acting as a substitute to the original licensee)
  - To expand the use of IPR in different markets/applications that may differ from the original intentions.
  - In each case, approval by the University usually required as to vetting the terms
- IP-related costs are borne by the licensee

Quiz time!

Question 1.

Does licensing payments *harm* the relationship?

Question 2.

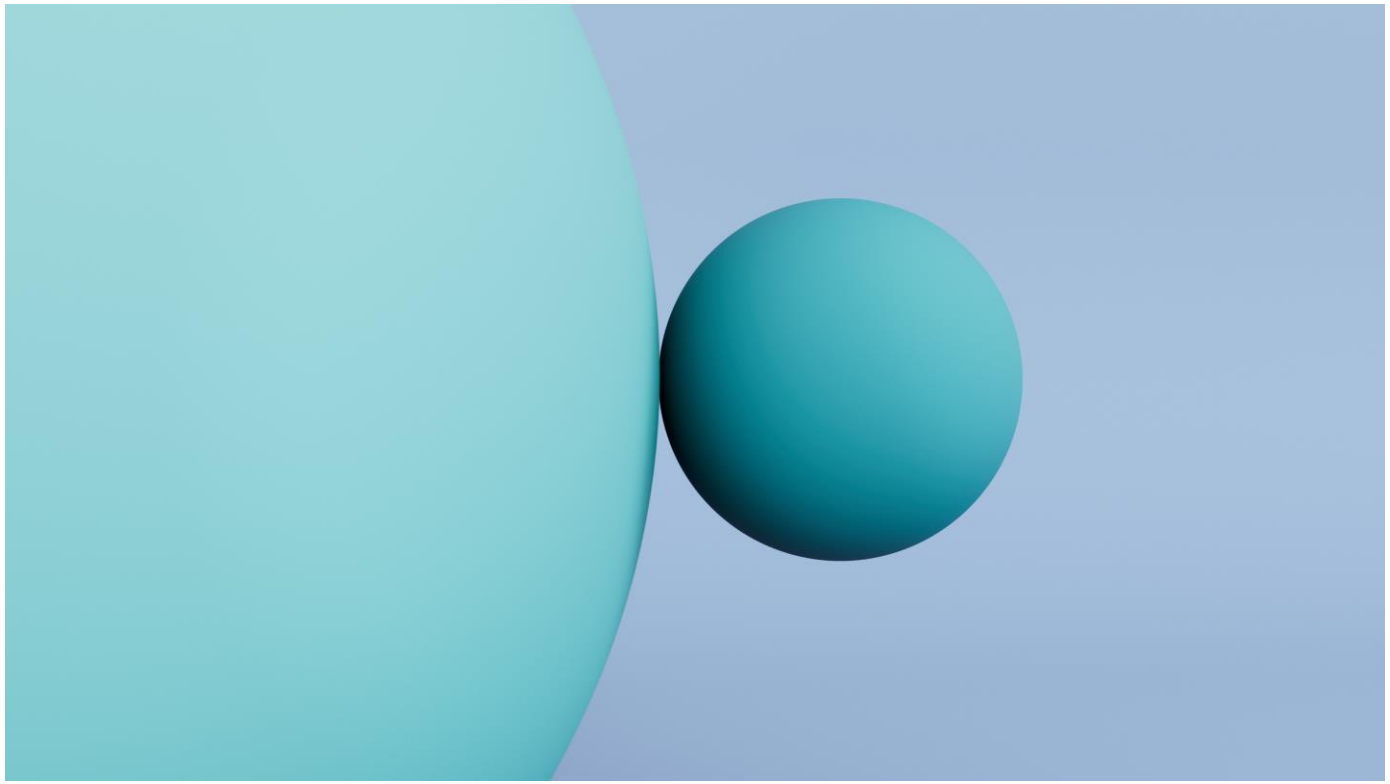
Can you *only* license patents?

Question 3.

Can you license patents still under examination?

Question 4.

Is it better to license to big corporate or SMEs?



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NEXT SESSION:

The what, why and how of creating spin-outs

Thursday 27 June 1530 h

Dr Tim Francis