Navigating AI and Intellectual Property: from Protection to Commercialisation

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Agenda

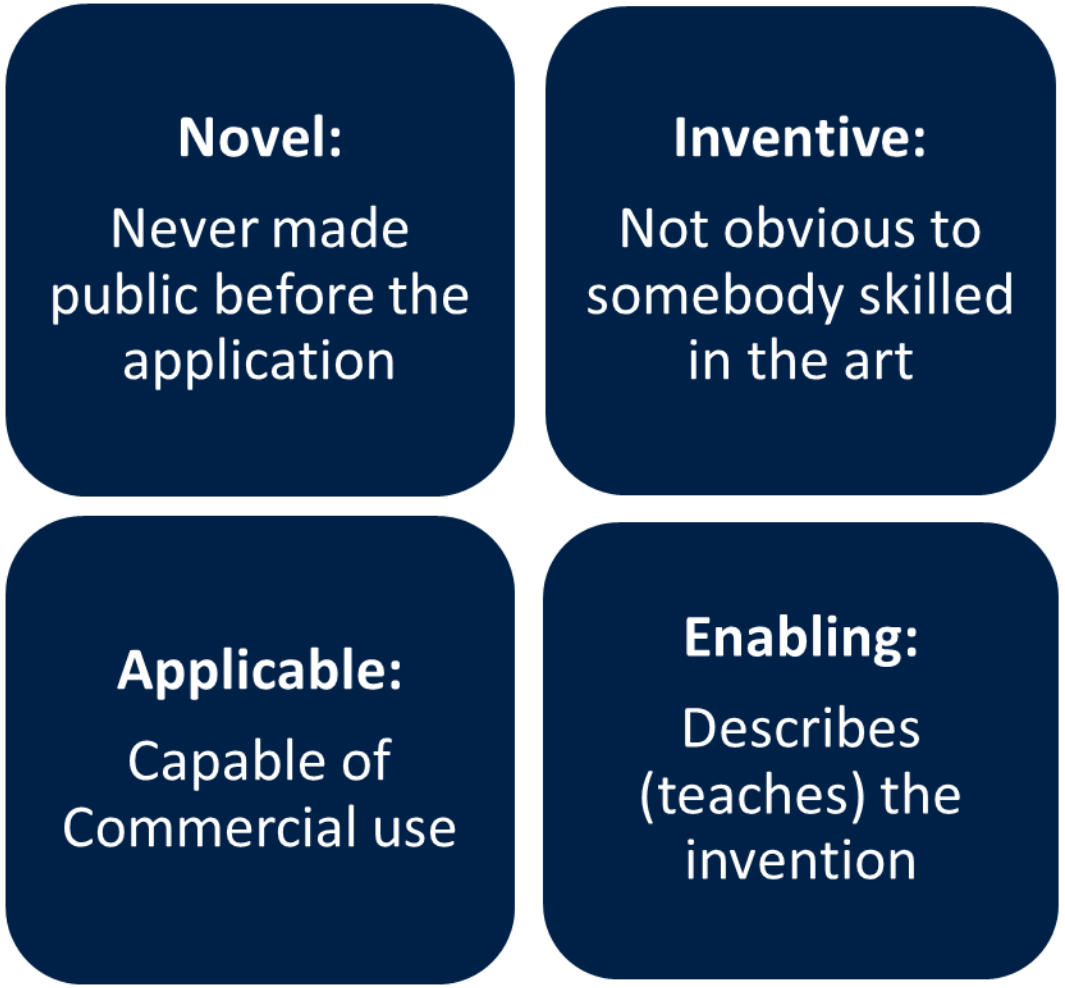
- Intro to IP and IP Protection
- IP Protection for AI-related Inventions
- Commercialisation of AI
- Case studies for Breakout groups
- Plenary and concluding remarks

Intellectual Property

- Intellectual Property is something new that you create
  - an idea, an invention, a computer program, a method, a design
- Intellectual Property can be protected in different ways

Intellectual Property – Patents

Four criteria for patentable matter:



Intellectual Property – Patenting of AI-based Inventions

Excluded subject matter:

- Mathematical methods are excluded from patentability
- It's possible to protect mathematically focused inventions — but only if the mathematics contributes to a technical solution to a technical problem.

- Practical applications involving mathematics may still be patentable, e.g.
  - Advances in cryptography
  - Maths for quantum computing
  - Algorithms applied to real-world contexts

- Methods of doing business or organising huma activities are not patentable.

Intellectual Property – Copyright

- Copyright protects original works of authorship
- Copyright may cover audio-visual aspects (GUI), technical manuals and user-guides
- Copyright may include original information and content, *e.g.*, databases but not the facts themselves (there's no copyright reward for data collection effort)
- For software, copyright is applied to the expression, not the method or the idea
  "Society is free to exploit facts, ideas, processes and methods of operation in copyrighted works"
- Protected for 70 years after the author dies (if created by a human) or 50 years after first creation/publication (if created by a computer)

Intellectual Property – Software Ownership

- Software is a copyright work and that means it's 'owned' by someone/entity

- IP ownership based on University Statutes
  - University employees → The University is the IP owner
  - Students → The student is the owner

- Only the owner is entitled to copy, distribute or adapt the software

- If the owner wants others to be able to do any of these things, they need to issue a licence to the third party others need a licence to do so

Intellectual Property – Software Licensing

- Many researchers use **Open Source** to engage a wider community in the development and/or use of their work
- Academic journals may require researchers to share their software as a condition for publication
- Best practice for releasing software on an open source licence:
  - Researchers should have approval from the Head of Department
  - check relevant funding
  - have consent from any software authors who are not University employees or students

- No clear meaning for Open Source
  - **Permissive Licences**
    - freedom to do what you want
    - - as long as author is acknowledged and licence terms are cited
  - **Viral / Copyleft Licence**s
    - places a restriction on distribution
    - must be distributed according to the same terms in which it was obtained
    - limits commercial distribution
- **"Mixed model" licensing**
  - Enables academic usage, whilst leaving space for commercial agreements

IP Commercialisation

Why commercialise AI-based inventions?

- Researchers and University benefit from commercial success
- Impact beyond research setting, e.g. societal, environmental
- May be a funder requirement
- Good source of case studies for REF

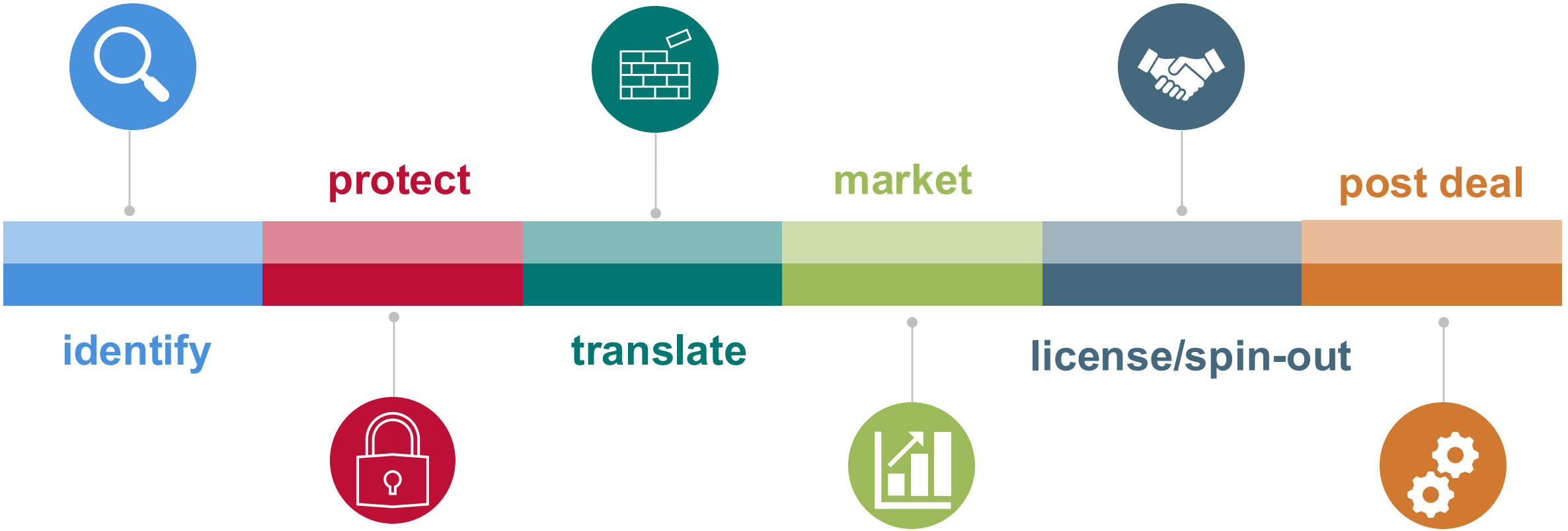
Routes to IP Commercialisation

Commercialising IP

- Patent Licensing
- Software Licensing
- Establish Spinout Companies

IP Commercialisation Pathway

Licensing & Spinouts



Routes to IP Commercialisation – Licence vs Spinout

Licence	Spinout
❑ Single application for the technology	❑ Multiple applications – “platform technology”
❑ Incremental improvement	❑ Disruptive technology
❑ Established market and players	❑ Nascent market
❑ Interested licensee	❑ Interested investor
❑ No founding team	❑ Founding team

Examples – IP Licensing

Multiscale Spatial Analysis

- ABLE – Advanced Battery Lifetime Estimation
- ML approach to diagnosing battery health from operating data
- Licensed to BBOXX, solar energy supplier in Sub-Saharan Africa
- Patent and software from Dept of Engineering Science

- Multiscale spatial analysis toolbox for analysing complex medical/biological image data
- Image analysis software created in Oxford Maths Institute
- At first only licensed for Academic use
- Currently marketing to Industry users

Examples – Spinouts

- AI-enabled platform for drug discovery working with pharma and biotech
- Founded April 2025
- Co-founder & CAIO: Prof Charlotte Deane from Dept of Statistics
- Raised £4m from redalpine, IQ Capital and Seedcamp
- Employs ~20 people

- Explainable AI (XAI) spinout providing decision support in high stakes situations
- Founded Sept 2025
- Founder & CEO: Prof Pete Grindrod from Mathematical Institute
- Raised £1.6m from EastX Ventures, SVV, UKI2S
- Employs 5 people

Case study 1

Rapid iteration and patenting

- Researcher is working on a suite of AI models for identifying RNA interactions which she would like to commercialise via a spinout. The models are constantly evolving. A high level overview is available from the research group's website.

Questions:

- What forms of IP protection may be suitable
- How do rapid development cycles interact with patent timelines?
- What aspects might realistically be protected?
- What disclosure risks arise from frequent releases or demos?
- How should expectations be managed with investors?

Case study 2

AI for Business Optimisation

- An academic has a draft paper which outlines a theoretical framework for decision support. The system uses sophisticated algorithms that is primarily framed as improving business decision-making. The paper contains no details on how the method will be applied in practice.

Questions

- Does the invention risk falling into excluded subject matter?
- How might it be reframed to emphasise a technical contribution?
- If patent protection is difficult, what alternative commercial strategies exist?
- Would know-how protection be sufficient?

Case study 3

Foundation Model Fine-Tuning with Proprietary Data

- A research group creates a specialist chatbot for healthcare professionals. They use a large pre-trained AI model and fine-tune it using publicly available information and proprietary datasets provided to them by third parties. The base model is “off-the-shelf”, but the training data and its integration and testing is time-consuming to replicate.

Questions:

- What IP may be present in the fine-tuned model versus the underlying foundation model?
- How can database rights, copyright, or contracts be leveraged?
- What risks arise from using third party datasets and how will this impact commercialisation?
- Would a licence or spinout be more appropriate, and why?

Case study 4

Open Source First, Commercial Later

- An academic releases an AI software library under an open source licence to build community adoption and citations. Industry interest grows rapidly, and several companies ask about commercial use.

Questions:

- How does the chosen open source licence affect downstream commercialisation?
- Is “mixed model” licensing still possible?
- What governance or approvals should have been considered before release?
- What lessons apply for future projects?

THANK YOU

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