European Commission

European IPR Helpdesk

Impact & Innovation in H2020
IP Management & Exploitation

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Get your ticket to innovation.

European IPR Helpdesk

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- 36 years experience of commercialising IP/research and new technology

- 22 years experience with EC as proposal evaluator, rapporteur, project reviewer and consultant

- Member of International (ISO) and European (CEN) Standards Technical Committees on Innovation Management

- Member of The Licensing Executives Society (LES)

Horizon 2020

- H2020 is based on:

  - An **impact orientated** approach

  - **Delivering** strategic technologies that can **drive competitiveness and growth**
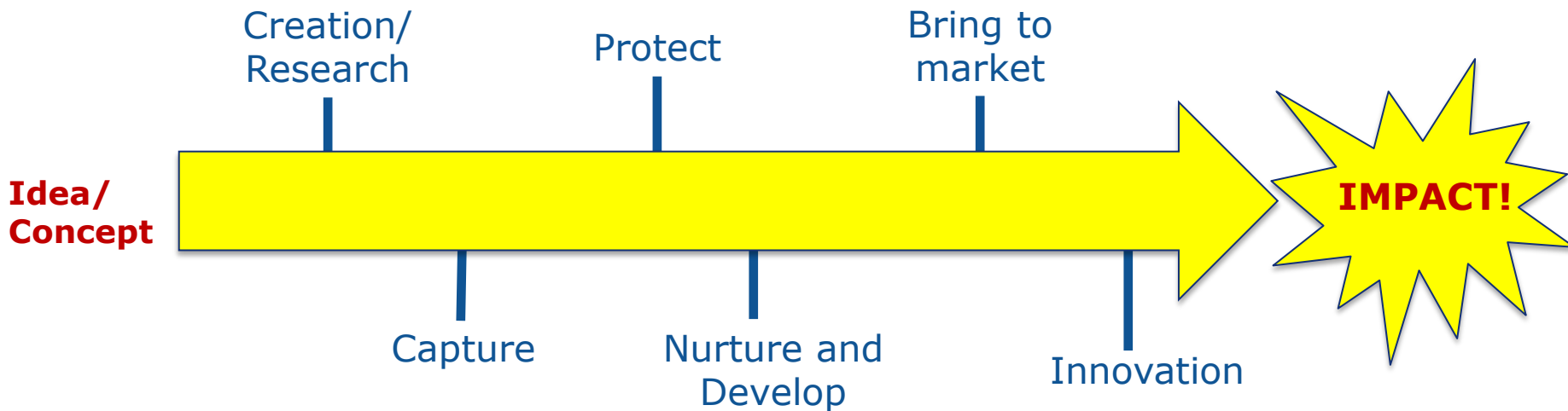
Roadmap

- Impact and Innovation in H2020 projects

- Using patent information for strategic intelligence

- Assessing project outputs

- Exploitation strategies

- Research to revenue - Case study

Objectives

- ➤ To understand the road from research to exploitation

- ➤ To understand the practical steps needed to recognise, capture, manage, protect an exploit project outputs

- ➤ To support proposals which are more likely to deliver impact and innovation

- ➤ To better steer projects as they progress

Vocabulary/Definitions

- Intellectual Property (IP)

- Intellectual Property Rights (IPR)

- Innovation

- Impact

- Exploitation

- Dissemination

STOP

Vocabulary/Definitions

Intellectual **Property** (IP)

- Products of the mind
- Products of research & experimentation
- Products of creativity

- Intellectual Property, like Physical Property can be a **valuable asset.**

- Like physical property, intellectual property is an **asset which can be traded**

Intellectual Property <u>Rights</u> (IPR)

- The law provides **legal "rights"** to protect your Intellectual Property

Not only patents! Many forms to protect and secure knowledge.....

- Patents (technical inventions)

- Copyright (Software, Written works, Engineering drawings, Semiconductor Topologies, etc)

- Design Rights (appearance)

- Database Rights (creation and arrangement of data)

- Trade marks

- Plant Breeders Rights

- Utility Models

- etc

- Confidentiality Agreements (Know-how)

- Secrets (Trade Secrets)

- Geographic dimension
- Time limits

What's the deal?

The state grants a **limited monopoly** (the IP Right) in return for **publishing** the invention - to **promote innovation** by encouraging invention and creativity, and thereby benefitting society

- The state benefits by avoiding secrecy, thus **stimulating further innovation**, and enriching society

- The creator benefits by **preventing** unauthorised use by others, unless they come to an agreement (usually financial!)

Impact

The <u>extent</u> of the benefits derived from the innovation

- Exploitation can be **commercial** or **research**

- Dissemination (or publishing) stimulates further research and development (the rationale for IPR)

STOP

Addressing Impact & Innovation in 2020

Impact and Innovation in H2020

- H2020 is based on:
  - An **impact orientated** approach
  - **Delivering** strategic technologies that can **drive competitiveness and growth**

- Impact and Innovation must be addressed in **all sections** of a proposal, **NOT JUST** the impact section

- Impact and Innovation must be managed in **all stages** of a project, **NOT JUST** during exploitation

Proposals for all Actions
(RIA, IA, SME, etc)

- **Demonstrate an understanding** of the technology and market environment

- **Justify** the project objectives

- Presenting a **credible and viable methodology** and **plan** to achieve the project objectives

- **Demonstrating capability to deliver what is planned**, including governance, policies, systems, structures, operational processes and risk management.

- Demonstrate and justify the potential impact and **how it will be achieved**

For Innovation & SME Actions

- Focus on the **business opportunity**

- Include the **concept for commercialisation**

- Ensure good level of **innovation**, i.e. develop something new

- Analyse **competing solutions** and explain **why you will succeed** and not your competitor

Not adequately addressed!
Observations from evaluations

- Innovation management

- Management of IPR

- Innovation potential

- Enhancing Innovation Capacity

- Integration of new knowledge

- Draft exploitation strategies and plans

- Contributions to the expected impacts of the call

- Barriers/Obstacles (i.e. patent/IPR search, standards)

SME Instrument
6 lessons learnt from the first evaluation (EASME)

- Too much focus on the project and **not enough on the business opportunity**;

- Not convincing when **describing the company** (you have to explain why **your company** will succeed and not your competitor);

- Not providing enough information on **competing solutions**;

- Having a too **low level of innovation**, planning to develop a product that already exists on the market;

- Proposing just an idea **without any concept for its commercialisation**;

- Just **trying their luck** (the SME Instrument is not a lottery!).

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Excellence (R&IA and IA)
Extract from proposal template

- Objectives should be **consistent with the expected exploitation and impacts of the project**

- Describe the **positioning** of the project

- Describe research and **innovation activitie**s which will be linked with the project;

- Describe the advance your proposal would provide **beyond the state-of-the-art**

- Describe the **innovation potential**

- Refer to the results of any **patent search** carried out.

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Evaluation Criteria - Exellence

- Clarity and pertinence of the objectives

- Soundness of the concept, including trans-disciplinary considerations, where relevant

- **Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches)**

- Credibility of the proposed approach

Impact (1/2)
Extract from proposal template

- Describe how your project will contribute to:
  - the **expected impacts** set out in the work programme, under the relevant topic;
  - improving **innovation capacity**
  - strengthening the **competitiveness and growth**
  - developing innovations **meeting the needs** of European and global markets; and,
  - **delivering** such **innovations** to the markets;

- Describe any **barriers/obstacles** that may determine whether and to what extent the expected impacts will be achieved.

Impact (2/2)
Extract from proposal template

- Provide a **draft 'plan for the dissemination and exploitation** of the project's results', or **business plan** if appropriate

- You will need a consortium agreement to manage the **ownership and access to key knowledge** (IPR, data etc.).

- Outline the strategy for **knowledge management and protection**

Evaluation Criteria - Impact

- The **expected impacts** listed in the work programme under the relevant topic

- **Enhancing innovation capacity** and **integration of new knowledge**

- Strengthening the competitiveness and growth of companies **by developing innovations** meeting the needs of European and global markets; and, where relevant, **by delivering such innovations to the markets**

- Any other environmental and socially important impacts (not already covered above)

- Effectiveness of the **proposed measures to exploit** and disseminate the project results (including **management of IPR)**, to communicate the project, and to manage research data where relevant

Implementation
Extract from proposal template

- Give visibility in the work plan to 'dissemination and **exploitation'**

- Describe how **effective innovation management** will be addressed in the management structure and work plan.

- Describe the industrial/commercial involvement in the project **to ensure exploitation** of the results

Evaluation Criteria - Implementation

- Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

- Complementarity of the participants within the consortium (when relevant)

- Appropriateness of the management structures and procedures, including risk and **innovation management**

Issues from 1st call proposals

- **Mismatch between proposal templates and (less specific) evaluation criteria meant not all issues were addressed in evaluation; e.g.**

  - Prior art search, positioning, etc

  - Barriers and obstacles

  - Strategies and plans for knowledge management and protection

- **Not all terms were fully understood by proposers or evaluators; e.g.**

  - Innovation capacity/innovation potential

  - Innovation management/IPR Management/Exploitation

STOP

What to look for in a good proposal?

Strategic Intelligence to Action Plans

- **Gather information** to understand the landscape (market, technical, IPR, SOTA, Competitors, etc)

  - ▪ **Analyse** the information to obtain **strategic intelligence**... to allow you to

  - ▪ **Justify** the project objectives ... and to

  - ▪ **Plan** the a route to get there, resulting in:

- **Realistic, credible, achievable and measurable** strategies and plans, based on a **sound analysis** and **quantitative** information where possible

Planning to maximise the impact

- **Innovation is about satisfying needs & delivering benefits**
    - What needs will be addressed?
    - What benefits delivered?
    - to whom and **how much benefit** (impact)?

- Select project objectives to maximise impact (**extent of the benefit**)

- Plan the best route to achieve the objectives
    - **R&D strategy and delivery plan**
    - **Commercial and non-commercial exploitation strategies and plans**
    - **Dissemination and communication strategies and plans to support "exploitation" and use.**

STOP

Implementing the project
Governance, Structures &
Processes (Management)

Implementation

Ensuring management **structures and procedures** are in place to:

1. Capture research results
2. Manage IP (used and created)
3. Protect new IP
4. Assess and find the opportunties
5. Exploit/Extract value from research outputs
6. Dissemination and communcation of research outputs

Evaluation Criteria - Implementation

- Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

- Complementarity of the participants within the consortium (when relevant)

- **Appropriateness of the management structures and procedures, including risk and <u>innovation management</u>**

  (What is Innovation Management all about?)

Key Issues

- Innovation Management
- IPR Management (including ownership)
- Exploitation Management
- Addressing Barriers/Obstacles (i.e. freedom to use)
- Standards/regulations

- Impact
- Innovation Potential
- Enhancing Innovation Capacity

Innovation management

is not

IPR Management

is not

Exploitation Management
(also not dissemination or communications management)

STOP

Innovation Management

Innovation Management
From Opportunity to Benefit

Overall management of all activities related to understanding needs, with the objective of successfully identifying new ideas, and managing them, in order to develop new products and services which satisfy these needs.

Innovation management starts at the point of capturing the creative works and finishes when it a product or service is deployed.

Innovation Management
Responsibilities and tasks

- Understand the market needs and opportunities

- Be responsible for the overall strategic approach

- Ensure the project's foundations, management processes and structures (for innovation) are sound and working effectively

- Continually monitor the market, IP and technology landscapes

- Steer (adapt if necessary) the development plan to meet the project objectives and market needs – including market deployment

The management framework

Strategic and overall project management

Driver

Navigator

Innovation management

Engine room

Work packages and task management
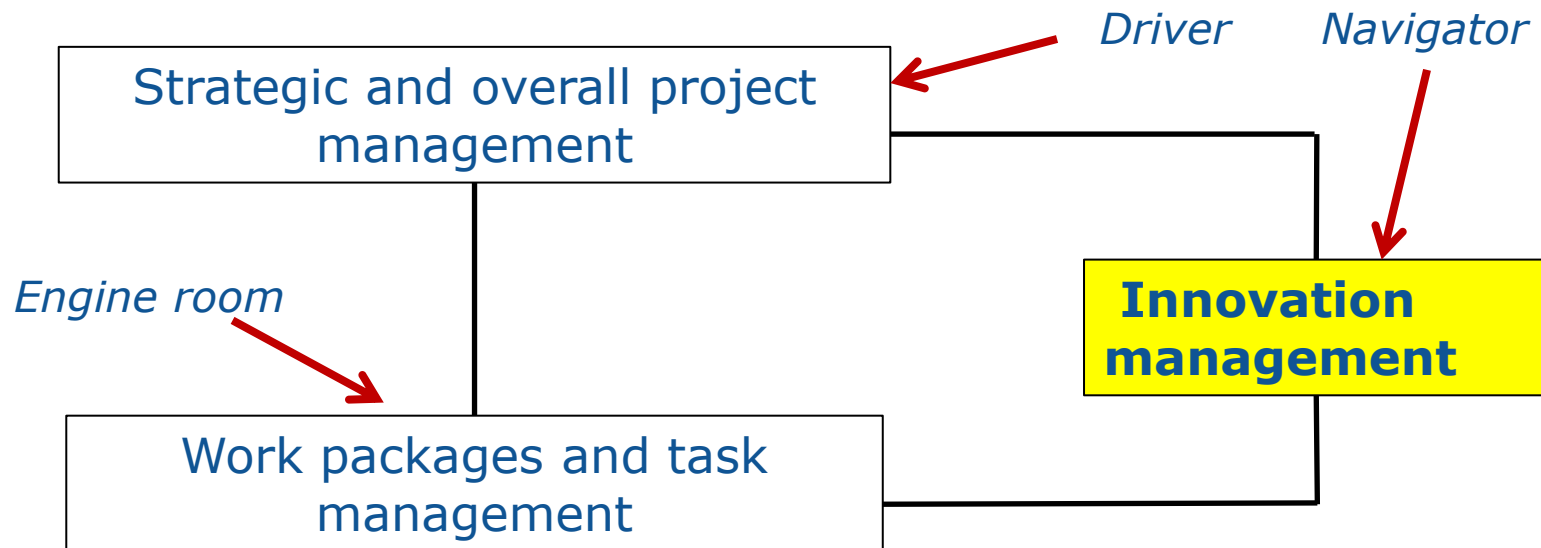
**Someone must be responsible for managing
all activities related to innovation, from market need through
capturing the IP, to market deployment**

Securing the foundations
(at the start of the project)

- Consortium agreement

- Agree IP access, usage rights and policies (foreground, background, during and after project)

- Agree IP exploitation policies

- IP awareness training for participants (to avoid IP value leakage)

- Ensure good research practice (GRP) training and procedures in place

Processes to Capture the IP
(during the project)

- Record Keeping (part of GRP)

- Help researchers to recognise and capturing IP

  - Regular reviews/training/feedback

- Facilitate IP disclosure (to IPR Manager)

  - Standard "disclosure forms"

- Pre-publication review procedures

- Ensure appropriate access and usage rights (foreground, background and 3rd party). Processes to manage.

STOP

IPR Management

IPR management
IP used by the project

- Ensure appropriate access and usage rights for key IP before **AND after** the project

- Monitor the use of 3rd party components (especially licence terms – e.g. Open Source) during and after project

IPR management
IP generated by the project (capture, manage and secure)

- Implement the IP **management strategy and plan**, based on IP **Policy**

- Regular reviews of project outputs (IP) to stimulate disclosure

- Securing agreements for foreground IP
  - Ownership
  - Management
  - Access/Use
  - etc

STOP

Capturing and Protecting the research results

Recognising the assets

- Intellectual Property, like physical property is an asset which has value and can be traded.

- The creators of the IP (i.e. the researchers) must be made aware of the value of their creations, and the steps they must take to protect its value.

**The creators must be able to recognise
what they produce
and know where to go next**

STOP

Ownership

Ownership of foreground IP

- Legal Ownership of EC Supported foreground IP is with the Institution – so institution involvement is crucial for issues such as IP ownership, access and use.

Ownership!

- Who owns what? ✓ (default EC rules?)

- What are the relative contributions to the invention? How will they be agreed?

- Who will manage?

- Who will pay for protection?

- How will costs be shared?

- How will revenue be shared?

Before any project starts...

- Agree ownership policies. If joint what are relative contributions, **and how will they be agreed**?

- Agree who will manage – ONE manager

- Agree who will exploit – ONE exploiter

- Agree cost and revenue sharing models

- Agree **processes to resolve conflicts**, e.g. regarding protection and use in certain territories, sectors or non-use. Flow back options.

Visitors

Ensure IP Policies are agreed to by "non-staff" who might become involved in the project.

- Taught research students
- Visiting academics
- Advisory board members
- etc

Capturing the IP is only the start!

IPR management
IP and opportunity assessment

- Assessment of foreground IP (once disclosed)

- Prior art search for patentability, overlap, and/or potential partners/collaborators

- Review of alternative technologies

- Assessment of **market opportunities**

- Assessment of **innovation potential**

- Assessment of potential to enhance **innovation capacity**

IPR management
Protecting the IP

- Review the need for formal protection (if possible) – in line with exploitation strategies

- Pre-publication reviews (for patentable inventions, or for commercially confidential inventions)

- Invest in formally protecting **and securing** foreground IP as appropriate

  - Patents, copyright, keep secret, etc

  - Secure proof of creation

  - etc

STOP

Exploitation Management

Exploitation Management
Policies and strategies – the exploitation roadmap

- Exploitation might be **commercial or research**

- Preparation of exploitation and commercialisation strategies (and plans, if appropriate) - **including the project results as a whole**

- Coordination of individual partner's exploitation plans to avoid conflicts

- Preparation of more detailed strategies and plans during the project

- Adapting to changes and trends in market and technologies
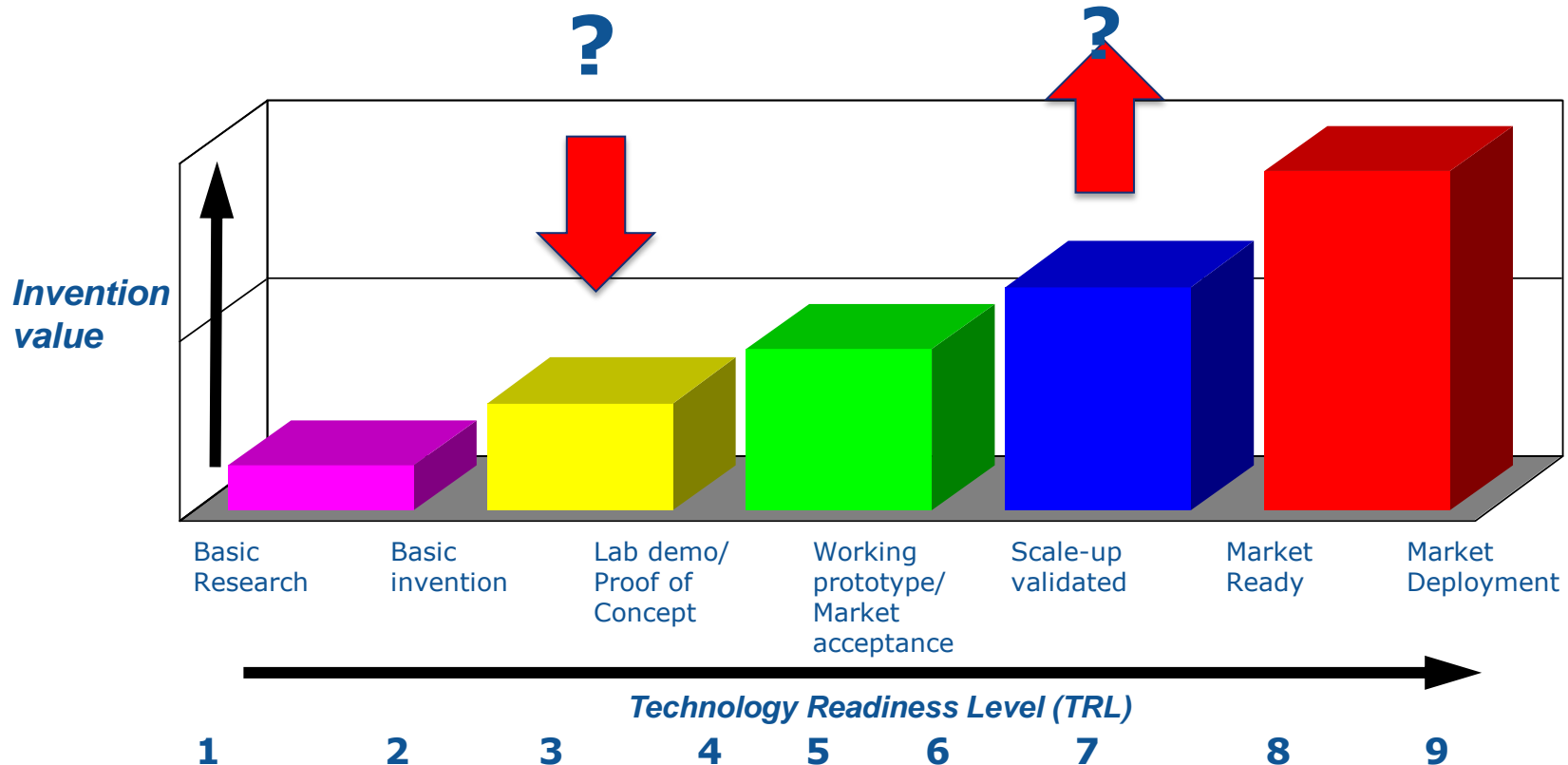
Exploitation Management

Practicalities to address

- How far down "TRL" road to go?

- Expected business models (licence, start-up, JV, etc)

- Do you need to licence in 3rd party components, etc?

- Prepare a draft business plan or investment proposition, if appropriate (with financials)

- Prepare a marketing (communication/dissemination) campaign to support exploitation

- Might more investment needed?

  - what for (PoC, scale-up, company start, etc)

  - how much, where from

Standards
barriers or opportunities

- Prescriptive
- Advisory
- Best practice

- www.iso.org
- www.cen.eu

Standards

- Standardization is identified in Horizon 2020 as one of the measures that will support market take-up of research results and innovation.

- Help on addressing standardization in Horizon 2020 projects is available from CEN-CENELEC.

- For more information see:
  http://www.cencenelec.eu/research/tools/horizon2020/

- Download guide from:
  http://www.cencenelec.eu/research/news/publications/Publications/Standards_Horizon2020.pdf

Nothing in isolation!

- IPR, Exploitation, Dissemination management are all closely interdependent

- They are all an integral part of innovation management – but are different activities.

- They rely on understanding the IP, technical and commercial landscapes

Summary

STOP

Summary

- Impact and Innovation needs to be addressed in **all 3 sections** (excellence, impact and implementation) of a proposal

- Proposals must demonstrate an understanding of **all aspects of the "landscape"** (market, technical, IPR, SOTA, Competitors, etc), and analyse it to obtain **strategic intelligence..**

- ..to **select and justify** the project objectives and to **plan** the best route for achieving them (strategies, methodologies and plans)

- The implementation plan must ensure that there the management **structures, processes and governance** are appropriate and sufficiently comprehensive (for IP) to ensure project results are effectively **captured, managed, protected and exploited**

Intellectual Property
research results

- A valuable asset which, like physical property, can be traded – bought, sold or leased…

- But, unlike physical property there are many more ways of extracting value…

Many Different Business Models

Venture fund strategic alliance

Investment Joint venture

Licensing Joint Venture

Spin out

Licence to a spin out

Licence

Sale

Increasing level of involvement
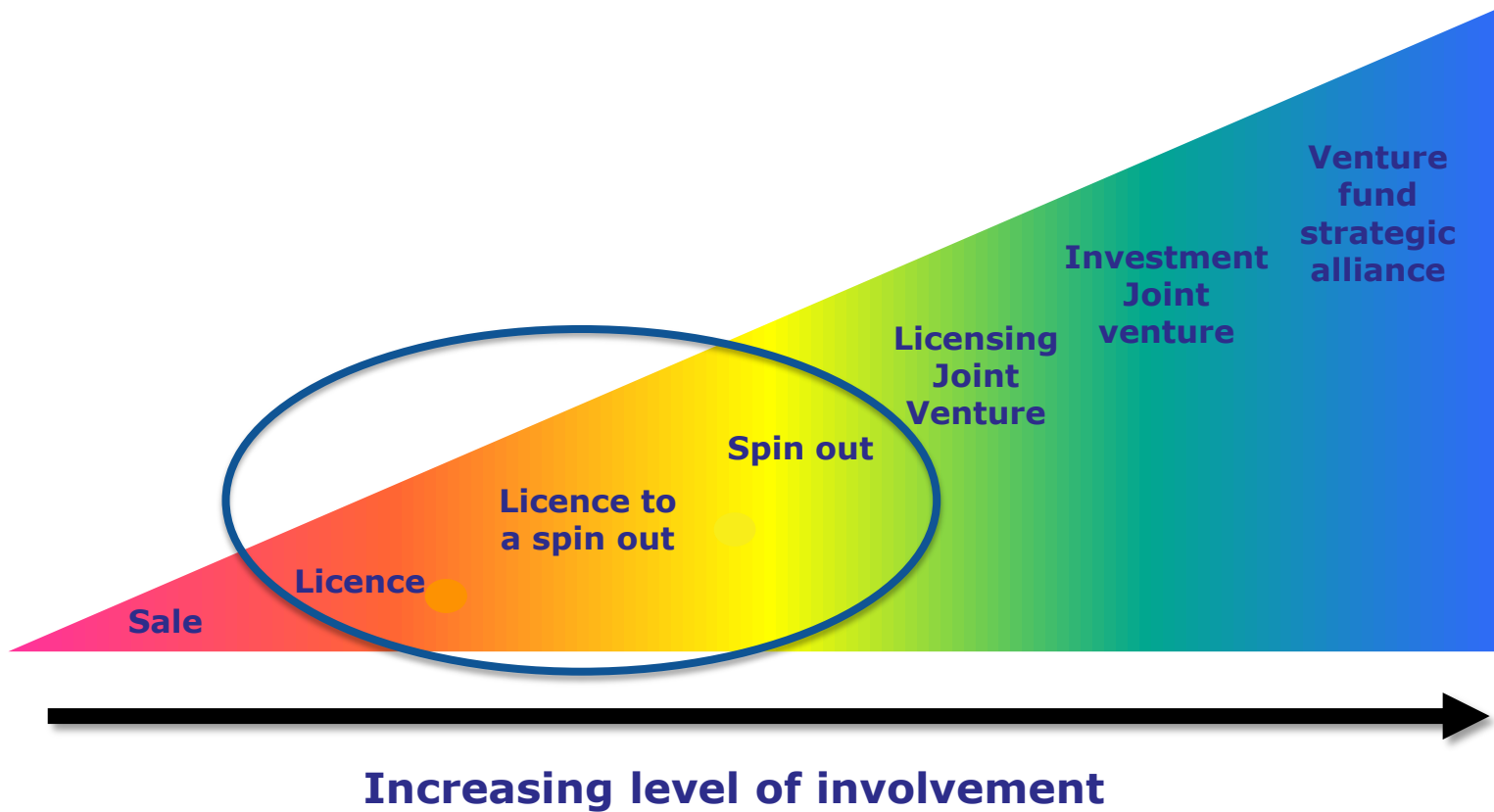
What exploitation route?

- Sale?

- **Start a new company?**

- **Licence to an existing company?**

- Joint Venture?

- **Further research?**

Thank you. Questions?

For further questions and general IP advice, please contact our Helpline team:

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