



# **Insights into project applications**

FROM  
ESTABLISHING THE CONSORTIUM TO PROPOSAL SUBMISSION

**by IRIS**

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## 1. Vocabulary/Definitions

### 1.1. Intellectual Property

*"refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce" (source: OMPI)*

*∴ Products of the mind*

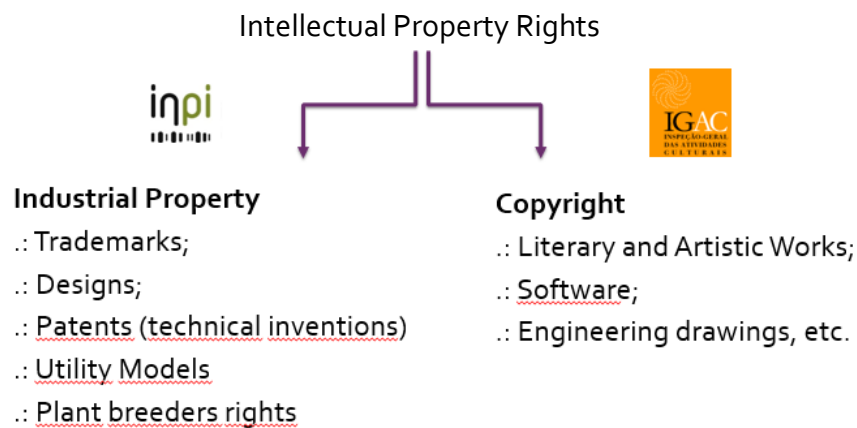
*∴ Products of research & experimentation*

*∴ Products of creativity*



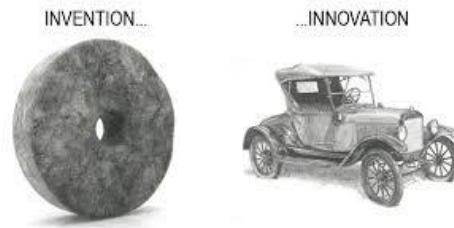
*Like Physical Property, IP can be a **valuable asset, which can be traded** (sold, bought, leased, used as collateral or given away).*

### 1.2. Intellectual Property Rights (IPR)



Some IPR exist automatically, others must be registered and maintained. IPR are territorial and time-limited rights.

### 1.3. Invention is NOT Innovation



***Invention** is the realm of research and discovery, basic science and the development of new ideas and knowledge.*

***Innovation** is the new and successful application of those ideas to address issues.*

### 1.4. INNOVATION vs. IMPACT

“**Innovative**” means more than just “new”. Innovation is generally interpreted as the introduction of an original way to achieve something.

∴ The outcome of a research project therefore can be called innovative if it may lead to a new methodology to produce a good or a service.

∴ For a research project to be considered “Innovative” it does not mean that it’s outcome must be an invention: it can be considered innovative if it considers a new way to apply previous knowledge.

**Ask:**

- ✓ Does the outcome of this research lead to new possibilities for the benefit of society in general?
- ✓ Should patent rights be considered for the results of this research?
- ✓ Is there a possibility for special applications in the developing world?

**“Impact”** – means the benefits derived from innovation.

The larger the benefit – the larger the impact!

**Any type of innovation**

∴ innovations **do not have to be commercial**;  
∴ innovations can be based on new **products, services**, organisational or business **methods**, improved **networks** or collaborations, advisory **reports**, etc.

**Any type of impact (benefit)**

∴ Benefit (and hence impact) **do not have to be financial**;  
∴ The impact of the innovation can be **societal, research, environmental, technical, commercial, educational**, or anything that delivers a benefit to someone or addresses a **NEED**

## 1.5. INNOVATION Potential and Capacity

**Innovation Potential**

∴ What is the potential of the project to deliver an innovation (i.e. something new which when used will deliver a benefit?)

**Innovation Capacity**

∴ Do the project results have the capacity to stimulate further innovations, and/or increase the amount of benefits delivered?  
∴ Can the project results be used in other areas (beyond those of the project?)

## 1.6. Dissemination and Exploitation

### Dissemination

- ∴ Telling
- ∴ Dissemination stimulates use for further research, commercial development, education, informing policy, etc.

### Exploitation

- ∴ Using
- ∴ Exploitation can be commercial, research, policy guidance, educational, etc.

## 1.7. Dissemination and Communication

### Dissemination

∴ What is “dissemination”? – ‘disseminate’ its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).” – “This does not change the obligation to protect results, confidentiality obligations, the security obligations or the obligations to protect personal data.”

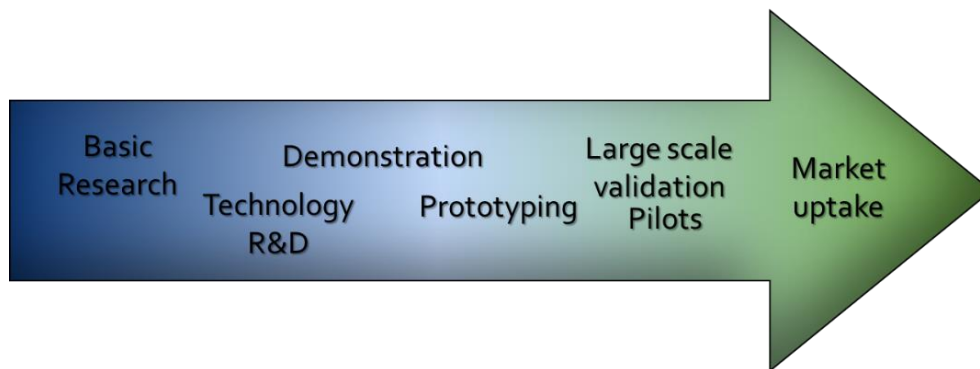
### Communication

∴ What is “Communication”? : “It must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.”

**TIP:**

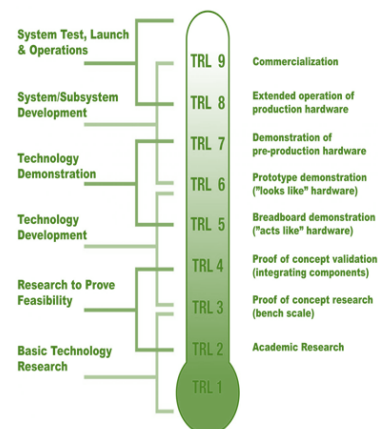
- ✓ Include a communication plan in the proposal (as a separate - or part of - a WP)
- ✓ Be proportionate (large project => more ambition)
- ✓ Address audiences that go beyond the action’s own community (including the media and the public)

## 1.8. Innovation Cycle



## 1.9. Technology Readiness Levels (TRLs)

- ❖ The TRL is a new dimension in R&D projects.
- ❖ Many of the call topics have a defined TRL at which the implementation of the proposal is intended to start, as well as a target TRL.
- ❖ The use of Technology Readiness Levels (TRLs) as a measurement of the maturity level of particular technologies.
- ❖ This measurement system provides a common understanding of technology status and addresses the entire innovation chain.





## 2. Proposal Preparation

The Scientific Component of the project is the central nucleus of the proposal and the section that will be subject to the closest scrutiny by the evaluation panel to determine its scientific merit.

### Scientific component

- Summary
- Technical Description
- Literature Review
- Research Plan and Methods
- Tasks
- Project Schedule and Management
- References
- Previous Publications

Your proposal should.....



## 2.1. Summary

### Idea

- ∴ An idea is something that only exists in your mind.
- ∴ Your task is to present the idea in a fundable proposal.
- ∴ Take a vague idea and identify a specific problem or need associated with it.



### Where does my idea fit?

- ∴ You should know where your idea is in the innovation cycle
  - ∴ Which is the starting TRL
  - ∴ If you can be the coordinator or partner
- 
- ∴ **Coordinator** – you must be able to manage all partners (the big picture in your mind)
  - ∴ **Partner** - a contributor to the project (one piece of the puzzle)

## **Explain why you or this consortium?**

- This is where you demonstrate that you are the right person to do this project.
- Do not simply say “See resume.”
- Convince the funding agency the you are capable of accomplishing what you say you can accomplish
- Highlight the expertise of all key personnel
- Include experience you have had managing other projects
- Weak qualifications or inexperience in some cases can be compensated for by adding appropriate team members or showing your strong competences in the area.
- Indicate responsibilities of all, and level of effort.

## **In Key Personnel Section Address...**

- Publications in the area of the proposal or related areas.
- Evidence of relevant training, certification, or clearance.
- Unpublished papers, conference presentations in the area.

## **Institution’s Qualifications**

- Why should the award be made to your institution?
- The Grants Office will help you with the information in this section.
- Highlight institution’s capabilities, relation of the project to mission.
- Facilities, support, library, computer, etc.

## 2.2. Technical Description

### The Needs or Problem Statement

In God we trust in needs  
statements ...all others  
bring data

#### The Task You Face

- Critically important, and often poorly written
- Convince the funding source that you understand the need and can help them solve the problem
  - Prove the need
    - cite evidence
    - illustrate with graphs and charts
  - Demonstrate that the need is pressing
  - That the problem is an important problem to be solved
  - How your project will address the problem and what gaps will it fill

## The Problem Statement: Framing the Need

- Don't assume that no one else has ever thought of your idea.
- The **Problem Statement** establishes a framework for the project's goals, objectives, methods, and evaluation
- Provide a thorough explanation of your need
  - test assumptions
  - anticipate questions of others
  - incorporate proposal guidelines
- Begin with a framing statement then provide documentation

## A Good Problem Statement Should:

- Show that you understand the problem
- Demonstrate that this is an important problem to solve, not only at Whitworth, but regionally and nationally as well
- Clearly describe the aspects of the problem that your project will address, and what gaps this will fill
- Describe the theoretical or conceptual basis for your project and your knowledge of the issues surrounding your proposed project
- Include statistical data, if appropriate
- Demonstrate that your approach is creative or innovative
- Describe how this project fits into the already existing goals of the organization

## Questions to Ask, Things to Know

- What significant needs are you trying to meet?
- What is the current status of the needs?
- Will this project help meet the need?
- What really needs to be done?
- What services will be delivered? To whom? By whom?
- Is it possible to make some impact on the problem?
- What gaps exist in the knowledge base?
- What does the literature say about the significance of the problem, at a local, state, regional, national level?
- Is there evidence that this project will lead to other significant studies?
- What previous work has been done to meet this need? Was it effective?
- What will be the impact of this study?

### Example

“Children are exhibiting violent and disruptive behavior.”

### Check your Assumptions



## Improve this statement by:

- Children are exhibiting violent and disruptive behavior.

Clarifying the assumptions

Anticipating the questions

## Funded Problem Statement

The harsh truth is that growing numbers of children in America are exhibiting violent and disruptive behavior or externalizing behavior (also referred to as antisocial behavior, challenging behavior, defiance, noncompliance, aggressive behavior, acting-out, etc.) beyond the occasional minor incident typical of most children during the normal course of development. Such behavior has become one of the most pressing issues in schools.

## Dissecting a Problem Statement

- The first sentence is the problem.
- Then clarify the problem by defining both the behavior and what is normal
- States that this is a pressing need which is hopefully the need the funder is addressing

## 2.3. Literature Review

### Documenting the Problem Statement

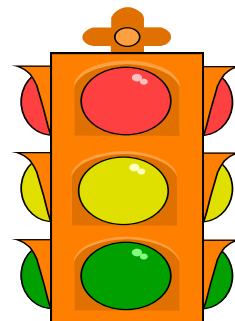
- Rooted in factual information
  - must document that your initial statement is correct.
- Show you know what's going on in the field, what the basic issues are
- Use national and local information
  - showing that the local problem is also a national/worldwide one

### Documentation

- Cite current literature
  - 6-10 key references
  - 1-2 of works should be yours
- Key informants
- Case studies
- Statistics - objective
- Surveys
- Focus groups
- Use relevant graphs and charts

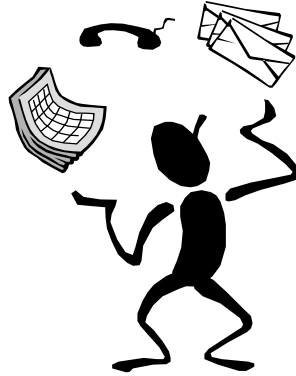
### Words that paint a picture

"There is still not a single traffic light the length and breadth of Pend Oreille County. This is the other Pacific Northwest."





## How would you document your problem statement?



## Organizing and Writing the Needs Statement

- Go from the statement
- Build your case with the data
- Follow the guidelines
- Be succinct and persuasive
- Tell your story and build your case drawing to a logical conclusion that leads into the project goals and objectives

## Ending a Needs Statement

- Emphasize the significance of the project
  - what will be the result
  - what impact will it have
  - will the impact continue
- You might present your project as a model
- Always address the priorities of the funding agency
- Forecast the usefulness and importance of the results

## What? | Goals and objectives

You should be able to describe succinctly what you are going to do in a way that everybody will understand it .



## The Goal

- Both the goals and objectives should flow logically from the statement of need.
- Goals convey the ultimate intent of the proposed project, the overarching philosophy, **A CONCISE STATEMENT OF THE WHOLE PURPOSE OF THE PROJECT.**
- The opening statement of this section should begin with **"the goal of this project is to..."**

## A Well Thought-Out Project:

- Will have
  - one or two goals
  - several objectives related to the goals
  - many methodological steps to achieve each objective.

## Objectives

- The objectives state the essence of the proposed work in terms of **what** will be accomplished.
- Break the goal down to specific measurable pieces, the outcomes of which can be measured to determine actual accomplishments.

## Objectives

- Objectives discuss **who** is going to do **what**, **when** they will do it, and **how** it will be measured.
- Discuss desired end results of the project.
- But not how those results will be accomplished.
- They are action oriented and often begin with a verb.
- Arrange them in priority order.
- In a research proposal the objectives are the hypotheses, they are less specific, but reinforce that the project is conceptually solid.

## Is this an Objective?

- If our goal is getting people from Indiana and Kentucky to interact to improve the economy.(**goal**).
- To construct a bridge over the Ohio River.
- "To improve trade (**what**) within five years (**when**) between residents of southern Indiana and northern Kentucky (**who**) as measured by each state's economic development indicators related to interstate commerce (**measure**)."

## Research Objectives

- Generation of new knowledge
- Hypothesis or research questions
- generally short
- Example:
  - determine the impact of sheep ranching on the wild puma population in Peru
  - identify the needs of the farmers in preventing loss of sheep due to puma predation
  - formulate ranching guidelines to meet the needs of the farmer and the wild puma

## 2.4. Research Plan and Methods

How? | Methodology



### Plan of Action, Project Design, or Methodology

- Usually, this is the area allotted the most points.
- Often poorly written or missing altogether.
- Some proposals are turned down because the methodology is unsound.



## Methodology, Project Design, Plan of Action

- Often the most detailed and lengthy section
- What specific activities will allow you to meet your objectives
- Task oriented, specific, detailed
- Essential that you demonstrate all the steps necessary to complete project with each flowing logically from the previous to the next.

## Questions for Methodology

- Walk the reader through your project
- Describe the activities as they relate to the objectives
- Develop a timeline and/or and organizational chart
- How will the activities be conducted?
- When?
- How long?
- Who?
- Where?
- What facilities?

## Methodology in a Research Proposal

- If methodology is new or unique explain why it is better than that previously used
- Specify research design and why it was chosen.
- Include descriptions of variables and their relationships.
- Define all important terms
- Provide descriptions of data sources including subjects, how they will be selected, the size of subject pool, and the size of the sample.
- Describe all procedures
- Include pilot instruments and data when possible
- Step-by-step work plan

## Tasks

- The objectives, in the context of the project;
- The methods and approaches proposed to achieve them;
- The expected results of the task, and how these results are prerequisites for the tasks to follow;
- How they articulate with the other tasks;
- The role each partner and institution will play in the task.

## 2.5. Timeline

### When? | Proposal time plan

- Like “who,” “when” also has two components: the project timing/length and the hours/times for service delivery/activities.
- Most projects proposed for grant funding will have a project period—say, 3 years. You should construct a timeline, whether included as an actual table or not, demonstrating when activities will start.
- Don’t forget the steps necessary before service delivery starts, such as hiring and assigning staff, formalizing the partnership structure, etc.
- The timeline should also contain significant milestones, like stabilized case load, completion of the “Action Plan,” etc.

### Final Check list | KEY QUESTIONS TO ADDRESS

- What kind of **needs** does the project respond to?
- What kind of **problem** the proposed solution will solve and why this solution will be **better** than existing ones and in which areas?
- What **new knowledge** (results) the project will generate (assessment of the state of the art)?
- Who will **use** these results?
- What **benefits** will be delivered and **how much** benefit?
- How will end users be **informed** about the generated results



## 2.6. Project Schedule and Management

### PROJECT SCHEDULE AND MANAGEMENT

- Indicate a timeline and describe the management structure to be adopted in the project, in particular with respect to coordination between participants, any meetings to be held and the reporting structure.
- A list of “milestones” should also be indicated.

### 3. Evaluation



## Evaluation

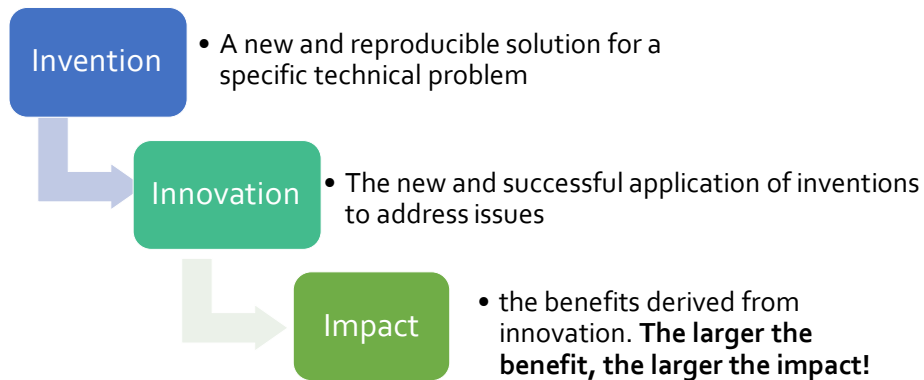
Did it go up or down?  
Were they happy?

## Evaluation

Give your proposal to someone (e.g. a friend) who is not an expert in the field.

Keep your proposal simple!

## 4. Maximizing the Impact of your proposal



### Impact on your project proposal

- Most types of calls follow an **impact oriented approach** - following EU H2020 guidelines;
  - Demonstrate that your project innovation will have impact:
    - Societal
    - Environmental
    - Technical
    - Commercial
    - Educational
    - Research
    - Policy
    - Etc.
- IPR, Innovation and Impact must:**
- Be addressed in all sections of a proposal and not just in the impact section
  - Be managed in all stages of a project, not just during exploitation

## Understand the (Potential) Impact

Innovation is about satisfying **needs** & delivering **benefits**!

**How does your project respond to the **call topic**?**

The **call topic** describes the challenges (**needs & wants**) and expected impacts (**benefits**)

- ✓ What needs/pain/problem will be addressed?
- ✓ How big is that problem? Search for numbers!
- ✓ Why should your solution be used instead of others? Compare with state of the art. Why is your solution better?
- ✓ What benefits will be delivered? (societal, technical, research, policy...)
  - To whom?
  - And how much benefit?

Select the project objectives to extend the benefits of your project – hence meeting the benefits of the call topic and maximizing the impact

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## Strategic Intelligence

### Plan for the best, prepare for the worst

#### Checklist:

- **SOTA (state of the art)**
  - ✓ how will you go beyond it?
  - ✓ what new IP will be produced?
- **Market factors** - market need, market fit, size, distribution, growth
  - ✓ what needs will you address?
  - ✓ what benefits will you deliver?
  - ✓ who will you target?
- **Competitor intelligence:**
  - ✓ what other projects exist in this area?
  - ✓ what are your differentiators, why are you better?
  - ✓ Why should your solution be used instead others?

## Strategic Intelligence

### Plan for the best, prepare for the worst

#### Checklist:

- **Technologies/solutions:**
  - ✓ What other technologies/solutions exist for the same problem?
  - ✓ What is their status (TRL), strengths and weaknesses?
  - ✓ Why will your solution be better than the alternatives, in which areas, by how much?
- **Potential barriers:**
  - ✓ Are there other IPRs that collide with yours? Where are they enforceable?
  - ✓ What are the regulations for your technology?
  - ✓ What are the health & safety, ethics, privacy and data security issues that you should address?
- **Standards: prescriptive, advisory, best practices – barrier or opportunity?**
  - What are the standards (national, regional, international)?
  - Does your solution meet these standards?

## Information sources

- Academic publications
- Market reports – Google it!
- Industry partners
- Company websites, annual reports, news
- Technical reports
- Industry events, conferences and exhibitions – network!
- Regulatory agencies
- Patents and other registered IP

## Patents – what information do they provide?

- State of the art
- Freedom to use
- Potential new technology areas
- Key players
- Market intelligence
- Competitor intelligence
- Technology intelligence
- Finding research and/or commercialisation partners

## SOTA: avoid re-inventing the wheel - literally

- 15-25% of all R&D efforts are wasted each year on inventions that have already been invented – up to 60 000 M/year costs in Europe (2006)
- Don't start your R&D until you have done a search!



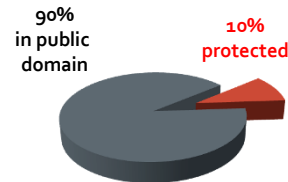
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In the example shown, the application relates to the technical problem of the excessive wear or even explosion of aircraft wheels due to high acceleration when touching the ground. The proposed solution provides for small pockets on the side of the tyres that make the wheels spin in the wind without the need for an additional electrical motor. **This invention had already been made in 1929**, when a US application was filed which described it.

The key message here is, **always perform a prior art search!** You should check the literature, including articles and patents, before you start your project. You should also search again at various project milestones. Your project might have changed and other inventors might have been active, too.

## Why patents?

- Approximately **80%** of the information which can be found in patents is not available anywhere else in comparable detail.
- The **largest** freely available technical publication resource
- **Large** resource: 90+ million documents
- And **growing**!

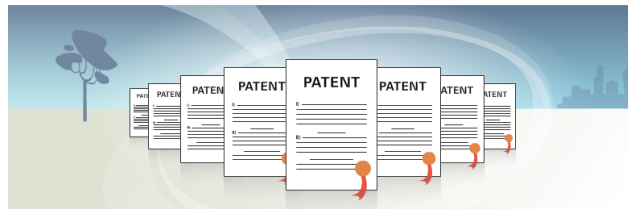


**You can find many great solutions for free!**

### Reasons

- Applications rejected/withdrawn or patent invalidated
- Payment of renewal fees discontinued
- Patents have lapsed

## Patent Databases



Discover the World of Patent Information  
Explore the landscape, and  
Take the interactive **Patent Information Tour**

- ∴ [www.inpi.pt](http://www.inpi.pt) | Portuguese Patent Office
- ∴ [www.wipo.org](http://www.wipo.org) | World Intellectual Property Office
- ∴ [www.uspto.gov](http://www.uspto.gov) | US Patent and Trademark Office
- ∴ [www.espacenet.com](http://www.espacenet.com) | Europe's network of patent databases



## From strategic intelligence to action plan

1. Gather information to understand the landscape
2. Analyse the information to allow you to:
3. Justify your project objectives;
4. Plan to deliver – develop strategies and plans to reach the objectives and maximize impact and exploitation:
  - Strategy and plan to deliver the project results
  - Draft plan for dissemination and exploitation of research results

## Manage your project to maximize impact

Define structures and procedures to:

- Create, capture and protect the research results (IP)
- Disseminate (tell)
- Exploit (use)

Only with use of results will the challenges of the call be addressed and hence expected impacts be achieved!

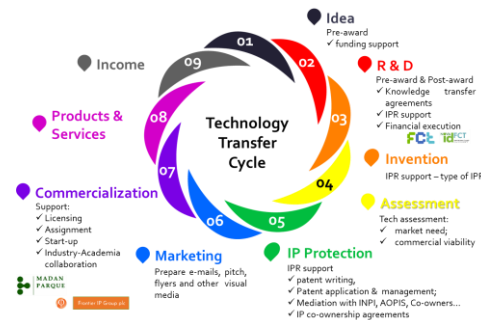
## IP Management

- **Background IP** - IP used for project execution
  - Define access and usage rights for IP you and other own, before, during and after project
- **Foreground IP** – IP generated by the project (results)
  - Define ownership, management, pre-publication reviews for technical inventions
- **IP assessment and protection**
  - Prior art, market opportunities, value of IP protection, type of IP protection
- **IP dissemination and exploitation** (telling and use)
  - Define targets, messages, measures, etc

## Innovation Management

Includes overall management of all activities – starts at the point of capturing the results and finishes when a product or service is deployed

Remember the cycle?  
Your project has one of its own.



## Innovation Management: key tasks

### 1. Secure the foundations

- ✓ Ensure researchers can recognize and capture IP
- ✓ Ensure good research practice (including record keeping)

### 2. Capture the project outputs

- ✓ Monitor research outputs
- ✓ Facilitate IP disclosure using disclosure forms
- ✓ Pre-publication reviews

## Innovation Management: key tasks

Remember to  
budget for IP  
protection!

### 3. Assess and protect the project outputs

- ✓ Who owns the IP? **Check Institutional and National IP regulations!**
- ✓ % of contribution (inventive, financial...)
- ✓ Who will pay for protection?
- ✓ Who will manage the IP protection and its exploitation?
- ✓ How will revenue be shared?

*Note:* in case of consortium, all of these issues should be addressed in the **Consortium Agreement**

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## Innovation Management: key tasks

Remember to  
budget for IP  
protection!

### 3. Assess and protect the project outputs

#### ✓ Visitors?

Ensure ownership terms are agreed by those who might become involved in the project, and are not already bound by contracts, such as students, visiting academics, advisory board members – **Confidentiality Agreements (CDA/NDA)**.

#### ✓ Transfer of samples/software?

Ensure **Material Transfer Agreements (MTA)** are in place (in case of consortium or subcontracting).

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## Innovation Management: key tasks

Remember to  
budget for IP  
protection!

### 3. Assess and protect the project outputs

#### ✓ Hidden Traps

**An invention to be patentable must follow 3 requisites:**

**NOVELTY**

**INVENTIVENESS**

**INDUSTRIAL APPLICATION**

Therefore avoid: inadvertent disclosures (website, social media, publications before registry; thesis publication, disclosing to visitors...)

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# Innovation Management: key tasks

## 4. Disseminate and exploit the project outputs

✓ the Dissemination and exploitation plan should include:

- what are the project outputs?
- Who are the target groups?
- What are the objectives and messages for each target group?
- How will you communicate these messages and monitor and act on those who respond?

# Innovation Management: key tasks

## 4. Disseminate and exploit the project outputs

✓ Exploitation Strategy

- Explain the departing TRL and the final TRL
- What work is still needed to be done beyond project?
- What collaborations do you need?
- How far do you need to go to convince a partner?
- What are the best route(s) to market and business model(s)

LICENSING

SPIN-OFF

NOT-FOR-PROFIT ORGANIZATION

COMMUNITY

OPEN SOURCE



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innovation research  
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