Impact and Innovation in Horizon 2020 projects

Managing Innovation during implementation

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Get your ticket to innovation.

Horizon 2020

- An impact orientated approach
- Delivering strategic technologies that can drive competitiveness and growth
- The H2020 Work Programme sets out the challenges and expected impacts
- Good management of innovation related aspects is critical to:
  - meet the challenges and
  - maximise the expected impacts
Implementation

Management Structures and procedures to:

➢ Create, capture, and protect the research results
  ▪ The management framework (who is responsible)
  ▪ The management procedures (how it will be done)
  ▪ Implementing the development plans

➢ Disseminate (tell) and Exploit (use)
  ▪ Implementing the dissemination and exploitation plans

*Only with use of results will challenges of call be addressed, and expected impacts be achieved*
### 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.
- If applicable, describe the **industrial/commercial involvement** in the project to **ensure exploitation of the results** and explain why this is consistent with and will help to achieve the specific measures which are proposed for exploitation of the results of the project (in Impact Section).

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
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<tbody>
<tr>
<td>Quality and effectiveness of the work plan, including extent to which the resources assigned to work packages are in line with their objectives and deliverables</td>
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<tr>
<td>Appropriateness of the management structures and procedures, including risk and <strong>innovation management</strong></td>
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<td>Complementarity of the participants and extent to which the consortium as whole brings together the necessary expertise</td>
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<td>Appropriateness of the allocation of tasks, ensuring that all participants have a valid role and adequate resources in the project to fulfil that role</td>
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Innovation Management?

is not IPR Management

is not Exploitation Management

is not Dissemination Management

is not Communications Management

Innovation Management

EC Definition

"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."

Someone must be responsible for managing all innovation related activities from capturing, assessing, protecting and managing the IP; through dissemination and exploitation (use) of the IP; to market deployment.
Typical Management Structure

- Project Management Board (all partners)
- Executive Management Team (key team leaders)
- Strategic/User/Innovation Advisory Board
- Innovation Management (IPR, Expl., Diss.)
- WP1 Management
- WP2
- WP3
- WP4
- WP5 Diss.
- WP6 Expl.
- WP7 Comm.

Knowledge (IP) Management
Impact

**Extract from proposal template**

- Provide a draft ‘plan for the dissemination and exploitation of the project's results’
- Show how the proposed measures will help to achieve the expected impact of the project.
- The plan, should be proportionate to the scale of the project, and should contain measures to be implemented both during and after the end of the project.
- For innovation actions, in particular, please describe a credible path to deliver these innovations to the market.
- Include a business plan where relevant.

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

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Knowledge (IP)

**The key asset to be managed in the project**

- **used** by the project
  - access and usage rights during AND after the project (background and 3rd party – especially Open Source Software)
- **generated** by the project
  - capture/disclosure, **ownership**, management of IP, secure evidence of creation, pre-publication reviews for technical inventions
  - **assessment** - prior art, market opportunity, exploitation and protection strategies, etc
  - **protection** - patents, copyright, database rights, trademarks, keep secret, etc
- **disseminated and exploited** (tell and get it used!)
  - Research, education, commercial, policy, etc
4 Key tasks and responsibilities

1. Secure the foundations
2. Capture the project outputs
3. Assess and protect the project outputs
4. Disseminate and exploit the project outputs

Intellectual Property is an asset which has value. Its creators (i.e. the researchers) must be able to:
- recognise it
- prevent its value being lost
- know where to go for help
2. Recognise and Capture the IP

- Proactive monitoring of project outputs - regular reviews
- Facilitating disclosure/standard “disclosure forms”
- Initial Disclosure - **Key information needed**
  - Identify **ALL** relevant outputs (software, papers, know-how, etc.)
  - **Clarify ownership** – particularly if 3rd parties involved
  - **Check for “hidden traps”** (publications, posters, etc.), which might affect patentability.

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**Have you captured **ALL** the IP?**

- **Technical (Patentable)**
  - Process, Product, Manufacturing Apparatus
- **Protected by copyright**
  - Software
  - Reports
  - Engineering drawings
  - Manufacturing and user guides
- **Designs (design rights)**
  - Functional
  - Eye-appeal
- **Know how** (e.g. best way to implement)
- **Secrets** (e.g. secret formulas)
Method for joining bamboo

- Patent for the method
- Copyright in engineering drawings and manufacturing manuals
- Know-How (manufacturing techniques)
- Secrets

Ownership!

- Who owns what? (don’t just quote default rules)
- How will relative contributions to the invention be agreed
- How will shares of costs and revenue be agreed?
- Who will manage the IP bundles?
- Who will manage the exploitation?

Does the Consortium Agreement address this?
Does the proposal describe this?

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

Ensure project policies are agreed to by “non-staff” who might become involved in the project (and are party to the grant agreement or consortium agreement).

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

**Hidden Traps**

*which can prevent patentability for technical inventions*

- Novelty
- Inventiveness (not obvious)
- Industrially Applicable or Useful
Hidden Traps - Novelty

Not previously described or publicly disclosed

anywhere or anyhow in the world

Common inadvertent disclosures

Not only ..
✓ Publishing in the literature
✓ Posting information to the Internet

But also beware of ..
➢ Inclusion in a thesis deposited in a library
➢ Oral or written disclosure with a customer, at scientific meetings (including poster sessions), or in any circulated abstract
➢ Disclosing to visitors in a non-confidential manner, including posters and displays in corridors
➢ Leakage of information from experimental public trials or prototypes without taking precautions to avoid this
➢ Advertisement, sale, use or any form of commercial activity which is public (e.g. to try and "test the market")
Inventiveness... Obviousness

European Patent Office Guidelines

“The term 'OBVIOUS' means that which does not go beyond the normal progress of technology but merely follows plainly or logically from the prior art i.e. something which does not involve the exercise of any skill or ability beyond that to be expected of the person skilled in the art”

Published (or Public) Statements can Defeat Patents

- “Smith and Jones showed X. Therefore we decided to try Y”
- “Because of its structure, this virus seemed a likely choice as a vector of foreign epitopes”
- “We predicted it would happen and these results have confirmed our prediction”
- “Logic dictates that…”

Avoid statements that make it sound obvious to try and obvious that it will succeed – including after filing a patent.
Establish Good Practice

- IP awareness training for participants
- Encourage Good Research Practice to record research activity and results (to secure proof of creation)
- Procedures for pre-publication review
- Procedures to manage other public disclosures such as in emails, posters, internal seminars
- Procedures for visitors and visiting researchers

But.. capturing the IP is only the start!

- How do you pick the winners?
- How do you maximise the impact?

3. Assess and Protect

- Assessment
  - What and where are the market opportunities?
  - What is the innovation potential?
  - What is the innovation capacity

- Valuation
  - Is it worth expending resource to get the results used or exploited (i.e. cost vs benefit?)
Protecting the IP

- If protection of the project results could support commercial exploitation?
- Then invest in protecting and securing foreground IP as appropriate (an eligible cost in H2020)
- IP protection is an investment NOT a cost!

Assessment and protection must be considered together

IP protection is a commercial decision

4. Disseminate, Communicate, Exploit

- Who should you tell – and why?
  - Where will you get the most impact?
  - What are your exploitation objectives
  - Who are the key targets
- What are the key messages for each target group?
- How will you deliver the messages?
- How will you make sure the message is being properly received?
- How will you follow up to make results accessible and to get results used?
"Your plan for the dissemination and exploitation of the project’s results is key to maximising their impact."
(from H2020 proposal template)

Key Facts..

- The project is about addressing call challenges!
  - Ensure the DEP focuses on the whole project results, which address the challenges of the call
  - Do not be distracted by describing how partners will individually exploit their own results

- Exploitation is not dissemination!
  - Ensure there is a follow-up plan to get results used/exploited (after the targets have been told about them!)

Don’t let it all end with fragmentation and dissemination!!
More key facts..

- **Main project results appear at the end of the project**
  - So, there must be a credible plan beyond the end of the project

- **Most project participants are not innovators** who will take results to market
  - So take-to-market partners must be found

The DEP is not (usually) a plan for the partners to develop results to TRL 9+

What’s special about project results?

- Project outputs are often early stage (and not fully market ready)
  - more work might be needed to convince “investors” or partners

- Many research groups are working on the same challenges
  - maybe collaborate with others, or licence in technology, to build a credible package

- Often new approaches are outside the “norm” or standard
  - Convincing evidence might be needed to show the new solution has benefits over the accepted “norms”
What’s your “offer”?
- What are the exploitable project outputs (IP)?
- What are the specific IP/exploitation packages?
  - Collaborative projects >> bundles of IP

Different “offers” to different targets
- What needs and benefits?
- What are the “bundles of IP”?
- What are the objectives?
- What are the messages?
- How will you communicate the messages
- …and follow up – don’t just disseminate!!

The exploitation roadmap
How do you get use and impact?
- What must happen to get the project results used (and deliver the impact)?
- What barriers or enablers are on these routes (standards, IPRs, regulatory, ethical, etc.)?
- Is any further work (investment/funding) envisaged to convince your targets (e.g. proof of concept/scale-up)?
- How will the results be accessed and used (e.g. new company, licence, JV, institution, etc.)?
- What are the expected terms for access and use?

Understand the landscape, plan the routes and choose the best vehicle
Is the case convincing?

- There must be a **convincing case** for how the project results will benefit the target groups (commercial partner, investor, policy maker, etc.).
- **Not only technical benefits** - economic, social, environmental can all contribute to strengthening the prospect’s competitiveness and growth, or satisfying a need.
- For **investors**, particularly, growth and exit routes (in say 5 years) is important.
- Even if the technology is smaller, faster, more robust, cheaper to make – it **may not be a good business prospect**.
**Business models**

- Project outputs are valuable assets
- Like physical property, they can be used and traded
- Unlike physical property there are many more ways of extracting value…

**License or Start-up?**

- **Licensing** - licensee has expertise and resource
  - Has expertise, resources and market know-how
  - Can address different fields of use and geographical areas

- **Start-up** – must acquire expertise and resource
  - Needs committed and enthusiastic team (management, financial, sales, marketing, manufacturing, technical, administrative, etc)

**Same objectives – different routes**

Who is in the best position to develop, “productise” and get to market?
**Licensing?**

Granting the right to use your property (results) under certain agreed terms and conditions, such as

- Territory
- Field of use
- For a limited time
- For evaluation only
- Provided you do a good job with it!
- Etc

Can the Industry/SME Partner(s) reach all market sectors and territories?

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**Open Source Licences**

- Just another type of licence!
- Choose **only if appropriate and can be justified**
- Usually requires source to be made available (sometimes only on request)
- **Needs management**
- Many different versions and variations of OS licences
- Beware clauses which may affect commercialisation
Summary
Managing projects to maximise impact

Effective management structures and procedures for:

1. Creating, capturing, protecting (if necessary) and managing the research results (IP)
2. Telling all the right people about the project and the results (dissemination)
3. Choosing the right measures to get the messages across to the right people (communication measures)
4. Ensuring the results can be used to maximise the expected impact (exploitation)

Only with use will there be innovations with impact which address the challenges of the Call Topic

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