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Addressing IP, Innovation and Impact in Horizon 2020 proposals

Maximizing the impact of H2020 projects

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European IPR Helpdesk

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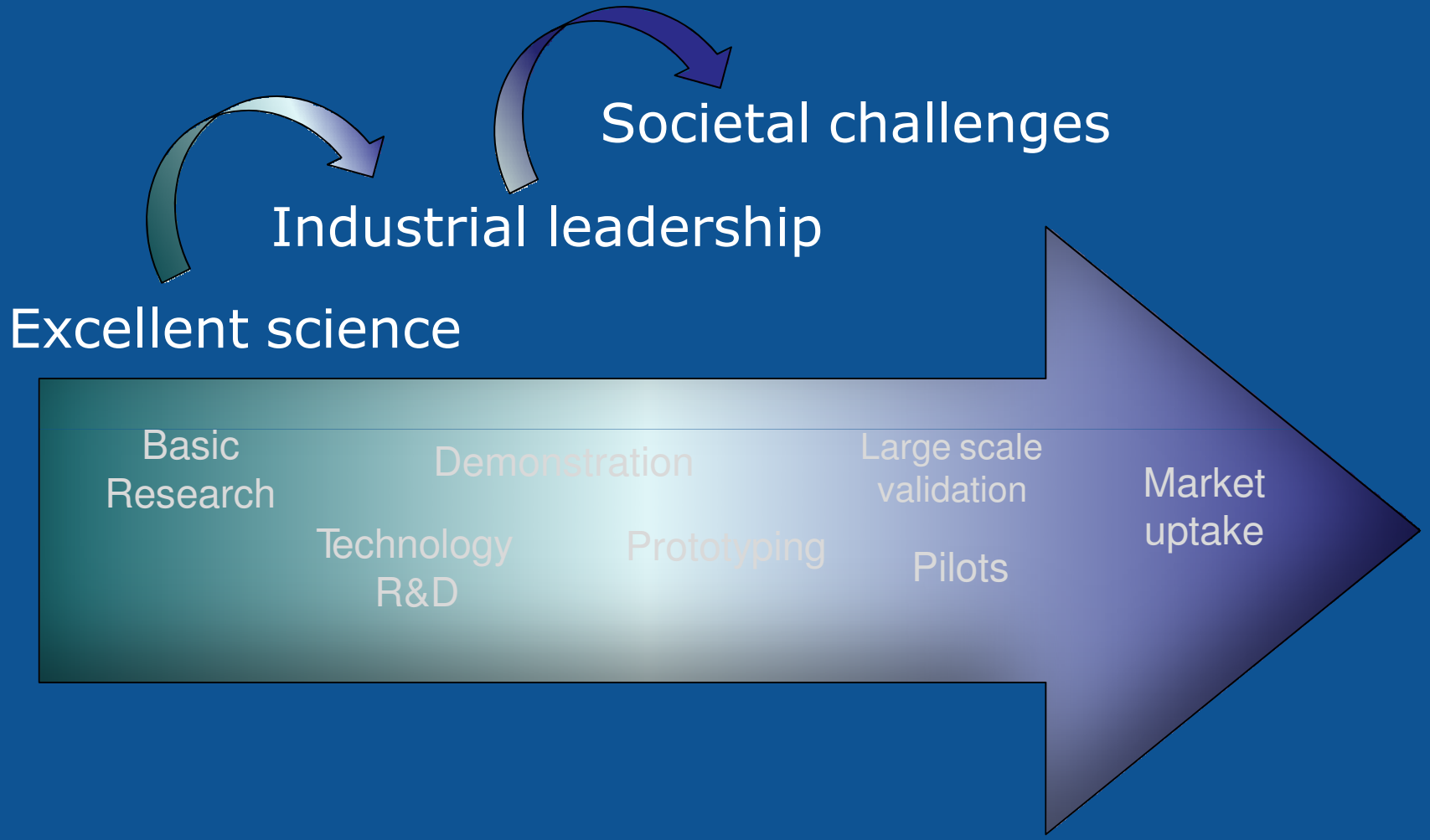
Horizon 2020

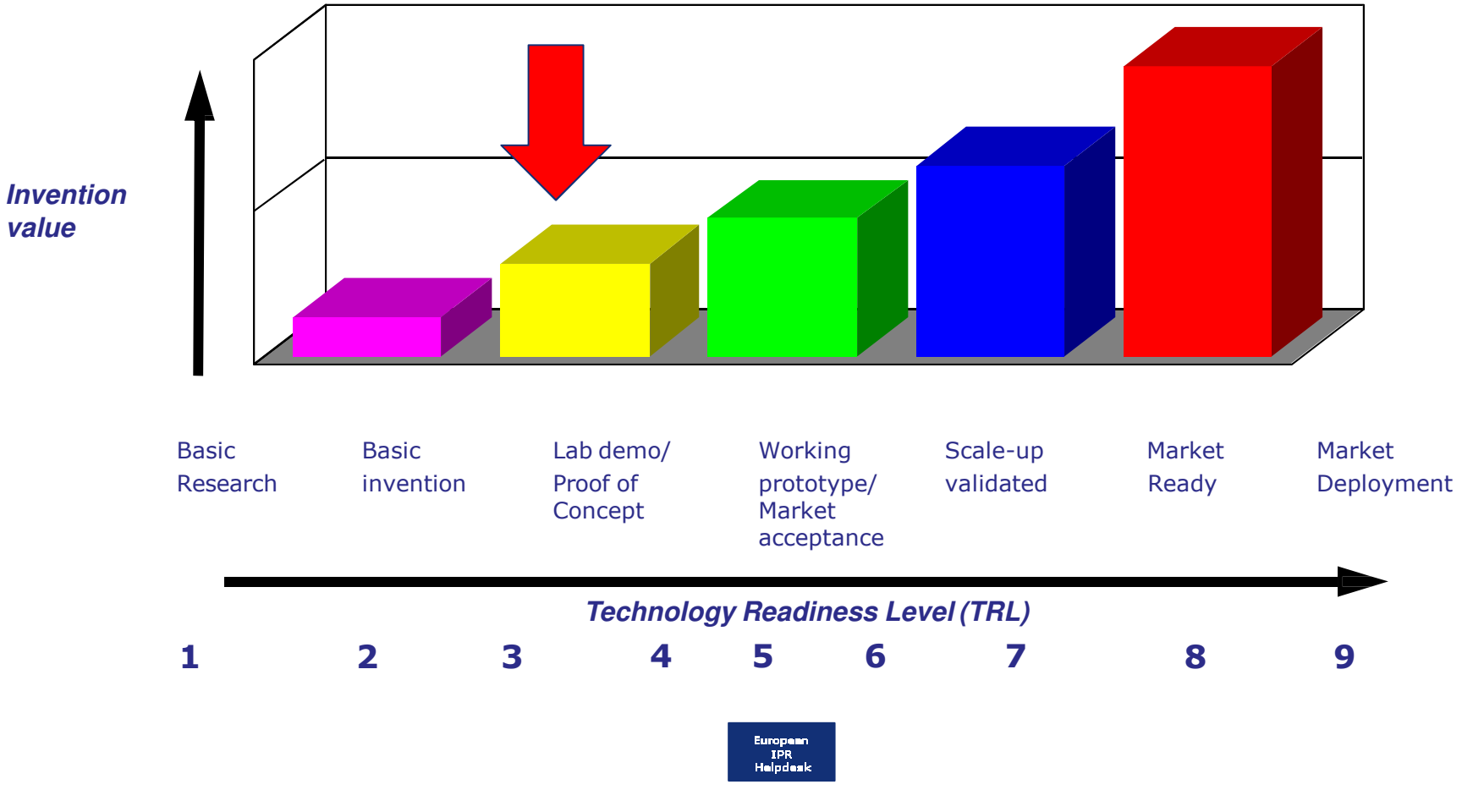
- An **impact orientated** approach
- **Delivering** solutions addressing key societal and technical challenges
- Impact and Innovation must be **addressed in all sections** of a proposal, not just the impact section
- Impact and Innovation must be **managed in all stages** of a project, not just after results have been created

Coverage of the full innovation chain



Technology Readiness Levels

Where are you starting from and where do you want to go?



IP downstream route/Steps

- **Understanding the scene (Terms, Rules, Model Agreements, etc)**
- **Setting the scene (Which IP provisions are negotiable?)**
- **Getting to know the individual interests, motivations and expectations of individual partners regarding IP management and exploitation**
- **Strategies and Plans to capture, manage and exploit results of H2020 projects on consortium level**
- **Developing the right innovation management structures**
- **Definition of appropriate activities and tasks to implement innovation-related activities**
- **Exploitation pathways, route to market, business models**

Innovation?

A **new** (or improved) entity (creation), which when **used** produce tangible **benefits,** satisfying needs and wants.

Invention IS NOT Innovation

Project outputs **Innovation**

Impact

The **benefits** derived from the 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, etc

Any type of benefit and impact

- Benefit (hence impact) **does 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

Innovation Potential *(Sec 1, Excellence)*

- Do the project results have the **potential** to deliver **innovations** which **contribute to the expected impacts,** and **how much?**

Innovation Capacity *(Sec 2, Impact)*

- Do the project results have the **capacity** to stimulate **further innovations**, and/or increase the amount of benefits delivered?
- Can the results deliver **benefits in areas not specifically mentioned in the call** (societal, environmental, etc)?

Innovation Process

- The process to create the innovation

Innovation Management *(Sec 3, Implementation)*

- The management of the process

Innovation Management

"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 <u>all innovation related activities</u> including

- rights to use background during and after project
- capturing the results
- assessing, protecting and managing the IP;
- dissemination (telling about results)
- exploitation (use) of results
- market deployment.

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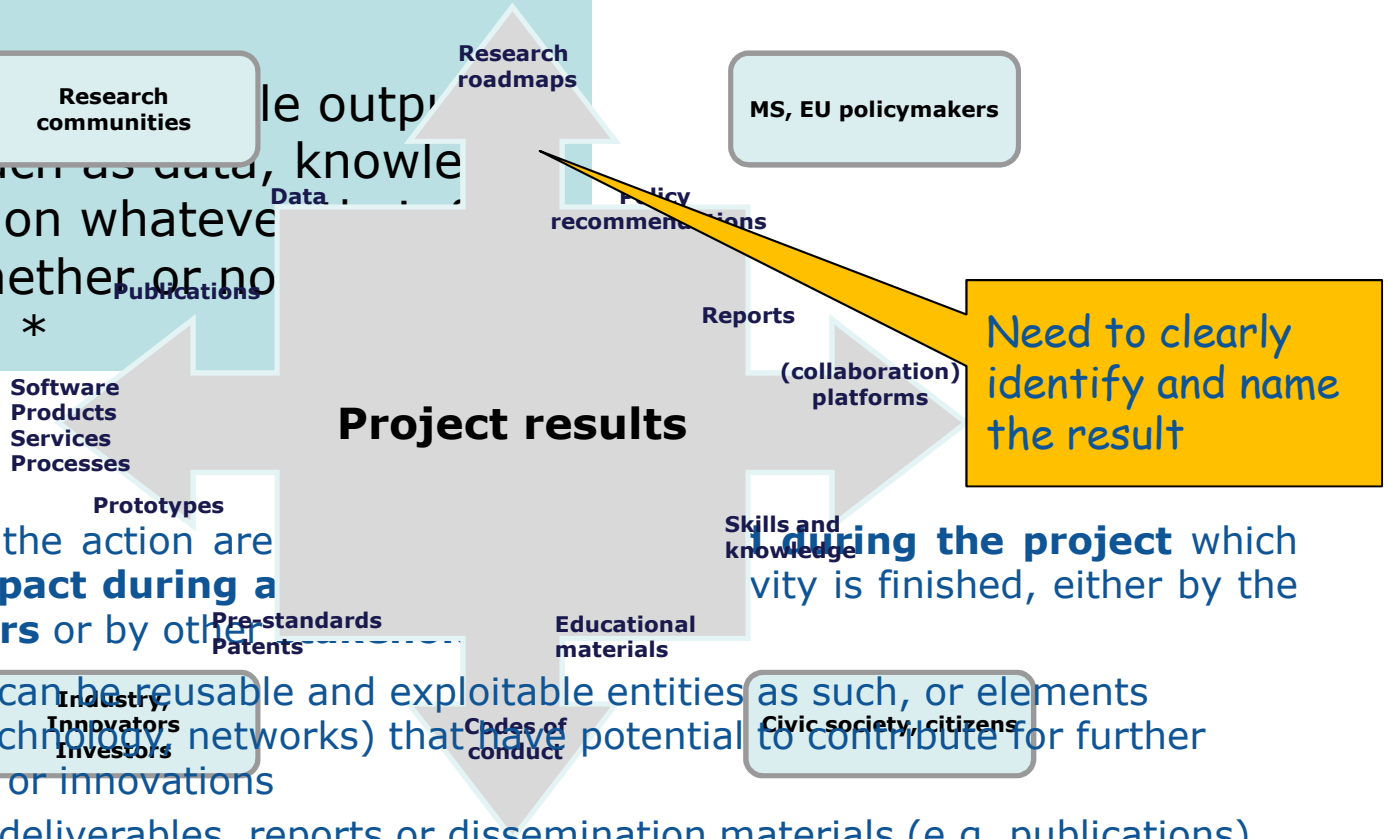
Importance of definitions!

What are project results?

Results[1]

Any tangible [illegible] outp[illegible] the action, [illegible] data, knowle[illegible] and information whateve[illegible] or nature, whether or no[illegible] be protected. *

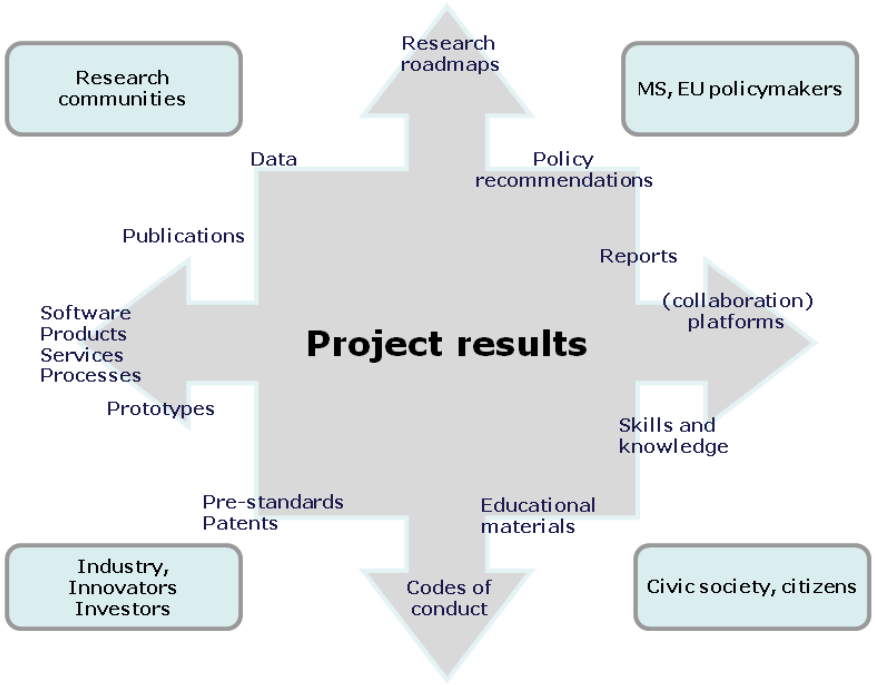


- Key results of the action are [illegible] **during the project** which can **create impact during a** [illegible] vity is finished, either by the project **partners** or by other [illegible]
- Project results can be reusable and exploitable entities as such, or elements (knowledge, technology, networks) that have potential to contribute for further work, research or innovations
- Administrative deliverables, reports or dissemination materials (e.g. publications) are often not results in themselves

* http://ec.europa.eu/research/participants/portal/desktop/en/support/reference_terms.html

[1] Art. 26.1 of Grant Agreement

What are project results?



What are project results?

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Results[1]

Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected. *

Need to clearly identify and name the result

- Key results of the action are the **outputs generated during the project** which can **create impact during and after** the funded activity is finished, either by the project **partners** or by other **stakeholders**
- Project results can be reusable and exploitable entities as such, or elements (knowledge, technology, networks) that have potential to contribute for further work, research or innovations
- Administrative deliverables, reports or dissemination materials (e.g. publications) are often not results in themselves

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[1] Art. 26.1 of Grant Agreement

What is communication?

Communication

Taking strategic and targeted measures for promoting the action itself and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange*

- **Reach out to society as a whole** and in particular to some specific audiences
- **Demonstrate how EU funding contributes to tackling societal challenges**

- ✓ Is strategically planned and not only ad-hoc efforts
- ✓ Identifies and sets clear communication objectives
- ✓ Uses pertinent messages, right medium and means

* Shortened from http://ec.europa.eu/research/participants/portal/desktop/en/support/reference_terms.html

What is dissemination

Dissemination

The public disclosure of the results by any appropriate means, including by scientific publications in any medium.*

- **Transfer of knowledge and results** to the ones that can best make use of it
- **Maximizes the impact of research**, enabling the value of results to be potentially wider than the original focus

- ✓ Essential element of all good research practice
- ✓ Prevents results becoming sticky and effectively lost
- ✓ Strengthens and promotes the profile of the organisation

* Shortened from http://ec.europa.eu/research/participants/portal/desktop/en/support/reference_terms.html

Communication vs. Dissemination

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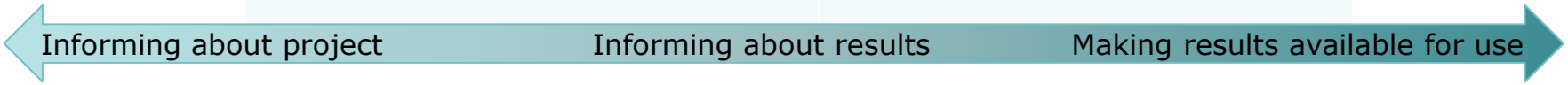
Communication	Dissemination
About the **project** and **results**	About **results only**
Multiple audiences *Beyond the project's own community (include the media and the public)*	**Audiences that may use the results** in their own work *e.g. peers (scientific or the project's own community), industry and other commercial actors, professional organisations, policymakers*
Inform and **reach out to society**, show the benefits of research	**Enable use** and **uptake** of **results**
Grant Agreement art. **38.1**	Grant Agreement art. **29**



Newsletter

Press release

Project factsheet, brochures

Social media (blogs, Twitter, Facebook, LinkedIn)

Project website

Videos, interviews

Articles in magazines

Exhibitions/open days/guided visits

Conference presentations/workshops

Scientific publication

Policy brief/roadmap

Training/ demonstrations

Sharing results on online repository (research data, software, reports)

What is meant by exploitation?

Exploitation

The utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities.*

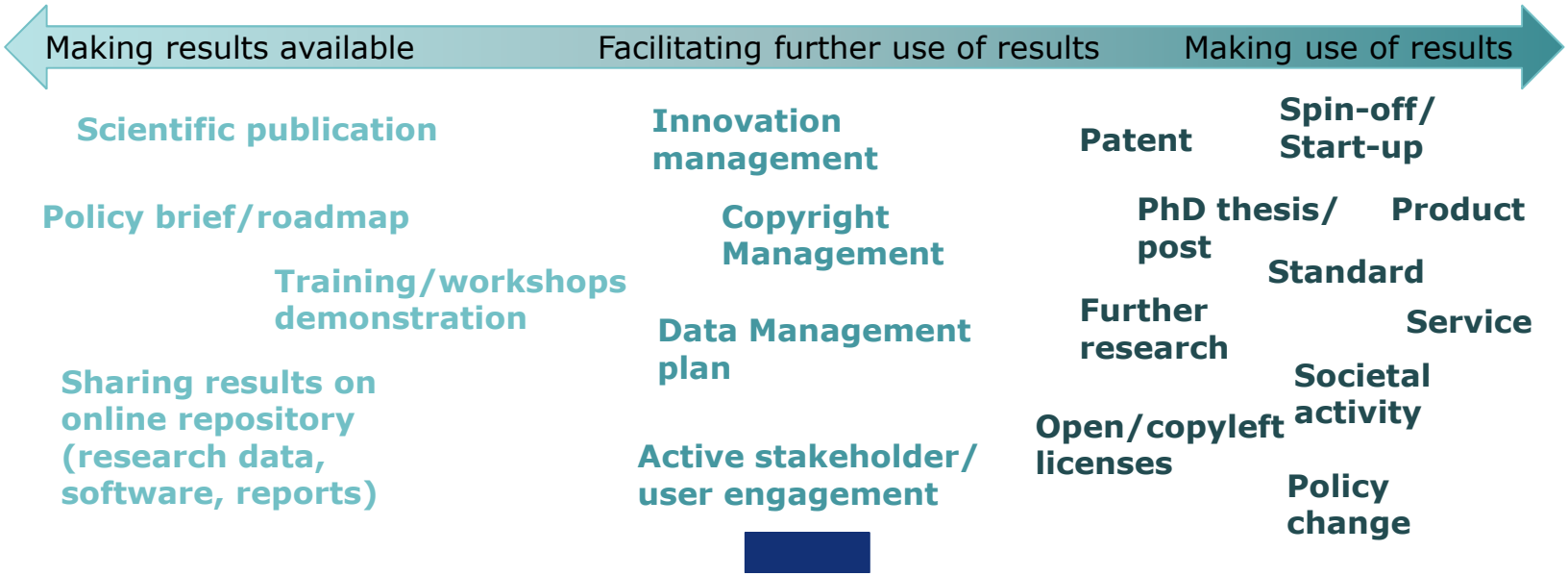
- **Make use of the results**; recognising exploitable results and their stakeholders
- **Concretise the value and impact of the R&I activity** for societal challenges

- Can be commercial, societal, political, or for improving public knowledge and action
- Project partners can exploit results themselves, or facilitate exploitation by others (e.g. through making results available under open licenses)

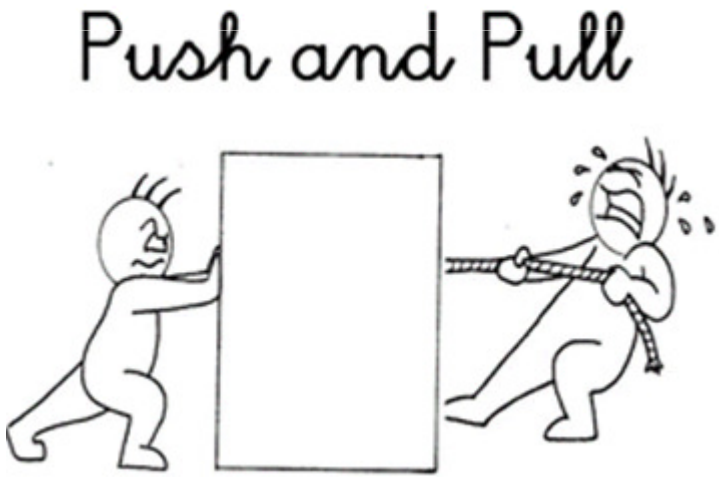
* http://ec.europa.eu/research/participants/portal/desktop/en/support/reference_terms.html

Dissemination vs. exploitation

Dissemination	Exploitation
Describing and **making available results** so that they can be used	**Making use of results**, for scientific, societal or economic purposes
Audiences that **may make use** of results	Groups and entities that **are making concrete use of results**
All results which are not restricted due to the protection of intellectual property, security rules or legitimate interests	**All results generated during project** Participant shall make best efforts to exploit the results it owns, or to have them exploited by another legal entity
Grant Agreement Art. **29**	Grant Agreement art. **28**



Dissemination & Exploitation



Dissemination: *push*

- **Transfer of knowledge and results** to the ones that can best make use of it in order to.
- **Maximize the impact of research**, enabling the effect of results to be potentially wider than the original focus.

Exploitation: *pull*

- **Make use of the results**; recognising exploitable results and their stakeholders.
- **Concretise the value and impact of the R&I activity** for the society.

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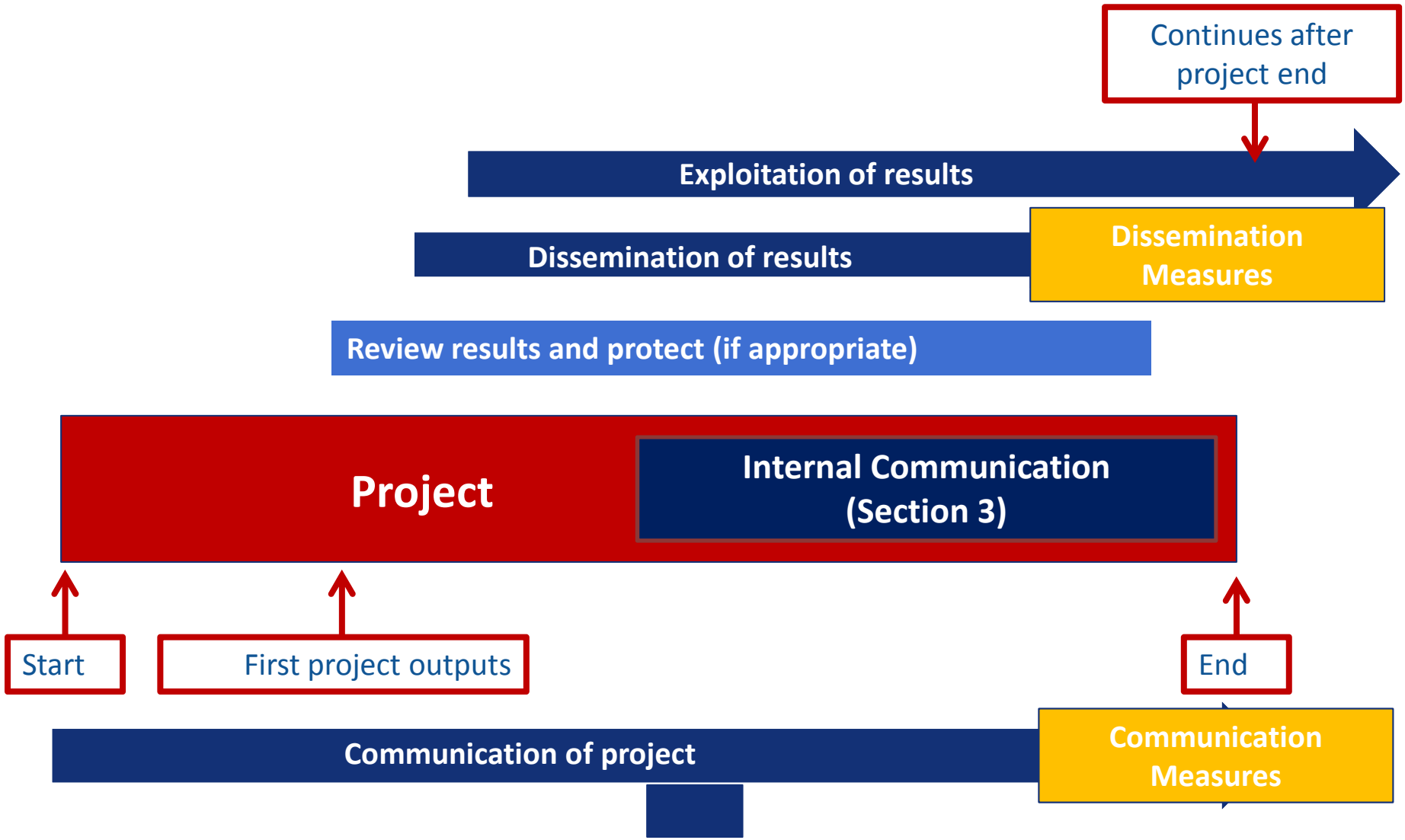
Communication, Dissemination and Exploitation



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Gathering the information to prepare the proposal

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Focus on delivering results which contribute to the expected impacts

- What needs (challenges) will be addressed (relevant to the **call topic**)?
- What benefits (impact) will be delivered (expected by the **call topic**)?
- Select project objectives **to maximise the impacts** expected by the **call topic**

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The H2020 Work Programme

Clearly describes the challenges and expected impacts

(needs and wants) *(benefit)*

LCE 10 – 2018: Next generation technologies for energy storage

Specific Challenge: There is a **need to** develop new or improved storage technologies with higher performance, availability, durability, performance, safety and lower costs. These new and enhanced storage technologies …….

Expected impacts:

- Enlarging the portfolio of effective storage technologies …
- Lowering the cost, increasing the efficiency and durability……..
- Contributing to solutions for high penetration rates of distributed energy resources and intermittent renewable energy….
- Integrate storage into the management……..

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The H2020 Work Programme

Clearly describes the challenges and expected impacts

(needs and wants) *(benefit)*

LCE 10 – 2018: Next generation technologies for energy storage

Specific Challenge: There is a **need t**
storage technologies with higher perf ability,
performance, safety and low anced storage
technologies …….

Don't lose sight of the specific challenges or expected impacts!

Expected

- Enlargin rtfolio of effective storage technologies …
- Lowering the cost, increasing the efficiency and durability……..
- Contributing to solutions for high penetration rates of distributed energy resources and intermittent renewable energy….
- Integrate storage into the management……..

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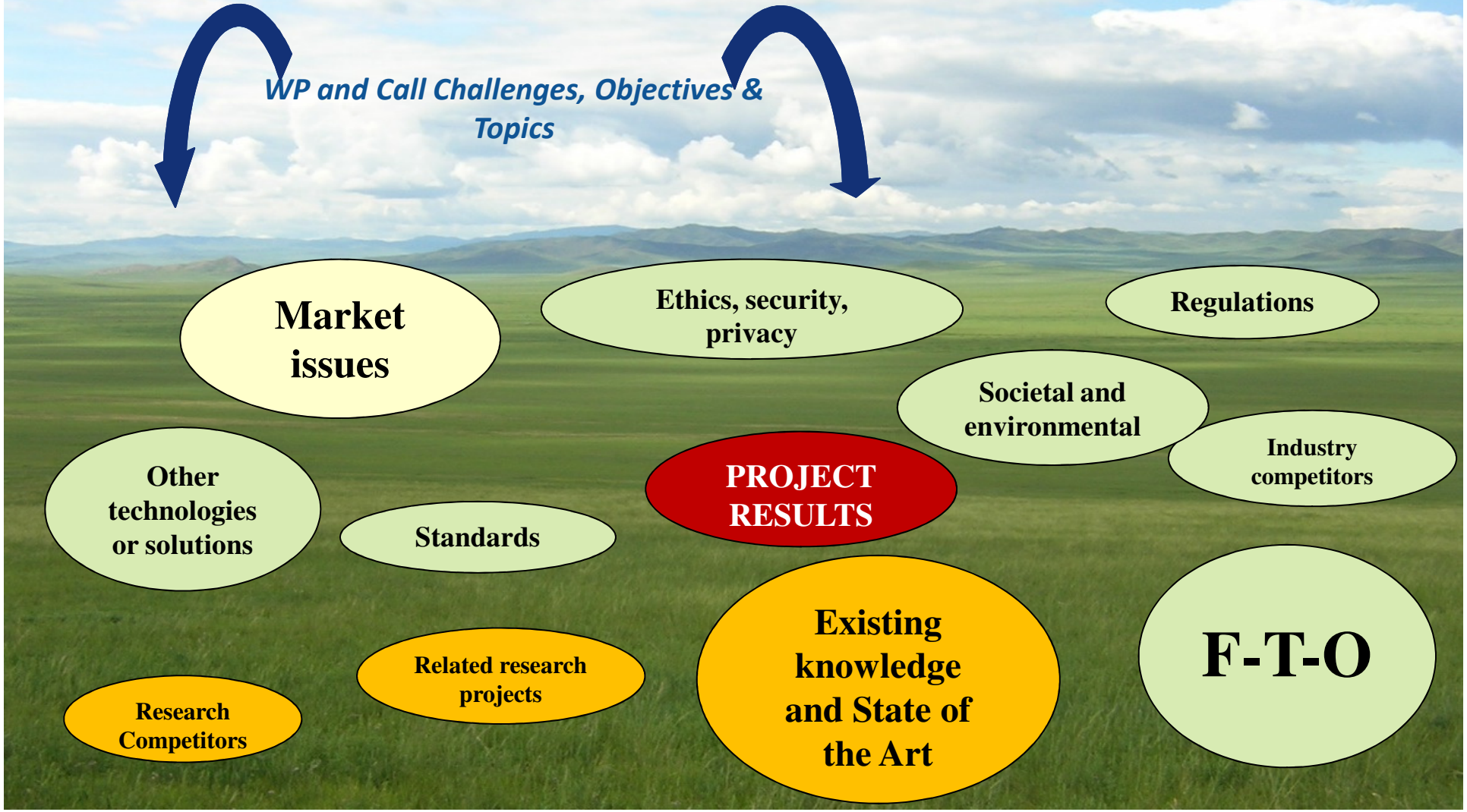
Understand the landscape

Strategic Intelligence – positioning and planning a route



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Information Sources

- **Academic Sources**
  - publications, conference proceedings
- **Industry Sources**
  - Market reports
  - Industry partners
  - Company websites, annual reports (incl. financial)
  - Industry publications, events, conferences and exhibitions
- **Influencers**
  - Policy papers
  - Technical reports and white papers
- **External Drivers or constraints**
  - **Standards bodies** (CEN/CENELEC, ISO, ETSI, National Bodies)
  - **Patents** and other registered IP

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Standards

- 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

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Strategic Intelligence from Patents
(for technical projects)

- State of the Art
- Freedom to use
- Potential new technology areas
- Key players – now and who is looking for the future!
- Market Intelligence
- Competitor Intelligence
- Technology Intelligence
- Finding research and/or commercialisation partners

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Pulling it together to Developing a Proposal

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Strategic Intelligence to Action Plans

1. **Gather information** to understand the **WHOLE** landscape (market, technical, IPR, SOTA, Competitors, etc)
2. **Analyse** information to obtain strategic intelligence... to allow you to:-
3. **Justify** the project objectives, which will address the call challenges and maximise the expected impacts
4. **Plan to deliver** – develop strategies and plans to:
   i. **Create** the project **results**
   ii. Get the **results used** to maximise impact

No use = no impact!

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Excellence

Extract from proposal template

It's about R and I

- **Objectives** should be **consistent with the expected exploitation and impact** of the project
- Describe **research and innovation activities** which will be linked with the project
- Describe the advance your proposal would provide **beyond the state-of-the-art,** and the extent the proposed work is **ambitious**
- Describe the **innovation potential**
- Refer to the results of any **patent search** carried out

New in H2020

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Impact

Extract from proposal template (1 of 2)

- Describe how your project will contribute to:
  - each of the **expected impacts** **mentioned in the work programme,** under the relevant topic;
  - any substantial **impacts not mentioned in the work programme**, that would **enhance innovation capacity**; create new market opportunities, strengthen competitiveness and growth of companies, address issues related to climate change or the environment, or bring other important benefits for society
- Describe any **barriers/obstacles**, and any **framework conditions** (such as regulation, standards, public acceptance, …), that may determine whether and to what extent the expected impacts will be achieved.

New in H2020

Impact

Extract from proposal template (2 of 2)

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

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Implementation

Evaluation Criteria

- 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**

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The Dissemination and Exploitation Plan

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"Your plan for the dissemination and exploitation of the project's results is key to maximising their impact."

(from H2020 proposal template)

If the results are not used (exploited)

The call challenges will not be addressed

There will be no impact!

What can the project deliver?

- H2020 Projects **rarely deliver innovations**
- Projects do deliver **results (IP, Knowledge, data)**
- Results with **innovation potential (leading to impact)**
- Results which enhance **innovation capacity**
- **Draft plans** at proposal stage ***(now mandatory)***
- **Interim** and **Final** versions during the project

Key Points

- Dissemination and exploitation go together
- It's a Dissemination **AND** Exploitation Plan
  - **not 2 independent plans!**
- Exploitation drives dissemination - and vice versa

More Key Points..

- The project is about **addressing the call!**
- Ensure the plan focuses on the (bundle of) project results, which:
  - **address the call challenges**
  - **maximises its contribution to the expected impacts**
- Do not be distracted by trying to exploit partners' individual results independently

More Key Points..

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

If the expected impacts are to be achieved, the final Dissemination and Exploitation Plan is a key deliverable

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

The Dissemination and Exploitation Plan is not (usually) a plan for the consortium to develop innovations

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The Dissemination & Exploitation Plan

What should be considered?

- Who are the main **target groups**/markets?
- For each target group
  - What are the **"offers" (bundles of IP)** for each group?
  - Will **IP protection** support **commercial** exploitation?
  - What are the **objectives** for each target group?
  - What are the **messages** for each target group?
  - How will you **communicate** the messages and **follow up** any interest?
  - How will they be able to **access and use (exploit)** the results
  - Under what **terms and conditions**?
- Who will **manage and coordinate** the IP, its dissemination and its exploitation?

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The exploitation roadmap

Plan the route(s) to get where you want to go

- What must happen to get the project results used (and **deliver the expected impacts**)?
- 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)?

Understand the landscape, develop a credible strategy and plan the routes

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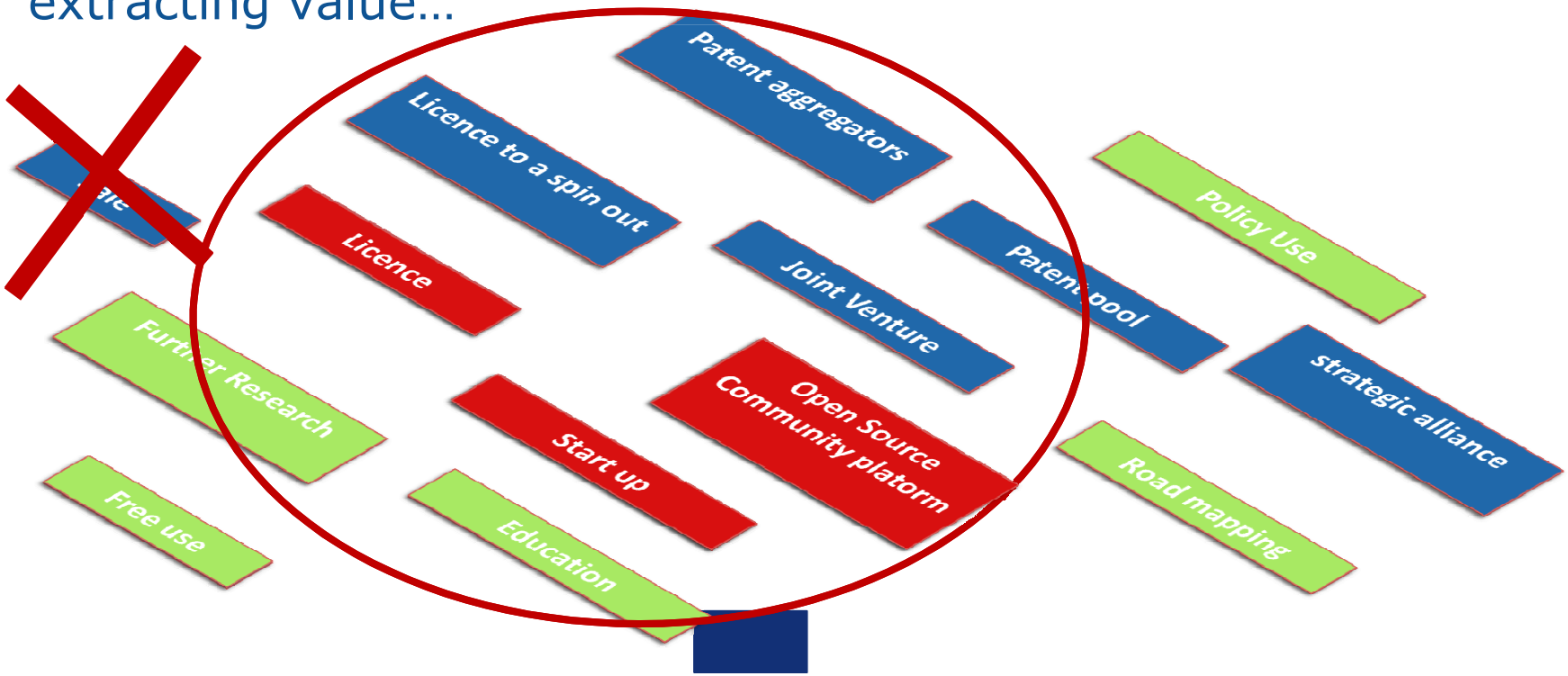
Exploitation Strategies

- Project outputs are **valuable assets** which, like physical property, can be **used** and **traded** – bought, sold or leased, used in JV's, or as collateral
- But, unlike physical property there are **many more ways** of extracting value…



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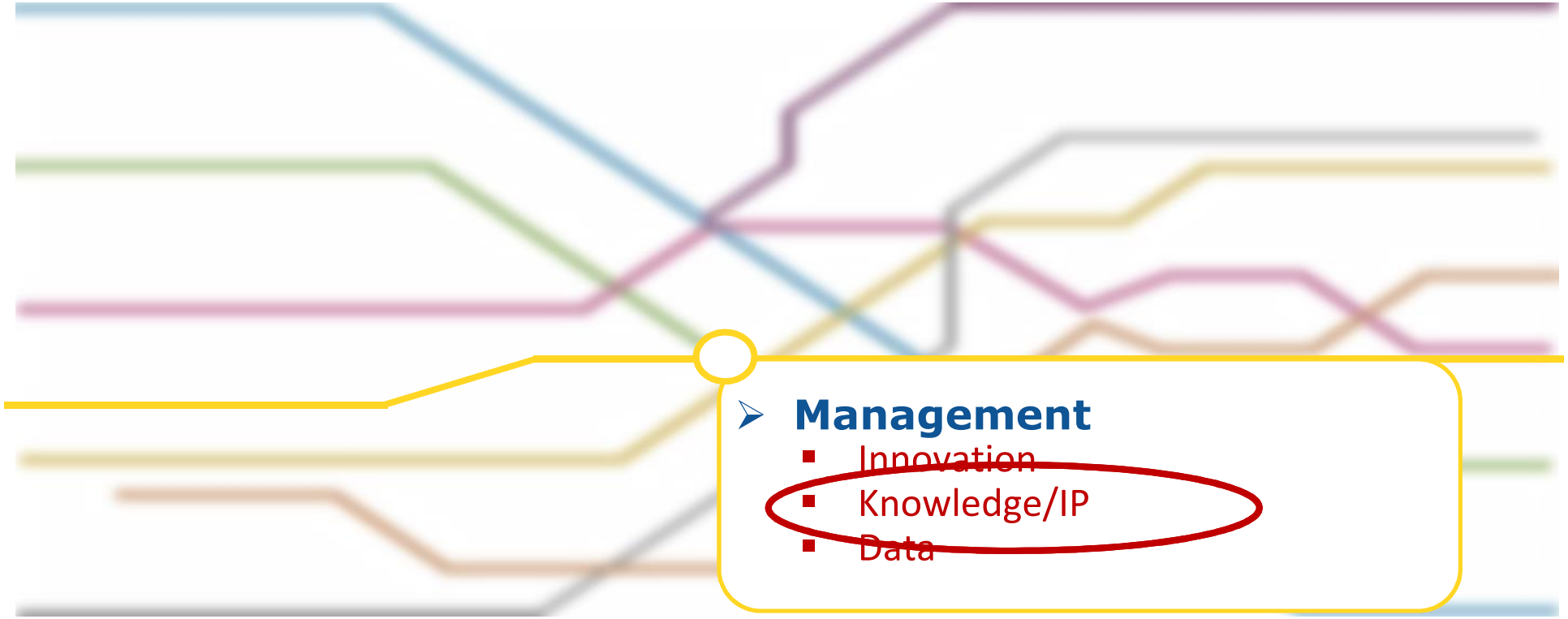
Summary

- Address IP, Impact and Innovation in **all 3 sections** of the proposal
- Get **strategic intelligence** by analysing the **whole** landscape (scientific, technical, market, IPR, regulations, standards, etc), so you can **justify** the concept, objectives, and methodology
- **Plan to create** the project results (The Work Plan)
- **Plan to get the project results used** (The Dissemination and Exploitation Plan)
- Show that you have the structures and procedures to implement the plans **(including innovation management)**


Management
Innovation
Knowledge/IP
Data

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Knowledge (IP) Management

Managing the KEY assets!

- IP ***used*** by the project
  - access and usage rights **during AND after** the project (results, background and 3rd party)
- IP ***generated*** by the project
  - **Capture**/disclosure, **ownership**, **management** of IP, secure **evidence of creation**, **pre-publication reviews** for technical inventions
- IP ***assessment***
  - prior art, market opportunity, exploitation and protection strategies, etc.
- IP ***protection***
  - patents, copyright, database rights, trademarks, etc.
- IP ***dissemination*** **and** ***exploitation*** **(use!)**
  - Research, education, commercial, policy, etc

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Knowledge (IP) Management

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IMPACT!

societal, environmental, research
technical, commercial, educational

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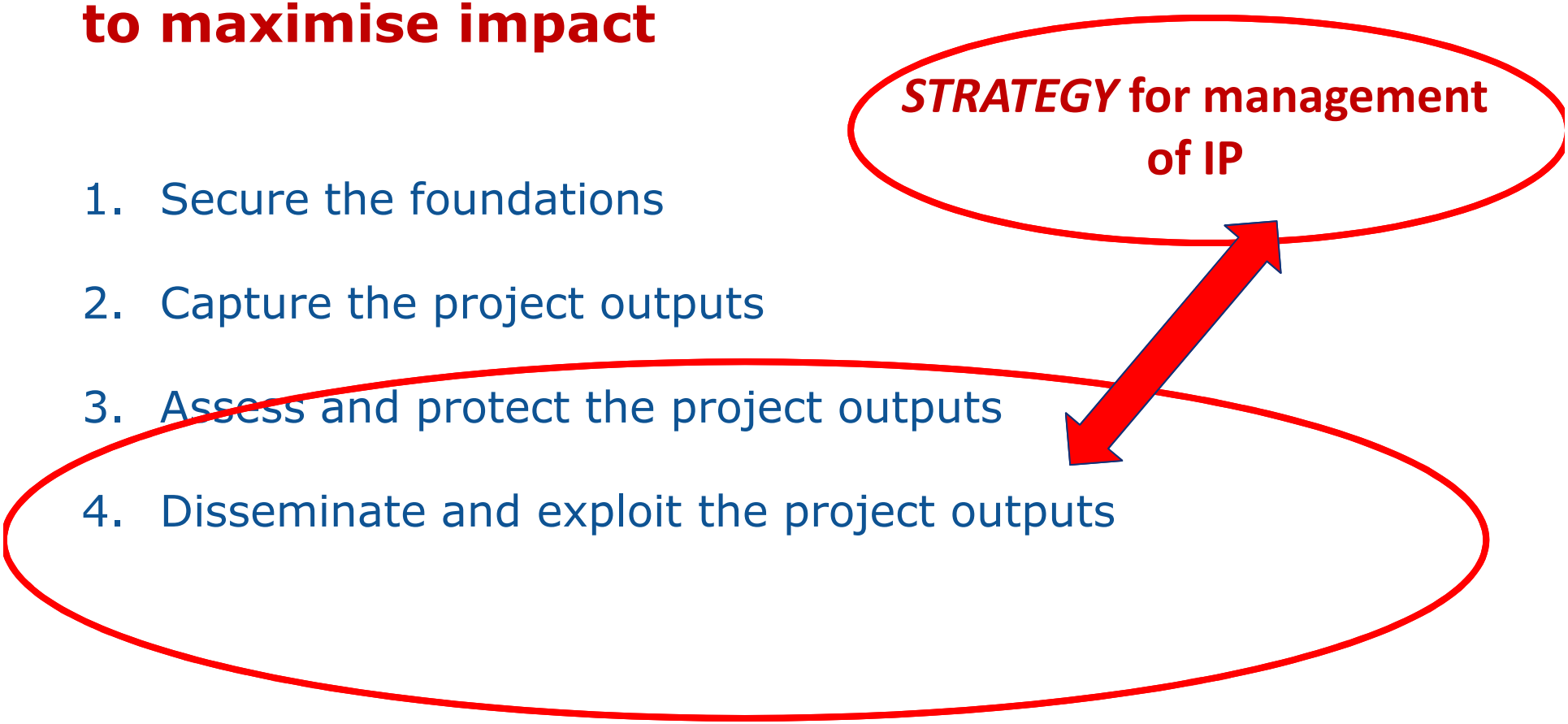
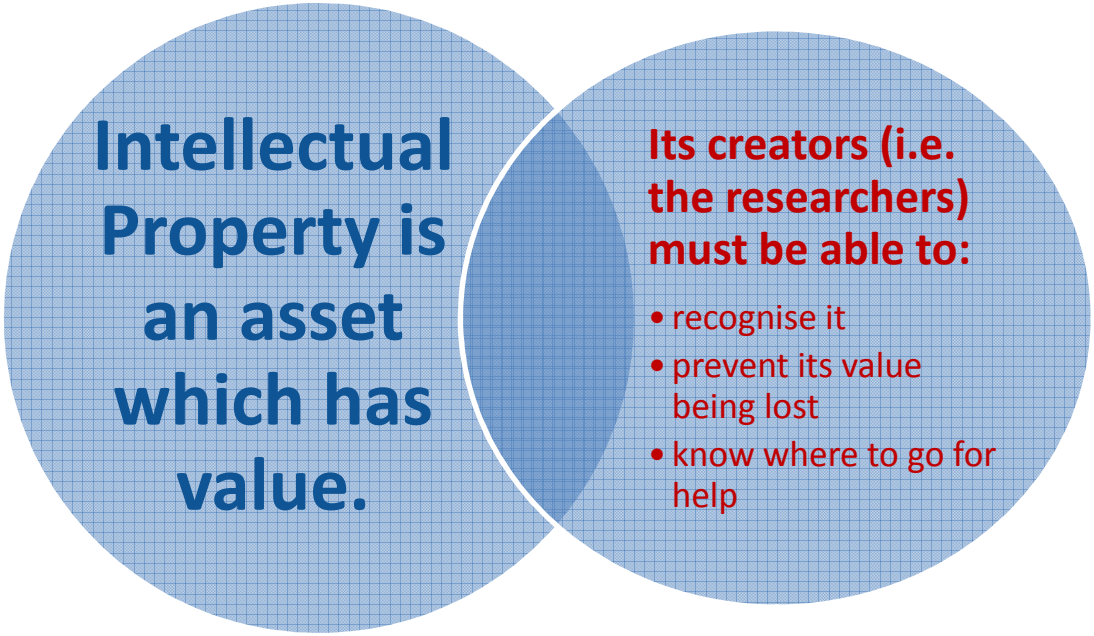
Key IP Management Tasks
to maximise impact



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

1. Secure the foundations

- Ensuring researchers can **recognise** and **capture** IP (IP **awareness** training for participants, i.e. specific webinar after kick-off)
- Ensure **good research practice** (including record keeping)



2. Recognise and Capture the IP

- Proactive monitoring of research outputs - regular reviews
- Facilitating IP disclosure (to IPR Manager)/standard "disclosure forms"
- Initial Disclosure - Key information needed
  - Identify **ALL relevant IP** (software, papers, know-how, etc)
  - **Clarify ownership and management of the IP**

Ownership!

- Are there **management structures and procedures** in place to decide:
  - How **relative contributions** to the invention will be agreed?
  - Who will **manage** the IP?
  - Who will **pay** for **protection**?
  - How will **costs** be shared?
  - How will **revenues** be shared?
  - Who will manage the **exploitation**?

- **DON'T FORGET** visitors and non-staff (students, advisory board members, visiting researchers, etc)

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3. Assess and Protect the IP

- What is this new IP worth and what should you do with it?
- What and where are the **opportunities** for **use?**
- **Is it ready yet**, or should you wait for other projects results to appear before acting?
- Would **protection of the IP/project** output support its commercial exploitation?
- **If so, invest** in protecting and securing foreground IP as appropriate (an eligible cost in H2020)

Assessment, protection and exploitation must be considered together

4. Disseminate and Exploit

- Who should you **tell** – and **why?**
  - Where will you get the **most impact?**
  - Who are the **key targets**?
- What are the **key messages** for each target group?
- How will you **deliver** the messages to each target group?
- How will the results be accessed and used (**exploited)?**

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Open Access Publication

- **"Open access must be granted to all scientific publications resulting from Horizon 2020 actions."**

- **'Gold'** open access: the article is immediately provided in open access mode. Usually the institute to which the researcher is affiliated, or the funding agency supporting the research pay for this (an eligible cost in H2020)

- **'Green'** open access: the published article or the final peer- reviewed manuscript is archived in an online repository before, after or alongside its publication. Access is often - but not necessarily - delayed ('embargo period'), so publishers can recoup their investment during an exclusivity period

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What's the process?

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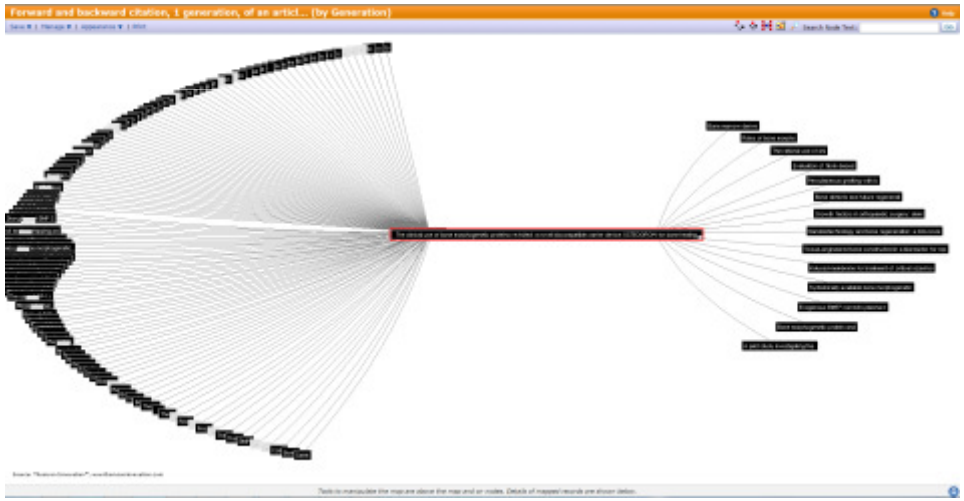
Best Practice Example: Monitoring ongoing related research

A **Themescape map** shows a general overview of the current state of the art in different fields of research:

- Create a overview of all the research fields that might be connected
- Check possible collaboration pathways
- Sometimes technologies may be relevant for companies and markets very far away from the initial target market.

Source: Creating Values GmbH , Thomson-Reuters

In depth analysis of interesting research fields



- Look for every possible citation of your work, both in background activities as well as for results.

- Optimize dissemination and communication activities in order to foster the use of results

Source: Creating Values GmbH , Thomson-Reuters

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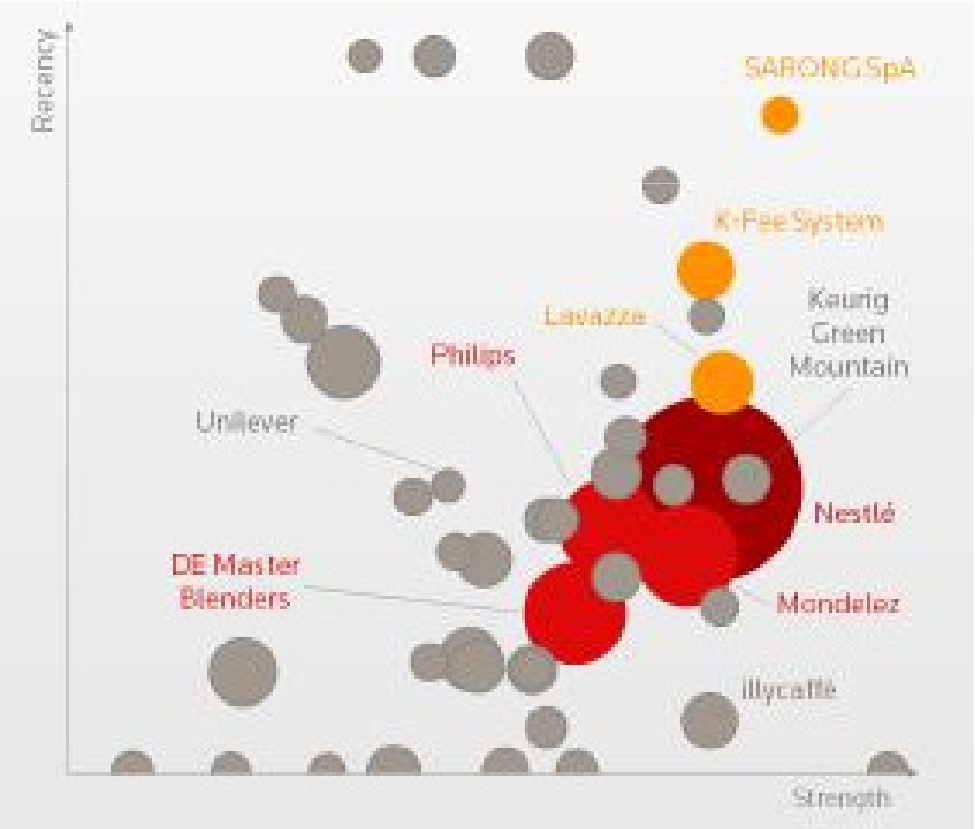
Look for the most innovative companies in the field

Patent analysis. Useful for:

- Knowing other innovators;
- Not committing patent or TM infringements
- Look for possible exploitation ways



Useful programs to carry out an IP analysis:

- IP Navigator (focus on H2020 results)
- IP score
- Espacenet
- TM view
- Thomson Data Analyzer

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KERs:

- **Questionnaires to partners**
- **Exploitation workshops** based on the results of the questionnaires

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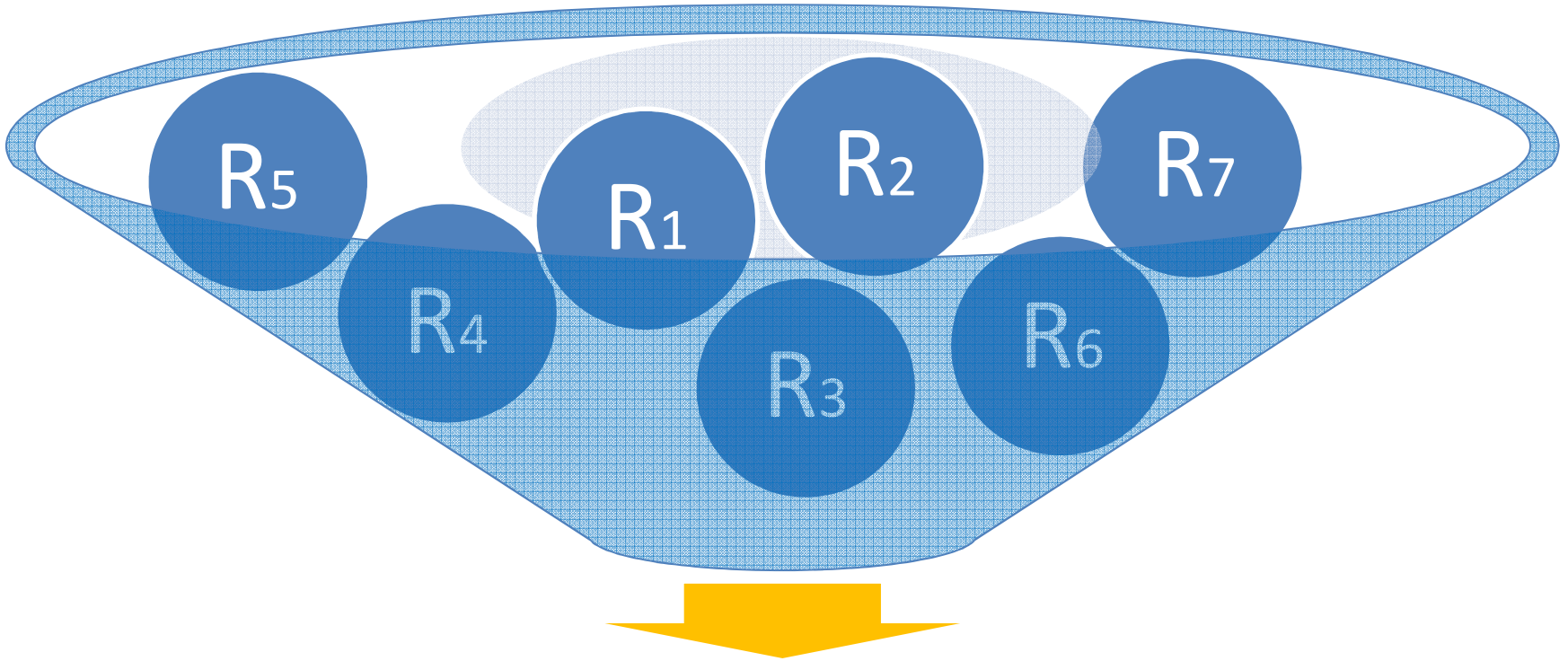
Identify Key Exploitable Results



Key + Exploitable + Results

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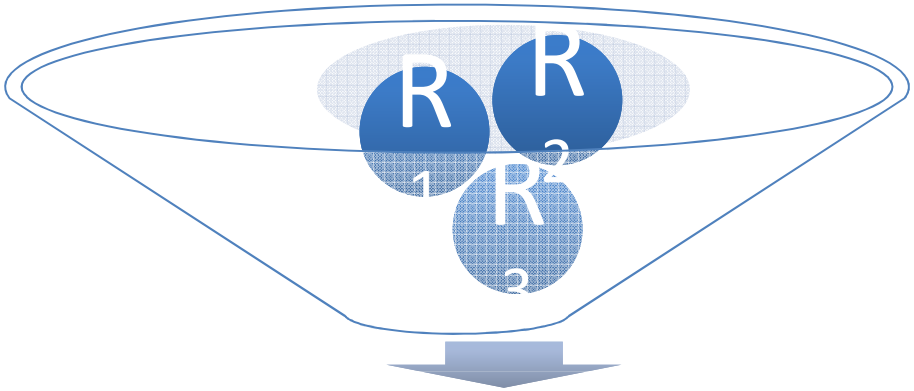
Analysing Key Exploitable Results



KER 1

Risk Analysis + Exploitation Strategy + Business plan

Related EU Initiatives

COMMON EXPLOITATION BOOSTER

Innovation Radar

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Thank you.

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