

# Impact in H2020

## Managing projects to maximise impact

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## Implementation

Management structures and procedures to:

1. Create, capture and manage the research results (IP)
  - The management framework (who is responsible)
  - The management procedures (how it will be done)
  - Establish good foundations and guiding principles/policies
  - IP management and protection strategies and procedures
2. Disseminate and Exploit the research results (IP)
  - Assess the opportunities
  - Exploitation strategies and plans
  - Exploit/Extract value from research outputs
  - Dissemination and communication of research outputs

## 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.
  - "Innovation management is a process which requires an understanding of both market and technical problems, with a goal of successfully implementing appropriate creative ideas."
- 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

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Innovation Management

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Innovation management  
is not  
IPR Management  
is not  
Exploitation Management  
is not  
Dissemination Management  
is not  
Communications Management

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## 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.

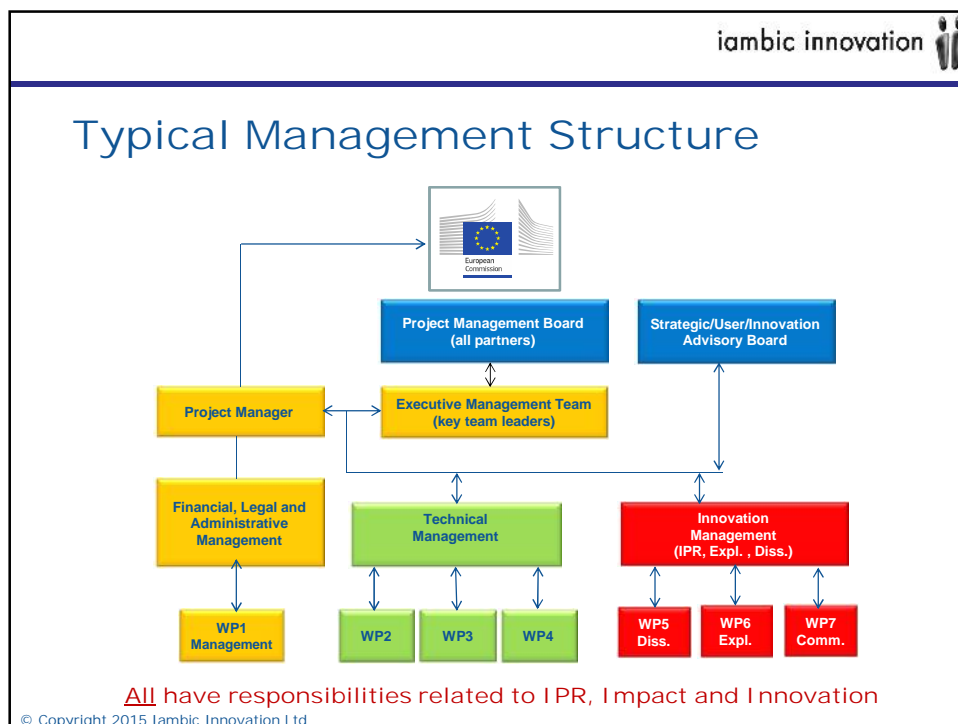
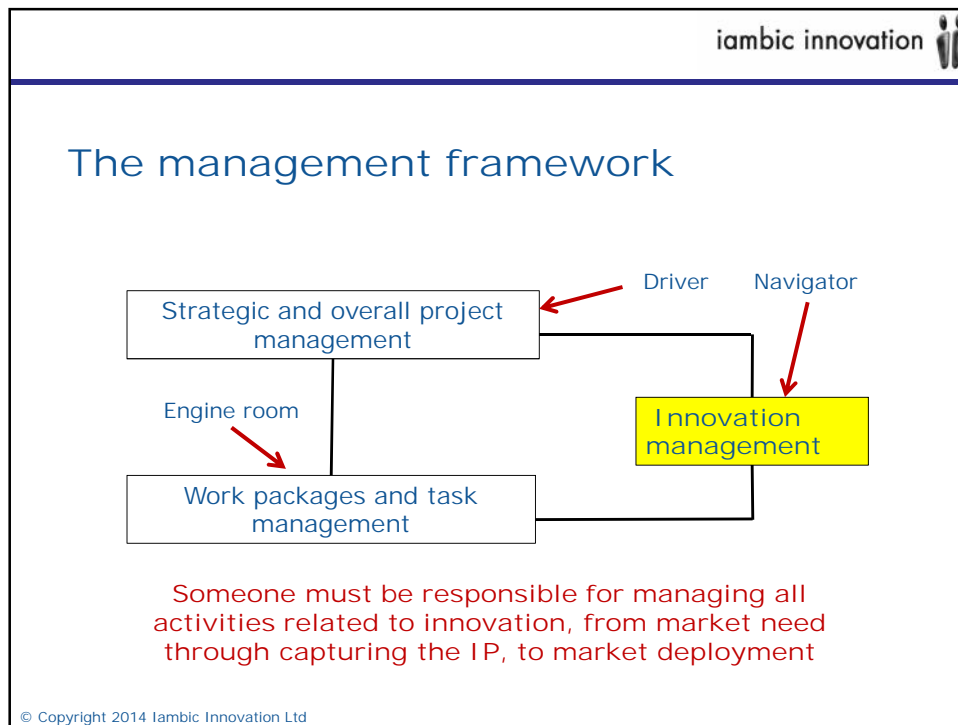
Innovation management starts at the point of capturing the creative works and finishes when it a product or service is deployed.

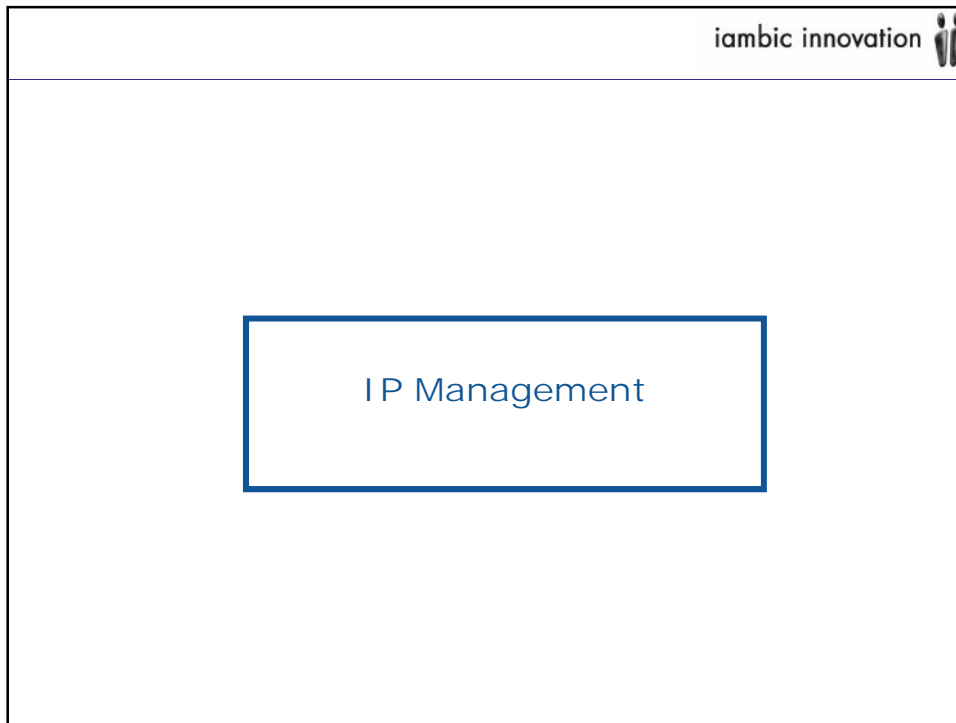
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## Innovation Management

- Understanding (and monitoring) market needs and opportunities
- Being responsible for the overall strategic approach
- Continually monitoring the market, IP and technology landscapes
- Steering the exploitation to maximise innovation and impact
- Ensuring the project's foundations and management processes and structures (for innovation) are sound and effective

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## IP management

- IP used by the project
  - access and usage rights for key IP before AND after the project (foreground, background and 3<sup>rd</sup> party – especially OS licences)
- 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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## 1. Secure the foundations

- Consortium agreement
- IP and exploitation policies
- Ensuring researchers can recognise and capture IP (IP awareness training for participants)
- Ensure good research practice (including record keeping)



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## 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 – particularly if 3<sup>rd</sup> parties involved
  - Check for "hidden traps" (publications, posters, etc), which might affect patentability.
- Pre-publication reviews to avoid "value leakage" for technical inventions

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## Have you captured ALL the IP?

- Technical IP (Patentable)
  - Process, Product, Manufacturing Apparatus
- IP protected by copyright
  - Software
  - Reports
  - Engineering drawings
  - Manufacturing and user guides
- Trademarks/brands
- Designs (design rights)
  - Functional
  - Eye-appeal
- Know how (e.g. best way to implement)
- Secrets (e.g. secret formulas)

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## Ownership!

- Who owns what? ✓  
(don't just quote default rules)
- How will relative contributions to the invention be agreed
- Who will manage?
- Who will pay for protection?
- How will costs be shared?
- How will revenue be shared?

Does the Consortium Agreement address this?

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.

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## Before any project starts...

- Agree ownership policies. If joint what are relative contributions, and how will they be agreed?
- Agree who will manage the IP – ONE manager
- Agree who will exploit the IP – 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
- Options for partners if “managers” do not use or protect

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## 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

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## Hidden Traps

which can prevent patentability for technical inventions

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

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## Hidden Traps - Novelty

Not previously described or publicly disclosed  
(anywhere or anyhow in the world)

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## 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”)

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## 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”

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## 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.

## Beware of Hidden Traps

which can prevent patentability for technical inventions

- Novelty
- Inventiveness (not obvious)

## Establish Good Practice

- Procedures for pre-publication review
- Procedures to manage other public disclosures such as in emails, posters, internal seminars
- Procedures for visitors and visiting researchers
- Encourage the recording of research activity and results (to secure proof of creation)

## Capturing" the IP is only the start!

How do you pick the winners?

(or..how do you then exploit the project results to maximise impact?)

### 3. Managing the IP

#### Assessment, valuation and protection

- Assessment
  - What and where are the market opportunities?
  - Are there alternative technologies/solutions?
  - What is the innovation potential? (what is the benefit worth?)
  - What is the potential to enhance innovation capacity? (what other benefits can be derived from the IP in the future?)
- Valuation
  - Is it worth expending resource to exploit (cost vs benefit)?

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### Protecting the IP

- Protection
  - Would protection of the IP/project output support its exploitation?
- If so, invest in protecting and securing foreground IP as appropriate (an eligible cost in H2020)
  - Patents, copyright, keep secret, etc
  - Secure proof of creation
- IP protection is **an investment NOT a cost!**

Assessment, protection and exploitation  
must be considered together

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## Assessment and valuation

### Summary

- Assessing new technologies and markets is always difficult
- For early stage (pre-market) IP, a qualitative and structured approach can help to identify the opportunities and risks
- Risks cannot be avoided - but they can be managed

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## 4. Disseminate, Exploit, Communicate

- (Draft) dissemination and exploitation policies, strategies and plans, including the project results as a whole at proposal stage
- Preparation of more detailed strategies and plans during the project
- Appropriate communication measures
- Coordination of dissemination, exploitation and communication to avoid conflicts

ARTICLE 29 — DISSEMINATION OF RESULTS  
29.1 General obligation to disseminate results  
Unless it goes against their legitimate interests, each beneficiary must — as soon as possible — ‘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).

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## Targets, Messages, and Delivery

- Who should I tell – and why?
  - Where will I get the most impact (market analysis)?
  - Who are the key targets (prospects, users, AV developers, influencers, policy makers, etc, etc)?
- What are the key messages for each target group?
- How will I deliver the messages?
  - How should the messages delivered to the different target groups (scientific publications, industry events, conferences, press releases, etc, etc)?
  - How will I make sure the message is being properly received?

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## Summary

### Implementation

Ensure management structures and procedures can:

1. Create, capture, protect (if necessary) and manage the research results (IP)
2. Tell all the right people about the project and the results (dissemination)
3. Use the right measures to get the messages across to the right people (communication)
4. Ensure the results can be used (exploited), to maximise the expected impact (exploitation)

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The draft plan for  
dissemination and  
exploitation

## Impact

### Extract from proposal template

- Provide a draft 'plan for the dissemination and exploitation of the project's results'
  - The approach to innovation should be as comprehensive as possible, and must be tailored to the specific technical, market and organisational issues to be addressed.
- Include a business plan where relevant.
- 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.

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## Strategies and plans

### 1) What and Why? (strategies)

- Analysis of the market (market/competition/barriers/key targets, etc)
- Targeted opportunities and impacts – based on expected project results - with justification and positioning

### 2) How to get there? (plans)

- Exploitation Strategy (e.g. further development, open platform, by region, by field of use, exclusivity, standards, regulatory, etc., etc.)
- Commercialisation vehicle(s) (e.g. licensing, spin-out, JV, etc)
- Funding/Investment required? When and how? (Proof of concept, pre-seed, seed, etc..)
- Draft financial projections

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## Extracting Value from IP (i.e. the project outputs)

- IP is a valuable asset which, like physical property, can be 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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## What exploitation route?

- Sale?
- Start a new company (or non-profit organisation)?
- Licence to an existing company?
- Joint Venture?
- Further research?

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## Licensing?

Granting the right to use your property 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

**NB: Can the SME Partner(s) reach all market sectors and territories?**

## 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

## License or Start-up?

- Licensing - licensee has expertise and resource
  - Takes advantage of the expertise, resources and market know-how of companies already operating in the field.
  - Can address different fields of use and geographical areas
- Start-up – must acquire expertise and resource
  - A critical mass of expertise (management, financial, sales, marketing, manufacturing, technical, administrative), and an committed and enthusiastic team
  - Resources for developing, manufacturing and marketing can be very large, particularly if worldwide


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## Licence or Start-up?

### Market & Technology

Licence		Start-up/Spin-out
Established markets and suppliers	vs	New market for new suppliers
Evolutionary/incremental technology	vs	Revolutionary or platform technology
The IP fits a gap in someone else's portfolio	vs	The IP can deliver a unique, independent business advantage
The IP is a one-off stand-alone invention	vs	There is a pipeline of potential products

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## Licence or Start-up?

Finance and return on investment

Licence	vs	Start-up/Spin-out
Low financial commitment	vs	More capital more risk
Can have early returns	vs	Returns take longer (via IPO or trade sale)
Licensee might fund further R&D with inventors	vs	Company will need to finance further R&D
The inventors have no interest in a commercial role	vs	The inventors are interested in a commercial role

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Building the best  
"exploitation package"  
(i.e. the collaborative results of the project)

## What's special about project results?

- Project outputs are often early stage (and not fully market ready)
- Many research groups are working on the same challenges (no one has a monopoly on invention!)
- Often new approaches are outside the "norm" or standard (so do not seamlessly integrate)


## Building the best "offer"

- What is the best "innovation package"?
- Are you using ALL the project results?
- Can you improve it through partnering or acquisition?

working with others can enhance value and "unlock" the opportunity – i.e. to meet the need with a larger impact

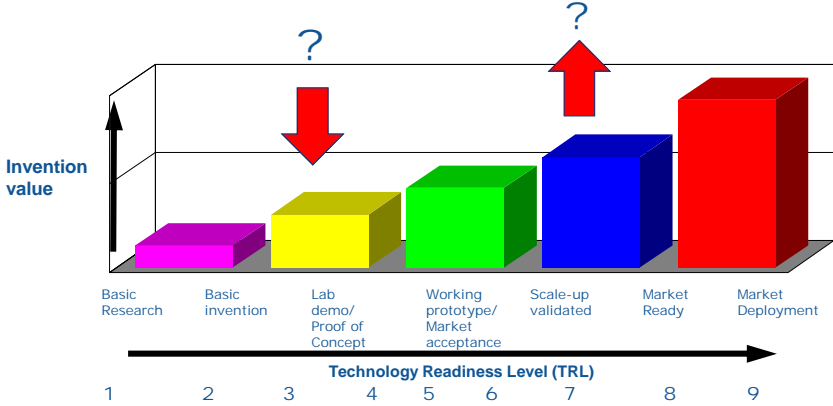
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Developing the "draft"  
strategy and plan

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## Technology Readiness Levels


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



TRL	Description	Invention Value
1	Basic Research	Low
2	Basic invention	Low-Mid
3	Lab demo/ Proof of Concept	Mid
4	Working prototype/ Market acceptance	Mid-High
5	Scale-up validated	High
6	Market Ready	Very High
7	Market Deployment	Extremely High
8		
9		

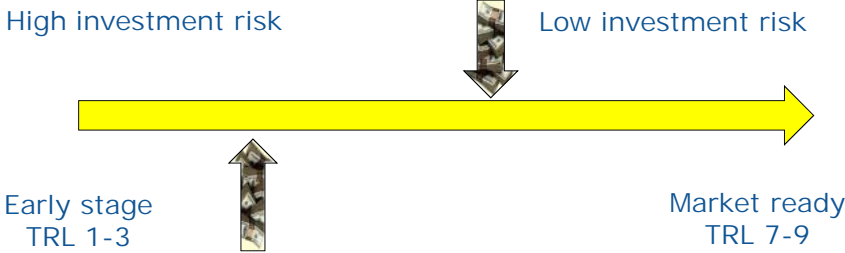
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## Risk vs Reward

Who should you convince?



High investment risk


Low investment risk

Early stage  
TRL 1-3

Market ready  
TRL 7-9

Investment/funding depends on the availability of cash, and motives of investor/funder

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## Exploitation Management

Some practicalities to address

- How far down “TRL” road should I go?
- Do I need to licence in 3<sup>rd</sup> party components, etc?
- Is more development/funding needed before I can convince an investor/partner?
  - what for (development, proof of scale-up, market validation, etc)?
  - how much?
  - where can I get it from?
- How do I reach my target prospects (end-users, investors, commercialisation partners, research partners, etc)

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## Summary

### I<sup>3</sup> in H2020 proposals and projects

- IPR, Impact and Innovation must be addressed in all 3 sections (excellence, impact and implementation) of H2020 proposals
- Understand the landscape (market, technical, IPR, SOTA, Competitors, etc) to obtain strategic intelligence, to **justify** the project objectives, and to plan the best route to achieve maximum impact
- Ensure foundations are sound; capture, manage, protect and exploit the project results (IP) appropriately
- Ensure exploitation plans are consistent with needs of the markets.
- **JUSTIFY EVERYTHING!**

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People **do not** buy technology...

They buy **goods and services**  
that satisfy their **needs and wants**

It is about **People not** Technology

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