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**Impact and Innovation  
in H2020 Proposals**

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**Dr. Eugene Sweeney**

- Technical and Commercial Background
- Over 35 years experience of commercialising IP/research and new technology
  - 1970's As a researcher in Engineering/CFD (first spin-out in 1978)
  - 1980's In computer industry (bringing new technologies to market)
  - 1990's Early stage technology/IP investment and commercialisation
  - 2000 - Consultant in IPR and research commercialisation
- Over 20 years experience with EC as proposal evaluator, rapporteur, project reviewer and consultant
- Member of International (ISO) and European (CEN) Standards Committees on Innovation Management
- Member of Licensing Executive Society

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## Horizon 2020

- An **impact orientated** approach
- **Delivering** strategic technologies that can **drive competitiveness and growth**
- IPR, Impact and Innovation must be **addressed in all sections** of a proposal, not just the impact section

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## Overview

- Addressing Impact and Innovation in H2020 Proposals
- Measures for Maximising Impact (Sec 2.2)
- Exploitation Strategies


*Break*

- Practical Exercise: Mock evaluation of Section 2.2 – Measures to Maximise Impact

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***Vocabulary/Definitions***

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**Vocabulary/Definitions  
IP to Impact**


- **Intellectual Property (IP)**
- Intellectual Property Right (IPR)
- Innovation
- Exploitation
- Dissemination
- Communication
- **Impact**

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## Innovation

The successful exploitation of new creations, which when **used** produce tangible **benefits**, satisfying needs and wants.


**Invention**  **Innovation**

***Invention IS NOT Innovation***

## Impact

The **benefits** derived from the innovation. The larger the benefit, the larger the impact

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## The H2020 Work Programme

Clearly describes the **challenges** and expected **impacts**  
*(needs and wants)* *(benefit)*

### LCE 10 – 2014: 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 .....

**Scope:** Activities should focus on developing the next generation of storage technologies by bringing them from TRL 2 or above towards TRL 5. They cover storage technologies of all sizes relevant to energy applications and all types of locations.....

**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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## **Any type of benefit and impact**

- Benefit (hence impact) **does not have to be financial**
- Innovations can be based on new products, services, organisational or business methods, improved networks or collaborations, advisory reports, etc, etc
- The impact of the innovation can be **societal, environmental, technical, commercial, educational**, or anything that delivers a benefit to someone or addresses a need

## **REV-INEQUAL-10-2016** **Multi-stakeholder platform for enhancing youth digital opportunities**

### **Expected impacts:**

- **Stimulate children and young people's** civic engagement through online participation;
- **Allow for innovative research methods** on children's and young people's use of internet and digital technologies through their active participation in the research;
- **Empower children and young people** by allowing them to take an active role in policy making and societal developments;
- **Leverage youth participation and dialogue** with stakeholders and decision makers;
- **Ensure full and safe participation** of children and young people in accessing and creating online content and services.

## Intellectual Property (IP)

- Products of the mind
- Products of research & experimentation
- Products of creativity
- **Project inputs (background and 3<sup>rd</sup> party IP)**
- **Project results (foreground IP)**
  
- Intellectual Property, like Physical Property can be a **valuable asset.**
  
- Like physical property, intellectual property is an **asset which can be traded** (sold, bought, leased, used as collateral, or given away!)

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## Intellectual Property Rights (IPR)

The law provides legal “rights” to protect your Intellectual Property, known as **Intellectual Property Rights (IPRs)**

- Patents (technical inventions)
- Copyright (Software, Written works, Engineering drawings, Semiconductor Topologies, etc)
- Design Rights (functional or aesthetic)
- Database Rights (creation and arrangement of data)
- Trade marks
- Plant Breeders Rights
- Utility Models/petty patents
- etc

### NOT ONLY PATENTS

- Confidentiality Agreements (Know-how)
- Secrets (Trade Secrets)

- National rights
- Time limited rights

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## Intellectual Property Rights (IPR)

➤ **WHY?**

- To **promote innovation** by encouraging the disclosure of new creations which can benefit society

➤ **HOW?**

- The state grants a **limited monopoly** in return for **publishing** details of the invention

➤ **WHO BENEFITS?**

- **The state benefits** by avoiding secrecy, stimulating innovation, and thus enriching society
- **The creator benefits** by being able to prevent unauthorised use by others, unless they come to an agreement
- **Commercial partners benefit** from the protection given to their investment, which is needed to get to market

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## Dissemination, Communication & Exploitation

- Dissemination (**telling**) stimulates use for further research, commercial development, education, informing policy, etc.
- Exploitation (**using**) can be commercial, research, policy guidance, educational, etc.

**What's the difference between  
dissemination and communication??**

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## Communication?

- Internal (two-way) Communication (e.g. collaboration platforms, etc)
- Communication (or dissemination) of the project
- Communication (or dissemination) of project results
- Communication **measures** – they way you tell different target groups (e.g. publications, conferences, workshops, events, etc.)

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## Extract from proposal template

### **2.2 Measures to maximise impact**

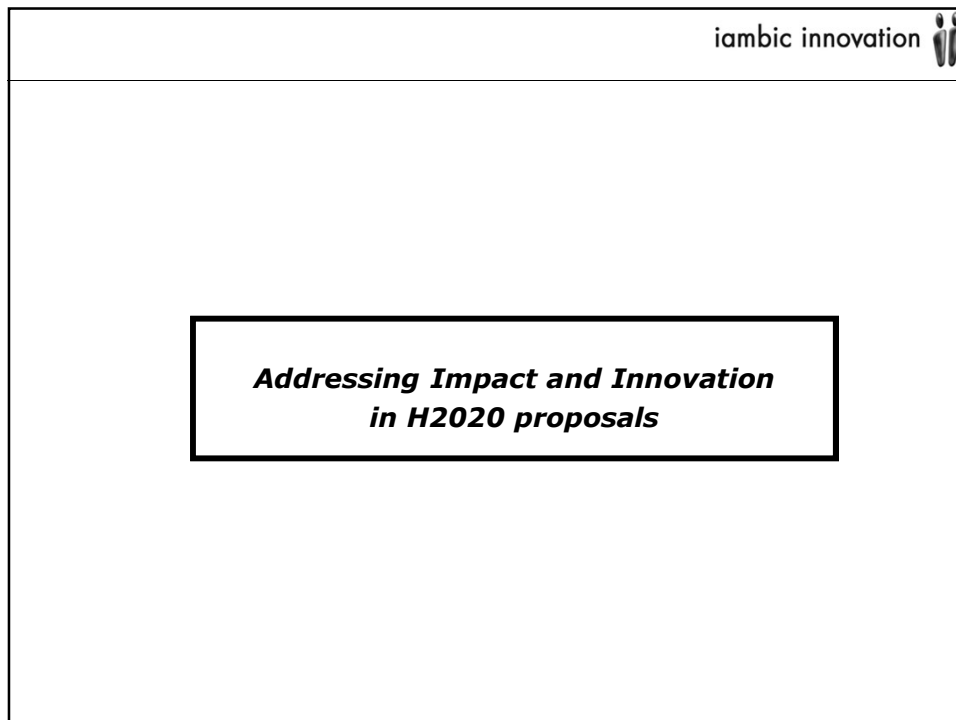
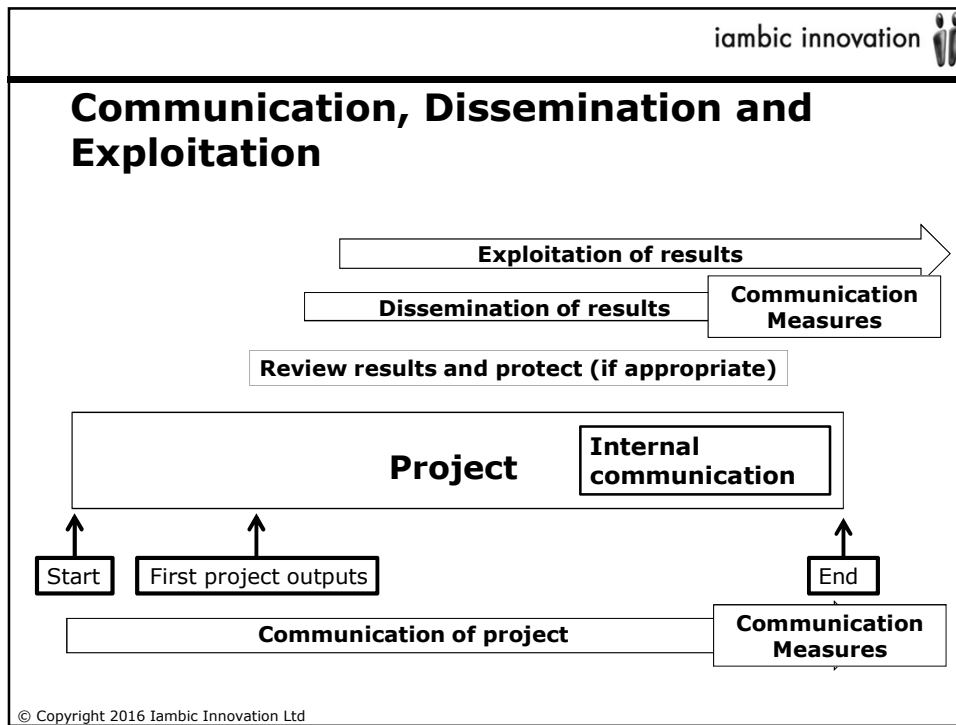
*a) Dissemination and exploitation of results*

#### ***b) Communication activities***

*"Describe the proposed **communication measures** for promoting **the project and its findings** during the period of the grant. Measures should be proportionate to the scale of the project, with clear objectives. They should be **tailored to the needs of various audiences**, including groups beyond the project's own community. Where relevant, include measures for public/societal engagement on issues related to the project."*

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## Proposals for all Actions (RIA, IA, CSA, SME, FTI, etc)

- Demonstrate an **understanding** of the technology and market environment, to select and justify the project objectives
- Present a **credible and viable methodology** to achieve the project objectives
- Demonstrate how a **significant contribution to the expected impacts** will be achieved
- Demonstrate the **ability and capability to deliver**, including work plan, governance, policies, systems, structures, operational processes and risk management.

**Excellence – Impact - Implementation**

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## Innovation, SME Actions, FTI

- Focus on the **business opportunity**
- Include the **concept for commercialisation**
- Ensure **good level of innovation**, i.e. develop something new
- Analyse **competing solutions** and explain **why you will succeed** and not your competitor

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## Understand the (Potential) Impact

- Innovation is about satisfying **needs** & delivering **benefits**
- What needs will be addressed (**relevant to the call topic**)?
- What benefits delivered?
  - to whom?
  - and how much benefit (**contribution to the expected impact of the call**)?
- Select project objectives (i.e. outputs/results/IP) to **maximise the impact** (the benefit delivered) expected by the **call topic**.

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## The Work Programme

**Clearly describes the challenges and expected impacts**

### **LCE 10 – 2014: 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 .....

**Scope:** **Activities should focus on** developing the next generation of storage technologies by bringing them from TRL 2 or above towards TRL 5. They cover storage technologies of all sizes relevant to energy applications and all types of locations.....


#### **Expected impacts:**

- Enlarging the portfolio of effective storage technologies ...
- Lowering the cost, increasing the efficiency and durability.....
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- Integrate storage into the management.....

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***Gathering the information to prepare the proposal***

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**Understand the landscape**  
**Strategic Intelligence – to plan a route**

*WP and Call Challenges, Objectives & Topics*



- Market issues
- Ethics, security, privacy
- Regulations
- Other technologies or solutions
- Standards
- Societal and environmental
- Industry competitors
- Research Competitors
- Related research projects
- Existing knowledge and State of the Art
- IPR

## Strategic Intelligence

- **State of the Art**
  - how will you go beyond it, what new things will be produced?
- **Market**
  - what needs will you address, what benefits will you deliver, who will you target, what is market structure?
- **Competitor Intelligence:**
  - what will be your key selling points, why will people use your solutions, rather than your competitors?
- **Technologies:**
  - Why, and in which areas, will your solution be better than the alternatives by how much?

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## Strategic Intelligence

### External influences which might affect impact?

- **Potential Barriers/Obstacles/Enablers:** IPRs (freedom to use), statutory requirements, industry standards, health & safety requirements
  - Statutes and Regulations
  - Standards
- **IPR** (Patents, copyright, design rights, other IP Rights)
- **Standards:** prescriptive, advisory, best practice (barriers or opportunity)
  - [www.iso.org](http://www.iso.org)
  - [www.cen.eu](http://www.cen.eu)
  - [www.etsi.org](http://www.etsi.org)

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## Strategic Intelligence to Action Plans

1. **Gather information** to understand the landscape (market, technical, IPR, SOTA, Competitors, etc) ✓
2. **Analyse** the information to obtain **strategic intelligence**... to allow you to:-
3. **Justify** the project objectives, which will address the challenges and maximise the expected impacts of the call.. and to:-
4. **Plan to deliver** – develop strategies and plans to develop the project outputs and get them used (exploited) for maximum impact:
  - Strategy and plan to deliver the project results
  - Draft plan for dissemination and exploitation

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### ***Pulling it together to develop the Proposal***

1. ***Excellence***
2. ***Impact***
3. ***Implementation***

## Excellence

### Extract from proposal template

- 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

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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.

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## **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.
  - 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) Management***



## 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 3<sup>rd</sup> 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

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## Evaluation Criteria - Impact

- The extent to which the outputs of the project would 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;
- Quality of the proposed measures to:
  - **Exploit and disseminate** the project results (including **management of IPR**), and to manage research data where relevant.
  - **Communicate** the project activities to different target audiences

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## Implementation

Management **structures and procedures** to:

- **Create, capture and manage the research results**
  - Establish good foundations and guiding principles/policies
  - The management framework (who is responsible)
  - The management procedures (how it will be done)
  
- **Disseminate (tell) and Exploit (use)**
  - Assess the opportunities
  - Dissemination and exploitation strategies and plans
  - Exploit/Extract value from research outputs


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## 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).

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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

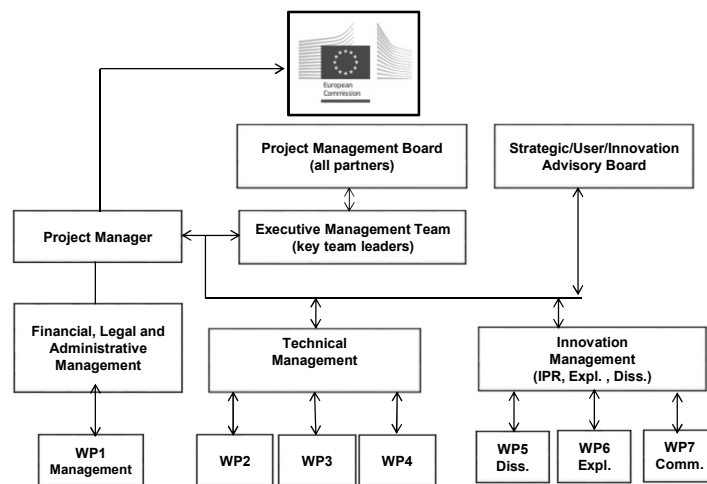
*"Overall management of all activities related to understanding needs, with the objective of successfully identifying new ideas, and managing them, in order to develop new products and services which satisfy these needs.*

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


**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.**

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## Typical Management Structure



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***Measures for Maximising Impact (Sec 2.2)***

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**Extract from proposal template**

***2.2 Measures to maximise impact***

***a) Dissemination and exploitation of results***

***b) Communication activities***

*"Describe the proposed **communication measures** for promoting **the project and its findings** during the period of the grant. Measures should be proportionate to the scale of the project, with clear objectives. They should be **tailored to the needs of various audiences**, including groups beyond the project's own community. Where relevant, include measures for public/societal engagement on issues related to the project."*

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## Evaluation Criteria - Impact

- The extent to which the outputs of the project would 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;
- Quality of the proposed measures to:
  - **Exploit and disseminate** the project results (including **management of IPR**), and to manage research data where relevant.
  - **Communicate** the project activities to different target audiences

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## Key points

- Dissemination **and** exploitation strategies and plans
  - For the project results **as a whole** at **proposal stage** (Draft)
  - Preparation of more detailed strategies and plans **during the project** (Interim and Final)
- **Coordination** of dissemination, exploitation and communication tasks to avoid conflicting messages, unclear management, and user confusion
  - **Communication measures** for different target groups
  - **Monitoring** and **managing feedback** from dissemination
  - **Manage the exploitation (use)** of the project results

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## Strategies and Action Plans

- **Who should you tell – and why?**
  - Where will you get the most **impact**?
  - Who are the **key target groups**?
- What are the **key messages** for each target group?
- How will you **deliver the messages** to the different target groups?
- How will you **respond** and **follow up** to get results **used**?

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## What should the DEP contain?

From H2020 proposal template RIA/RIA 2016-17

- **Your plan for the dissemination and exploitation of the project's results is key to maximising their impact**
- **Show** how the proposed measures will help to **achieve the expected impact** of the project
- Consider the **full range of potential users and uses**, including research, commercial, investment, social, environmental, policy-making, setting standards, skills and educational training where relevant
- The plan should contain measures to be implemented **both during and after the end** of the project

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## Dissemination and Exploitation Plan

### What are the assets and target users?

- What are the **exploitable project outputs** (IP)?
- Who are your **target groups/markets**?
- What **needs** will be addressed?
- What will the **benefit (impact)** be?
- **Why should they choose you** (rather than the competition)?

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## Dissemination and Exploitation Plan

### For each target group..

- What is **the specific IP/exploitation package(s)**?
  - Collaborative projects >> bundles of IP
- Would **IP Protection** support commercial exploitation?
  - Would it help to convince investors?
- What are **your objectives and messages** for each target group?
- How will you **communicate** these messages
- How will you **follow up** with those who respond to get results used (exploitation) and to
- **DELIVER IMPACT?**

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## Dissemination and Exploitation Plan For each “exploitation package”

- What is the expected **exploitation roadmap**?
  - 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)?
- What will be the **exploitation vehicle(s)**?
  - How can your results be **accessed and used** (e.g. new company, licence, JV, institution, etc.)?
- What are the expected **terms** for access and use?

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*Choosing the best  
exploitation strategy and  
business model*

## What exploitation(utilisation) route?

- Sale
- Further research?
- Non-commercial use (policy, educational, societal, etc)
- **Licence** to an existing company?
- **Start a new company** (or not-for-profit organisation)?
- Joint Venture
- Etc..

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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?**


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## 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

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## Licence or Start-up?

### Market & Technology

Licence	vs	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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## Summary

- Address IPR, Impact and Innovation in **all 3 sections** of H2020 proposals
- Understand **all** aspects of the landscape to get **strategic intelligence**
- **justify** the project objectives, and to develop **plans** to deliver the maximum **impact**
- Create and protect (if necessary) the results
- Tell the right people (**dissemination**) using the most appropriate (**communication measures**)
- Ensure the results can be used (**exploitation**)

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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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