

Deliverable 7.3: Report on stakeholder engagement and activity

WP7, Task 7.2

04/12/2020 (M12)

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¹ PU = Public

PP = Restricted to other programme participants (including the Commission Services)

RE = Restricted to a group specified by the consortium (including the Commission Services)

CO = Confidential, only for members of the consortium (including the Commission Services)

Document History

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DoA	<p>A Stakeholder Engagement process will be appointed to give consolidated advices to iNTERESTING consortium on relevant technical and economic objectives and priorities linked with Task 1.1. The aim of this task is to manage the interactions with the Stakeholder Working Group to assure the highest potential for innovation and market uptake for all activities during iNTERESTING improvement and deployment. The contribution from stakeholders will be key for validation and improvement at critical stages of the project lifetime, where checkpoints on the work performed are required. Activities with stakeholders will be reported in a deliverable D7.3. Stakeholders mapping in Task 1.1 and civil society will be addressed. To become successful, a dialogue will be established at EU level, involving the relevant transnational organisations. This will be useful when deploying the technology to engage local community and interest groups from the beginning, to ensure their acceptance and open a dialogue process in case of conflict (Apart for the 1st. co-creation meeting, 2 other meetings will be carried out at mid and final term of the project) . A collaborative diagnosis on communication and direct social impacts will also be conducted (VITO).</p>		
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Abbreviations and Acronyms

Table 1. Abbreviations and Acronyms

Acronym	Description
SAG	Sustainability Advisory Group
TAG	Technical Advisory Group



0. Introduction

This document is a deliverable of the ININTERESTING project, funded by the European Commission (EC) under its Horizon 2020 Research and Innovation Programme (H2020). The project aims to accelerate wind energy technology development and to extend the lifetime of wind turbine components by developing innovative virtual and hybrid testing methods for prototype validation of pitch bearing and gearbox components.

This document is the third deliverable (D7.3) “*Report on stakeholder engagement and activity*” of *Work Package (WP) 7 “Dissemination and exploitation activities”*. Effective dissemination will enhance the visibility of the project results and encourage interested stakeholders to actively participate, thus achieving successful integration.

The Deliverable is related to “*Task 7.2 (T7.2) Stakeholder engagement*”, which aims to manage the interactions with the Stakeholder Working Group to assure the highest potential for innovation and market uptake for all activities during ININTERESTING improvement and deployment.

The Report covers the main conclusions of the Stakeholder Working Group for the first year (2020).

0.1. Connection to Dissemination Plan (D7.2)

Dissemination refers to sharing research results with potential users - peers in the research field, industry, other commercial players and policymakers. By sharing research results with the rest of the scientific community, ININTERESTING aims to contribute to the progress of science in general. In that sense, this Dissemination Plan includes activities mostly connected to specialist audiences (Scientific Outreach, Stakeholder Group, Newsletter, Events and Networking). It is key for good coordination of all the dissemination initiatives and for defining the messages about the project and its results that should be targeted to different audiences. Effective dissemination will enhance the visibility of the project results and encourage interested stakeholders to actively participate, thus achieving successful integration.

Specifically, this Dissemination Plan aims to:

- Outline the main objectives of the project dissemination strategy.
- Identify the target audiences for the dissemination objectives and actions.
- Define the tools and channels to be implemented and the activities required to reach targeted audiences.
- Measure the impact and effectiveness of ININTERESTING dissemination activity through identified KPIs and established target values.
- Establish how the dissemination activities will be managed and administrated.

1. Objectives and Expected Impact

The objective of having a Stakeholder Working Group is to involve and engage relevant entities with different profiles to provide their support and advise on relevant technical, economic and sustainability objectives and priorities within the project. On one side, technical requirements and inputs from end users, test-sites or certification bodies will help align the tasks and expected results with the current situation of the sector. On the other hand, it is also key for the project to involve entities that can provide inputs regarding environmental, socioeconomic and sustainability concerns.

In that sense, in order to maximize the success potential of the project, the Stakeholder Advisory Group will be the main group supporting the consortium in providing expert advice to ensure consistency in the project outcomes in accordance with market expectations. Stakeholders involvement will be key for validation and improvement at critical project stages, where checkpoints on the work performed are (and will be) required.

As set in de deliverable D7.2 “*Dissemination Plan*“, The Stakeholder Working Group will have at least one annual meeting for the duration of the project.

1.1. Target Audience

The stakeholder Group for ININTERESTING considers only the Industrial Community as a target audience. Industrial community gathers Wind turbine manufacturing companies, Component manufacturers, Test-bench owners, Engineering companies and other end-users, Wind and energy platforms and associations and Industrial community of other related sectors. The main goal of each target group is resumed in **Figure 1**.

Target group		Goal
Industrial Community	Wind turbine manufacturing companies	<ul style="list-style-type: none"> ▪ Raise awareness about the project and its results. ▪ Present the technology developed available for exploitation in relevant sectors. ▪ Share experiences and mobilise sector interest by demonstrating the added value of ININTERESTING innovative technologies and methodologies. ▪ Introduce new developments to potential customers and prescribers.
	Component manufacturers	
	Test-bench owners	
	Engineering companies, and other end-users	
	Wind and energy platforms and associations	<ul style="list-style-type: none"> ▪ Raise awareness about the project and its results. ▪ Serve as multipliers of all communication activities.
	Industrial community of other related sectors	<ul style="list-style-type: none"> ▪ Attract attention from industries from other sectors (e.g. Oil&Gas, Automotive) to anticipate potential replication in further stages.

Figure 1. Industrial Community target group

1.2. Monitoring

All the activities related to stakeholders are monitored either with Key Performance Indicators or with Milestones. In that sense, the first stakeholder group meeting is a Milestone (M11), and a target of 20 stakeholder is targeted for the lifetime of the project, as shown in **Figures 2 and 3** extracted from D7.2.

Key milestones	Date
First stakeholder group meeting	M11

Figure 2. Key Milestones

Dissemination activity	KPI	Target value					
		Y1	Current	Expected	Y2	Y3	Total
Stakeholder group	Number of stakeholders	20	30	20	20	20	20

Figure 3. Stakeholder number KPI



2. Overall Approach

To improve the input gathered from experts in the Stakeholder Working Group, this was divided into two different subgroups, the Technical Advisory Group (TAG), and the Sustainability Advisory Group (SAG). This way, general aspects of the project will be introduced and discussed together with both subgroups but specific topics regarding technical or sustainability aspects will be dealt with separately.

2.1. Technical Advisory Group (TAG)

Technical subgroup, with a limited number of participants by invitation (6 to 10), which are experts in the project topics (validation, bearings, gearboxes, life extension, etc.) of wind turbine manufacturers, windfarm developers, wind testing site or certification entities.

The ININTERESTING consortium set up an Advisory Group formed by a limited number of experts that overview the advancement of the project as well as advise and support the consortium on its development to ensure consistency in the project outcomes in accordance with market expectations. The scope of the contribution of the participants would, at least, be focused on one annual meeting with the consortium, and information would be sent in advance so they can review it and prepare for the workshops.

2.2. Sustainability Advisory Group (SAG)

Sustainability subgroup, open to participation with the goal of having around 20 representatives from wind energy associations, policy makers and regulators, civil society organisations, environmental and social NGOs, or citizens in general.

One of the objectives of the ININTERESTING project is to improve social acceptance of the newly developed designs, concepts and testing methods. For a better understanding of the concept of social acceptance, a literature review has been performed. The complete overview with key messages from the literature review on social acceptance towards wind energy, including the definition and aspects of, and influences on social acceptance, and some examples of good practices, are included in deliverable 1.1. The two main key messages found are:

- The overall acceptance at society level needs to be increased, rather than at the level of individual projects
- There is a lack of comprehensive and systematic review to identify common findings and outstanding research questions. Important insights are produced, yet knowledge gaps remain.

On the matter of social acceptance of wind energy projects more comprehensive studies of several years have been dedicated than the literature review done for ININTERESTING, therefore it is of high importance to engage interest groups, stakeholders, researchers, and others on this matter.

In that sense, The ININTERESTING consortium set up a Sustainability Group open to participation to improve social acceptance and to lower the environmental impacts of newly developed wind energy technology. The scope of the contribution of the participants would be focused on one first meeting with the consortium and they would receive all the material regarding project progress.

3. Methodology

The Technical Advisory Group was created during the first semester of the project, with technical stakeholders that due to their profile or relevance would benefit from the research of the project and whose participation would benefit the project. A stakeholder analysis was carried out and 7 partners were identified due to their profile: namely GE offshore, LORC (Lindo Offshore Renewables Center), ORE (Offshore Renewable Energy) Catapult, VESTAS, Siemens Gamesa, DNV GL and Iberdrola. Contact persons from each company were personally contacted, and after discussing the scope and responsibilities as Technical Advisors with them, all of them accepted the proposal to be on the Advisory Group. The preliminary list of TAG partners is shown in **Figure 4**.

Name	Company	Position
David Pérez Calleja	DNV-GL	Turbine testing engineer
Soeren Elmoose	SGRE	Senior Key Expert Pitch Bearings
Lars Pallisgaard	VESTAS	Blade Bearing Engineer
Marc Sala	GE	Executive Engineering Leader Healide X
Tony Quinn	ORE CATAPULT	Test & Validation Director
Torben Lorentzen	LORC	CEO
Manuel Palop	IBERDROLA	Wind Turbine Senior Specialist

Figure 4. Technical Advisory Group partners

As for their profiles, **SGRE**, **VESTAS** and **GE** are three of the most relevant turbine manufacturers worldwide, **IBERDROLA** is a wind farm operator, **DNV-GL** a certification body and **ORE CATAPULT** and **LORC** test centres for large components.

Additionally, during the last semester of the year, a new partner has joined the Technical Advisory Group, namely **SIRRIS- OWI LAB**. In this case, Pieter Jan Jordaens, Program Manager Onshore and Offshore Wind Energy Industry, has directly shown interest in being involved in the Stakeholder Group.

*As part of **OWI-Lab**, **Sirris** is responsible for the R&D projects dealing with large scale testing of wind energy components. As part of this program, a large climate chamber and a large wave testing basin are used in the prototype validation trajectories. They are interested to see the evolutions of hybrid testing approaches and learn how our facilities can be used for digital twin testing for example.*

The Sustainability Advisory Group was also created during the first semester of the project. In this case, target groups were wind energy associations, policy makers and regulators, civil society organisations, environmental and social NGOs, or citizens in general. An open invitation was launched through social media for a sustainability stakeholder consultation meeting to improve the future social acceptance of newly developed wind energy technologies. The invitation can be shown in **Figure 5**. As a result, 30 participants from 20 different countries shown interest and joined the meeting and the SAG.

Additionally, a dedicated section on the project website for the stakeholder engagement activity was launched, including an online participation request form for interested potential stakeholders. Contacting parties will become SAG (Sustainability Advisory Group) or TAG (Technical Advisory Group) members upon consortium's decision. New partners joined the Sustainability Advisory Group through the online form. In that sense, a database has been created with all the interested people, and it will be used to distribute Newsletters, or important milestones of the project with them.



JOIN THE 1ST ININTERESTING STAKEHOLDER CONSULTATION MEETING

On Thursday 10th of September 2020, the ININTERESTING consortium will organise a webinar for their first sustainability stakeholder consultation meeting to improve the future social acceptance of newly developed wind energy technologies.

ININTERESTING?

The abbreviation ININTERESTING stands for "Innovative Future-Proof Testing Methods for Reliable Critical Components in Wind Turbines" and is the name of a three-year European project that has just started this year by eight partners from three European countries: four R&D centres (IKERLAN, VITO, VITO and KU Leuven), two manufacturers of wind turbine components (Laulagun and Moventas), one global player in the field of computer-aided engineering simulation (Siemens Industry Software), and one non-profit industry-driven organization (Basque Energy Cluster). ININTERESTING will accelerate wind energy technology development and extend the lifetime of future wind turbine components (2030-2050) by developing innovative testing methods for prototype validation of wind components such as pitch bearings and gearboxes.

The project revolves around three case studies in which disruptive technologies for new pitch bearings and gearboxes, and a novel lifetime extension concept of existing pitch bearings will be developed. In order to maximise the innovation potential of ININTERESTING technology developments, without losing the potential of lowering environmental, social and economic impacts, a **life cycle sustainability assessment (LCSA)** is being performed iteratively throughout the project. The LCSA consist of an environmental life cycle assessment (LCA), a social life cycle assessment (S-LCA) and life cycle costing (LCC). In the first iteration of the LCSA, business-as-usual reference wind turbines are assessed in order to gain insights in the contribution of the different components and testing methods to the environmental, social and economic impact of wind turbines. Additionally, the results of this first iteration will be taken as a reference to evaluate the improvement with respect to the ININTERESTING technology developments.

Why a Stakeholder Consultation Meeting?

Technical, environmental and social requirements for the future wind turbines will be defined within ININTERESTING. This will be partly based on the LCSA but also complemented by information from relevant key stakeholders. Therefore, to ensure that important necessities are not omitted and to arrive at broadly supported requirements, we do appreciate your input.

Join our Stakeholder Consultation Meeting:

- To provide your view on necessary requirements for future wind turbines, to improve the social acceptance and to lower the environmental impacts of newly developed wind energy technology;
- To know the view of other key stakeholders of the wind energy value chain;
- To be the first to be informed about the status and results of the ININTERESTING project.

Programme

10 September 2020, 10:00-12:00 CET, Zoom

- Welcome and general introduction to the ININTERESTING project – IKERLAN (project coordinator)
- Social acceptance of wind energy technology – VITO
 - Presentation of the findings of the literature review
 - Interactive discussion
- (Future) environmental requirements of wind energy technology – VITO
 - Presentation of the findings of the literature review
 - Interactive discussion
- Life Cycle Sustainability Assessment of three reference wind turbines – VITO
 - Presentation of the findings of the business-as-usual LCA, LCC and S-LCA
 - Interactive discussion

Interested?

Please [register online](#) via this [form](#) before **7 September 2020**. The Stakeholder Consultation Meeting will be **free of charge** but **registration is mandatory**. Your registration will be confirmed by email with the joining details of the Zoom meeting.

PARTNERS:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 851245.

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Figure 5. Invitation stakeholder consultation meeting

4. Results

Both iNINTERESTING TAG and SAG meetings were planned for M5 in a physical format, but due to COVID-19 restrictions, these were changed into an online format and postponed until September.

4.1. TAG meeting

The **1st iNINTERESTING Technical Advisory Group** meeting took place on the 9th of September and 6 out of the 7 TAG partners participated on it: Vestas, Offshore Renewable Energy Catapult, Siemens Gamesa, General Electric (GE), Iberdrola and Lindo Offshore Renewable Centre (LORC).



Figure 6 First TAG meeting

The objectives of the meeting were to overview the progress of the project, to have advise and support from the main players in the Wind Energy sector and to get feedback on the applicability of the solutions and possible improvements.

The agenda of the meeting is shown in **Figure 7**.

Planning		Topic	Responsible
1 st session	9:30-9:40	Welcome and introduction Roundtable introduction of experts	CLUSTER
	9:40-10:10	Overview of the project: Context, objectives, partners, work packages, key activities, etc.	Mireia Olave (IKERLAN)
	10:10-11:00	Questions and open discussion	ALL
Break	11:00-11:30	Coffee Break	
2 ⁿ session	11:30-11:50	Review of Deliverable 1.1 “Technical, environmental and social requirements of the future wind turbines and lifetime extension”	IKERLAN
	11:50-12:00	Overview of <u>case studies</u>	LAULAGUN MOVENTAS IKERLAN
	12:00-12:05	Presentation of the findings of the business-as-usual LCA, LCC and S-LCA	VITO
	12:05-12:55	Questions and open discussion	ALL
Final review	12:55-13:00	Final Review / next meeting definition	CLUSTER

Figure 7 Agenda for the TAG meeting

Conclusions of the TAG meeting

The objectives of the meeting were met, and the consortium got feedback on the applicability of the solutions and possible improvements.

Stakeholders contributed within a co-creation session to the definition of the technical, social and environmental requirements of future wind turbines (2030-2050) and for the design tools and methodology to be developed.

Stakeholders considered that the overall idea of the project is interesting since full scale testing is time consuming and only gives some general system behaviour while with the small-scale testing, parts of interest can be isolated and investigated. In that sense they concluded that the strategy of the project is the right one. Some members even mentioned that the approach of the project is quite similar to the one that they are running, and they brought up the risk of upscaling small testing to a full scale, meaning that statistical things may affect more larger components than smaller ones. This notice will serve the consortium for when they study this aspect in WP4.

During the meeting different topics were discussed such as the necessity of real scale testing for certification, feasibility of constructing full scale test benches for next generation wind turbines, expected sizes of future wind turbines and tendencies, or feasibility of the three case studies. The stakeholder showed great interest in the discussions and in getting more involved in the project. In that sense, they proposed to have some beforehand preparative material to stimulate future meetings and to organize more meetings per year. The consortium promised to discuss this matter internally and to make a complete proposal to the AB. Next meeting was set for June 2021, which is expected to held face to face depending on the situation.

The presentation and minutes of the meeting are available upon request.

4.2. SAG meeting

On the following day, 10th of September, a **sustainability stakeholder consultation meeting** was organized for a broader public in an online webinar format. The webinar had more than 30 participants from 20 different European companies.



Figure 8 First SAG meeting

After the introduction of the iNINTERESTING project made by IKERLAN, VITO presented the preliminary results for the Life Cycle Sustainability Assessment (LCSA). Topics that were discussed interactively are the environmental and social requirements of future wind turbines and requirements to improve the future social acceptance of wind energy.

The agenda of the meeting is shown in **Figure 9**.


AGENDA		
1. General introduction of the ININTERESTING project		– Mireia
2. Social acceptance of wind energy technology <i>based on findings of a literature review</i>		– Karolien
3. Environmental requirements for (future) wind energy technology <i>based on findings of a literature review</i>		– Wai Chung
4. Life Cycle Sustainability Assessment (LCSA) of three reference wind turbines		
findings of environmental Life Cycle Assessment (LCA)		– Wai Chung
findings of economic Life Cycle Costing (LCC)		– Sofie
findings of Social Life Cycle Assessment (S-LCA)		– Karolien

Figure 9 Agenda for the SAG meeting

During the meeting, there were some Poll Questions that showed the knowledge of the participants and their concerns about the topic. In this way, the assistants shared their point of view and their previous experiences related to the social, environmental and sustainability assessments. The contributions from different companies and experts were very interesting when dealing with these aspects.

Conclusions of the SAG meeting

Contributions made by participants gave some interesting feedback to the consortium.

Regarding wind turbine projects in general, they considered that the Local Community is the Stakeholder Group that most resistance shows for wind turbine project development. The most important environmental requirements for them happened to be wind turbine noise, impact on flora and fauna, shadow flickering and visual impact. However, some of them also mentioned electromagnetic interference effects and land-use impacts as important issues.

As for ININTERESTING, most of them considered that the increased lifetime of turbines will have a positive impact in social acceptance, while others considered that the reduction in product development process costs and less maintenance will also have a positive impact.

The presentation and minutes of the meeting are available upon request.

4.3. Visibility on Wind Energy Hamburg 2020

One activity planned for stakeholder engagement for 2020 was the participation of ININTERESTING in Wind Energy Hamburg 2020. The Wind Energy Hamburg event was supposed to be held from 22nd to 25th of September in Hamburg. Unfortunately, and due to COVID-19 pandemic, this event was postponed until December and it did not take place physically, but purely digitally. The Basque Energy Cluster normally has its own stand in this

event, where all the projects are shown, and brochures or other dissemination material distributed. However, this was not possible this year.

However, the participation of ININTERESTING was finally secured in the Wind Energy Hamburg ONLINE event (1-4 December 2020). Mireia Olave from IKERLAN got a slot in the Speakers Corner, where she presented ININTERESTING and raised interest among the attendees. A picture presenting the ININTERESTING stakeholder Advisory Group during the online event is shown in the **Figure 10** below.

STAKEHOLDER ADVISORY BOARD

The objective: group supporting the consortium in providing expert advice

Technical Advisory Group

The 1st ININTERESTING Project Technical Advisory Group meeting took place on the 9th of September

Objective of this first meeting was to introduce the project to the experts and to kick off this Advisory Group for a continuous collaboration and advice.

This Group will overview technical progress of the project and will support the ININTERESTING consortium on its development.

www.ininterestingproject.eu/events/the-1st-ininteresting-technical-advisory-board-meeting-took-place-last-9th-of-september/

Sustainability Advisory Group

The 1st ININTERESTING Project Sustainability Advisory Group meeting took place on the 10th of September: 30 participants from 20 different companies

- To provide your view on necessary requirements for future wind turbines, to improve the social acceptance and to lower the environmental impacts of newly developed wind energy technology;
- To know the view of other key stakeholders of the wind energy value chain
- To be the first to be informed about the status and results of the ININTERESTING project.

www.ininterestingproject.eu/events/the-ininteresting-stakeholder-consultation-meeting-took-place-last-10th-of-september/

PhD. Mireia Olave
ASOCIACIÓN CLUSTER DE ENERGÍA - BASQUE ENERGY CLUSTER (ACE) COMPANY: IKERLAN

Figure 10 Visibility in Wind Energy Hamburg