X-shaped Radical Offshore Wind Turbine for Overall Cost of Energy Reduction

D9.5

Development of main results material

https://xrotor-project.eu

@XROTORProject

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X-ROTOR Consortium


University of Strathclyde


Delft University of Technology


University College Cork – National University of Ireland, Cork


Fundacion Cener


General Electric Renovables España


Norwegian University of Science and Technology

https://xrotor-project.eu

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About X-ROTOR

X-ROTOR: "X-shaped Radical Offshore wind Turbine for Overall cost of energy Reduction" is a Horizon 2020 funded project which aims to develop a disruptive new offshore wind turbine concept.

The X-ROTOR project is led by University of Strathclyde (UK) in partnership with Norwegian University of Science and Technology (Norway), Delft University of Technology (Netherlands), University College Cork (Ireland), Fundacion Cener National Renewable Energy Centre (Spain) and GE Renovables España (Spain).

As the effects of climate change are becoming ever more visible, Europe has raised its target for the amount of energy it consumes from renewable sources from the previous goal of 27% to 32% by 2030. Offshore wind energy can play a key role in achieving the EU target and contribute to the required 40% reduction in CO_2 emissions. However, to achieve the previously mentioned targets the cost of offshore wind must be reduced. The X-ROTOR concept provides a direct route to drastically reducing both capital and operating costs of energy from offshore wind.

The project runs for three years from January 2021, during which time, the concept will be developed through a holistic consideration of technical, cost, environmental and socio-economic impact aspects.

If proven feasible, X-ROTOR will, as a disruptive new offshore wind turbine concept, create new opportunities for the European wind energy industry and play an important role maintaining the EU's position as global technological leader in renewable energy, reducing greenhouse gas emissions and decarbonising the EU economy.

For more information see **https://xrotor-project.eu**

Description of the deliverable and its purpose

This brief report outlines the plan for the dissemination and communication of the X-ROTOR project's final results. It outlines the methods to be used and how they will be employed.

List of acronyms and abbreviations

DoA	Description of Action
O&M	Operation and Maintenance
OEM	Original Equipment Manufacturer
OREC	Ocean Renewable Energy Coalition
WESC	Wind Energy Science Conference
WP	Work Package
XRC	X-ROTOR concept

1 Introduction

1.1 Background

This document presents the plan for promoting the work of the project at its conclusion, developing material to communicate the project's results and disseminating the final results and project outputs. In effect it constitutes a communications strategy, albeit one that is focused on the final results and outputs of the project.

The strategy to be implemented involves dissemination of focussed and targeted information to interested stakeholders – including those who may wish to be involved in taking it to market. This involves wide dissemination on the internet; academic and professional publications; presentations at relevant conferences and fairs; and liaison and where possible joint undertakings with related projects.

The strategy has been designed to provide effective diffusion of the project concept, ideas and results. This is achieved by establishing a clear understanding of the target groups and the communication actions needed to reach them i.e., identifying the various means of dissemination that fit the specific attributes of the target audiences. Although developed at the start of the last year of the project, this strategy should be considered as the starting point for the dissemination activities. The document is intended to be a live document, constantly being updated during the final year, these revisions will be informed by the lessons of prior dissemination activities and experiences shared with related projects.

1.2 Objectives of the strategy

There are a number of distinct components of the dissemination strategy, *viz*.,

- Management and continued development of project communication and dissemination infrastructure (website design and development, brochure, *etc*.) within the final year of the project.
- Achieving awareness and acceptance of the relevance of the project results in the eyes of stakeholders associated with the offshore wind energy sector, planning and regulatory agencies, etc.
- Effectively communicate and promote key project results and outputs to targeted audiences.

2 Communication and Dissemination Strategy

A research project achieves impact through three modes of activity, namely communication, dissemination and exploitation. Since it is relatively common for these to be conflated, Table 1 below outlines how X-ROTOR distinguishes between these different impact-maximising activities.

Table 1: Impact-maximising activities

	Communication	Dissemination	Exploitation
Aim	Providing information about the project and the results	Describing and making available results so that they can be used	Making use of results, for scientific, societal or economic purposes
Target	Multiple audiences	Audiences that may make use of results	Groups and entities that are making concrete use of results (whether project participants or other entities)
Goal	Inform and outreach to society illustrating benefit of research	Communicate results that are not restricted	All results generated during project

Figure 1 below illustrates the type of activities to be undertaken in this communication of results.

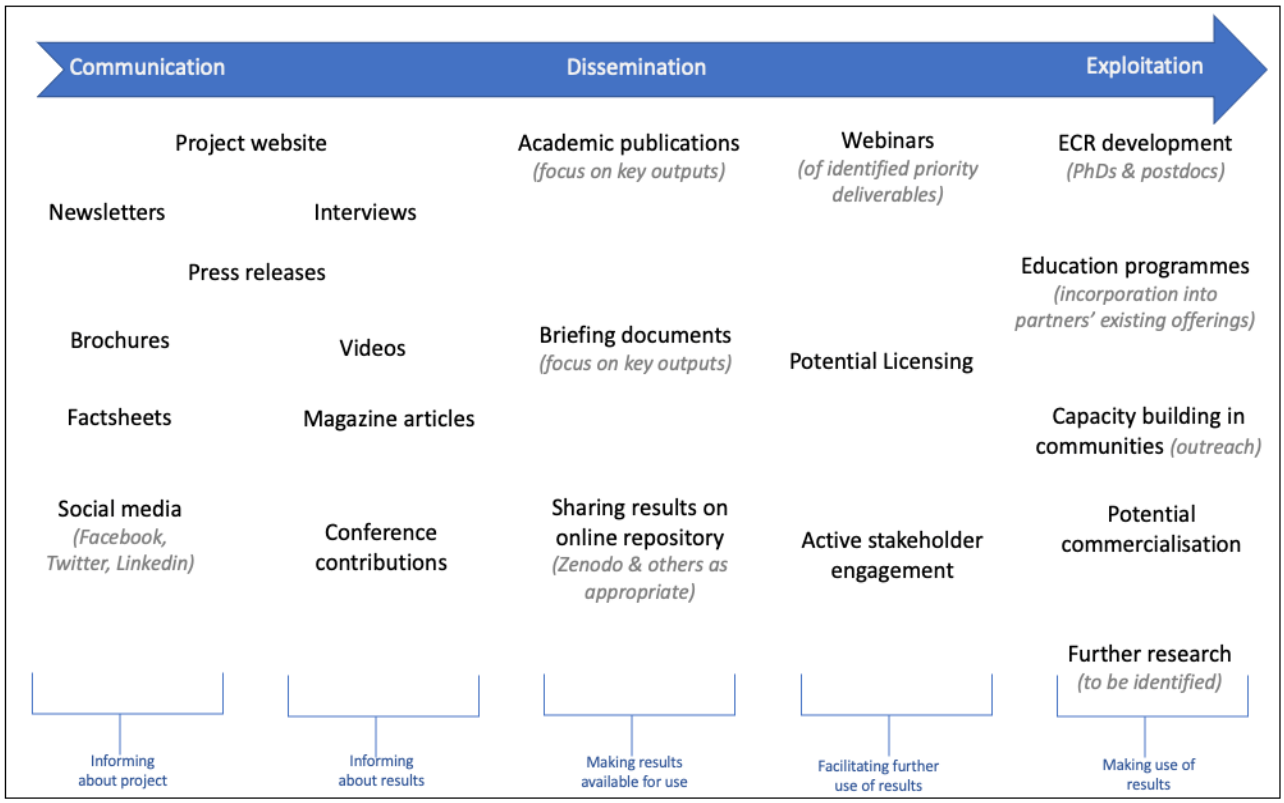

Figure 1: Overview of X-ROTOR strategies for communication. dissemination and exploitation

3 Communication tools

3.1 Introduction

This section briefly outlines the approach taken in communication and dissemination within the X-ROTOR project to date, and in so doing sets puts the context the plan for disseminating the results arising from the work of the project.

3.2 Website

The project website (located at the following URL: https://xrotor-project.eu) went live with a soft launch at the start of the project and was relaunched in the second year. The website redesign took account of the lessons from the soft launch and feedback from partners. Key elements of this specification include:

- Responsive website design.
- Mobile first approach, but cater for desktop, mobile & tablet devices.
- Degrade 'gracefully' in older browsers.
- Journey mapping used to optimise UX design.
- Compliant with all relevant data protection and any other relevant legal requirements
- Compliant with Double-A standard of the Web Accessibility Initiative (WAI) Web Content Accessibility Guidelines 2.1.
- Pages optimised for loading speed.

The structure and content of the website is illustrated by the site architecture shown as Figure 2 below.

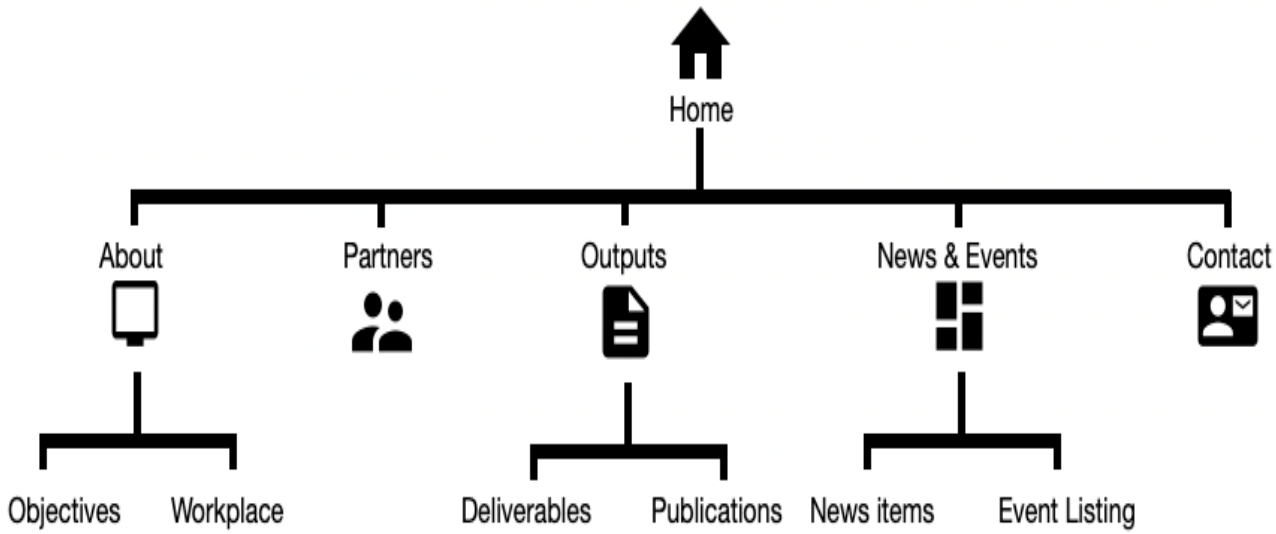

Figure 2: Website structure

The website design is intended to be more visual, incorporating more images and videos. Importantly, it is adaptable and able to grow as the project progresses. Figure 3 on the following page shows examples of the appearance of the website pages.

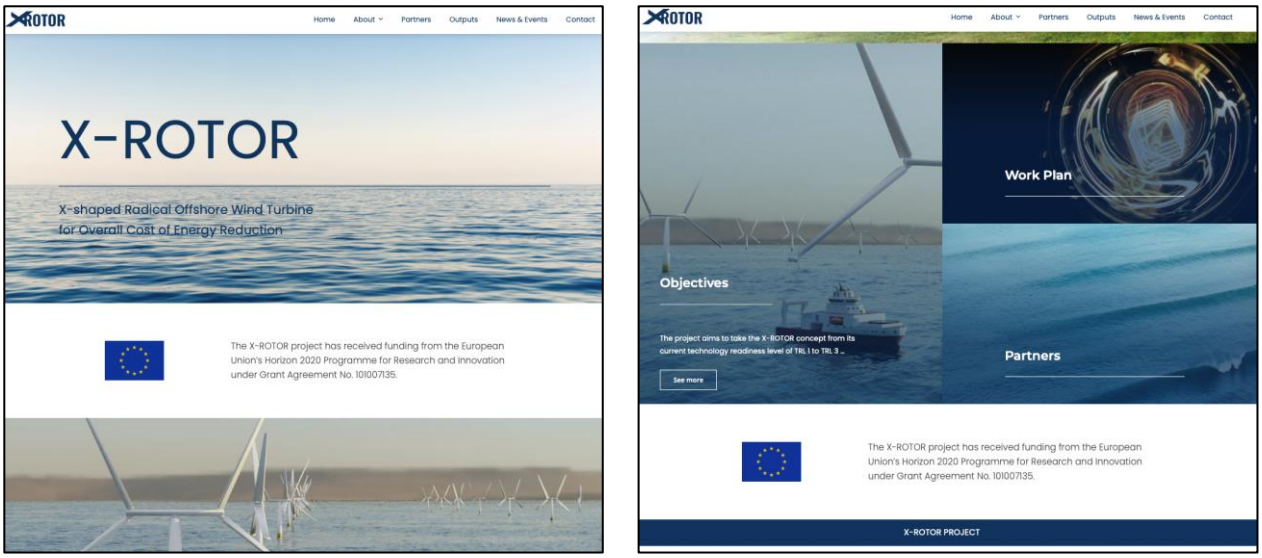

Figure 3: Example of web pages from the X-ROTOR web site

3.3 Briefing Statement

To assist in explaining the X-ROTOR project to prospective interested stakeholders, an agreed overview of the project will be used by partners

Wind power can make a significant contribution to Europe's electricity needs and in so doing contribute to achieving the EU's goal of climate neutrality. The EU proposes to increase offshore wind capacity significantly over the coming years - from its current level of 12 GW to 60 GW by 2030 and 300 GW by 2050.

However, the cost of energy from offshore wind is higher than onshore installations due to more challenging construction and maintenance conditions. X-ROTOR a research project funded under the EU Horizon 2020 programme (grant # 101007135) aims to directly address cost of energy reduction and scalability, through the developing a disruptive new offshore wind turbine concept.

The X-ROTOR project runs for three years from January 2021, during which time the consortium will work to increase the technology readiness level of the X-ROTOR concept, to determine its economic, social and environmental impacts and to confirm its potential for a levelised costs of energy (LCOE) reduction.

The X-ROTOR project is led by University of Strathclyde (UK), working with Delft University of Technology (NL), University College Cork (IE), Fundacion Cener (ES), GE Renovables España (ES), and the Norwegian University of Science and Technology (NO). Further information can be found on https://xrotor-project.eu

Text box 1: Briefing statement introducing the X-ROTOR project

3.4 Logos

In so far as possible, and as relevant X-ROTOR use a common brand and its visual identity will be communicated through use of its logo as shown below. In the initial months of the project, a slightly revised version of the logo used during the application stage was used for the project. Recently in conjunction with the ongoing redesign of the project website, an updated logo was prepared as shown in Figure 4 below. High-

resolution versions of the logo have been made available to all partners through the project SharePoint facility.

Figure 4: Updated logo for project

In some circumstances a logo without the project name may be more appropriate, such a version is shown as the Figure 5 below.

Figure 5: Updated logo for project (without project title)

Furthermore, a copy of the EU logo and the text to be used in all communication to acknowledge the funding of the project by the H2020 programme, as shown in figure 2 below, is also included in the Project SharePoint facility.

The XROTOR Project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 101007135.

Figure 6: EU Logo and funding acknowledgement

3.5 Press release guidelines

Press releases from the X-ROTOR project will ordinarily be released by the project co-ordinator who will work with the Communications and Dissemination WP leader to ensure efficient and effective promotion of the project and especially develop awareness of project activities as they take place. It is also expected that

project partners will disseminate the project locally within their own countries the style guide detailed below in Text box 2 below is provided as an aid in the preparation of any such local press releases.

1. The Headline

The headline should be catchy and to the point – do not try to tell the full story in the headline.

2. The First Paragraph

The first paragraph should summarise the story and further paragraphs should elaborate - if the opening paragraph doesn't generate interest, journalists will not read further!

3. Further Paragraphs

The 'middle' of a press release should pull out the most interesting aspects of story. To make it relevant to the reader, linking it to local community or connecting it to a current news story may help. Keep the language non-technical and ensure it is suitable for the general public – get non-technical colleagues to read press release to see if it makes sense.

4. Quotes

To make the story interesting it is vital that a quote from a local partner spokesperson be include. This should be short but also as relevant as possible. Additional quotes from the coordinator or the local stakeholders for example, may add to the release – such quotes should be cleared through University of Strathclyde first.

5. Closing Paragraph

The closing paragraph should be used to promote the project website https://xrotor-project.eu (and if considered appropriate in the context of the story the project twitter account @XRotorProject)

6. End

Mark the end of the release with the word –ends– in the centre of the page

-ends-

7. Contact for Further Information

Contact details should be added to the end of the release. Include a name, phone number, email address, website link and if possible, a mobile number of the local partner contact.

Text box 2: Style sheet for press releases

3.6 Presentation template

A template for presentation slides has been designed to standardise communication while also ensuring that all presentations from the project include key items (logos, funding acknowledgement, web address *etc*.). An example slide based on this template are included below.

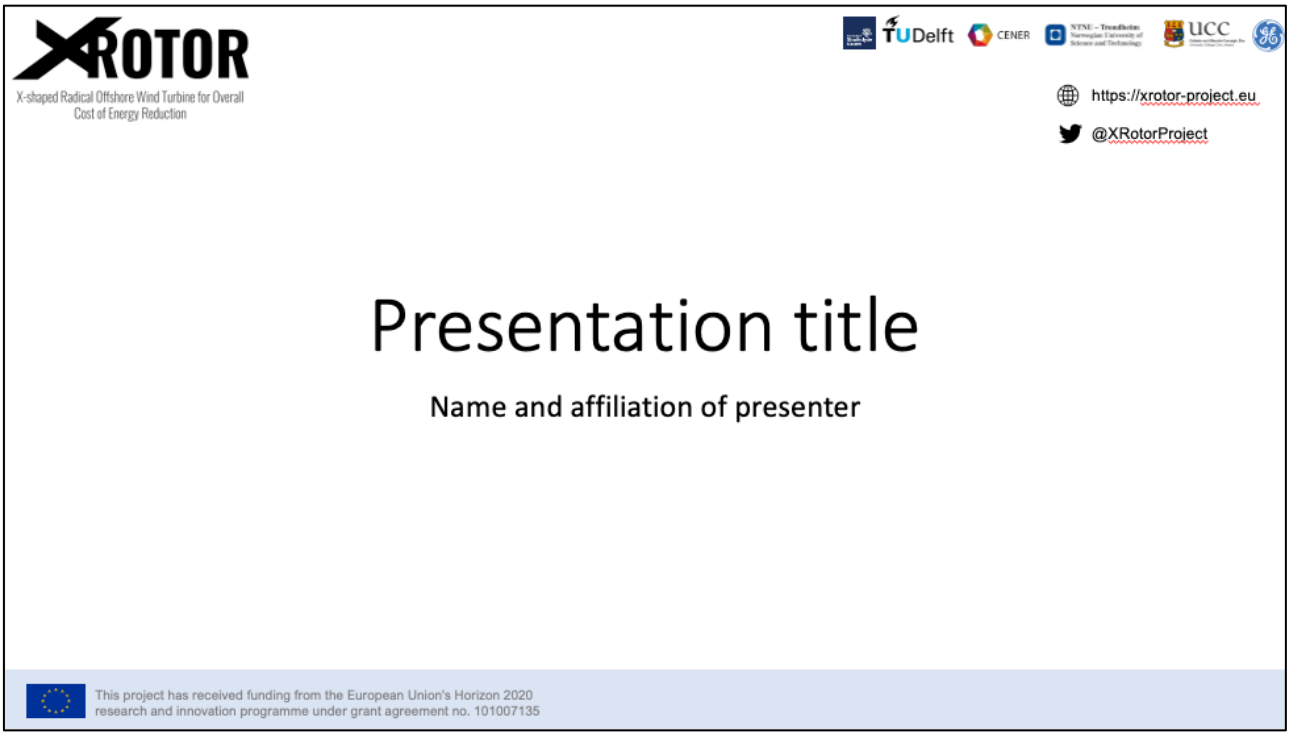

Figure 7: Project presentation template – title slide

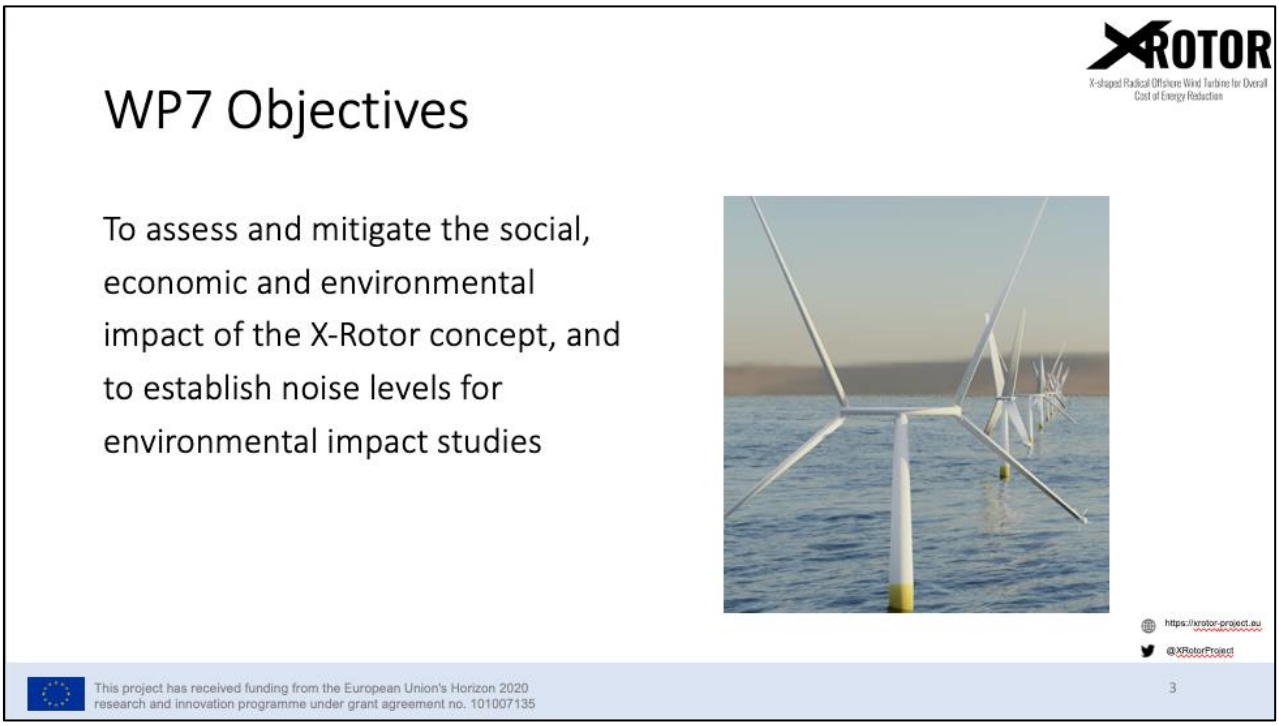

Figure 8: Project presentation template – example slide

3.7 Project poster design

Given the relatively early stage of the project and more significantly the travel and inter-personal restrictions arising from the Covid-19 pandemic, there has not been an opportunity for in person meetings or project event – this has meant that the conventional project roll-up banner and poster have not thus far been required. However, as we move in 2022 and such events are expected a banner design will be produced for use at project events. The banner design will include: a 'text bite' for the project, contact details, project logo; webpage address; images to represents the project theme; EU logo and funding acknowledgement, *etc*. Figure 9 below illustrates an indicative design.

Figure 9: Example of a roll-up banner design

4 Dissemination approach for final year

As we move into the final year of the project communication and dissemination activities will be intensified as results emerge from the research and outputs are produced by the project. The overall strategy for these activities remains that outlined in earlier deliverables, the details of the activities and the key performance indicators associated with each element are presented below.

Communication

Activity	Key Performance Indicators
- Maintenance and regular updating of website	Bi-weekly update to website
- Development of YouTube videos to promote the project and disseminate outcomes in conjunction with the website.	Minimum 2 videos produced
- Intensification of social media activities – Twitter (@XRotorProject) and researcher LinkedIn accounts – in particular to link in with the participation at events and publishing of project outputs.	Weekly posts on social media
- Distribution of project newsletter disseminating news from the project and the project participants.	Long read articles to be produced for website and packaged as 12 x newsletters
- Prepare and distribute media communications, providing an overview of project and information on key project results to be disseminated to news outlets and general public.	3 x media communications on results arising from project
- Partners to use their own communication portals and tools to point out relevant public project results and to announce upcoming events and activities.	All 6 partners engage in at least 3 x communications about project

Conferences

Key Performance Indicator: 12 x conference contributions.

Intended and target events include:

- EERA DeepWind Conference 18-20 Jan 2023. Trondheim, Norway – at which the X-ROTOR project has scheduled a dedicated session to present different elements of its work and its results.
- Wind Energy Science Conference (WESC) 23-26 May, Glasgow, UK. Leading scientific conference for wind energy research. Hosted in 2023 by X-ROTOR coordinator University of Strathclyde – at which the X-ROTOR project has a dedicated mini-symposium to presents its work and results.
- WindEurope Annual Event Conference & Exhibition. 25-27 April 2023, Copenhagen, Denmark – Leading onshore and offshore wind conference for the wind energy industry.

- Wind Energy Ireland Offshore Wind Conference 16-14 May 2023, Dublin Ireland,
- RenewableUK Offshore Wind Energy. 14-15 June 2023, London, UK. Focus on UK offshore wind the world's largest market.
- American Wind Energy Association (AWEA) annual conference. Leading onshore and offshore conference in the USA.
- Institution of Engineering and Technology (IET) Renewable Power Generation (RPG) annual conference. Leading Wind Energy Conference in EU and China.
- AllEnergy. Focus on UK renewable energy.

Journal publications

Key Performance Indicator: 12 x journal articles / book chapters

Dissemination of scientific findings are an important part of the project. Target journals include:

- Energy Research and Social Science
- IEEE Transactions on Energy Conversion
- IEEE Transactions on Power Systems
- IEEE Transactions on Sustainable Energy
- IET Renewable Power Generation Journal
- IOP Journal of Physics: Conference Series
- Journal of Energy and Power Engineering
- Renewable and Sustainable Energy Reviews
- Renewable Energy (Elsevier)
- Wind Energy (Wiley)
- Wind Energy Science

Participation in Trade fairs

Key Performance Indicator: 3 x trade fairs

X-ROTOR representatives will attend trade fairs as part of the ongoing engagement with the wider wind energy community

Other

Links to relevant industry associations and technology platforms will be used for dissemination, these will be linked to associations and organisations such as EERA JP WIND, EAWE, and IEA and to Technology Transfer Institutions such as SINTEF, OREC, *etc*.

Final Project Event

Key Performance Indicator: 1 x event

A final dissemination event will be organised to present the key project results at the European level. If circumstances allow, this will take the form of a side event at a relevant conference, otherwise it will be a stand-alone event in a central location. All project stakeholders will be invited to this event with an emphasis being placed on stakeholders necessary for further and accelerated development of the X-ROTOR, specifically existing wind turbine OEM's and investors.