



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 764014

Project acronym: SEA-TITAN

Project full title: SEA-TITAN: Surging Energy Absorption Through Increasing Thrust And efficiency

Call identifier: H2020-LCE-2017-RES-RIA-TwoStage

Type of action: RIA

Start date: 01/04/2018

End date: 31/03/2021

Project number: 764014

D.7.1 – Dissemination Plan

WP7: Dissemination, Commercialization and IP management

Due date: 30/06/2018

Submission date: 27/06/2018

Responsible partner: Wedge Global (Wedge)

Version: 1.0

Status: Final

Author(s): Aleix María Arenas

Reviewer(s): Nuno Lopes Filipe

Deliverable type: R: Document

Dissemination level: PU: Public



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 764014

Version history

Version	Date	Author	Revised	Partner	Description
0.5	12/06/2018	Marcos Lafoz Pastor	Aleix María Arenas	CIEMAT/Wedge	Initial draft
1.0	27/06/2018	Aleix María Arenas	Nuno Lopes Filipe	Wedge/EDP	Final

Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.



Table of contents

Version history	2
List of figures	4
List of tables	4
Glossary	5
Executive summary	6
1. Introduction	7
2. Identification of target audience.....	8
3. Dissemination actions	9
3.1 Publications and participation in conferences and technological exhibitions.....	9
3.2 Workshops	10
3.3 Networking with other relevant projects and with the external industrial exploitation board members.....	11



List of figures

Figure 1. Open Access to scientific publication and research data in the wider context of dissemination and exploitation 9

List of tables

Table 1. Key targeted groups and related dissemination activities. 8



Glossary

CA	Consortium Agreement
EIEB	External Industrial Exploitation Board
EPMB	Executive Project Management Board
GA	General Assembly
IM	Innovation Manager
PC	Project Coordinator
PO	Project Officer
PMP	Project Management Plan
TM	Technical Manager
QAP	Quality Assessment Procedure
SC	Steering Committee
WP	Work Package
WPL	Work Package Leader
AMGA	Annotated model grant agreement



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 764014

Executive summary

The aim of the dissemination plan document is to define the strategies and particular actions to circulate the results obtained from SEA TITAN project among the European scientific and industrial community in order to accelerate the development and deployment of wave energy systems by fostering a broader cooperation among the actors all along the innovation value chain.

The target audiences have been identified and some particular actuations have been designed along the project to reach that objectives.

This deliverable will be updated according to the progress and emerging results of the project.



1. Introduction

The overall objective of the SEA-TITAN project is to make a step change in the wave energy sector by designing, building, testing and validating an innovative second generation Direct Drive Linear Electric Generator Power Take-Off solution: An Azimuthal Multitranslator Linear Switched Reluctance Machine (AMSRM). This development is based on a new configuration and geometry of a first generation Multitranslator Linear Switched Reluctance Machine developed by some of the proponents some years ago. The development aims at achieving high continuous and peak force densities and also high efficiencies with application to multiple wave energy conversion technologies through collaboration with different wave energy developers and industrial partners with strong track record on technology.

The rather ambitious objectives of SEA TITAN project require mainly:

- A high-quality interconnection among the project participants;
- A strong collaboration between the consortium and the other different European associations operating;
- In the wave energy sector, to create a strongly interconnected European community;
- An efficient link between the European community and all the ongoing international activities in the field.

The aim of the dissemination plan document is to define the strategies and particular actions to circulate the results obtained from the project SEA TITAN among the European scientific and industrial community in order to accelerate the development and deployment of wave energy systems by fostering a broader cooperation among the actors all along the innovation value chain. The main objective of the Plan is to turn strategy into local actions and ensure, during the entire project duration, coherency and consistency in all the communications, in particular for what concerns the knowledge dissemination.

Communication will be considered related to the project itself (art.38 AMGA), while Dissemination has been associated to the results of the project (art. 29 AMGA). However, some actions will be used both for communication and dissemination.



2. Identification of target audience

Different levels of target audiences will be considered for the dissemination of the project results:

- The proper partners of the project SEA TITAN
- The researchers active in the area of wave energy converters development
- Experts in power take-offs (PTOs)
- Experts in renewable energy-based generation

The dissemination activities will target different key groups, summarized in Table 1.

Table 1. Key targeted groups and related dissemination activities.

GROUP	POTENTIAL AGENTS	DISSEMINATION ACTIVITY
SCIENTIFIC COMMUNITY	European and International Academic Communities, Research Centres, Industrial R&D division, other related European Projects	Publications, Data, Research activities, Research roadmaps
MARKET & INDUSTRY	Suppliers, Investors, project developers and other companies interested in the project results: WEC technology developers, DSOs and TSOs, utilities, electric machines and power electric manufacturers and providers, automation and control solution providers, and energy producers.	Patents, pre-standards, prototypes, software products, services, processes
PUBLIC INSTITUTIONS	European Commission and National Contact Points, European Associations, e.g. OEE (Ocean Energy Europe), IEA Ocean Energy Systems, IRENA, Policy makers (National and Regional Public Bodies, Local Authorities, etc...), National and Regional Energy Agencies	Policy recommendations, reports, collaboration platforms

The strategy for the dissemination plan will follow the H2020 recommendations:

(http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf).



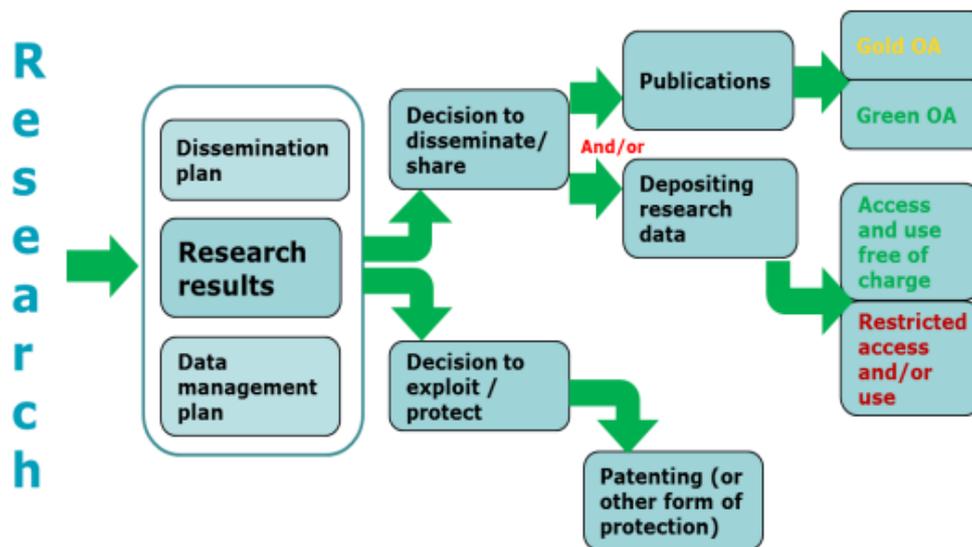
3. Dissemination actions

The different dissemination actions have been addressed in this section, defining specific actuations for each.

3.1 Publications and participation in conferences and technological exhibitions

All the publications provided along the project will be required in OPEN ACCESS. Although different methods are permitted, the GOLD WAY path is preferred since the results will be available immediately to the public, which is more interesting from the point of view of the Exploitation of Results.

Figure 1. Open Access to scientific publication and research data in the wider context of dissemination and exploitation



In addition to Project Public Deliverables (Open Access), for dissemination of the project results, an important measure is the contribution in scientific peer-reviewed academic journals with **6 open-access publications** (the content of the publications will be in accordance to the patent submission): two of them related to the topic of numerical modelling results across the devices with and without the new PTO, based on the work results from WP2; another two related to the methodology to test power take-off devices used or wave energy under relevant laboratory conditions obtained from the works during WP5; and finally other two about the electromagnetic design of a superconducting switched reluctance machine drive used for high force power take-off for wave energy applications and its market possibilities based on the results of WP5. Target Journals: Energy, Applied Energy and IEEE Transactions on Magnetics.

Two publications are planned to be presented at the coming 13th European Wave and Tidal Energy Conference, 1-6 September 2019, Napoli. The topics will be: one for the WEC modelling, including the new PTO; the other based on the methodology to test PTOs in a hardware-in-the-loop scheme at the lab. Abstracts will be presented by the end of October 2018.



Another two conference publications are scheduled for 2020, not yet decided but will cover the new generator concept. Moreover, a video will be provided by January, explaining the basics of SEA TITAN.

The participation in **sectoral industrial and scientific conferences and technological exhibitions** is an essential action towards dissemination of the project results to the industrial and scientific communities and other relevant stakeholders. In the case of the industrial members it is considered the participation in international Exhibitions such as ICOE (International Conference on Ocean Energy). Additionally, a total of 2 yearly presentations in 2nd and 3rd years are also foreseen during the project to relevant international conference events, such as ICOE, EWTEC (European Wave and Tidal Energy Conference), EPE (European Power Electronics and Applications) and ASC (International Conference on Magnet Technology or Applied Superconductivity Conference).

Marketing strategies from the companies will also include advertising on specific technical magazines and presentations at local events connected with energy and renewable energies, such as publications in VERTICES informative magazine or presentations in GENERA energy symposium.

Reference to the patent and results protected for this issue. The analysis of patentability will be carried out during the project and finally decided if publications will comprise the contents of the product or not, depending on the convenience.

All of the documentation will be available for public access in the webpage (seatitan.eu) and the relevant publications journals/websites, for internal use all of the documentation will be uploaded to the EMDESK document repository.

Relationship with the Exploitation Plan, related to how the results of the project are considered and the actions to be used the results, according to the companies involved or interested in the products.

3.2 Workshops

The general objective of the workshops is to promote open discussions on experiences, data and tools, as well as policy and other framework conditions in order to obtain relevant information of the adequate conditions and pathways needed for the research development and implementation of the considered technology. The workshops will be aimed not only at dissemination purposes (related to the results of the project) but also at communication purpose for the project itself. In the above context, the following workshops will be organized:

- **WS1 Lisbon (Portugal)**. M15. Hosted by WavEC. Topic: Modelling and control of wave energy converters. An expert on modelling of WECs with computational tools will be invited to give a Keynote session.



- **WS2. Genova (Italy).** M25. Hosted by CLBS. Topic: Superconducting solutions for renewable energy generation. An expert on superconducting electric machines will be invited to give a Keynote session.
- **WS3 Madrid (Spain).** M33. Hosted by CIEMAT. Topic: Laboratory validation of wave energy converters under relevant conditions. An expert on experimental facilities of wave energy will be invited to give a Keynote session. Technical visit to CIEMAT Laboratory during the PTO prototype experimental tests.

3.3 Networking with other relevant projects and with the EIEB members

Networking activities will be organized involving researchers working on projects related to the same topic of wave energy conversion. The collaboration will be aimed at maximizing the distribution of the advantageous results of the proposed solution developed in SEA-TITAN. Moreover, the feedback from other projects will be beneficial for the identification of PTO necessities from different wave energy converters as well as detecting restrictions in the PTO performance. Market conditions will be also assessed in order to adapt the developed product accordingly, increasing the expected impacts and taking advantage of SEA-TITAN project results.

Similarly, feedback will be obtained from the members of the External Industrial Exploitation Board (EIEB), during the two meetings programmed in M15 and M33. They will have a multiplicative effect in the dissemination since the selected institutions for this Board have important connections with industrial manufacturers, technology developers and electric utilities.

A list of the 5 selected members as well as a brief summary of their expertise in the field is presented as following. Their commitment to participate is agreed means of letters of support included in annex 4 of the D1.1 Project Management Plan.

- **EDP RENOVÁVEIS. Rui José Castro Chousal.** Innovation Director of EDP Renováveis. He has 30-year working experience in the electrical sector, distribution grids, hydro, wind and solar generation, with management and projects responsibilities related to operational technology, business intelligence and asset operations.
- **ENGIE LABORELEC. Ana NOVAK,** has been working on renewable energy related challenges since more than 16 years, in academic and industry environment. She joined ENGIE Group (Métier Generation) in 2008, participating in many renewable and innovative technology projects. In 2010 Ana joined Laborelec, and since then she has been responsible for supporting the work on offshore related topics and for Ocean energy related activities of ENGIE's Corporate Research and Technology division.
- **APPA. José María González,** industrial engineer with more than 15 years of professional experience dedicated mostly to the energy sector, joined APPA in 2010 as Technical Director and for two years as General Manager. He is APPA's representative on the CNMC's Electricity Advisory Board, OMIE's Market Agents Committee and various committees and working groups at REE.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 764014

- **INDAR. Xabier Calvo Madariaga**, Industrial engineer in the ETSIIT of Bilbao in 2001 and MBA in ESIC in 2015. I have been working in INDAR ELECTRIC since 2002. Since 2010, leading the research and developing department of the company. Involved in several projects of development of electrical machines, motors and generators, strongly related with renewable energy generation.
- **Siemens Gamesa. Juan Barandiarán**, managing director at Gamesa Electric