



## Open Sea Operating Experience to Reduce Wave Energy Costs

### **Deliverable D8.11**

#### Evaluation of the Dissemination and Communication Activities (update)

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## EXECUTIVE SUMMARY

The Evaluation of the Dissemination and Communication Activities (D8.11) presents the impact analysis and assessment of the dissemination and communication of the OPERA project.

Periodic evaluation is undertaken to guarantee that all stakeholders are reached and provided with appropriate information. It also has an important role in shaping periodic updates of the Plan for Dissemination and Communication (D8.2-3-4), by providing feedback on what aspects work and what areas need refinement. Not only are all partners engaged in the implementation of the plan, but also in its iterative formulation and review.

The following progress on the targets has been achieved until July 2018 (month 30).

Channel	Indicator	Objective	Progress	%
Web	No. of monthly visits	300	317	<div></div>
	Duration of visits	2 min	1min 46s	<div></div>
	No. of downloads per month	20	30	<div></div>
	No. of referral sites (excluding partners)	10	9	<div></div>
Open Access	No. of submitted scientific papers	9	3	<div></div>
	No. of open access research data set categories	5	2	<div></div>
Social Media	No. of posts	52	51	<div></div>
	No. of contact updates per month (members)	2000	3000	<div></div>
	No. of visits to individual posts (views)	500	2706	<div></div>
	No of likes	30	43	<div></div>
Mass Media	No. of articles in ocean energy magazines	7	3	<div></div>
	No. of press releases	14	22	<div></div>
	No. of interviews	3	3	<div></div>
Events	No. of attended conferences with presentations / posters	8	26	<div></div>
	No. of oral communication at congresses & events	14	14	<div></div>
	No. of attended industrial events and/or fairs	7	9	<div></div>
	No. of events for the general public	4	25	<div></div>
	No. of flyers distributed at events	600	600	<div></div>
	No. of workshops organized	2	1	<div></div>
	No. of registered people at workshops	>30	80	<div></div>

All foreseen dissemination channels have been used in the OPERA project. Although the **project website** is considered by the EC as the primary information source for the target stakeholders, it has been seen that **social media** channels are also important for the ocean energy sector audience. **Mass media** have been additional avenues for the promotion of the project objectives and results, particularly press releases. Besides, consortium partners have actively participated in external **events** and organised one project workshop on operating experience at sea which attracted a lot of interest. In terms of **open access** to scientific publications and research data, the progress is slightly below the overall target. Dissemination efforts in the last year of the OPERA project will be sustained with a particular emphasis on open access publications, articles in ocean energy magazines and workshop organisation.

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## ABBREVIATIONS AND ACRONYMS

BMEW	Bilbao Marine Energy Week (Conference)
Dx.y	Deliverable numbered, for example D8.1
EC	European Commission
Mx	Month, for example M12 refers to month 12
OWC	Oscillating Water Column
TRL	Technology Readiness Level
Tx.y	Project task numbered, for example T8.2
WEC	Wave Energy Converter
WP	Work Package

## 1. INTRODUCTION

The ultimate success of the OPERA project is strongly dependent on well-coordinated dissemination and exploitation activities. Therefore, the beneficiaries of the OPERA project have decided to include a specific work package for this purpose, namely WP8. Special focus will be put on disseminating project findings to the Ocean Energy sector, which will be the main beneficiary of the novel technologies, data and knowledge.

Dissemination activities address raising awareness and getting the necessary feedback, as well as building understanding and facilitating adoption of project results by the different stakeholder groups who can directly benefit from the project. Dissemination activities will be performed at different geographical levels (i.e. local, regional and European).

The Plan for Dissemination and Communication (D8.2-3-4) defines the identification and classification of the target audience, the dissemination methods and goals, the schedule and complementarity of the activities, the measures to assess the impact of the dissemination activities, and the conditions to follow to ensure proper dissemination of the generated knowledge with regards to confidentiality, publication, and use of the knowledge.

The effectiveness of the Plan for Dissemination and Communication is being periodically measured during the project lifetime. The consortium has decided to make the impact analysis and assessment in synch with the external project reviews, i.e. at Month 18, Month 30 and Month 42 (end of project). This will give the opportunity to focus the dissemination and communication activities and align them with the exploitation plan.

Periodic evaluation is undertaken to guarantee that all stakeholders are reached and provided with appropriate information. It also has an important role in shaping future iterations of the Plan for Dissemination and Communication, by providing feedback on what works and what needs refinement. Not only are all partners engaged in the implementation of the plan, but also in its iterative formulation and review.

The document first presents the overall strategy for dissemination and communication, that is to say, the plan purpose, key messages, target audience, tools and channels, and management. Then it describes the indicators to monitor the dissemination and communication results. Finally, a list of the dissemination activities per stage is included.



## 2. STRATEGY FOR DISSEMINATION AND COMMUNICATION

### 2.1 PURPOSE

The main purpose of the OPERA Plan for Dissemination and Communication is to ensure that those who can contribute to the development, evaluation, uptake and exploitation of the project outcomes can be identified and encouraged to interact with the Consortium on a regular and systematic basis. For this purpose, the Plan for Dissemination and Communication will ensure that the project research and practical outcomes are widely disseminated to the appropriate target audiences, at appropriate times along the project lifecycle, and particularly at key milestones, via appropriate methods.

It is important to maximise the impact on stakeholders outside the project Consortium in order to ensure that:

- ▶ The project is focused on the innovation needs of the sector;
- ▶ The knowledge gained is made available to all interested parties; and
- ▶ The project outputs can be adequately exploited.

Dissemination activities address raising awareness and getting the necessary feedback, as well as building understanding and facilitating adoption of project results by the different stakeholder groups who can directly benefit from the project. Communication activities complement the OPERA dissemination activities towards increasing the outreach of the project's results and enhancing its visibility to stakeholders out of the core target groups who can directly benefit from the project, and permitting a two-way exchange.

The objectives of the dissemination and communication activities have been mainly deployed in stages during the project lifetime. In addition to the central objective specified above, other objectives will be targeted in these stages as follows:

- ▶ **Stage 1 (M1-M6): Raising awareness** of project's activities, outputs and benefits through diverse channels to audiences that do not require a detailed technical knowledge of the work carried out. This stage has already been finalised;
- ▶ **Stage 2 (M6-M18): Promoting a deeper understanding** of new knowledge and results for a number of audiences who can benefit from what OPERA project can offer. This stage has already been fulfilled;
- ▶ **Stage 3 (M18-M30): Engaging with target groups** to encourage their willingness to make use of project results. This stage is mostly finished;
- ▶ **Stage 4 (M30-M42): Influencing decision-making** within organisations regarding the uptake of OPERA outputs and supporting the implementation of the Exploitation Plan. This stage is the main focus of the final version of the plan (D8.4).

OPERA comprises these four levels of dissemination. For successful implementation of the dissemination and communication plan, it must be ensured that the potential audience is aware of OPERA's overall aims and objectives (in layman terms), as a precondition to acquiring a deeper understanding of the new knowledge and results. This will allow a greater overview of the potential uses of the OPERA project outputs. Finally, dissemination for action promotes the willingness to make use of project results and influence decision-making.

The main elements of OPERA dissemination and communication strategy are summarised in the following figure and are later described in the document. The Plan for Dissemination and Communication defines the optimal and relevant interactions among these elements.



**FIGURE 2.1: OVERVIEW OF OPERA DISSEMINATION & COMMUNICATION STRATEGY**

## 2.2 KEY MESSAGES

The message component of the dissemination and communication strategy comprises the set of arguments, reasons and facts to be used to convince the targeted audiences of the value in using OPERA results.

Key messages are intended to deliver relevant and meaningful content suited to communicate the OPERA value proposition to each of the target audiences. The OPERA project has a primary key message and 8 supporting key messages.

### High level message:

*“OPERA will collect, analyse and share open-sea operating data and experience to validate and de-risk several industrial innovations for wave energy, taking them from a laboratory*

*environment (TRL 3) to a marine environment (TRL 5), opening the way to long term cost-reduction of over 50%”.*

#### Supporting key messages:

- *“OPERA will collect, stream and publish two years of open-sea operating data of both a floating WEC and a shoreline wave power plant”;*
- *“OPERA will de-risk innovations that lower mooring cost over 50% and enhance survivability”;*
- *“OPERA will increase OWC power production 50% and improve reliability”;*
- *“OPERA will advance predictive and latching control to enable 30% increase in power production”;*
- *“OPERA will advance standards to reduce business risk and thus enable access to investment capital”;*
- *“OPERA will reduce uncertainty, frequency, risk and cost of offshore operations”;*
- *“OPERA will improve risk management and cost estimation with real data”;*
- *“OPERA will maximise impact on the entire value chain and on society.”*

In a similar way as with the objectives of the dissemination plan, the key messages will be deployed with a different focus along the project lifetime:

- ▶ **Stage 1 (M1-M6):** The project exists ...; The objectives of the project are ...; The potential impact of the project is ... [completed];
- ▶ **Stage 2 (M6-M18):** Partners are working on the development of ... [completed];
- ▶ **Stage 3 (M18-M30):** Preliminary results are ... [mostly completed];
- ▶ **Stage 4 (M30-M42):** The project achievements are ...; The impact of this developments is ...; Lessons-learned and recommendations are ... [already started].

## 2.3 TARGET AUDIENCE

With a view to securing success in engaging stakeholders in using OPERA results, the focus of the project’s dissemination and communication efforts targets the entire ocean energy value chain.

Stakeholder engagement is the key to the success of any dissemination initiative, and stakeholder identification is the first and foremost important task in effective stakeholder engagement. One of the main tasks of OPERA is thus to define target audiences according to their interests, needs and drivers.

To achieve effective dissemination, it is necessary to understand stakeholder motivations. This will enable the Consortium to effectively engage, communicate with and promote future dialogue between different stakeholders. Indeed, the combination of the stakeholders’

relevance to OPERA and motivations will help to define specific communication strategies for different groups of stakeholders.

The target audiences for OPERA project dissemination have been grouped into five different categories, namely the scientific community, private sector, policy makers, public bodies and general public.

Scientific community	Private sector	Policy makers	Public bodies	General public
<ul style="list-style-type: none"> <li>• Academia</li> <li>• Researchers</li> <li>• Applied technology</li> <li>• Field test facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Technology developers</li> <li>• Supply/service chain</li> <li>• Utilities/promoters</li> <li>• Financiers</li> <li>• Sector associations</li> </ul>	<ul style="list-style-type: none"> <li>• Marine planning</li> <li>• Permitting bodies</li> <li>• Regulators</li> <li>• Standardisation bodies</li> </ul>	<ul style="list-style-type: none"> <li>• European authorities</li> <li>• Regional authorities</li> <li>• Municipalities</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental NGOs</li> <li>• Other users of the sea</li> <li>• Citizen organisations</li> <li>• Students</li> <li>• Individual citizens</li> </ul>

**FIGURE 2.2: OVERVIEW OF OPERA TARGET AUDIENCE**

The main roles of key OPERA stakeholders have been defined in next table.

**TABLE 2.1: ROLE OF OPERA TARGET AUDIENCES**

<b>Audience</b> <b>Role</b>	<b>Scientific community</b>	<b>Private sector</b>	<b>Policy makers</b>	<b>Public bodies</b>	<b>General public</b>
Enhance project visibility	✓	✓	✓	✓	✓
Give feedback on project development	✓	✓	✓	✓	✓
Share open sea experience	✓	✓	✓		
Create market opportunities		✓	✓		
Support sector development			✓	✓	
Promote benefits of ocean energy				✓	✓
Foster collaboration	✓	✓	✓	✓	

General public engagement ensures that the research activities are made known to society at large in such a way that they can be understood by non-specialists. The communication activities also address the public policy perspective of EU research and innovation funding, by considering aspects such as:

- ▶ Transnational cooperation in a European Consortium (i.e. how working together has allowed to achieve more than otherwise possible);
- ▶ Scientific excellence;
- ▶ Contributing to competitiveness and to solving societal challenges;

- ▶ Impact on everyday lives (e.g. creation of jobs, development of new technologies, better quality products, more convenience, improved life-style, etc.);
- ▶ Better use of results and spill-over to policy-makers, industry and the scientific community.

## 2.4 TOOLS & CHANNELS

Figure 2.3 presents an overview of OPERA tools and channels for dissemination, which are described in detail in the following chapters.

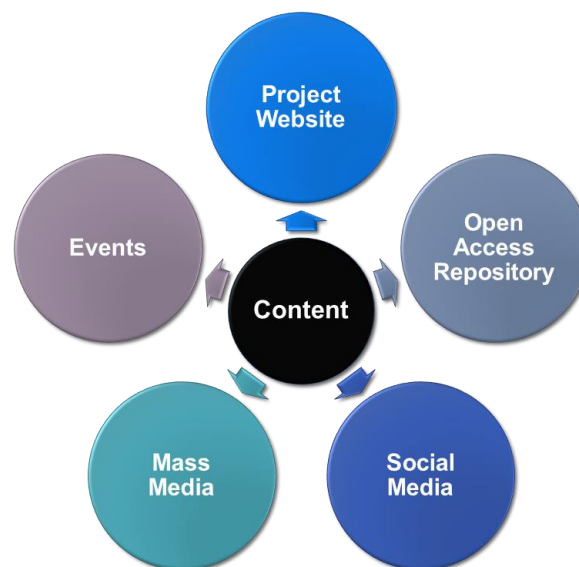


FIGURE 2.3: OVERVIEW OF DISSEMINATION CHANNELS

The **project website** is the primary information source for the target stakeholders. **Open access** to scientific publications and research data is also important for the Consortium, and in particular for the applied research organisations and academia. The OPERA Consortium believes that **social media** is a good means of outreach to the public permitting a bidirectional communication. **Mass media** (i.e. radio, television, newspapers, specialist and technical publications and Internet) is conceived as additional avenues for the promotion of the project objectives and results. Last but not least, Consortium partners are actively participating in external **events** and in the organisation of two project workshops.

The table below matches target audience categories with the dissemination channels that will be used to address them.

TABLE 2.2: MAIN TARGET AUDIENCES AND CHANNELS

Audience Channel	Scientific community	Private sector	Policy makers	Public bodies	General public
Project website	✓	✓	✓	✓	✓
Open repositories	✓	✓			
Social media	✓	✓	✓	✓	✓
Mass media		✓	✓	✓	✓
Events	✓	✓	✓	✓	✓

## 2.5 MANAGEMENT

Dissemination of project results as well as open access to scientific publications and research data is governed by the procedure described in Article 29 of the EC Grant Agreement (EC-GA).

All Consortium partners are contributors to the dissemination and communication activities under the overall management of WP8 Leader, OCEANTEC. They are using their industrial partnerships and research networks to contribute to:

- ▶ Identifying and informing about dissemination opportunities (e.g. events, publications, etc.);
- ▶ Providing relevant information and documentation to enrich the project website;
- ▶ Posting news and project results in social media;
- ▶ Presenting the project at relevant national and international conferences, workshops and other events;
- ▶ Supporting the promotion and organisation of OPERA workshops, in particular engaging key stakeholders to act as multipliers and to motivate participants;
- ▶ Updating the collaborative workspace, BOX, with all relevant dissemination activities and opportunities.

As T8.2 leader, TECNALIA has updated the Plan for Dissemination and Communication **¡Error! No se encuentra el origen de la referencia.**, and produced this final version which considers the results obtained and the exploitation remarks. This will give the opportunity to focus the dissemination and communication on the most relevant publications, events and stakeholders in order to achieve an effective and proactive dissemination aligned with the exploitation plan. The following figure shows the interrelationships between this plan and the various deliverables in WP8, as well the main update schedule.

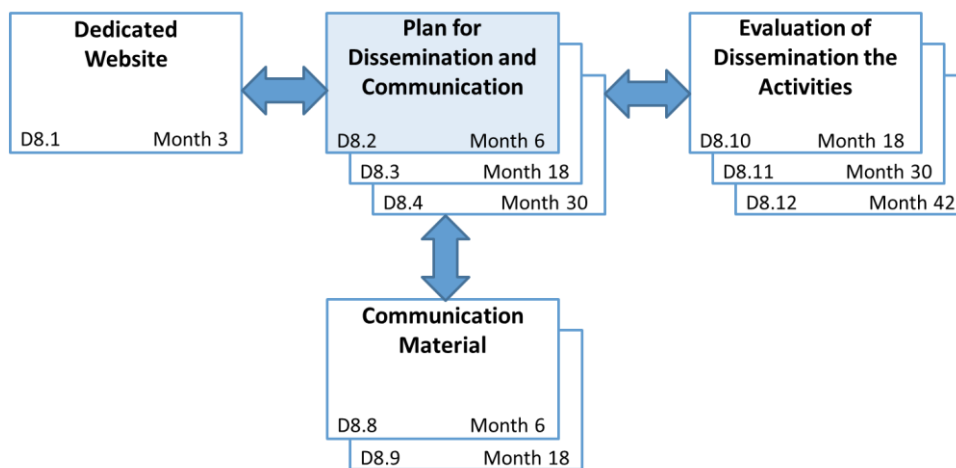


FIGURE 2.4: INFORMATION FLOW AND MAIN DISSEMINATION MILESTONES

### 3. MONITORING DISSEMINATION AND COMMUNICATION RESULTS

#### 3.1 PROJECT WEBSITE

The web page has been regularly updated (on average, monthly updates). Moreover, the effectiveness of web page has been periodically analysed by means of the Google Analytics tool. This allows reports to be run on the website, giving a very clear picture of information such as:

- ▶ Number of sessions and page visits;
- ▶ Users count visiting the website and visit time;
- ▶ Languages and locations of visitors;
- ▶ Visits source.

The images below show three snapshots of the OPERA website analytics at the time of writing this report, namely sessions and user visits per month, country and source.

The number of users, sessions and its duration in the last 12 months remained stable compared with the figures for the first 18 months. The website has attracted a high number new users and pages per session has roughly doubled. Most of the visits come from an organic search (mainly through google) or direct access. However, social networks and referrals have played an important role. Particularly, it is worthwhile noting LinkedIn listed on top. Spain, UK, USA and France concentrate more than half the visits. Finally, the OPERA URL address has also been promoted in partner websites, relevant web platforms and ocean energy initiatives such as Ocean Energy Europe.

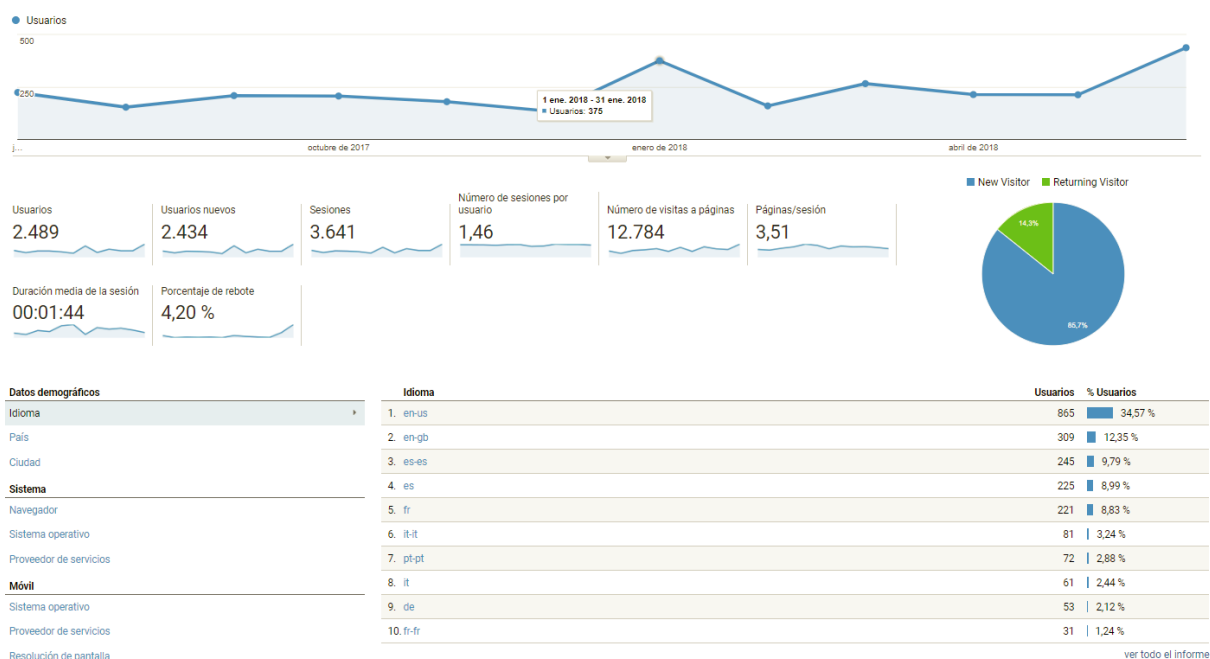












FIGURE 3.1: WEBSITE ANALYTICS PER MONTH





País	Usuarios	% Usuarios
1.  Spain	479	19,04 %
2.  United Kingdom	328	13,04 %
3.  United States	310	12,32 %
4.  France	264	10,49 %
5.  Italy	142	5,64 %
6.  Portugal	124	4,93 %
7.  Ireland	94	3,74 %
8.  Germany	77	3,06 %
9.  Netherlands	62	2,46 %
10.  Belgium	56	2,23 %

[ver todo el informe](#)

FIGURE 3.2: WEBSITE ANALYTICS PER COUNTRY

Default Channel Grouping	Adquisición			Comportamiento			Conversiones		
	Usuarios	Usuarios nuevos	Sesiones	Porcentaje de rebote	Páginas/sesión	Duración media de la sesión	Tasa de conversión del objetivo	Objetivos cumplidos	Valor del objetivo
	2.489 % del total: 100,00 % (2.489)	2.436 % del total: 100,08 % (2.436)	3.641 % del total: 100,00 % (3.641)	4,20 % Media de la vista: 4,20 % (0,00 %)	3,51 Media de la vista: 3,51 (0,00 %)	00:01:44 Media de la vista: 00:01:44 (0,00 %)	0,00 % Media de la vista: 0,00 % (0,00 %)	0 % del total: 0,00 % (0)	0,00 US\$ % del total: 0,00 % (0,00 US\$)
1. Organic Search	1.368 (55,03 %)	1.295 (53,16 %)	2.026 (55,64 %)	0,84 %	3,55	00:01:39	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
2. Direct	835 (33,57 %)	819 (33,62 %)	1.173 (32,22 %)	4,35 %	3,69	00:02:08	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
3. Referral	210 (8,42 %)	201 (8,25 %)	270 (7,42 %)	31,48 %	2,75	00:01:03	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
4. Social	138 (5,54 %)	121 (4,97 %)	172 (4,72 %)	0,00 %	2,99	00:01:06	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)

Fuente/Medio	Adquisición			Comportamiento			Conversiones		
	Usuarios	Usuarios nuevos	Sesiones	Porcentaje de rebote	Páginas/sesión	Duración media de la sesión	Tasa de conversión del objetivo	Objetivos cumplidos	Valor del objetivo
	2.489 % del total: 100,00 % (2.489)	2.436 % del total: 100,08 % (2.436)	3.641 % del total: 100,00 % (3.641)	4,20 % Media de la vista: 4,20 % (0,00 %)	3,51 Media de la vista: 3,51 (0,00 %)	00:01:44 Media de la vista: 00:01:44 (0,00 %)	0,00 % Media de la vista: 0,00 % (0,00 %)	0 % del total: 0,00 % (0)	0,00 US\$ % del total: 0,00 % (0,00 US\$)
1. google / organic	1.335 (53,29 %)	1.262 (51,81 %)	1.966 (54,00 %)	0,86 %	3,49	00:01:39	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
2. (direct) / (none)	835 (33,21 %)	819 (33,62 %)	1.173 (32,22 %)	4,35 %	3,69	00:02:08	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
3. linkedin.com / referral	97 (3,89 %)	83 (3,41 %)	128 (3,52 %)	0,00 %	3,02	00:01:21	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
4. bing / organic	29 (1,14 %)	28 (1,15 %)	55 (1,51 %)	0,00 %	5,55	00:01:33	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
5. t.co / referral	24 (0,94 %)	23 (0,94 %)	25 (0,69 %)	0,00 %	2,68	00:00:06	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
best-deal-hdd-pro < referral	20 (0,78 %)	20 (0,82 %)	20 (0,55 %)	100,00 %	1,00	00:00:00	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
7. continentalimmigration.co.in / referral	20 (0,78 %)	20 (0,82 %)	20 (0,55 %)	100,00 %	1,00	00:00:00	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
8. exeter.ac.uk / referral	20 (0,78 %)	20 (0,82 %)	22 (0,60 %)	9,09 %	3,00	00:00:13	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
9. get-more-freer-visitors.info / referral	20 (0,78 %)	20 (0,82 %)	20 (0,55 %)	100,00 %	1,00	00:00:00	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
10. emps.exeter.ac.uk / referral	14 (0,55 %)	12 (0,49 %)	16 (0,44 %)	0,00 %	3,94	00:00:57	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
11. inki.in / referral	11 (0,43 %)	11 (0,45 %)	11 (0,30 %)	0,00 %	2,55	00:00:23	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
12. marele / referral	11 (0,43 %)	10 (0,41 %)	11 (0,30 %)	0,00 %	3,00	00:00:41	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
13. bestofferhdd.info / referral	10 (0,39 %)	10 (0,41 %)	10 (0,27 %)	100,00 %	1,00	00:00:00	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
14. cordis.europa.eu / referral	10 (0,39 %)	10 (0,41 %)	47 (1,29 %)	0,00 %	2,51	00:00:19	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)
15. getadsincomely.info / referral	10 (0,39 %)	10 (0,41 %)	10 (0,27 %)	100,00 %	1,00	00:00:00	0,00 %	0 (0,00 %)	0,00 US\$ (0,00 %)

FIGURE 3.3: WEBSITE ANALYTICS PER SOURCE

The next table presents the initial indicators for measurement of success of the dissemination carried out through the website channel, the minimum objectives to be achieved, the progress achieved until Month 30 and some qualitative remarks.

**TABLE 3.1. IMPACT OF DISSEMINATION (WEBSITE)**

Indicator	Objective	Progress	Comments
No. of monthly visits	300	317	Progress slightly above the initial objective. The website is well indexed in searches. Promotion in social media and relevant platforms can contribute to sustain the number of visits
Duration of visits	2 min	1min 46s	Progress slightly below the initial objective. More attractive deliverables and results could contribute to increasing the mean duration
No. of downloads per month	20	30	All public deliverables have been downloaded. D3.2 is top ranked with 54 downloads. The report with conclusions from the first industrial workshop has 32 downloads.
No. of referral sites (excluding partners)	10	9	Progress in line with the objective

## 3.2 OPEN ACCESS REPOSITORIES

Project partners are responsible for the publication of relevant results to scientific community by scientific publications. Moreover, the beneficiary should aim at depositing at the same time the research data needed to validate the results presented in the deposited scientific publications.

Underlying research data will consist of selected parts of the general datasets generated, and for which the decision of making that part public has been made. Other datasets will be related to any public report or be useful for the research community. They will be selected parts of the general datasets generated or full datasets, and be published as soon as possible.

The next table presents the indicators for measurement of success of the dissemination carried out through the open access channel, the minimum objectives to be achieved, the progress achieved until Month 30 and some qualitative remarks.

**TABLE 3.2. IMPACT OF DISSEMINATION (OPEN ACCESS REPOSITORIES)**

Indicator	Objective	Progress	Comments
No. of submitted scientific papers	8 → 9	3	Progress below the objective as only initial research results have been collected. Papers have been allocated to academic partners and they will be encouraged to publish in WP8 meetings.
No. of open access research data set categories	3 → 5	2	2 wave resource datasets have been already published. Selected datasets from publications will also uploaded to ZENODO. Target allocated to partners with publications

### 3.3 SOCIAL MEDIA

The traffic generated by social networks is also an important asset to enhance the visibility of the web portal in major search engines. On average, one action per month over the full project lifetime was considered.

Different social media channels have been used in the OPERA project, such as LinkedIn, Facebook, Twitter, YouTube and ResearchGate. It has been decided to use current partner profiles instead of creating bespoke ones in order to take advantage of existing community. The project has created the hashtag #OPERAH2020 to aggregate all Twitter posts in the website.

The next table presents the indicators for measurement of success of the dissemination carried out through the social channel, the minimum objectives to be achieved, the progress achieved until Month 30 and some qualitative remarks.

**TABLE 3.3. IMPACT OF DISSEMINATION (SOCIAL MEDIA)**

Indicator	Objective	Progress	Comments
No. of posts	42 → 52	51	Progress well above the total objective for the whole project.
No. of contact updates per month (members)	500 → 2,000	3,000	The social media channel with the largest targeted audience has been the LinkedIn profile of TECNALIA Offshore Renewable Energy. At the time of writing this deliverable it gathers a network of 3,000 direct contacts from the targeted audience for the project.
No. of visits to individual posts (views)	>50 → 500	930 (average)	Individual post views have shown a steadily growing trend, from just 200 views at the beginning to close to 7,600 views recently. Interestingly, most views came from second network of contacts.
No of likes	Ø → 30	43 (average)	The impact is significantly magnified as a result of social network member likes, which automatically redistributes the post to all their contacts.

The next figure shows the results of the most viewed post regarding the second round of open-sea testing: “OPERA Project prepares for the second round of open-sea testing at BiMEP”.

Your image posted on June 14, 2018 (2 comments, 111 likes)

7,607 views

15 reshares



<https://www.linkedin.com/feed/update/urn:li:activity:6413342324331466752>

FIGURE 3.4: MOST VIEWED POST IN LINKEDIN

### 3.4 MASS MEDIA

The mass media channel encompasses several dissemination results such as articles in ocean energy magazines, press releases and local radio/TV interviews.

The next table presents the indicators for measurement of success of the dissemination carried out through the mass media channel, the minimum objectives to be achieved, the progress achieved until Month 30 and some qualitative remarks.

TABLE 3.4. IMPACT OF DISSEMINATION (MASS MEDIA)

Indicator	Objective	Progress	Comments
No. of articles in ocean energy magazines	7	3	Progress slightly below the target for the whole project. Search for additional channels in cooperation with the industrial partners
No. of press releases	4 → 14	22	Project research activities attracted high interest from journalists. As a result, a higher number of press releases has been produced.

Indicator	Objective	Progress	Comments
No. of interviews	3	2	Good progress. Key project milestones (installation of the WEC prototype) and local events such as the BMEW have attracted interest of audiovisual media.

### 3.5 EVENTS

Relevant events have been identified and are being updated in the life cycle of the OPERA project. Indicators for this dissemination channel track the number and type of attended events, number of presentations, registered people at organised workshops and distribution of dissemination material.

The next table presents the indicators for measurement of success, the minimum objectives to be achieved, the progress achieved until Month 30 and some qualitative remarks.

**TABLE 3.5. IMPACT OF DISSEMINATION (EVENTS)**

Indicator	Objective	Progress	Comments
No. of attended conferences with presentations / posters	8	26	Progress well above the initial objective for the current stage of the project
No. of oral communication at congresses & events	14	14	Progress in line with the initial objective. Target will be exceeded as more results will be available in the third period of the project.
No. of attended industrial events and/or fairs	7	9	Progress above the initial objective
No. of events for the general public	4	25	The owners of the test infrastructures and OCEANTEC have disseminated the project during the regular general public visits
No. of flyers distributed at events	600	600	All flyers distributed in exhibitions. Updated multimedia material been prepared for events
No. of workshops organized	2	1	Progress in line with the initial objective
No. of registered people at workshops	>30	80	Progress well above the initial objective. More attendees since the workshop was linked to a sector event.

## 4. LIST OF DISSEMINATION AND COMMUNICATION ACTIVITIES

The objectives of the dissemination and communication activities are being mainly deployed in stages during the project lifetime.

**Stage 1 (M1-M6): Raising awareness** of the project's activities, outputs and benefits through diverse channels to audiences that do not require a detailed technical knowledge of the work carried out. This stage has already been finalised.

**Stage 2 (M6-M18): Promoting a deeper understanding** of new knowledge and results for a number of audiences who can benefit from what OPERA project can offer. This stage has already been fulfilled.

**Stage 3 (M18-M30): Engaging with target groups** to encourage their willingness to make use of project results. This stage is mostly finished.

## 4.1 STAGE 1 (M1-M6): RAISING AWARENESS

### 4.1.1 OPEN ACCESS

1 Scientific Publication

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>IST</b>	27/04/2016	Energy Journal (Elsevier)	Design of oscillating-water-column wave energy converters for self-powered sensor buoys	J. C. C. Henriques, J. C. C. Portillo, L. M. C. Gato, R. P. F. Gomes, D. N. Ferreira, A. F. O. Falcão	IST

### 4.1.2 SOCIAL MEDIA

2 Entries in LinkedIn

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	22/02/2016	TECNALIA Marine Energy Group (LinkedIn)	Open Sea Operating Experience to Reduce Wave Energy Cost	Pablo Ruiz-Minguela	ALL PARTNERS
<b>TECNALIA</b>	02/05/2016	TECNALIA Marine Energy Group (LinkedIn)	OPERA website up and running!!	Pablo Ruiz-Minguela	



#### 4.1.3 MASS MEDIA

##### 3 Press Releases

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	11/02/2016	Local newspapers, InnovaSpain	El Ente Vasco de la Energía y TECNALIA participan en un proyecto europeo para reducir en un 50% el coste de la energía de las olas	Alberto Bonilla, Imanol Zenborain	TECNALIA, EVE
<b>TECNALIA</b>	19/02/2016	Tecnalia's website & OEE	OPERA, PLAYING WITH WAVES FOR A LOW CARBON ENERGY FUTURE	Alberto Bonilla	TECNALIA
<b>GM</b>	15/06/2016	Global Maritime website	Global Maritime To Provide Mooring & Risk Management Support to EU Wave Energy Project	Paul Goodwin	TECNALIA



## 4.2 STAGE 2 (M6-M18): PROMOTING NEW KNOWLEDGE AND RESULTS

### 4.2.1 OPEN ACCESS

#### 1 Scientific Publication

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
IST	01/07/2017	Automatica (Elsevier)	A high-order Discontinuous Galerkin Method with mesh refinement for optimal control	Henriques, J.C.C., Lemos, J.M., Eça, L., Gato, L.M.C., Falcão, A.F.O.	IST

#### 1 Research Dataset

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
TECNALIA	20/07/2017	ZENODO	DS_Wave_Mutriku: Wave resource at Mutriku (Spain)	Joannès Berque	OCEANTEC, EVE

### 4.2.2 SOCIAL MEDIA

21 Entries in LinkedIn, 5 in ResearchGate, 5 in Twitter, 2 in Facebook and 1 in YouTube

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
TECNALIA	01/08/2016	TECNALIA Marine Energy Group (LinkedIn)	OCEANTEC prototype deployment in BiMEP (OPERA project)	Pablo Ruiz-Minguela	OCEANTEC, BIMEP



Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	20/09/2016	TECNALIA Marine Energy Group (LinkedIn)	Regional minister for economic development visits site of manufacture of first Basque wave-power generating device	Pablo Ruiz-Minguela	OCEANTEC, EVE, BIMEP
<b>TECNALIA</b>	13/10/2016	TECNALIA Marine Energy Group (LinkedIn)	OCEANTEC deployed at BiMEP its first wave energy converter !!!!!!!	Pablo Ruiz-Minguela	OCEANTEC, BIMEP
<b>TECNALIA</b>	10/11/2016	TECNALIA Marine Energy Group (LinkedIn)	Wave energy device successfully deployed at BiMEP site	Pablo Ruiz-Minguela	UNEXE, OCEANTEC
<b>TECNALIA</b>	30/11/2016	TECNALIA Marine Energy Group (LinkedIn)	OPERA Project has published D5.1	Pablo Ruiz-Minguela	
<b>TECNALIA</b>	18/11/2016	TECNALIA Marine Energy Group (LinkedIn)	Environmental Monitoring System Successfully Deployed at Mutriku	Pablo Ruiz-Minguela	EVE
<b>TECNALIA</b>	20/12/2016	TECNALIA Marine Energy Group (LinkedIn)	Directional wave buoy successfully deployed at BiMEP	Pablo Ruiz-Minguela	BIMEP
<b>TECNALIA</b>	03/02/2017	TECNALIA Marine Energy Group (LinkedIn)	OPERA's bi-radial turbine-generator set in the final assembly stage	Pablo Ruiz-Minguela	KYMANER
<b>TECNALIA</b>	24/02/2017	TECNALIA Marine Energy Group (LinkedIn)	OPERA VIDEO: OCEANTEC's WEC deployed at BiMEP	Pablo Ruiz-Minguela	ALL PARTNERS
<b>TECNALIA</b>	01/03/2017	TECNALIA Marine Energy Group (LinkedIn)	Tests of novel elastometric mooring tethers	Pablo Ruiz-Minguela	UNEXE, OCEANTEC
<b>TECNALIA</b>	13/03/2017	TECNALIA Marine Energy Group (LinkedIn)	OPERA took part at the Danish Partnership for Wave Energy	Pablo Ruiz-Minguela	
<b>TECNALIA</b>	30/03/2017	TECNALIA Marine Energy Group (LinkedIn)	The CEO of Oceantec Marine Energy, Patxi Etxaniz, has presented today latest company achievements at the Marine Energy Week	Pablo Ruiz-Minguela	OCEANTEC, BiMEP

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	05/04/2017	TECNALIA Marine Energy Group (LinkedIn)	OPERA project meets in Bilbao from 4-6 April for their first General Assembly meeting	Pablo Ruiz-Minguela	ALL PARTNERS
<b>TECNALIA</b>	26/04/2017	TECNALIA Marine Energy Group (LinkedIn)	PERIODIC INSPECTION OF MUTRIKU PRESSURE GAUGE -OPERA project	Pablo Ruiz-Minguela	
<b>TECNALIA</b>	22/05/2017	TECNALIA Marine Energy Group (LinkedIn)	TESTING OF THE OPERA PROJECT'S NOVEL AIR TURBINE HAS ALREADY STARTED AT THE MUTRIKU WAVE POWER PLANT: TURBINE OPERATED AT FULL POWER ON THE FIRST DAY OF TESTING	Pablo Ruiz-Minguela	ALL PARTNERS
<b>TECNALIA</b>	26/05/2017	TECNALIA Marine Energy Group (LinkedIn)	Open-sea testing of the OPERA project is catching up quite interest!	Pablo Ruiz-Minguela	EVE, BIMEP, OCEANTEC, IST, KYMANER
<b>TECNALIA</b>	01/06/2017	TECNALIA Marine Energy Group (LinkedIn)	Download the outcomes of the workshop here!	Pablo Ruiz-Minguela	
<b>TECNALIA</b>	04/07/2017	TECNALIA Marine Energy Group (LinkedIn)	Novel bi-radial turbine-generator set tested at laboratory under variable unidirectional flow	Pablo Ruiz-Minguela	IST, KYMANER, EVE
<b>TECNALIA</b>	12/07/2017	TECNALIA Marine Energy Group (LinkedIn)	Canary Islands at the centre of Marine Renewable Energies	Pablo Ruiz-Minguela	OCEANTEC
<b>OCEANTEC</b>	29/09/2016	Oceantec Marine Energy (LinkedIn)	Ending up the WEC assembly to start the countdown to go into the sea very soon	José Luis Aguiriano	
<b>OCEANTEC</b>	03/01/2017	Oceantec Marine Energy (LinkedIn)	Accessing the MARMOK-A-5 WEC for some equipment supervision work	José Luis Aguiriano	
<b>EVE</b>	05/08/2016	EVE Facebook	Oceantec and @EVEuskadi working on the new WEC to be tested at Bimep for a year #opera-h2020	Imanol Zenborain	OCEANTEC, BIMEP

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
EVE	14/10/2016	EVE Facebook	First wave-powered generating device installed at #Bimep	Imanol Zenborain	OCEANTEC, BIMEP
EVE	08/11/2016	EVE Twitter	Opera-h2020.eu and the wave energy cost-reduction at OEE2016 Brussels	Imanol Zenborain	
EVE	21/12/2016	EVE Twitter	New turbines already installed in the WEC	Imanol Zenborain	OCEANTEC, BIMEP
EVE	14/02/2017	Youtube	Opera project video: <a href="https://youtu.be/57T5yorqHSg">https://youtu.be/57T5yorqHSg</a>	Imanol Zenborain	ALL PARTNERS
BiMEP	30/03/2017	BiMEP Twitter	The successful @BilbaoMarine about to finish with the interesting workshop of the #OPERAH2020 project	Dorleta Marina	TECNALIA
BiMEP	23/06/2017	BiMEP Twitter, LinkedIn	The ambassador of Canada and the Commercial Minister of the Embassy, visit BiMEP #OPERAH2020	Dorleta Marina	
UNEXE	13/10/2016	ResearchGate	OCEANTEC deployed at BiMEP its first wave energy converter	Sam Weller	OCEANTEC, BiMEP
UNEXE	08/11/2016	ResearchGate	Wave energy device successfully deployed at BiMEP site	Sam Weller	OCEANTEC
UNEXE	04/01/2017	ResearchGate	Directional wave buoy successfully deployed at BiMEP	Sam Weller	TECNALIA, OCEANTEC, BiMEP
UNEXE	06/02/2017	Twitter	Tether performance scale testing at our Dynamic Marine Component	Sam Weller	
UNEXE	01/03/2017	ResearchGate	Tests of novel elastometric mooring tethers	Sam Weller	TECNALIA, OCEANTEC, BiMEP
UNEXE	11/07/2017	ResearchGate	The Importance of Getting Your Feet Wet: Field Measurements from the OPERA Project	Sam Weller	

## 4.2.3 MASS MEDIA

### 1 Article in Ocean Energy Magazine

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>GM</b>	05/10/2016	Power and Energy Solutions	OPERA on the waves	Paul Goodwin, Pablo Ruiz-Minguela, José Luis Aguiriano	GM, TECNALIA, OCEANTEC

### 9 Press Releases

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	13/10/2016	OPERA website, Tecnalia's website & OEE	OCEANTEC deployed at BiMEP its first wave energy converter	Alberto Bonilla	OCEANTEC, EVE
<b>TECNALIA</b>	22/05/2017	OPERA website, social networks	TESTING OF THE OPERA PROJECT'S NOVEL AIR TURBINE HAS ALREADY STARTED AT THE MUTRIKU WAVE POWER PLANT: TURBINE OPERATED AT FULL POWER ON THE FIRST DAY OF TESTING	Alberto Bonilla	ALL PARTNERS
<b>TECNALIA</b>	01/06/2017	OPERA website, social networks	First practical experiences of open-sea operation. Workshop at the Bilbao Marine Energy Week 2017	Alberto Bonilla	
<b>EVE</b>	04/08/2016	OPERA & EVE's website	Regional minister for economic development visits site of manufacture of first Basque wave-power generating device	Imanol Zenborain	
<b>OCEANTEC</b>	12/10/2016	Local & internet news	OCEANTEC INSTALA EN BIMEP SU PRIMER DISPOSITIVO PARA EL	José Luis Aguiriano	TECNALIA, EVE



Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
			APROVECHAMIENTO DE LA ENERGIA DE LAS OLAS		
UNEXE	08/11/2016	OPERA website, UNEXE website	Wave energy device successfully deployed at BiMEP site	Alberto Bonilla, Lars Johanning	OCEANTEC
UNEXE	02/03/2017	UNEXE news	Elastometric mooring tether performance testing advances wave energy project	Lars Johanning	UNEXE, OCEANTEC
UNEXE	01/03/2017	OPERA website, UNEXE website, Wave&Tidal Magazine (Spring issue, 2017)	Tests of novel elastometric mooring tethers	Alberto Bonilla, Lars Johanning	OCEANTEC
KYMANER	02/05/2017	Wavec Newsletter, Facebook and derived news on internet media	Economia do Mar: tecnologia de ponta nacional assume destaque em projecto europeu	José Varandas	IST, EVE, OCEANTEC

## 3 Interviews in Radio/TV

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
BIMEP	12/10/2016	<a href="http://www.eitb.eus/es/noticias/economia/videos/detalle/4441301/han-botado-captador-energia-olas-creado-euskadi/">http://www.eitb.eus/es/noticias/economia/videos/detalle/4441301/han-botado-captador-energia-olas-creado-euskadi/</a>	El captador de energía de las olas creado en Euskadi ya está en el mar	EITB	OCEANTEC, BIMEP



Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
OCEANTEC	29/03/2017	<a href="https://www.eitb.eus/es/radio/radio-euskadi/programas/boulevard/detalle/4735863/boulevard-marine-energy-week/">https://www.eitb.eus/es/radio/radio-euskadi/programas/boulevard/detalle/4735863/boulevard-marine-energy-week/</a>	Interview to Patxi Etzaniz, during the Marine Energy Week, Bilbao	EiTB	
TECNALIA	30/03/2017	<a href="https://www.youtube.com/watch?v=FZuYUjTD0&amp;index=1&amp;list=PLN-39WH_gkoi7oE3_iBxeqi1NMld2jOTC">https://www.youtube.com/watch?v=FZuYUjTD0&amp;index=1&amp;list=PLN-39WH_gkoi7oE3_iBxeqi1NMld2jOTC</a>	Interview to Pablo Ruiz-Minguela, Coordinator of the OPERA project, during the Marine Energy Week, Bilbao	tvER, Renewable Energies TV	

#### 4.2.4 EVENTS

##### 9 Conference Presentations

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
TECNALIA	09/03/2017	Danish Partnership for WavePower 2017 (Copenhagen)	OPERA project presentation at the Danish Partnership for Wave Power	Pablo Ruiz-Minguela	
TECNALIA	23/11/2016	1st clustering meeting on H2020 projects in the area of Ocean Energy (Brussels)	OPERA: Short Project Presentation & Dissemination Activities	Pablo Ruiz-Minguela	
OCEANTEC	23/11/2016	JERME 2016 (Madrid)	EXPERIENCIA EN MAR PARA REDUCIR EL COSTE DE LA ENERGIA DE LAS OLAS	José Luis Aguiriano, Pablo Ruiz-Minguela	TECNALIA



Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>OCEANTEC</b>	24/03/2017	Colegio de Ingenieros industriales de Bizkaia	Energía de las olas: La experiencia Oceantec	Borja de Miguel	
<b>OCEANTEC</b>	30/03/2017	III Bilbao Marine Energy Week	Wave Energy: an industry with a bright future	Patxi Etxaniz	
<b>OCEANTEC</b>	30/03/2017	III Bilbao Marine Energy Week. Opera Workshop	How O&M influenced MARMOK-A-5 design	Borja de Miguel	
<b>OCEANTEC</b>	29/06/2017	ENERMAR 2017 (Gran Canarias)	OCEANTEC experience in Open Sea conditions to Reduce Wave Energy Cost	Patxi Etxaniz, Raúl Rodríguez	TECNALIA, EVE
<b>OCEANTEC</b>	18/05/2017	Universidad de Mondragón	Energía de las olas: La experiencia Oceantec	Urtzi Lazcano	
<b>OCEANTEC</b>	05/07/2017	Oceaneranet Workshop (PLOCAN)	How O&M influenced MARMOK-A-5 design	Patxi Etxaniz	
<b>UEDIN</b>	06/12/2016	IES Conference 2016	The OPERA project	David Crooks	
<b>IST</b>	20/01/2017	2017 Maynooth University Wave Energy Workshop	Control of the PTO system of OWCs: feedback vs model predictive control	Joao Henriques	

## 6 Oral Communications

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>UNEXE</b>	06/07/2017	PRIMaRE 2017 (Southampton)	The Importance of Getting Your Feet Wet: Field Measurements from the OPERA Project	S.D. Weller, L. Johanning	
<b>IST</b>	25/10/2016	AWTEC 2016 (Singapour)	Rated power and control of and oscillating-water-column wave energy converter	António Falcao, Joao Henriques, Luís Gato	





<b>IST</b>	12/06/2017	Portuguese Meeting on Optimal Control - EPCO2017 (Lisbon)	A new high-order Discontinuous Galerkin Method for the numerical solution of continuous and bang-bang optimal control problems	Henriques, J.C.C., Lemos, J.M., Eça, L., Gato, L.M.C., Falcão, A.F.O.	
<b>IST</b>	25/06/2017	OMAE 2017 (Trondheim)	A Comparison of Bi-radial and Wells Air Turbines on the Mutriku Breakwater OWC Wave Power Plant	Joao Henriques, Wanang Sheng, António Falcao, Luís Gato	UCC
<b>IST</b>	25/06/2017	IFAC 2017 (Toulouse)	A Discontinuous Galerkin Method for optimal and sub-optimal control applied to an oscillating water column wave energy converter	Joao Henriques, J. M. Lemos, L. Eça, J. N. H. Valerio, L. M. C. Gato, A. F. O. Falcao	
<b>UCC</b>	11/04/2017	EVER 2017 (Monaco)	Applying Hardware-in-the-Loop capabilities to an ocean renewable energy device emulator	James Kelly and Ross Christie	

## 5 Exhibitions Attended

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>KYMANER</b>	27/10/2016	WavEC seminar Blue & Renewable Tomorrow (Lisbon)	Roll-up and B2B meetings presentation	José Varandas	
<b>EVE</b>	08/11/2016	OEE 2016 (Brussels)	Stand 24: Roll-up, video, leaflets	Imanol Zenborain, Olatz Ajuria	EVE, TECNALIA
<b>EVE</b>	22/03/2017	Seenergy 2017 (Normandy)	Stand: Video, leaflets	Olatz Ajuria, Dorleta Marina, JL Villate, Patxi Etxaniz	EVE, BiMEP, TECNALIA, OCEANTEC
<b>TECNALIA</b>	28-30/03/2017	BMEW 2017	Stand: Roll-up, video, leaflets	Pablo Ruiz-Minguella, Patxi Etxaniz, Yago Torre-Enciso, Olatz Ajuria	OCEANTEC, EVE, BiMEP



<b>OCEANTEC</b>	13/03/2017	TC 114 Marine energy - Wave, tidal and other water current converters	Roll-up, video, leaflets, prototype	Patxi Etxaniz	
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## 1 Workshop Organised

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	30/03/2017	Ocean Energy Conference - BMEW 2017	Open Sea Operating Experience To Reduce Ocean Energy Costs	Pablo Ruiz-Minguella, Imanol Zenborain, Dorleta Marina	EVE, BiMEP

## 15 General Public presentations

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>EVE</b>	15/02/2017	Visits to testing facilities	Mutriku Wave Power Plant visit Vocational training school (Zubigune Fundazioa) 25 people	Olatz Ajuria	-
<b>EVE</b>	15/02/2017	Visits to testing facilities	Mutriku Wave Power Plant visit ENEL 1 person	Olatz Ajuria	TECNALIA OCEANTEC
<b>EVE</b>	17/03/2017	Visits to testing facilities	Site visit to Mutriku test site of the Vicepresident of the European Commission Maros Šefčovic.	Olatz Ajuria	EVE

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
EVE	07/04/2017	Visits to testing facilities	Mutriku Wave Power Plant visit University of the Basque Country 25 people	Olatz Ajuria	
EVE	04/05/2017	Visits to testing facilities	Mutriku Wave Power Plant visit University of Mondragón 20 people	Olatz Ajuria	
EVE	15/05/2017	Visits to testing facilities	Mutriku Wave Power Plant visit University of the Basque Country 30 people	Olatz Ajuria	
EVE	24/05/2017	Visits to testing facilities	Mutriku Wave Power Plant visit PLOCAN - Oceanic Platform of the Canary Islands 2 People	Olatz Ajuria	
EVE	25/05/2017	Visits to testing facilities	Mutriku Wave Power Plant visit John Huckerby - former IEA OES chairman 1 person	Olatz Ajuria	TECNALIA
OCEANTEC	17/05/2017	Pint of Science	Retos y oportunidades de la energía de las olas	Endika Aldaiturriaga, Borja de Miguel	
OCEANTEC	19/05/2017	Visits to testing facilities	Visit of ENEL to MARMOK-A-5 at BiMEP	Patxi Etxaniz	
OCEANTEC	26/05/2017	Visits to testing facilities	Visit of Iberdrola Renewables to MARMOK-A-5 at BiMEP	Patxi Etxaniz	
OCEANTEC	29/05/2017	Visits to testing facilities	Visit of Bridon-Bekaert to MARMOK-A-5 at BiMEP	Patxi Etxaniz	
OCEANTEC	13/07/2017	Visits to testing facilities	Visit of MERIC to MARMOK-A-5 at BiMEP	Patxi Etxaniz	

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
IST	08/05/2017	Visits to testing facilities	Visit of Managing Director of NewEnergyWorld and staff during the dry tests at IST laboratory	Luis Gato, Jose Varandas	KYMANER
IST	11/05/2017	Visits to testing facilities	Visit of Director of EDP Inovação during the dry tests at IST laboratory	Luis Gato, Jose Varandas	KYMANER

## 4.3 STAGE 3 (M19-M30): ENGAGING WITH TARGET GROUPS

### 4.3.1 OPEN ACCESS

#### 1 Scientific Publication

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
UNEXE	04/02/2018	Ocean Engineering (Elsevier)	Assessing the performance durability of elastomeric moorings: Assembly investigations enhanced by sub-component tests	T. Gordelier, D. Parish, P.R. Thies, S. Weller, P. Davies, P.Y. Le Gac, L. Johanning	UNEXE

#### 1 Research Dataset

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
TECNALIA	22/11/2017	ZENODO	DS_Wave_BiMEP: Wave resource at BiMEP (Spain) – Dataset updated on 13/07/2018	Joseba Lopez Mendia	OCEANTEC, BIMEP



### 4.3.2 SOCIAL MEDIA

15 Entries in LinkedIn

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	30/08/2017	TECNALIA Marine Energy Group (LinkedIn)	First technical results of H2020 OPERA project disseminated at EWTEC 2017	Pablo Ruiz-Minguela	IST, UNEXE, UEDIN
<b>TECNALIA</b>	05/10/2017	TECNALIA Marine Energy Group (LinkedIn)	First version of wave resource data at Mutriku (Spain)	Pablo Ruiz-Minguela	EVE
<b>TECNALIA</b>	25/10/2017	TECNALIA Marine Energy Group (LinkedIn)	Ocean Energy Europe Conference & Exhibition, 25 - 26 October in Nantes	Pablo Ruiz-Minguela	ALL
<b>TECNALIA</b>	27/10/2017	TECNALIA Marine Energy Group (LinkedIn)	INEA reviews technical progress of H2020 OPERA project in Brussels	Pablo Ruiz-Minguela	ALL PARTNERS
<b>TECNALIA</b>	01/12/2017	TECNALIA Marine Energy Group (LinkedIn)	#OPERAH2020 project publishes high quality wave resource time series at BiMEP Biscay Marine Energy Platform test site.	Pablo Ruiz-Minguela	OCEANTEC, BIMEP
<b>TECNALIA</b>	14/12/2017	TECNALIA Marine Energy Group (LinkedIn)	MARMOK-A-5 celebrates its first anniversary in the water connected to the grid	Pablo Ruiz-Minguela	OCEANTEC, BIMEP
<b>TECNALIA</b>	05/03/2018	TECNALIA Marine Energy Group (LinkedIn)	DNV GL has issued the statement of compliance after the in-depth design assessment of OCEANTEC's MARMOK-A-5	Pablo Ruiz-Minguela	OCEANTEC, DNV GL, BIMEP
<b>TECNALIA</b>	23/03/2018	TECNALIA Marine Energy Group (LinkedIn)	Open sea operating experience from H2020 OPERA project to be disseminated at ICOE2018	Pablo Ruiz-Minguela	TECNALIA, IST, OCEANTEC

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
TECNALIA	26/04/2018	TECNALIA Marine Energy Group (LinkedIn)	OPERA project meets in Porto from 18-20 April for their second General Assembly meeting	Pablo Ruiz-Minguela	ALL
TECNALIA	12/06/2018	TECNALIA Marine Energy Group (LinkedIn)	OPERA Project stand at ICOE2018	Pablo Ruiz-Minguela	ALL
TECNALIA	13/06/2018	TECNALIA Marine Energy Group (LinkedIn)	Open sea operating experience to avoid repeating early engineering mistakes in wave energy	Pablo Ruiz-Minguela	ALL
TECNALIA	15/06/2018	TECNALIA Marine Energy Group (LinkedIn)	OPERA project prepares for the second round of open-sea testing at BiMEP	Pablo Ruiz-Minguela	ALL
TECNALIA	27/06/2018	TECNALIA Marine Energy Group (LinkedIn)	A sophisticated new type of mooring rope has been successfully deployed	Pablo Ruiz-Minguela	TECNALIA, OCEANTEC, UNEXE, BiMEP
UEDIN	13/06/2018	Policy and Innovation Group - LinkedIn	OPERA H2020: Improvements on Life-cycle assessment (LCA)	Tianna Bloise-Thomaz	ALL
UEDIN	14/06/2018	Policy and Innovation Group - LinkedIn	OPERA H2020: Accelerating the establishment of standards for the wave energy sector	David Crooks	ALL

### 4.3.3 MASS MEDIA

2 Articles in Ocean Energy Magazine

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
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<b>TECNALIA</b>	12/02/2018	Wave and Tidal Energy Network	Basque Country special issue	various	TECNALIA, OCEANTEC, BIMEP, EVE
<b>TECNALIA</b>	13/06/2018	OES report	Spotlight on Ocean Energy	various	TECNALIA, OCEANTEC, BIMEP, EVE

## 10 Press Releases

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	13/09/2017	OPERA website, social networks	OPERA Consortium awarded the Yoshio Masuda Memorial Price at EWTEC 2017	Alberto Bonilla	ALL PARTNERS
<b>TECNALIA</b>	27/10/2017	OPERA website, social networks	INEA reviews technical progress of H2020 OPERA project in Brussels	Alberto Bonilla	ALL PARTNERS
<b>TECNALIA</b>	27/10/2017	OPERA website, social networks	MARMOK-A-5 celebrates its first anniversary in the water connected to the grid	Alberto Bonilla	OCEANTEC, BIMEP
<b>TECNALIA</b>	05/03/2018	OPERA website, social networks	One step forward to de-risk wave energy technologies	Alberto Bonilla	OCEANTEC, DNV GL, BIMEP
<b>TECNALIA</b>	23/03/2018	OPERA website, social networks	Open sea operating experience from H2020 OPERA project to be disseminated at ICOE2018	Alberto Bonilla	TECNALIA, IST, OCEANTEC
<b>TECNALIA</b>	26/04/2018	OPERA website, social networks	OPERA project meets in Porto from 18-20 April for their second General Assembly meeting	Alberto Bonilla	ALL
<b>OCEANTEC</b>	01/10/2017	Wave & Tidal	One year supplying electricity to the Grid	Oceantec	

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>GM</b>	10/10/2017	AltEnergy Mag, PES Wind	Global Maritime and Other OPERA Consortium Members Win Prize for Presentations at European Wave & Tidal Energy Conference	Paul Goodwin	ALL PARTNERS
<b>UNEXE</b>	27/06/2018	OPERA website, UNEXE website, Marine Energy	A sophisticated new type of mooring rope has been successfully deployed at a cutting-edge wave energy device, marking a significant new milestone for the project	Alberto Bonilla, Lars Johanning	TECNALIA, OCEANTEC, BiMEP
<b>IST</b>	07/12/2017	OES News Bulletin (November)	Portugal: Development of a bi-radial turbine	Luis Gato	KYMANER, OCEANTEC, EVE, BIMEP

#### 4.3.4 EVENTS

##### 15 Conference Presentations

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	05/12/2017	2nd clustering meeting on H2020 projects in the area of Ocean Energy (Brussels)	OPERA: Short Project Presentation & Highlight of Technical Results	Pablo Ruiz-Minguela	
<b>TECNALIA</b>	12/06/2018	ICOE2018	Open Sea Operating Experience to Avoid Repeating Early Engineering Mistakes in Wave Energy	Pablo Ruiz-Minguela	ALL PARTNERS





<b>OCEANTEC</b>	17/10/2017	Jornada de desarrolladores de MRE (MERIC)	Energía de las olas: experiencia desde el desarrollo hasta la operación	Patxi Etxaniz	
<b>OCEANTEC</b>	18/10/2017	Universidad Católica de Santiago	Energía de las olas: Una industria con futuro brillante	Patxi Etxaniz	
<b>OCEANTEC</b>	19/10/2017	ECIM	Energía de las olas: operación y biofouling.	Patxi Etxaniz	
<b>OCEANTEC</b>	20/10/2017	Universidad de Concepción	Energía de las olas: Una industria con futuro brillante	Patxi Etxaniz	
<b>OCEANTEC</b>	07/11/2017	CTC	Energía de las olas: experiencia de operación	Patxi Etxaniz	
<b>OCEANTEC</b>	23/11/2017	Jornada APTE	Energía de las olas: Oceantec energías marinas	Borja de Miguel	
<b>OCEANTEC</b>	27/04/2018	GTEO	Experiencia obtenida de dos inviernos de operación en el mar.	Patxi Etxaniz	
<b>OCEANTEC</b>	01/06/2018	Universidad de Mondragón	Energía de las olas: La experiencia Oceantec	Urtzi Lazcano	
<b>OCEANTEC</b>	12/06/2018	ICOE2018	Operating Experience of MARMOK-A-5 OWC Wave Energy Converter at BiMEP	Endika Aldaiturriaga	OCEANTEC
<b>GM</b>	03/05/2018	All Energy 2018 (Glasgow)	OPEN SEA OPERATING EXPERIENCE TO REDUCE WAVE ENERGY COSTS	Paul Goodwin	ALL
<b>UEDIN</b>	13/06/2018	ICOE2018	OPERA H2020: Improvements on Life-cycle assessment (LCA)	Tianna Bloise-Thomaz	ALL
<b>UEDIN</b>	14/06/2018	ICOE2018	OPERA H2020: Accelerating the establishment of standards for the wave energy sector	David Crooks	ALL
<b>IST</b>	13/06/2018	ICOE2018	Test Results of a 30 kW Self-rectifying Biradial Air Turbine-Generator Prototype	Luís Gato	IST

## 8 Oral Communications

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>TECNALIA</b>	29/08/2017	EWTEC 2017 (Cork)	Novel Predictive Latching Control for an Oscillating Water Column Buoy	François-Xavier Faÿ, Margarita Marcos, Eider Robles	TECNALIA
<b>UEDIN</b>	30/08/2017	EWTEC 2017 (Cork)	Demonstration of Socio-economic Cost of Energy Analysis of a Wave Energy Converter Array	D. Crooks, A. D. de Andres, E. Medina-Lopez, H. Jeffrey, P. Ruiz-Minguela	TECNALIA
<b>UNEXE</b>	29/08/2017	EWTEC 2017 (Cork)	Open sea OWC motions and mooring loads monitoring at BiMEP	S.D. Weller, D. Parish, T. Gordelier, B. de Miguel Para, E.A. Garcia, P. Goodwin, D. Tornroos, L. Johanning	OCEANTEC, GM
<b>IST</b>	29/08/2017	EWTEC 2017 (Cork)	Latching and Peak-Power Control of an Oscillating Water Column Based on a Discontinuous Galerkin Method	Henriques, J.C.C., Lemos, J.M., Gato, L.M.C., Falcão, A.F.O., Portillo, J.C.C.	IST
<b>IST</b>	29/08/2017	EWTEC 2017 (Cork)	Performance of the Self-rectifying Biradial Air Turbine with Fixed Guide Vanes Arranged into Concentric Annular Rows	Carrelhas, A.A.D., Maduro, A.R., Gato, L.M.C., Henriques, J.C.C., Falcão, A.F.O.	IST
<b>IST</b>	29/08/2017	EWTEC 2017 (Cork)	Design and optimization of fixed guide-vanes arranged into concentric annular rows for a self-rectifying biradial air-turbine	Maduro, A.R., Gato, L.M.C., Henriques, J.C.C., Ferreira, D.N.	IST
<b>IST</b>	19/06/2018	OMAE 2018 (Madrid)	Numerical Simulation of Control Strategies at Mutriku Wave Power Plant	Fay, F.-X., Kelly, J., Henriques, J.C.C., Pujana, A., Abusara, M., Mueller, M., Touzon, I., Ruiz-Minguela, P.	TECNALIA, IST, UNEXE, UCC
<b>IST</b>	08/07/2018	IJCNN (Rio)	Short-term prediction in an Oscillating Water Column using Artificial Neural Networks	Fernandes, M.P., Vieira, S.M., Henriques, J.C.C., Valério, D., Gato, L.M.C.	IST

## 4 Exhibitions Attended

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>EVE</b>	25/10/2017	OEE 2017 (Nantes)	Stand: Roll-up, video, leaflets	Olatz Ajuria, Dorleta Marina, JL Villate	EVE, BiMEP, TECNALIA
<b>EVE</b>	12/06/2018	ICOE2018	Stand: Roll-up, video, leaflets	Olatz Ajuria, Pablo Ruiz-Minguella, JL Villate	EVE, TECNALIA
<b>TECNALIA</b>	20/11/2017	EUSKAMPUS 2017 (Bilbao)	Poster: Comparison of control strategies for the Biradial turbine in the Mutriku wave power plant	François-Xavier Faÿ, Ainhoa Pujana, Pablo Ruiz-Minguella, Eider Robles	TECNALIA
<b>KYMANER</b>	12/12/2017	Wavec seminar 2017 (Lisbon)	Demonstration and testing infrastructures for the development of the blue economy	José Varandas	KYMANER

## 9 General Public presentations

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
<b>EVE</b>	30/11/2017	Visits to testing facilities	BiMEP and Mutriku Wave Power Plant visit MERIC -Centro de Investigación e Innovación en Energía Marina 4 people	Olatz Ajuria	BiMEP OCEANTEC
<b>EVE</b>	20/03/2018	Visits to testing facilities	Mutriku Wave Power Plant visit Vocational training school (Zubigune Fundazioa) 25 people	Jon Lekube	
<b>EVE</b>	23/04/2018	Visits to testing facilities	BiMEP and Mutriku Wave Power Plant visit IDAE - Institute for the Diversification and	Jon lekube	BiMEP

Lead partner	Date	Channel (name)	Title of the dissemination material	Authors	Involved Partners
			Saving of Energy 5 people		
<b>EVE</b>	15/05/2018	Visits to testing facilities	Mutriku Wave Power Plant visit Air conditioning equipment manufacturer 12 people	Jon Lekube	
<b>EVE</b>	28/05/2018	Visits to testing facilities	Mutriku Wave Power Plant visit Energy Agency of Andalucia 4 People	Jon Lekube	
<b>EVE</b>	08/06/2018	Visits to testing facilities	BiMEP and Mutriku Wave Power Plant visit MORE - Master on Offshore Renewable Energy 12 people	Jon Lekube	BiMEP
<b>OCEANTEC</b>	25/04/2018	Visits to testing facilities	Visit of St Joseph de Hazparne Institute (France) to MARMOK-A-5 at BiMEP	Urtzi Lazcano	
<b>OCEANTEC</b>	09/11/2017	Other visits	Visit of LTU to OCEANTEC offices	Patxi Etxaniz	
<b>OCEANTEC</b>	15/11/2017	Other visits	Visit of South Africa Delegation to OCEANTEC offices	Patxi Etxaniz	

## 5. CONCLUSIONS

The effectiveness of the Plan for Dissemination and Communication has been periodically measured in order to guarantee that all stakeholders are reached and provided with appropriate information. This periodic assessment provides useful feedback on what works and what needs refinement, it gives the opportunity to shape future iterations of the Plan for Dissemination and Communication and helps align it with the exploitation plan.

The objectives of the dissemination and communication activities are deployed in stages during the project lifetime. In this reporting period, the dissemination and communication activities have been mainly focused on raising awareness of the target audiences and promoting a deeper understanding.

Although the **project website** is considered by the EC as the primary information source for the target stakeholders, it has been seen that **social media** channels are also important for the ocean energy sector audience. For instance, the most viewed post in LinkedIn had more than twice the number of views than the total number of sessions of the website over a 12-month period. Unfortunately, a high number of views in social networks does not directly translate into more visits to the project website.

**Mass media** have been additional avenues for the promotion of the project objectives and results. A large number of news and press releases has been uploaded in the project website and further disseminated through social networks, which have significantly increased their impact. The combination of different channels for the dissemination of the same communication material has proved to be quite an efficient way of communication to reach the target audience.

Besides, consortium partners have actively participated in large number of external **events** and organised one project workshop on operating experience at sea which attracted a lot of interest. It is worth mentioning the many visits of the general public to the test infrastructures and the prototype.

In terms of **open access** to scientific publications and research data, the progress is slightly below the overall target. However, the Consortium believes that these indicators will be improved as more results will become available in the last period of the project.

Dissemination efforts in the last year of the OPERA project will be sustained with a particular emphasis on open access publications, articles in ocean energy magazines and workshop organisation.

## 6. REFERENCES

- [1] D8.1 Project website, OPERA 2016.
- [2] D8.9 Communication Material, OPERA 2017.
- [3] ZENODO. Available at: <http://www.zenodo.org/>
- [4] D8.7 Data Management Plan, OPERA 2018.