



Integrated Research Programme on Wind Energy

Project acronym: **IRPWIND**
Grant agreement n° 609795
Collaborative project
Start date: 01st March 2014
Duration: 4 years

Plan for the Use and the Dissemination of the Foreground (PUDF) Work Package 4 – Deliverable 4.17

Lead Beneficiary: ECN
Delivery date: 1st of March 2016
Dissemination level: PU



The research leading to these results has received funding from the European Union Seventh Framework Programme under the agreement 609795.

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Document Information

Version	Date	Description			
1	2016-02-29	Initial version			
			Prepared by	Reviewed by	Approved by
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Definitions

PUDF	Plan for Use and Dissemination of the Foreground
IRPWind	Integrated Research Project Wind
EC	European Commission
EERA	European Energy Research Alliance
SP	Sub-programme
JP	Joint Programme
IP	Intellectual Property
IPR	Intellectual Property
TTO	Technology Transfer Office
TTE	Technology Transfer Expert

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Executive Summary

This report aims to provide an overview of the foreground from the IRPWind project specifically and EERA Joint Programme Wind (EERA JP Wind) in general. Technology Transfer Experts (TTE's) and the sub-programme (SP) coordinators have an important role in creating an overview of the exploitable foreground, i.e. of the exploitable results of the ongoing research activities. The overview in turn will help external stakeholders to get access to the required information. This information is either publically available or not. Publically available information can be accessed through websites and other channels, such as conferences and dedicated press.

Restricted data requires an application to access. For example, the foreground owner may ask for a Non-Disclosure Agreement (NDA), a licensing fee or can decide to sell the Intellectual Property (IP)/Technology.

In order to create a single point of access for both data types an online technology transfer platform is initiated; it includes a Sharepoint-like environment that supports the network of TTE's and holds a repository that can showcase the IP and technology developed by the research institutes within the context of EERA JP Wind. This platform will also work as a forum for discussion between the industry and the research community on themes of general interest.

A first version of this platform will be launched in the second quarter of 2016. Involvement of the SP coordinators (especially for the definition of foreground) and TTE's (exploitation of foreground) is essential in rendering this joint effort a success.

The Plan for the Use and Dissemination of the Foreground (PUDF) is considered a living document and will be updated at different stages when more information is provided and when the online platform will start its operations.

1. Introduction

Research progresses that are the result of collaborative efforts between several different partners often involve Intellectual Property Rights (IPR), and this might represent a barrier for further research development as their use need to be considered. There must be a careful consideration of questions such as: which IP does each participant bring into the project (as a background), what IP is generated by the research project itself (foreground) and how is the IP further developed and dealt with after the project has ended (postground)?

Moreover, how can the consortium and each partner in it ensure the foreground is used and disseminated as swiftly as possible during and after the project's life? To be able to answer the above-mentioned questions and to plan the activities that should secure these intentions of dissemination and communication of project results, a Plan for the Use and Dissemination of the Foreground (PUDF) has been developed.

As rightly pointed out by the European IPR Helpdesk [1], “this report then describes the activities that beneficiaries have already carried out during the project implementation and still expect to develop with the purpose of allowing the dissemination and use of the foreground at the end of the project in support of an optimal exploitation. Within this document beneficiaries should also envisage the strategy for the management of intellectual property rights, an essential step for an effective exploitation of foreground.”

And again, “The PUDF may be strategically used by participants for purposes other than simply reporting measures and plans to the EC at the end of the project. Indeed, participants may use the PUDF as a tool for monitoring their strategies for dissemination and exploitation during the course of the project. The PUDF is then taken as a broader management tool, allowing the consortium to implement the strategy during the project, updating it as well as reviewing and aligning it with the progress of the work. In this scenario, participants often submit the updated version of the PUDF in conjunction with all the periodic reports presented or as deliverables during the project.”

To develop the PUDF for the IRPWind project, the various technology transfer offices (TTOs) of the research partners involved have been consulted. The technology transfer experts (TTEs) representing these offices will – or have already - provide(d) the input for section 0 of this document, that deals with exploitation measures. The data provided in section 0 (“Dissemination measures”) will be or has already been gathered by the 7 sub-programme coordinators of EERA JP Wind.

The names and organisations are listed in Appendix B.

2. Dissemination measures

2.1 Plans for dissemination

The IRPWind project has the following communication channels through which news, research results and other relevant information are shared with the public:

Conferences and events

- Annual IRPWind conference
- Annual dissemination events for the industry
- EERA annual congress
- Two in-depth workshops

The internet

- Dedicated website
- Bi-annual newsletter
- Online technology transfer network
- Specific programme identity
- Mailing list
- Social media

Press

- Presentations and publications
- Publication of dedicated articles in specialised press
- Leaflet
- Press releases

Word of mouth

- Network of TTEs
- The mobility plan for researchers (IRPWind WP5)

2.2 Scientific publications

After being peer-reviewed, the articles that are published in scientific publications are made available in the dedicated press. All publications are listed in a comprehensive, living document that is compiled not only for the IRPWind project but also for the EERA Joint Programme Wind as a whole. IRPWind beneficiaries, and EERA JP Wind members will be invited to update this list regularly. This document, will be accessible through the IRPWind website (www.irpwind.eu), under the section dedicated to “knowledge transfer”. At a later stage and once the platform will start being operative this information will be made available through the online technology transfer network (see section 0). Please find the full list of scientific publications in Appendix C.

2.3 Other dissemination activities

IRP Wind partners keep track of all the dissemination activities whose aim is to promote the project from its preliminary findings to more mature results. As for the scientific publications mentioned in the section above, the list of other dissemination efforts will be available both on the IRPWind website. In a later stage, this information will be made available through the online technology transfer network (see section 0). Please find the full list of scientific publications in Appendix D.

2.4 Network of TTEs

As previously mentioned, a network of several Technology Transfer Experts is created under the IRPWind project.. Each TTE will deal with transferring IP or technology to the market after being developed either within the IRPWind framework, in a national project or international collaboration. The vast majority of research institutes in Europe already works with internal TTEs, often accommodated in an ad-hoc Technology Transfer Office (TTO). The amounts of TTEs per institute vary and thus the size of the TTO.

The effectivity of the IP and technology transfer process show large differences between the institutes as well. This gap in effectivity can be largely reduced by exchanging experience among the TTEs of the EERA JP Wind members. Lessons learned will be shared, as well as standardized documents and other information that can support this integration step. Hence, the exploitability of the research results will improve.

The network will be supported by an online technology transfer platform that will, amongst other things, facilitate document exchange. This is explained in more detail in section 0.

The conditions under which information is exchanged and the potential remuneration for using valuable experience is currently being discussed. Other aspects suitable for further discussion are:

- How to make results more appealing to industry?
- The idea of a “mobility exchange scheme with the industry”
- How to overcome hurdles/issues deriving from the joint ownership of a result?
- Joint licensing of results owned by different organization
- Fund raising for result demonstration
- Spin-offs: is it a valuable route for technology transfer in the wind sector?
- Exploitation manager in a collaborative project (in charge of fostering the exploitation of results)
- IP Body in a collaborative project, in charge of solving any IP conflict that may arise within the consortium
- Does the protection of results need to reach the consensus of any party that may have an interest in it? Should the principle “the one that develops, also owns rights and decides” be somehow modified?

The network currently consists of 13 active TTEs out of a total of 24 IRPWind members. The remaining 11 TTE's need to be identified and activated. The challenge lies in the fact that impact is maximized if all members participate in the network. It will therefore be important to prove the added benefit (especially to the larger institutes) to share the aforementioned experience with other European research centres.

3. Exploitation measures

3.1 Plans for exploitation

The sub-programme coordinators, together with the TTE's of their respective institutes have a clear overview of the back- and foreground of the projects they are involved in. Each institute currently has its own plans for exploiting the IP or technology results it owns, such as for example the results of national projects. Sharing experience and lessons learned at the local level will significantly help EERA JP Wind to write a detailed, comprehensive and useful-for-all exploitation plan, which will then form the basis for the PUDFs of other European research projects and beyond.

To start this effort, the TTE's have been requested to provide input in order to create two tables that show an overview of "applications" and "exploitable foreground" respectively. The application status for patents, trademarks, registered designs may give an indication of the foreground's pipeline and its level of advancement. The table of exploitable foreground shows which IP and technology have already passed the application process and are (or will be) in the institute's repository for commercial use.

3.2 Applications

This list is compiled for both the IRPWind project and EERA JP Wind as a whole and will be fed by the IRPWind beneficiaries, followed by all EERA JP Wind members. For the time being the document will be accessible through the IRPWind.eu website, under the "knowledge transfer" section. At a later stage, this information will be made available through the online technology transfer network (see section 0). Please find the full list of scientific publications in Appendix E.

3.3 Exploitable foreground

As mentioned for the 'Applications' list, the 'Exploitable Foreground' one is compiled for IRPWind and EERA JP Wind. All partners and members should contribute to update it.. The document will be accessible through the 'knowledge transfer' section of the IRPWind website, as well as through the online technology transfer network (explained in section 0).

Please find the full list of scientific publications in Appendix F. Per topic that is listed, the owner of the relevant foreground will provide a text that explains its exploitability. As suggested by [2], this text shall elaborate on:

- Its purpose
- How the foreground might be exploited, when and by whom
- IPR exploitable measures taken or intended
- Further research necessary, if any
- Potential/expected impact (quantify where possible)

3.4 Online technology transfer platform

The effort of setting up a network of TTEs (see section 2.4) was broadened after the EERA JP Wind Advisory Board meeting took place; there, the idea of having a “online market place” was discussed. This finally led to the idea of an online technology transfer platform that hosts both the network of TTEs, the “market place” where the industry meets the research community that will also serve as a repository for showcasing IP/Technology.

Figure 1 shows a first attempt to provide the platform (and network) with a structure. The Italian National Agency for New Technology, Energy and sustainable Economic Development, (ENEA) has developed an online repository for EERA, which forms a very usable tool for the online TT platform. The network of TTEs can be set up as a Sharepoint-type of environment that is linked to the repository.

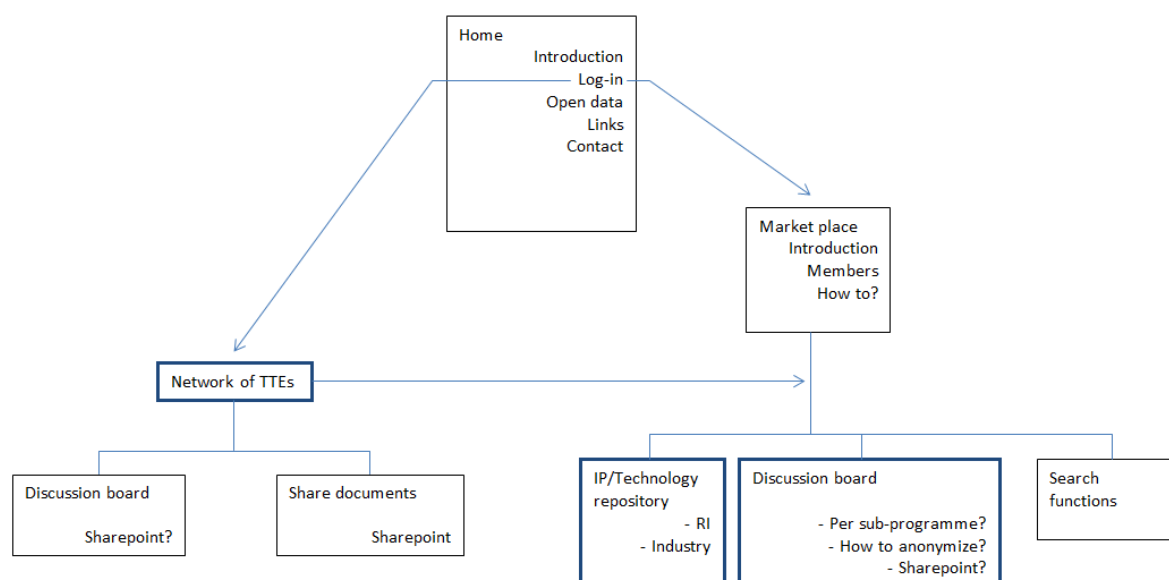


Figure 1. Structure of the online TT platform

This idea was pitched at the Deepwind conference 2016 in Trondheim to a number of TTE’s from the consortium. It is currently presented to the industrial participants of the IRPWind conference 2015 in Amsterdam that took part in the “EERA JP Wind meets the industry”-workshop.

As mentioned above, the advantages of the platform are plenty: on one hand, research community representatives can universally showcase their own IP and technology, while on the other IRPWind and other (national and international) project results can be broadly disseminated (as a “foreground” of research).

As discussed during the “EERA JP Wind and the industry”-workshop at the IRPWind conference in Amsterdam, rendering research results and IPRs so reachable by all stakeholders, will result in helping Small and Medium-sized enterprises in accessing a field that sometimes is reserved to bigger corporations. The platform will thus tackle a very timely issue for the TTE’s and possibly open a section of the market that has so far been hard to cover. A first version of the platform is planned to be online in Q2 of 2016.

4. Access conditions

We can distinguish between 2 types of information streams: public and non-public. The first one is accessible by any stakeholder and can be used as long as reference is made to the source(s).

A fee might still be applicable before access to the research results is granted. For example when the information is presented in a scientific article in dedicated press access requires a paid subscription. Other examples of publicly accessible information coming from European wind research institutes:

- Publications made available through reports (download per website)
- Presentation on conferences (often downloadable through conference site)
- Posters at conferences
- Newsletters to stakeholders
- Website of a research project (either national or European)
- LinkedIn through project group or EERA JP Wind group

The information request, if required, will always be granted for these cases. Generally, institutes keep track of the amount of downloads and ask the requesting party to register for analytical purposes.

The non-public information include research results, IP or technology that is not freely accessible and requires either an NDA, formal data request or licensing fee to use.

Examples of non-public data are:

- Background of a research or organization
- Foreground of a research project that includes commercial partners
- Results from national projects that include and EERA JP Wind partner and a commercial partner

The access conditions for this type of information depends on the status. Accessing information that has a patent pending requires different measures than information that can be provided under a licensing fee. On top of this, access conditions vary per institute and per profile of the requesting party, too.

Within the network of TTE's a general overview will be made on the access conditions that should accompany the various foreground types. This process will be completed in 2016.

5. Conclusions

To be able to provide a clear overview of the IRP Wind and EERA JP Wind foreground that can be publicly used and disseminated, IRPWind will create a set of comprehensive lists per topic, that will be regularly updated by EERA JP Wind members and project partners. The development of these lists as presented in the Appendices will form the basic input for the Key Performance Indicators that measure the success of EERA JP Wind or specific projects.

The third year of the IRPWind project (March 2016 – March 2017), will therefore require an increase of communication activities not only within the network of TTE's, but also from the sub-programme coordinators. The EERA JP Wind's management board meetings, the IRPWind conference and some dedicated workshops will keep this topic on the agenda. The discussion on access conditions will be part of the agenda as well.

Developing the online technology transfer platform will represent an incentive for all EERA JP Wind members to once again focus on exploiting the foreground or making the foreground exploitable. The platform gives all TTE's the opportunity to refer to an exhaustive library of IP and developed technology. The increased attention from industry can be the required spark that lights the foreground fire. It will therefore be essential to inform the industrial stakeholders about the idea, the progress and their role. The feedback from the stakeholders will be included in future versions of the platform.

In parallel, the creation of a concrete exploitation plan for IRPWind is foreseen; this plan will input the PUDF and can afterwards be used for other EU and national projects.

The PUDF will be continuously updated and made available through the IRPWind (Sharepoint) site.

Appendix A. References

1. https://www.iprhelpdesk.eu/sites/default/files/newsdocuments/PUDF_0.pdf
2. http://ec.europa.eu/research/participants/data/ref/fp7/89692/project-reporting_en.pdf, page 24 to 28

Appendix B. TTEs and SP-Coordinators

Name	Role	Organisation
Sjoerd Wittkampf	TTE	ECN
Anders Lian	TTE	SINTEF/MARINTEK
Suzanne Øverlie	TTE	NTNU
German Perez Moran	TTE	TECNALIA
Kenneth Thomsen	TTE	DTU
Kurt Rohrig	TTE	IWES FRAUNHOFER
Lars Stengaard	TTE	DTU
Maria João Marcelo Curto	TTE	LNEG
Manel Sanmartí	TTE	IREC
Rogier Nijssen	TTE	WMC
Salvatore Amico Roxas	TTE	ENEA
Alberto Silvani	TTE	CNR
Arnoldus van Wingerde	TTE	IWES FRAUNHOFER
Geert-Jan Bleumink	TTE	VTT
Leonardo Subias	TTE	CIRCE
Peter Rasmussen	TTE	AAU
Maria Teresa Gutierrez García	TTE	CIEMAT
Hans Ejsing Jørgensen	SP1 Coordinator	DTU
Peter Eecen	SP2 Coordinator	ECN
John Olav Tande	SP3 Coordinator	SINTEF
Kurt Rohrig	SP4 Coordinator	IWES FRAUNHOFER
Antonio Ugarte	SP5 Coordinator	CENER
Denja Lekou	SP6 Coordinator	CRES
Poul Erik Morthorst	SP7 Coordinator	DTU

Appendix C. Scientific publications

List of scientific (peer reviewed) publications, starting with the most important ones											
No.	Project/ Institute	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers (if available)	Is/Will open access provided to this publication?
1	ECN	Economical reactive power provision for an offshore transmission technology	Soleimanzadeh, M.	Renewable Power Generation		IET	Naples	2014	p. 1-6		Yes
2	TU Delft	Wake losses optimization of offshore wind farms with moveable floating wind turbines	Rodrigues, S.F.	Energy Conversion and Management	Volume 89, 1 Jan 2015	Elsevier		2015	P. 933-941		Yes
3	NORCOWE	Proof of concept for turbulence measurements with the RPAS SUMO during the BLAST campaign	Reuder, J.	Atmospheric Measurement Techniques	1-Feb-16	EGU		2015	p.1-26		Yes
4											

Appendix D. Other dissemination activities

List of dissemination activities								
No.	Type of activities	Main leader	Title	Date/Period	Place	Type of Audience	Size of Audience	Countries addressed
1	Workshops	REC	RT1: Kick-off and workshop on component and system cost development and related research needs	mei-15	Barcelona	Scientific community	14	EU
2	Workshops	DTU	Workshop on public acceptance issues of onshore wind energy	mrt-15	Roskilde	Scientific community	30	EU
3	Conferences	NTNU	Session at EERA DeepWind conference	feb-15	Trondheim	Scientific community		EU
4	Workshops	DTU/ECN	Workshop on future policy support options for offshore wind energy in Europe	sep-15	Amsterdam	Scientific community	30	EU
5	Workshops	DTU	SP meeting	sep-15	Amsterdam	Scientific community	30	EU
6	Publications	DTU	White book on social science approaches of wind energy deployment	jan-16		Scientific community		EU
7	Publications	IREC	Review document: State of the art of existing tools for wind energy economic assessment	okt-16		Scientific community		EU
8	Publications	ECN, Soleimanzadeh, M.	Optimizing offshore wind farms electrical system design and reactive power provision	Mar-2015	Website	Scientific community		Global
9	Workshops	ECN, van Roermund, M.	Online technology transfer network for wind energy research	jan-16	Trondheim	Scientific community	30	EU
10	Posters	NORCOWE	Proof of concept for wind turbine wake investigations with the RPAS SUMO	jan-16	Trondheim	Scientific community	200	EU
11	Presentations	ECN, Schepers, G.	Latest results from the EU project AVATAR: How to model large wind turbines aerodynamically?	jan-16	Trondheim	Scientific community	100	EU
12	Presentations	ECN, Schepers, G.	A parametric investigation into the effect of low induction rotor (LIR) wind turbines on the LCoE of a 1GW offshore wind farm in a North Sea wind climate	jan-16	Trondheim	Scientific community	100	EU
13								

Appendix E. Applications

List of applications for patents, trademarks, registered designs etc.						
No.	Type of IP rights	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Application reference(s) (e.g. EP123456)	Subject or title of application	Applicant (s) (as on the application)
1						
2						
3						
4						
5						
6						
7						

Appendix F. Exploitable foreground

List of exploitable foreground									
No.	Type of Exploitable Foreground	Description of exploitable foreground	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Exploitable product(s) or measure(s)	Sector(s) of application	Timetable, commercial or any other use	Patents or other IPR exploitation (licences)	Owner & Other Beneficiary(s) Involved
1						Pick from list			
2						Pick from list			
3						Pick from list			
4						Pick from list			
5						Pick from list			
6						Pick from list			