



PROJECT DELIVERABLE REPORT

OPTIMUS

Demonstration of Methods and Tools for the Optimisation of Operational Reliability of Large-Scale Industrial Wind Turbines

Collaborative project

Deliverable number: D6.3

Deliverable title: Organisation of Workshops

Due date of deliverable: 31/07/2016

Actual submission date: 30/09/2016

Authors: Dr Mayorkinos Papaelias (University of Birmingham), Professor Fausto Pedro Garcia Marquez (Universidad de Castilla-La Mancha), Professor Zi-Qiang Lang (University of Sheffield), Dr Alexandros Karyotakis (TERNA Energy), Paul McKeever, Amanda Graham (ORE Catapult)

Dissemination Level (PU/PP/RE/CO): Public (PU)

Project coordinator: Paul McKeever, ORE Catapult

Tel: +44 (0) 1670 357613

Fax: +44 (0) 1670 359666

E-mail: paul.mckeever@ore.catapult.org.uk

Project website address: www.optimusfp7.eu

Table of Contents

1	Executive Summary	4
2	Introduction.....	5
3	List of Prospective Advisory Group Members	7
4	Conclusions.....	8

Tables

Table 1: List of workshops, seminar and related events in which OPTIMUS members were involved.....	5
Table 2: List of Prospective Advisory Group Members	7

1 Executive Summary

As part of the strong commitment of the consortium to disseminate the key findings and outcomes of the OPTIMUS project to the wider scientific and industrial community, consortium members participated or organised a number of workshop-related events during the project. Participation in other workshops or organisation of additional workshops has also been planned after the end of the project. The activities in which the consortium members were involved, have been of varying intensity and targeting various types of audiences such as undergraduate and postgraduate students, academics, and professional members from the industry with technical and/or managerial background. In addition, the consortium members were proactive throughout the project in inviting colleagues from academia and industry to join an Advisory Group. This activity will continue beyond the end of the project as dissemination will continue strongly.

The Advisory Group members have been consulted individually during the course of the project. However, a general workshop involving members of the Advisory Group will take place in early 2017. The event is organised by ORE Catapult and will be adjoined to a major industry event to maximise attendance, e.g. Scottish Renewables Annual Conference & Exhibition. During the project a number of special sessions were organised by Dr Mayorkinos Papaelias of the University of Birmingham in the form of special sessions at the CM conferences of 2014 and 2015. These events were open for participation to representatives from the consortium partners, Advisory Group Members and colleagues from the rest of the scientific community (academic and non-academic). Also, the Universities of Birmingham, Sheffield and UCLM carried out a number of seminars for undergraduate and postgraduate students. Workshops were also organised on annual basis in Daegu, Korea in collaboration with Kyungpook National University. At these events hosted by Professor Dongik Lee (KNU), Professor Zi-Qiang Lang (University of Sheffield - 2013), Dr Mayorkinos Papaelias (University of Birmingham - 2014) and Professor Fausto Pedro Garcia Marquez (Universidad de Castilla-La Mancha - 2015) presented the progress of the OPTIMUS project to a wide audience of postgraduate and academic staff members from KNU.

Apart from the workshops organised directly by the consortium and KNU, the University of Birmingham and TERNA Energy also took the opportunity of presenting some of the key findings of the OPTIMUS project to industrial events where they were invited as guest speakers. Participation to such events is expected to continue beyond the lifetime of the project. For example Dr Papaelias (UOB) is due to participate to the Wind Power Big Data and IoT, held in Berlin, Germany, 19-20th of October 2016. The event which is organised by BIS has attracted participation from industrial companies, research institutes and higher education establishments.

2 Introduction

The consortium participants have been proactive in organising seminars and workshops as well as participating in relevant events as guest speakers organised by other organisations. This has been a significant opportunity for disseminating knowledge generated within OPTIMUS within various types of context to the scientific and industrial community active in the field of wind energy production.

Despite significant progress and investment in wind energy, wind turbines are still growing in size and are being improved in multiple areas. This means technical know-how is experiencing a continuously dynamic growth. Therefore, the constant interaction with members outside the OPTIMUS consortium in any form is of particular benefit to the entire wind energy industry.

Table 1 below is an indicative list of activities in which OPTIMUS members were involved during the past 3 years. Some of the events have been organised by other organisations in which one or more OPTIMUS consortium members participated as invited guest speakers giving them the opportunity to present and discuss some of the key findings generated from this project.

Table 1: List of workshops, seminars and related events in which OPTIMUS members were involved

Event Details	International Outreach Yes/No	Number of participants	Consortium Members involved
Invited lecture given by Professor Zi-Qiang Lang at Kyungpook National University, 2013 (Event organised by Professor Dongik Lee, KNU)	Yes	40	USFD
Invited lecture to 3 rd year undergraduate Engineering students given by Dr Mayorkinos Papaelias at the University of Birmingham, November 2013	No	75	UOB
Invited lecture given by Dr Mayorkinos Papaelias at Kyungpook National University, April 2014 (Event organised by Professor Dongik Lee, KNU)	Yes	40	UOB
Invited lecture to postgraduate Master's students by Dr Mayorkinos Papaelias at the University of Birmingham, June 2014	No	7	UOB
OPTIMUS session chaired by Dr Mayorkinos Papaelias at CM 2014 held in Manchester, UK, June 2014 (Overall CM Conference Event organised by BINDT and ISCM)	Yes	150 (academic and industrial)	UOB, USFD, UCLM, TERNA Energy, ORE Catapult, INGETEAM, INDRA, D2S

Invited presentation by Dr Mayorkinos Papaalias and Dr Alexandros Karyotakis at Wind Operator Congress Europe 2014, October 2014, (Event organised by Green Power Conferences)	Yes	150	UOB, TERNA Energy
Invited lecture given by Professor Fausto Pedro Garcia Marquez at Kyungpook National University, April 2015 (Event organised by Professor Dongik Lee, KNU)	Yes	40	UCLM
Invited lecture to postgraduate Master's students by Dr Mayorkinos Papaalias at the University of Birmingham, June 2015	No	7	UOB
OPTIMUS session chaired by Dr Mayorkinos Papaalias at CM 2015 held in Oxford, UK, June 2015 (Overall CM Conference Event organised by BINDT and ISCM)	Yes	150	UOB, USFD, UCLM, INGETEAM, INDRA, ORE Catapult
Invited lecture to 3 rd year undergraduate Engineering students given by Dr Mayorkinos Papaalias at the University of Birmingham, November 2015	No	75	UOB
Invited presentation by Dr Mayorkinos Papaalias and Dr Alexandros Karyotakis at Wind Operator Congress Europe 2015, December 2015, London, UK, (Event organised by Green Power Conferences)	Yes	150	UOB, TERNA ENERGY
Invited lecture to postgraduate Master's students by Dr Mayorkinos Papaalias at the University of Birmingham, June 2016	No	7	UOB
Workshop at UCLM with CUNEF, July 2016	No	10	UCLM, UOB
Invited presentation at Wind Power Big Data and IoT, Berlin, Germany, October 2016 (Event organised by BIS)	Yes	100	UOB
General workshop in Scotland organised by ORE Catapult	Yes	Estimated 30	ORE Catapult, INGETEAM, Romax and USFD

3 List of Prospective Advisory Group Members

The comprehensive list of Prospective Advisory Group Members invited or to be invited in the future as part of the wider dissemination strategy of the OPTIMUS consortium is provided next:

Table 2: List of Prospective Advisory Group Members

Name	Company	Location
Professor Dongik Lee	Kyungpook National University (also Associate Member of the Consortium)	Daegu, Korea
Dr Jesus Pinar Perez	CUNEF	Madrid, Spain
Dr Raul Ruiz de la Hermosa Gonzalez-Carrato	CUNEF	Madrid, Spain
Professor Diego	CUNEF	Madrid, Spain
Professor Vassilis Kappatos	University of Southern Denmark	Odense, Denmark
Professor Tat-Hean Gan	National Structural Integrity Research Centre	Cambridge, UK
Professor Aamir Khalid	TWI Ltd.	Cambridge, UK
Dr Wenxian Yang	Newcastle University	Newcastle, UK
Professor Guy-Yun Tian	Newcastle University	Newcastle, UK
Dr Long Zhang	University of Manchester	Manchester, UK
Professor Len Gelman	International Society of Condition Monitoring (President)	Cardiff, UK
Dr Cem Selcuk	Brunel Innovation Centre	Cambridge, UK
Dr Slim Soua	TWI Ltd	Cambridge, UK
Professor Bucknall	UCL	UK
Thomas Stalin	Vattenfall	Sweden
Sami Barbouchi/Ellen-Mary Pavegeau	EDF Renewables	UK
Sally Shenton	Generating Better	UK
David Moss	Moventas	UK

4 Conclusions

This deliverable report has summarised in brief the workshop and related events activities in which the OPTIMUS consortium members were involved. Further activities will continue in this area beyond the lifetime of the project. A general workshop event is organised by ORE Catapult in which various consortium and Advisory Group Members will be invited to participate. The event will take place in London UK, October 2016. A non-exhaustive list of prospective participants to the Advisory Group Member workshop (already invited or to be invited) has also been outlined.

OPTIMUS Acknowledgement

OPTIMUS (Demonstration of methods and tools for optimisation of operational reliability of large-scale industrial wind turbines) is a cooperation between the following organisations: ORE Catapult, INGETEAM Service, The University of Birmingham, Instituto de Soldadura E Qualidade, INDRA Sistemas, Feldman Enterprises, Universidad de Castilla-La Mancha, Dynamics, Structures and Systems International, The University of Sheffield, Romax Technology, TERNA Energy, ACCIONA ENERGIA and ENGITEC. The Project is managed by ORE Catapult and is a partly funded project by the EC under the FP7 framework programme. Grant Agreement Number: **322430**