

Direct Normal Irradiance Nowcasting methods for optimised operation of concentrating solar technologies (DNICast)

Presenting the Final Results of the FP7 Project

DNICast Event	Date	Time	Venue	Registration
Dissemination Workshop	Tuesday, September 5 th , 2017	18:00 - 20:00	Room: C 166, Henry Grattan Building, DCU Campus in Glasnevin	There is NO registration fee. However, registration is mandatory through the following form
DNICast Talks at EMS	Wednesday, September 6 th , 2017	11:15 - 13:00	Business School 1	Registration to the event can be done through the EMS dedicated registration platform: http://www.ems2017.eu/registration.html

The FP7 DNICast project aims to advance current state-of-the-art of concentrating solar technologies by reducing uncertainty of short-term DNI forecasts and thereby contributing to increase the overall plant efficiency. Since October 2013, a multidisciplinary consortium of meteorological scientists, solar engineers and energy analysts, has investigated different methods for DNI nowcasting, with the aim to identify main advantages and drawbacks and suggest possible combinations depending on the user requirements. A full coupling of all methods is out of the scope of the project, but an approach on how to merge different information sources is intended. A portfolio of complementary methods for the nowcasting of the DNI and their combinations in order to cover the complete nowcasting horizon from now to 6 hours are the expected results of DNICast.

Project intermediate results have been extensively discussed with a large number of experts, including the members of the Advisory Board, recipients of the project newsletter and several other experts gathered through end-user workshops. Indeed, one of the main project aims is to exchange with the potential end-users of DNICast results, including industry.

These two events constitute the last major dissemination activities within the framework of the DNICast project, and aim at presenting and discussing the overall project results.

The focus is to:

- disseminate the results for the benefit of the industry
- present and discuss lessons learnt and areas for further improvement
- move forward to make sure that the results are of use and can be further exploited by the research and industry communities

Organization Team:

- Abdelghani El Gharras, Emanuela Menichetti (OME) and Andreas Kazantzidis (UNIPATRAS)
- Marion Schroedter-Homscheidt and Stefan Wilbert (DLR)

18:00 – 20:00

**Tuesday, September 5th, 2017, DNICast Dissemination Workshop,
Chairperson: Marion Schroedter-Homscheidt**

	Introduction to DNICast and Objectives of the Workshop	Emanuela Menichetti
18:00 – 18:10	Requirements and accuracy needs for Concentrating Solar Technologies	Stefan Wilbert
18:10 – 18:30	Presentation of the investigated nowcasting methods: <ul style="list-style-type: none"> - With all sky cameras and its validation - Based on satellite images - Using NWP models 	Heiner Körnich, Andreas Kazantzidis, Philippe Blanc, Stefan Wilbert, Marion Schroedter-Homscheidt, Jan Remund, Tomas Landelius
18:30 – 18:40	Validation and uncertainty assessment of the DNICast nowcasting method	Jean Dubranna, Philippe Blanc, Yves-Marie Saint-Drenan
18:40 – 18:50	Combination of DNICast predictions: Examples of combination methodologies and improvements achieved	Martín Gaston
18:50 – 19:00	Assessment of the effect of DNI nowcasting on the yield of CST plants	Stefan Wilbert
19:00 – 19:10	A web demonstrator for the DNICast results	Carsten Hoyer-Klick
19:10 – 19:20	Integration of DNICast methods in CSP plants	Martín Gaston

19:20 – 20:00

COCKTAIL RECEPTION

11:15 – 13:00

**Wednesday, September 6th, 2017, DNICast Talks at EMS 2017,
Chairperson: Lucien Wald**

11:15 – 11:30	Shadow camera system for the validation of nowcasted plant-size irradiance maps	Pascal Kuhn et al.
11:30 – 11:45	Validation of DNI from Meteosat Second Generation	Laurent Vuilleumier et al.
11:45 – 12:00	Difference in the performance of satellite based DNI nowcasts in complex and flat terrain	Stefan C. Müller et al.
12:00 – 12:15	Data assimilation for short-range solar radiation forecasts	Heiner Körnich et al.
12:15 – 12:30	Satellite-based DNI nowcasting based on a sectoral atmospheric motion approach	Marion Schroedter-Homscheidt et al.
12:30 – 12:45	Estimation of cloud coverage/ type and aerosol optical depth with all-sky imagers at Plataforma Solar de Almeria, Spain	Andreas Kazantzidis et al.
12:45 – 13:00	Optimized DNI forecast using combinations of nowcasting methods from the DNICast project	Martín Gaston et al.

13:00

END OF DNICAST SESSION & LUNCH BREAK