

Survey of Correction Techniques for Remote Sensing Devices in Complex Flow

Andrew Hastings-Black
Paul Mazoyer
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Task 32 Webinar

08 December 2020

Moderator: Andy Clifton


Can you hear me?

Please raise your hand

Providing Nonverbal Feedback During Meetings (Attendees)

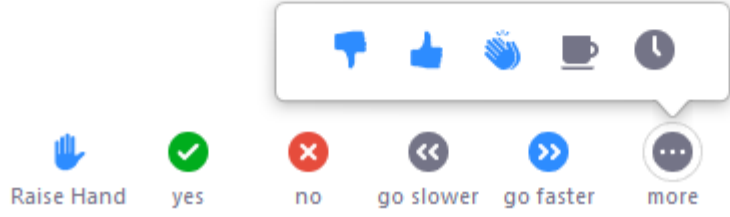
To provide nonverbal feedback to the host of the meeting:

1. Join a Zoom meeting as a participant.
2. Click the **Participants** button.



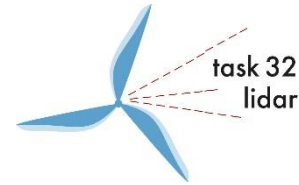
3. Click one of the icons to provide feedback to the host. Click the icon again to remove it.

Note: You can only have one icon active at a time.



[from support.zoom.us]

Webinar Schedule

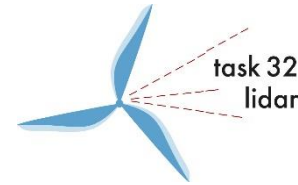


Dr. Andrew Clifton
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01	Andy Clifton	Introducing IEA Wind Task 32
05	Andrew Hastings-Black	Survey of Correction Techniques for Remote Sensing Devices in Complex Flow
30	Q&A	
55	Close	

What is IEA Wind Task 32?



Task 32 was founded in 2011 as an international community to identify and mitigate the barriers to the adoption of wind lidar for wind energy applications.

Our collaborative R&D is targeted at the community's needs:

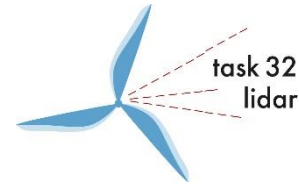
? *How can we use lidar to measure the conditions where we build wind turbines?*

? *How can we use lidar to better operate wind turbines and plants?*

? *How can we use lidar for turbine & plant performance verification?*

? *How can we collaborate on hardware and software?*

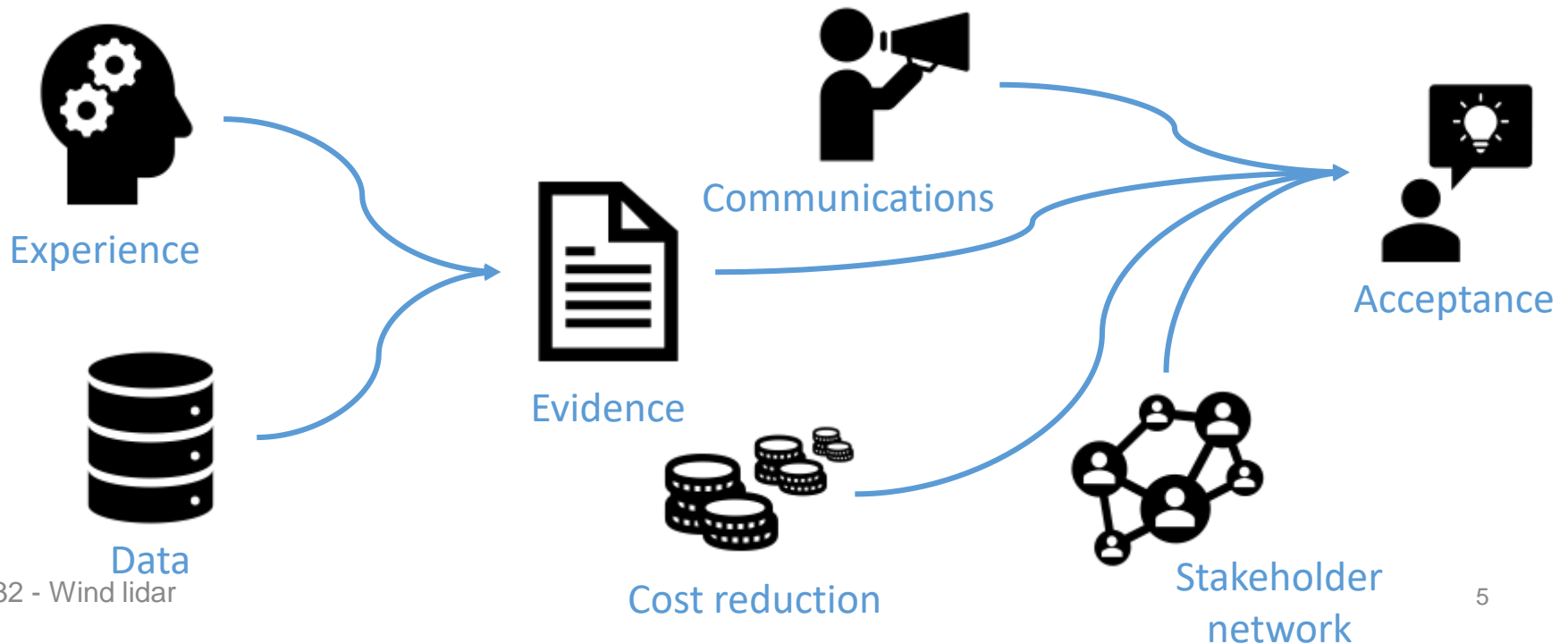
Task 32 - the wind lidar community



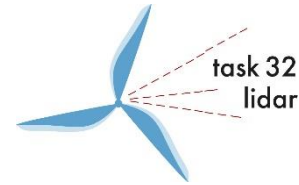
Our goal: Identify and mitigate the barriers to adoption of wind lidar for wind energy application

Our tools: community engagement & involvement

The outcome: increased *acceptance* of wind lidar



Why do we need a Lidar task?



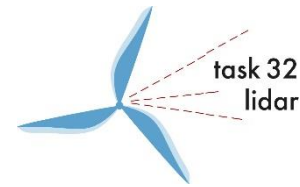
Masts just don't work anymore.

World's tallest turbines in Gaildorf, DE

- 178m hub
- 246m tip

Image © A. Clifton 2018

Why do we need a Lidar task?



ws.com/wind/floating-lidar-install-launches-giant-korea-offshore-wind-project/2-1-618255

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Titan Lidar units installed off Korea by GIG for 1.4GW Ulsan floating wind project Photo: GIG

Floating Lidar install launches giant Korea offshore wind project

Green Investment Group deploys nation's flagship unit at 1.4GW deepwater site off Ulsan

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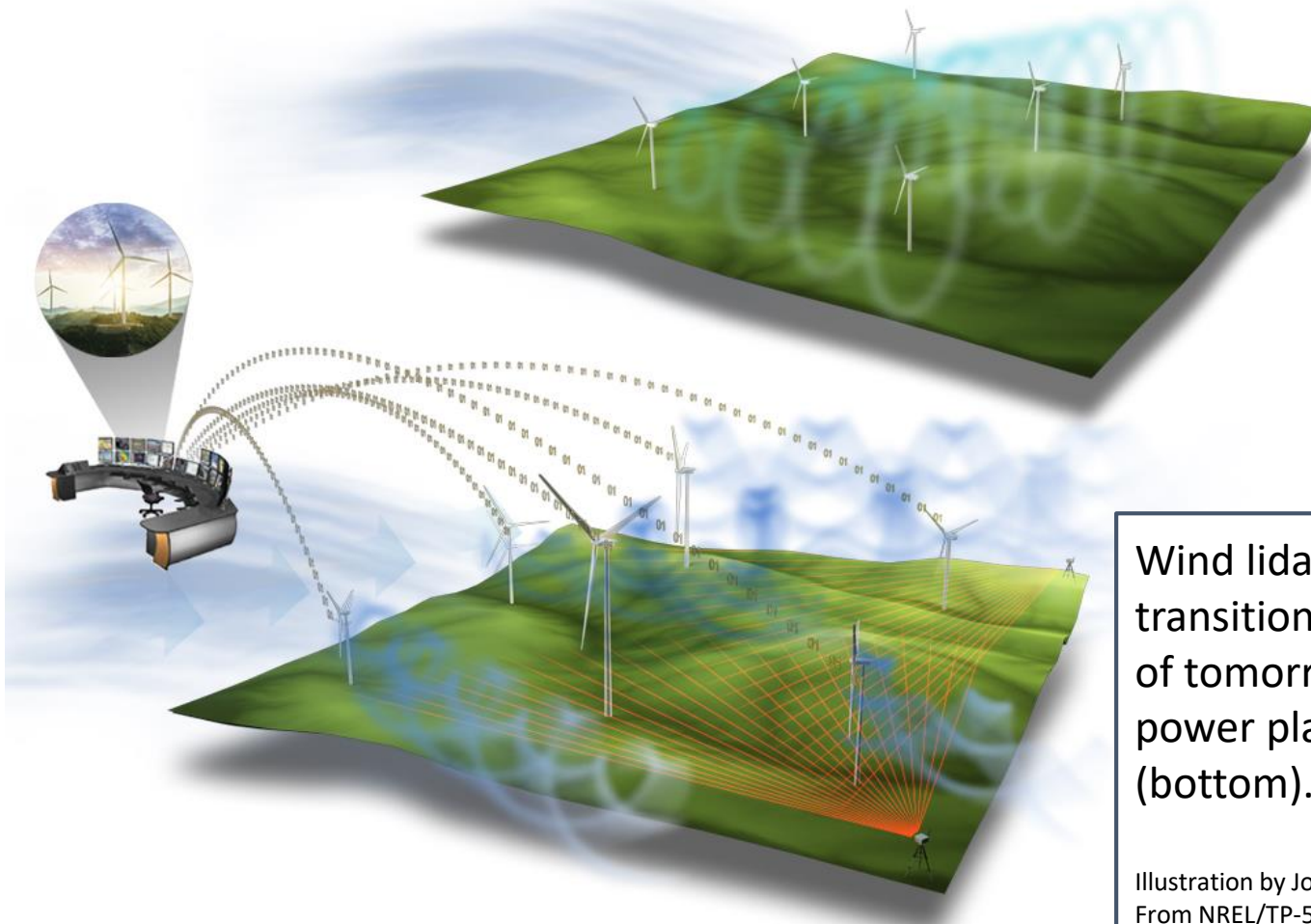
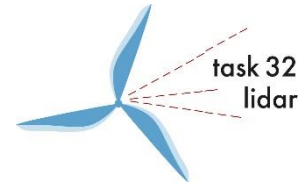
10 June 2019 12:09 GMT UPDATED 10 June 2019 17:07 GMT
By Dariusz Sniekus in London

Macquarie-owned Green Investment Group (GIG) has installed Korea's maiden floating

Floating wind lidar is a key enabler for offshore wind

Image from <https://www.rechargenews.com/>, 10 June 2019

Why do we need a Lidar task?



Wind lidar will enable the transition from the wind plant of tomorrow (top) to the wind power plant of the future (bottom).

Illustration by Josh Bauer, NREL.
From NREL/TP-5000-68123 (2017)

Our network

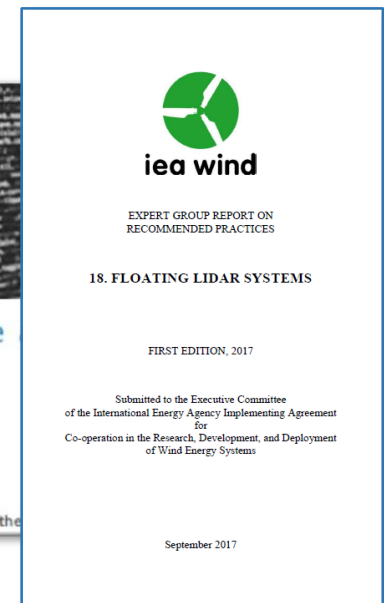
- Regular events and lots of ways to reach each other

Technology transfer

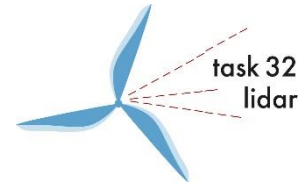
- Bring together researchers with end users

Up-to-date knowledge

- White papers, annual meetings, recommended practices, newsletters, workshops, webinars, ...



Get in touch with the Task



Task 32 Operating Agents



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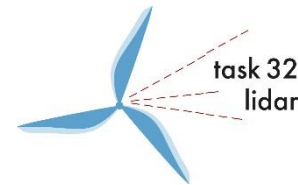
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The IEA Wind TCP agreement, also known as the Implementing Agreement for Co-operation in the Research, Development, and Deployment of Wind Energy Systems, functions within a framework created by the International Energy Agency (IEA). Views, findings, and publications of IEA Wind do not necessarily represent the views or policies of the IEA Secretariat or of all its individual member countries.

Cover: Turbines at the National Renewable Energy Laboratory's National Wind Technology Center, Colorado , USA. (Credit: U. Stuttgart)

Survey of Correction Techniques for Remote Sensing Devices in Complex Flow



Andrew Hastings-Black
(Vaisala)



Paul Mazoyer
(Vaisala)



Scott Wylie
(ZX Lidars)

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Note: the material presented here summarizes lots of experience. If you want to use it, please work with the presenters, your vendors, your service providers, and others to see how it could be applied to your situation. Please be aware that other solutions also exist.