

A photograph of an offshore wind farm at sea. The sun is shining brightly in the sky, creating a lens flare effect. Several wind turbines are visible, with the largest one in the foreground on the right. The water is blue and slightly choppy.

Task 52 “Large-Scale Deployment of Wind Lidar”

General Meeting 2023 – Day 1

Julia Gottschall – *Fraunhofer IWES*, Operating Agent [OA] / Task Manager
David Schlipf – *Hochschule Flensburg*, Task Manager

13-14 June 2023 (online)

Agenda – Day 1

- < 14:00 **Welcome and introduction from Operating Agent**
- < 14:10 **What’s new in the world of wind lidar**
 - Summary and review of WESC mini-symposia
 - Summary and review of Task 52 Lunch Seminar series
- < 14:45 **Working group updates (session #1)**
 - Andy Oldroyd: “Scanning Lidar Offshore”
 - Sara Koller: “Cold Climate”
- < 15:15 ***Coffee / tea break***
- < 15:25 **Working group updates (session #2)**
 - Andy Clifton: “Digitalization”
 - Jakob von Eisenhart Rothe: “Turbulence Intensity”
- < 15:55 **Working group updates – breakout rooms for Q&A**
- < 16:25 **What’s new in the wind lidar industry**
 - Rafael Tavares: “Assessing the performance of eight commercial lidars”
 - Discussion with technology providers
- < 16:50 **Wrap-up, outlook to Day 2**

<https://iea-wind.org/task52/>

Technology Collaboration Programme
by IEA



[IEA Wind Home](#)

[Task 52](#)

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[Work Plan and Deliverables](#)

[Events](#)

IEA Wind TCP Task 52

Large-Scale Deployment of Wind Lidar



Kick-off → May 2022

This meeting → General Meeting after year 1

Total duration: 4 years



Strategy → Objectives of IEA Wind Task 52 ('Lidar Task')

Mission

Our members work together on research to **make wind lidar the best and preferred wind measurement tool for wind energy applications.**

Vision

Using wind lidar will be easy. It will bring advantages and opportunities that **enable the (large-scale) deployment of wind energy.**

Values

Innovation, inclusion, diversity, cooperation, and openness.

- **Support the large-scale deployment of wind lidar** ... by addressing key themes and achieving relevant deliverables
- **Integrating both industry and academia** for most innovative solutions and application-oriented training of young researchers
- **Strong collaboration with other Tasks** to share our knowledge with other applications within the industry

Introduction of Task 52 work programme

Four themes → (currently) seven working groups .. working on one deliverable each

	Theme	Working groups (active)
# 1	<i>Universal inflow characterisation</i>	(#1) Turbulence Intensity (TI) by Lidar (#2) Lidar Assisted Control (LAC)
# 2	<i>Replacing met masts</i>	(#3) Lidar in Complex Terrain (#4) Lidar in Cold Climate
# 3	<i>Connecting wind lidar</i>	(#5) Digitalization (#7) Lidar Ontology
# 4	<i>Accelerating offshore wind deployment</i>	(#6) Scanning Lidar Offshore

Check our website <https://iea-wind.org/task52/> to find out how to join the individual working groups.

Introduction of Task 52 work programme

No.	Deliverable	Lead Organization	Month Due
M1-5	General Meetings (public, online) incl. Kick-off and Final Meeting → Minutes published on Zenodo	OA	1, 13, 25, 37, 48
D1-4	Annual progress reports (to ExCo)	OA	As requested
D5.a-g	Bi-annual updates (newsletters)	OA	6, 12, 18, 24, 30, 36, 42, 48
D-1.1 - D-4.2	See below – one working group (WG) per deliverable	WG lead + OA	See below

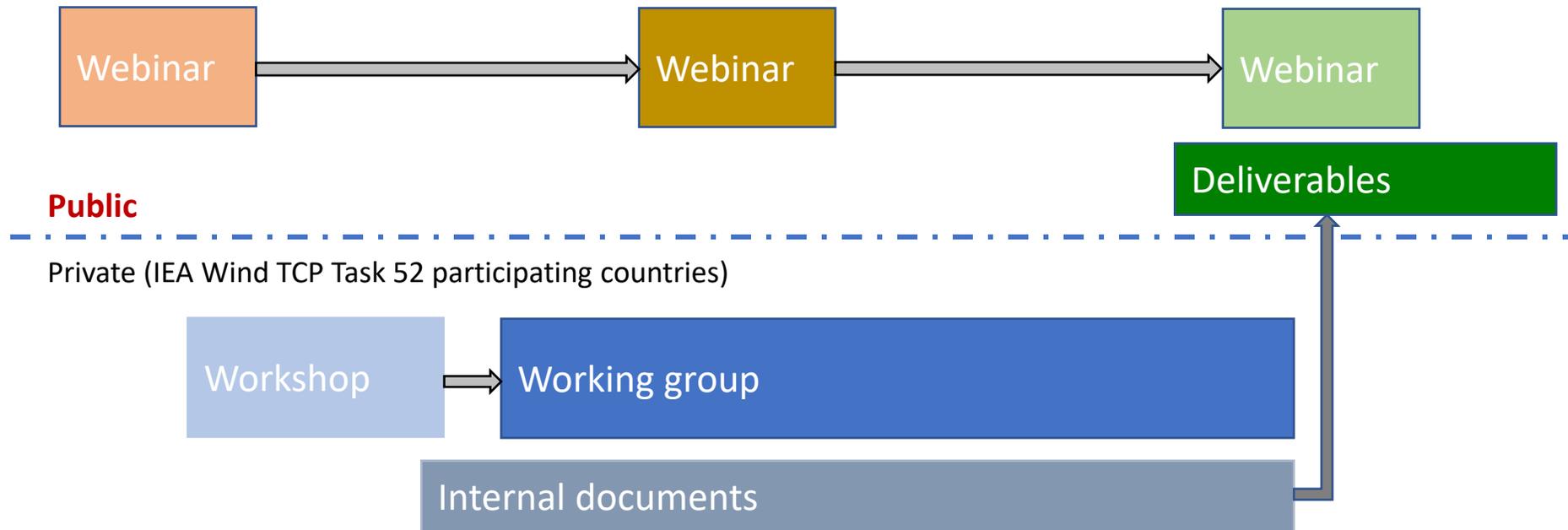
	Year 1				Year 2				Year 3				Year 4			
	Q1	Q2	Q3	Q4												
General Meetings incl. kick-off and final Meeting	M1				M2				M3				M4			M5
D1, D2, D3, D4: Annual progress reports		D1				D2				D3				D4		
D5.a-g: Bi-annual newsletters			.a		.b		.c		.d		.e		.f		.g	
Theme 1-4 deliverables (detailed schedule to be defined as part of Task Work Plan)																



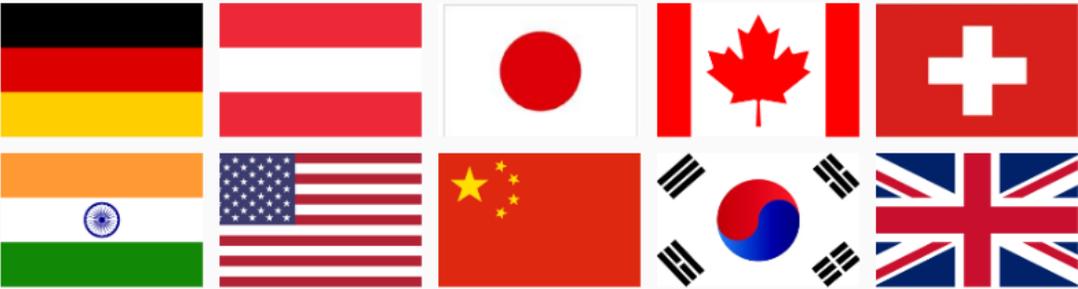
Introduction of Task 52 work programme

Task format

Forming → Storming → Norming → Performing .. of Task 52 Working groups:



Task 52 Participants (as of May 2023):



Who Can Participate in Task 52?

To participate in the ("private", i.e., non-public) research activities of Task 52, you must reside in a country that participates in the IEA Wind TCP Implementing Agreement AND has agreed by official letter to participate in Task 52. The participating member country of the IEA Wind TCP must designate a lead institution that agrees to the obligations of Task participation (incl. pays the annual fee).

Active researchers (performing part of the work plan) benefit from meetings and professional exchange during the term of the Task.. The value of the research performed is typically many times the cost of the country participation fee or the labor contributed to carrying out the work plan.

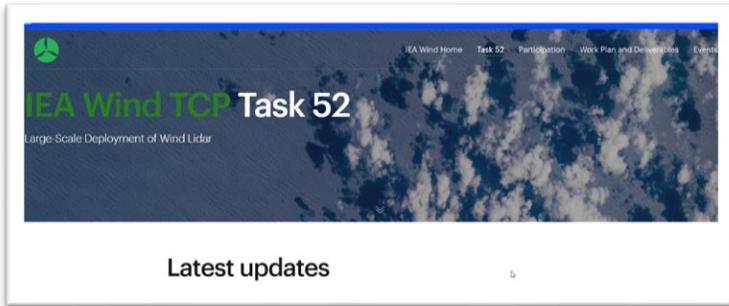
Note that there are also public activities related to Task 52 which are not restricted to participants.

For more information, contact the Operating Agent, IEAWind.Task52@iwes.fraunhofer.de, or the [IEA Wind TCP Secretariat](#).

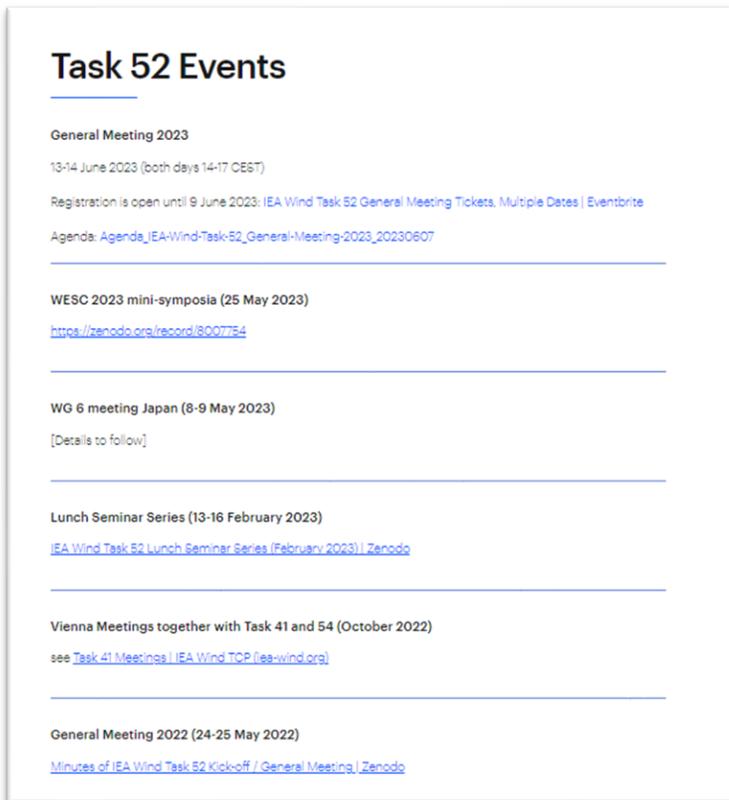
<https://iea-wind.org/task52/participation/>



Join our Task 52 community ...



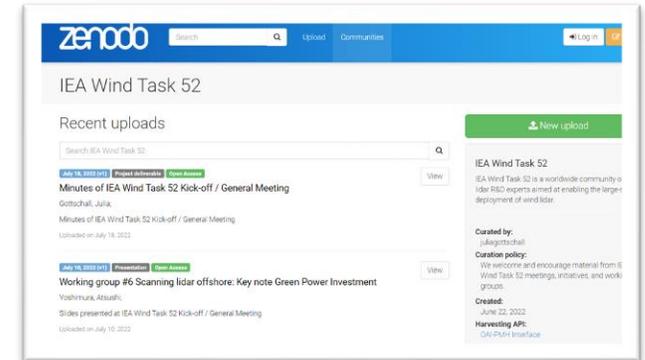
Our website:
<https://iea-wind.org/task52/>



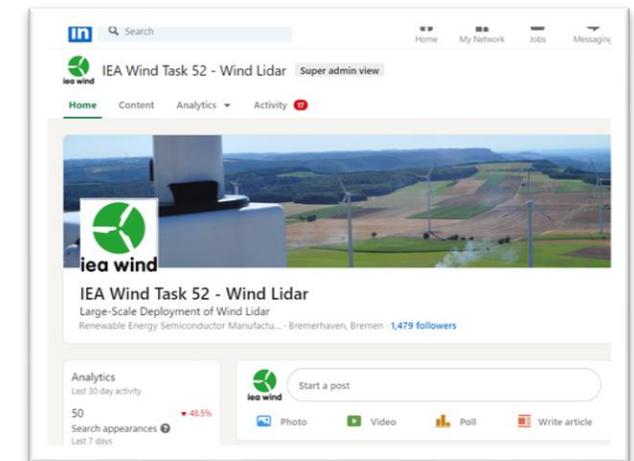
Public events with typically 100+ participants + “private” workshops

1,730 (Stand: June 2023) followers on LinkedIn
[\(https://www.linkedin.com/showcase/4037465/\)](https://www.linkedin.com/showcase/4037465/)

Mailing list for regular newsletter (every six months) and event invitations – to be added (and for all further requests) send e-mail to IEAWind.Task52@iwes.fraunhofer.de



Zenodo community
[\(https://zenodo.org/communities/ieawindtask52/\)](https://zenodo.org/communities/ieawindtask52/)
for published documents



Agenda – Day 1

- < 14:00 **Welcome and introduction from Operating Agent**
- < 14:10 **What's new in the world of wind lidar**
 - Summary and review of WESC mini-symposia
 - Eric Simley: “Lidar-Assisted Control, Turbulence Estimation, and Digitalization”
 - Peter Clive: “Replacing met masts and Accelerating offshore wind”
 - Summary and review of Task 52 Lunch Seminar series

Summary / review of Task 52 Lunch Seminar Series

<https://zenodo.org/record/7683412>



February 28, 2023 Presentation Open Access

IEA Wind Task 52 Lunch Seminar Series (February 2023)

Gottschall, Julia; Schlipf, David; Stoekl, Alexander; Oldroyd, Andrew; Guo, Feng; Schild, Axel; Black, Andrew; Becker, Johannes; Gomez, Paula; Simon, Elliot; Courtney, Michael; Ueda, Yuko; Clive, Peter

This is the material presented during the (first) IEA Wind Task 52 Lunch Seminar Series, which was held online on between 13-16 February 2023 (all days 13-14 CET).

The seminars were opened with an introduction by the Operating Agent, see [20230215_IEA-Wind-Task52_lunch-seminar-INTRO_GotJul \(1\)](#), followed by these presentations:

Day 1 – focus on Lidar-Assisted Control (LAC), organized by David Schlipf ([20230213_LAC_WG](#))

- Feng Guo on "Improved modeling of lidar wind preview for wind turbine control" [Feng_Guo_LunchSeminar_v2n](#)
- Axel Schild on "Lidar-assisted model predictive turbine control" [Schild_Challenges_on_the_way_to_industrial_reality](#)

Day 2 – focus on Complex Terrain, organized by Alexander Stoekl

- Andrew Hastings Black on "Point and lidar wind field reconstruction sensitivities in complex flow" [IEATask52_LunchWebinarSeries_ComplexFlowWFR_AndrewBlack_14FEB2023](#)
- Johannes Becker on "Scanning LiDAR in Complex Terrain for Wind Resource Assessment" [GEO-NET_IEA-Task52-Lunch-Session_EWINO-Approach-Scanning-LiDAR-in-WRA_20230214](#)

Day 3 – focus on Scanning Lidar Offshore, organized by Andrew Oldroyd

- Yuko Ueda on "Validation of near-shore wind measurements using a dual scanning LiDAR" [230215_task52_lunch_seminar_ueda](#)
- Paula Gómez, Elliot Simon, Mike Courtney on "Guidelines for the usage of scanning lidars for power curve verification" [20230215_IEA52_webinar](#)

Day 4 – focus on Floating Lidar, organized by Julia Gottschall

- Introductory presentation "Floating lidar within the IEA Wind 'Lidar' Task so far ..." [20230216_IEA-Wind-Task52_Lunch-seminar_GotJul](#)
- Peter Clive on "Floating lidar standards and guidance, an update centred around the upcoming technical specification IEC 61400-50-4" [FLS Standard - update - 2023-02-16](#)

Summary / review of Task 52 Lunch Seminar Series

- < Public event series, announced through Task 52 mailing list and LinkedIn
- < **Format:** 60-min session with ..
 - short intro by Operating Agent,
 - two 15-20 min presentations (focus on academic / industry perspective)
 - Q&A / discussion organised by working group lead
- < **Attendance:** in total 210 participants (at least one of four days) – on separate days: 107 / 106 / 103 / 114
- < **Future plans:** once a year 6-month distance to General Meeting

Wrap-up / Outlook Day 2

14 June 2023 (14-17 CEST; **extra networking session -17:30 CEST**)

- < 14:00 **Welcome / summary of Day 1**
- < 14:10 **Collaboration with other IEA Wind Tasks**
 - Stephen Holleran: “Task 43 WRA Data Model – an introduction”
 - Konstanze Kölle: “Task 49 and reference sites for floating wind”
 - NN: review of joint meetings with Tasks 41 and 54
- < 14:55 ***Coffee / tea break***
- < 15:00 **Working group updates (session #3)**
 - Alexander Stoekl: “Complex Terrain”
 - David Schlipf: “Lidar-Assisted Control”
 - Francisco (Paco) Costa: “Ontology”
- < 15:45 **Working group updates – breakout rooms for Q&A**
- < 16:00 **Students’ session with presentations from ITN LIKE project**
 - Isadora Coimbra, Liqin Jin, Priscila Orozco, Mohammad Nafisifard
- < 16:55 **Wrap-up**

- < 17:00 – 17:30 **Meet the ESRs / networking**