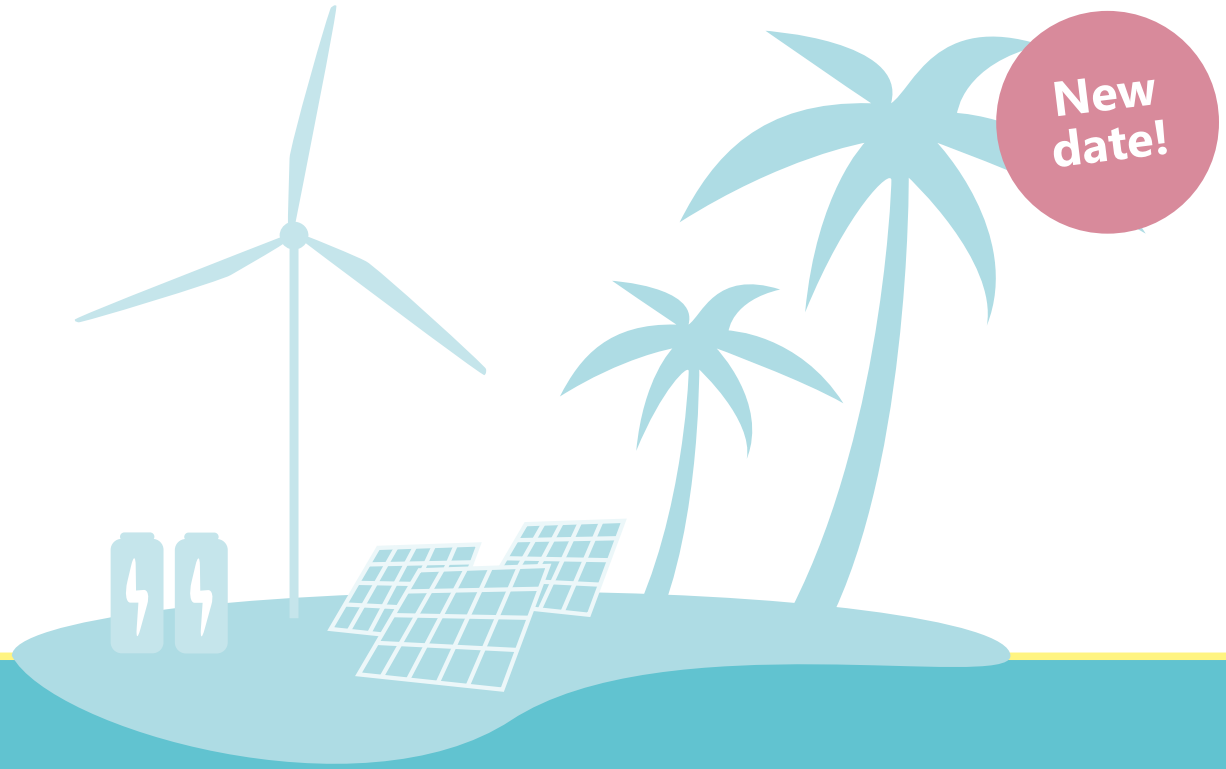
5th INTERNATIONAL HYBRID POWER SYSTEMS WORKSHOP



BACKGROUND INFORMATION

Madeira, Portugal
9 - 10 March 2021

CONTACT

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Organizer

energy**nautics**
solutions for sustainable development

Strategic Partner

BayWa r.e.

5th International Hybrid Power Systems Workshop

After four successful workshops in Hawaii (2013), Puerto Rico (2016), Tenerife (2018) and Crete (2019) we would like to introduce you to the 5th International Hybrid Power Systems Workshop in Madeira.

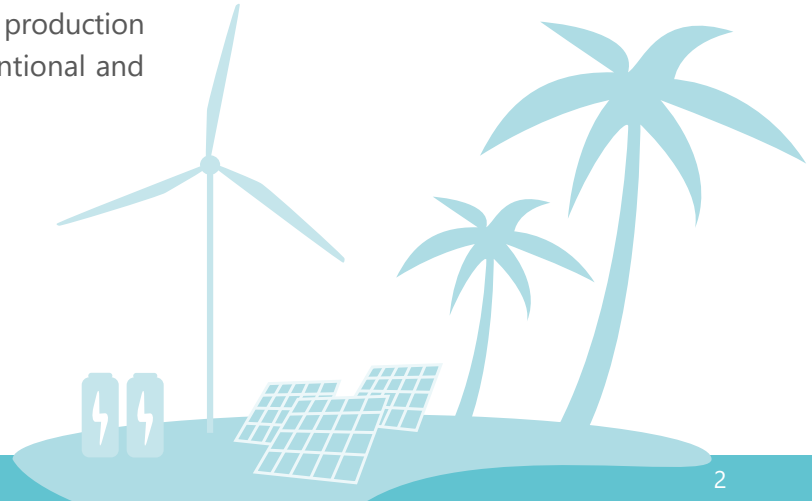
Purpose

The main objective of the workshop is to discuss the challenges that arise with the integration of high shares of renewables (wind, solar, hydro) into isolated power systems and micro-grids in combination with batteries/flywheels and conventional power generators.

Finding viable combinations of conventional and renewable energy is one key solution for the efficient and sustainable running of these types of power systems. International experts will convene for the 5th International Hybrid Power Systems Workshop to share their project experiences and to detect areas in need of improvement.

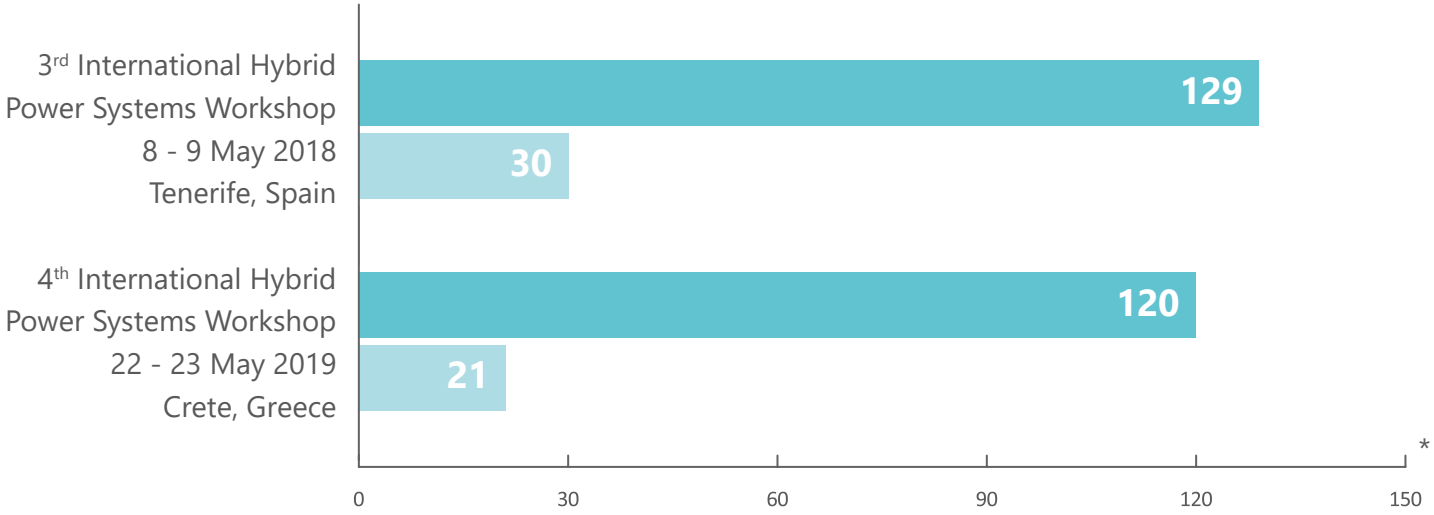
Background

One challenge of island grids and micro-grids is to maintain the balance between production and consumption. Diesel generators are still frequently used for this task. Due to the unavoidable dependence on fuel price and delivery options, and the environmental impact, alternatives are being sought. Wind and solar power are independent of imported fuels and environmentally friendly, and therefore the logical choice for island and micro-grids. However, these renewable energies are dependent on variable resource availability; hence their maximum production capacity is subject to natural fluctuations. It is therefore important to develop strategies for how to align production and consumption in the best possible way and to find the perfect combination of conventional and renewable energy.



Development of the Hybrid Power Systems Workshop

Energynautics has organized the International Hybrid Power Systems Workshop since 2018. The Workshop has developed into an excellent platform for discussing the subject of grid integration of hybrid power into power systems.



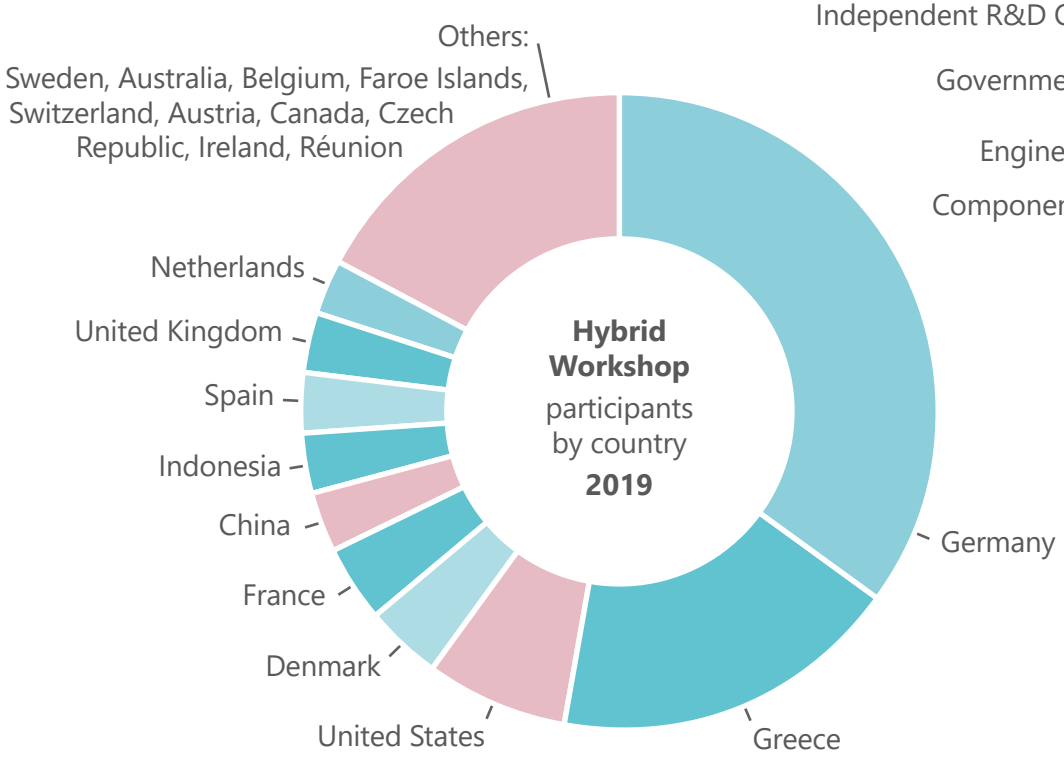
*Data for the first and second Workshop not available due to change of organizer.

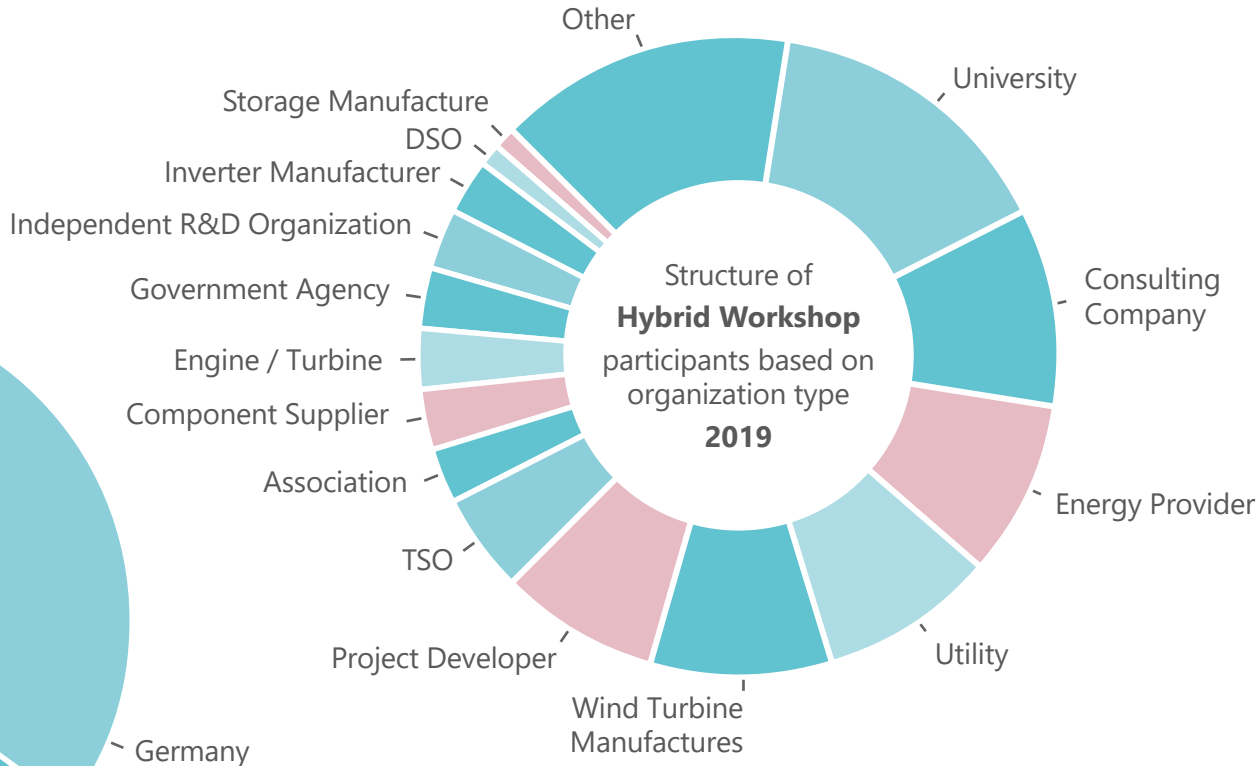
Number of Participants

& countries

Hybrid Power Systems Workshop 2019, Crete/Greece

The following charts about our previous workshop show the origin of the participants regarding their country and the type of organization/company they work for.





Advisory Committee of the Hybrid Power Systems Workshop

Advisory Committee

The Workshop Advisory Committee consists of currently 41 members. Besides giving general advice for content and topics of the workshop, and working as reviewers of submitted abstracts during the Call for Paper process, they are acting as multipliers for the workshop idea and date.

All members receive the paper/digital leaflets and support the workshop communication.

- Tom Acker | Northern Arizona University, USA
- Thomas Ackermann | Energynautics, Germany
- Francisco Boshell | IRENA, Germany
- Julien Callec | EDF, France
- Dimitrios Christakis | TEI Crete, Greece
- Peter W. Christensen | Vestas, Denmark
- Edward Coster | Stedin, Netherlands
- Kaushik Das | Technical University of Denmark – DTU, Denmark
- Jaap de Boer | Energy Watch, Netherlands
- Martin Dennenmoser | BayWa r.e. Solar Projects, Germany
- Bernhard Ernst | Bernhard Ernst Energy Consulting, Germany
- Ana Estanqueiro | LNEG, Portugal
- Alain Forcione | Hydro Québec/IREQ, Canada
- Daniel Fraile | WindEurope, Belgium
- Michael Nørtoft Frydensbjerg | Vattenfall, Denmark
- Paul Gardner | Paul Gardner Energy Consulting Ltd., United Kingdom
- Jutta Hanson | Technical University of Darmstadt, Germany
- Hannele Holttinen | Recognis, Finland
- Dimitris Al. Katsaprakakis | Hellenic Mediterranean University, Greece
- Philipp Kunze | BayWa r.e. Solar Projects, Germany
- Peter Lilienthal | HOMER Energy, USA
- Julija Matevosyan | ERCOT, USA
- Nickie Menemenlis | Hydro Québec/IREQ, Canada
- Mahesh Morjaria | FirstSolar, USA
- Terji Nielsen | SEV, Faroe Islands
- Lise Nielson | Linie P, Denmark
- Joao A. Peças Lopes | University of Porto, Portugal
- Eckard Quitmann | ENERCON, Germany
- Nigel Schofield | University of Huddersfield, United Kingdom
- Dezso Sera | Aalborg University, Denmark
- Charles Smith | ESIG, USA
- Poul Ejnar Sørensen | DTU, Denmark
- Derek Stenclik | Telos Energy, USA
- Jian Sun | Rensselaer Polytechnic Institute, USA
- Pieter Tielens | Tractebel (ENGIE), Belgium
- Adrian Timbus | ABB, Switzerland
- Helge Urdal | Urdal Power Solutions, United Kingdom
- Julio Usaola | University Carlos III Madrid, Spain
- Éric Vales | Vergnet, France
- Costas Vournas | NTUA, Greece
- Nikolaos Zografakis | Regional Energy Agency of Crete, Greece

Workshop Focus

Focus of the Conference

The 5th International Hybrid Power Systems Workshop offers a prime opportunity to discuss the future of hybrid power systems. Participants will look at applications in a variety of locations and operating environments with a focus on system design, operating experience, business models, economics, and implementation issues.

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The workshop therefore addresses a wide audience:

- system planners and designers
- operators of small systems
- project developers and consultants
- universities and research institutes
- regulators and NGOs
- technology vendors of distributed variable generation & storage technology

The selection of topics also highlights the balancing act isolated systems pose for all stakeholders:

- Hybrid Power Systems Design Options (Island Power Systems)
- Hybrid Power Plant Design Options (Combined Wind &Solar plus may be storage as a power plant connected to a grid)
- Hybrid Power System Technologies
- Project Experience and Case Studies: Hybrid Power Systems
- Project Experience and Case Studies: Hybrid Power Plants
- Storage Design and Sizing
- System Modelling and Simulation: Hybrid Power Systems
- System Modelling and Simulation: Hybrid Power Plants
- Remote Mining and Tourist Applications
- Intelligent Control and Grid Stabilization
- Resource Assessment and Forecasting
- Managing Variability and Uncertainty
- Pico-/Mini-/Micro-Grid Systems Design
- Economic Evaluation of Hybrid Power Systems
- Load Assessment Strategies
- Regulatory Challenges related to Hybrid Power Systems
- Protection Issues for Hybrid Power Systems
- Design of Energy Management Systems for Hybrid Power Systems
- Standards and relevant Grid Codes for Hybrid Power Systems
- Standards and relevant Grid Codes for Hybrid Power Plants
- Ancillary Services in Hybrid Power Systems

About the Organizer

The Hybrid Power Systems Workshop has been organized by Energynautics, Germany since 2018. It is a partner event of the renowned Solar & Storage and Wind Integration Workshops and the E-Mobility Power Systems Integration Symposium organized annually by Energynautics as well.

energynautics
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As an expert in isolated power systems with a high share of renewable energies, Energynautics brings extensive knowledge and project experience to the table. For instance, they have developed a sophisticated grid code for the Barbados Light & Power Company (BLPC) and have successfully concluded an impressive grid study for the World Bank and the Government of the Seychelles.

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Review 2019

120 participants from 21 countries joined us for the workshop 2019 in Crete, Greece. A total of 65 presentations were given during this 2-day event.

The 5th International Hybrid Power Systems Workshop

- Date: 9 - 10 Marach 2021
- Location: Madeira, Portugal
- Expected number of participants: 100 +

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Preliminary Timetable 2021:

	Schedule
Monday, 8 March 2021	Early Check-In (TBC) HOMER Training, 09:00 - 17:00
Tuesday, 9 March 2021	Hybrid Power Systems Workshop – Day 1 All Day: Poster Session during Breaks (TBC) Evening: Workshop Dinner
Wednesday, 10 March 2021	Hybrid Power Systems Workshop – Day 2 All Day: Poster Session during Breaks (TBC)
Thursday , 11 March 2021	Study Trip (TBD)

Due to the spreading of the coronavirus and the official restrictions for public life in 2020, Energynautics decided to postpone the 5th edition of the Hybrid Power Systems Workshop.

For further details visit:
www.hybridpowersystems.org

Your Benefits as Sponsor

Being sponsor of the Hybrid Power Systems Workshop not only raises awareness for your company among participants but also gives you the following two main advantages:

MEET YOUR FUTURE EMPLOYEES & PARTNERS

- Find highly qualified students & professionals among participants
- Network with potential candidates at your company roundtable
- Display your job announcements in our workshop material & on rollups
- Meet potential partners for new projects

FREE PROFESSIONAL TRAINING AFOR YOUR TEAM

- Train your employees on specific topics about the integration of RE
- Share & receive fresh ideas about current issues
- Find solutions for your ongoing projects in industry & academia
- Have serious discussions with worldwide experts

Sponsor Packages "Hybrid Power Systems Workshop"

- **Small** company logo on Hybrid Power Systems Workshop website, newsletters, flyers, rollups etc.
- **One** participant of the sponsor can join the Hybrid Power Systems Workshop for free (incl. dinner/excl. tutorials)
- One page advertisement in color in the proceedings
- **One** rollup during the workshop
- Distribution of flyers during the workshop

Sponsorship Fee: Please contact us!

Mega Sponsor

- **Large** company logo on Hybrid Power Systems Workshop website, newsletters, flyers, rollups etc.
- **Three** participants of the sponsor can join the Hybrid Power Systems Workshop for free (incl. dinner/excl. tutorials)
- **One** page advertisement **in color** in the proceedings
- **One** rollup during the workshop
- Distribution of flyers **in delegate bags**

Sponsorship Fee: Please contact us!

Giga Sponsor

- **Large** company logo on Hybrid Power Systems Workshop website, newsletters, flyers, rollups etc.
- **One special additional logo arrangement** (see page 9 for all options)
- **Five** participants of the sponsor can join the Hybrid Power Systems Workshop for free (incl. dinner/excl. tutorials)
- **Corporate roundtable** for technical discussions, networking & recruiting during breaks and poster session
- **One** page advertisement **in color** in the proceedings
- Up to **two** rollups or **one** display during the workshop
- Distribution of flyers and inserts in **delegate bags**
- **Content box** in one workshop newsletter issue

Sponsorship Fee: Please contact us!

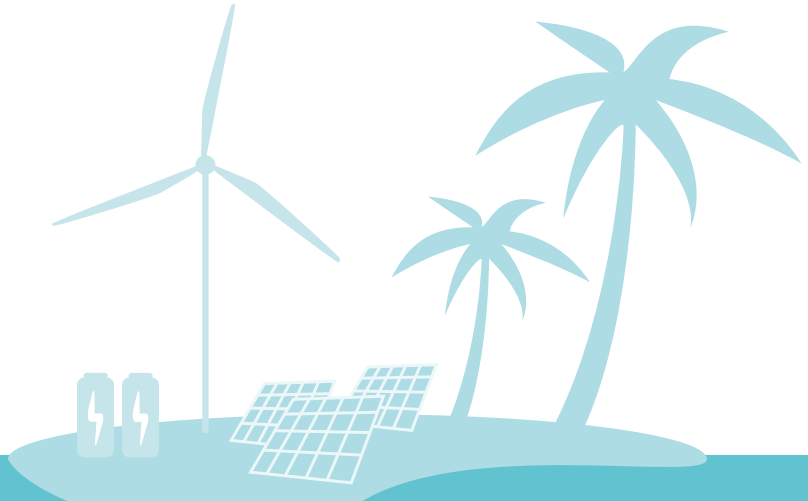
Tera Sponsor

Hybrid Power Systems Workshop Options for the "Tera Sponsor" Package

Use this opportunity to get a higher visibility at the workshop by choosing **one** of the following options to be included in your "Tera Sponsor" package. Further options can be booked for an additional charge. Please contact us for a quote.

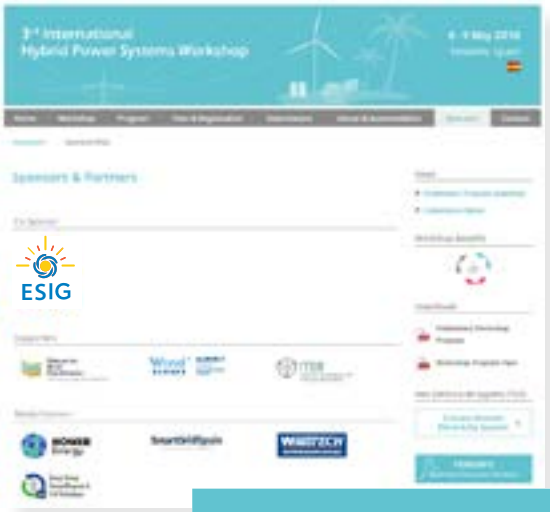
Options	
Logo on displays during dinner	"Dinner Sponsor"
Logo on internet registration webpage	"Internet Sponsor"
Advertisement in the workshop guide	

HYBRID POWER SYSTEMS 2021 BE A SPONSOR



Embedding your Logotype

See here some examples from the 3rd and 4th International Hybrid Power System Workshops on where your logotype could be positioned.



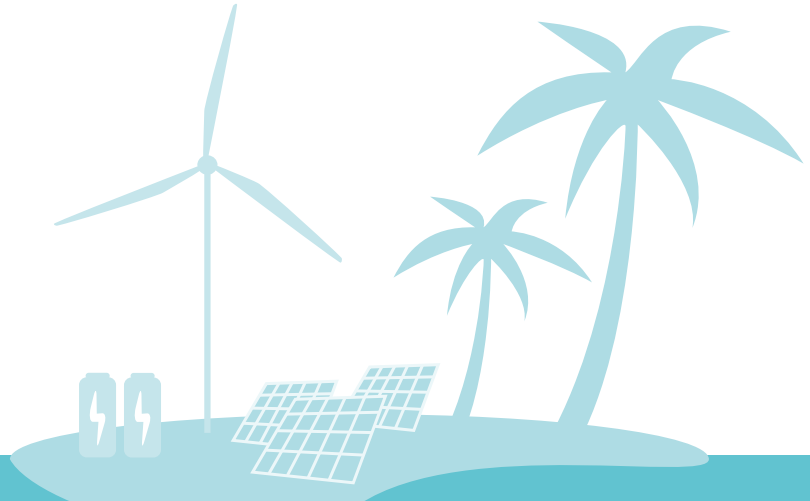
Website

Flyer

Newsletter

Sponsors & Supporters of the Previous Hybrid Power Systems Workshops
organized by Energynautics

	Giga Sponsors	Strategic Partner	Workshop Ambassadors
Crete 2019	ΑΔΜΗΕ	BayWa r.e.	entsoe, ESIG, HEDNO, Συνδεσμοι Εταιριων Φοτοβολταϊκων, HOMER Energy
	Mega Sponsors	**Co-Sponsor**	**Workshop Ambassadors**
Tenerife 2018	RED ELÉCTRICA DE ESPAÑA, VERGNET GROUPE	ESIG	Alliance for Rural Electrification, HOMER Energy, ITER Instituto Tecnológico y de Energías Renovables, Wind Europe SUMMIT 2018



Sponsors & Supporters of previous Partner-Workshops: “Wind Integration Workshop“

Previous Sponsors & Supporters

	Tera Sponsors	Giga Sponsors	Mega Sponsors	Workshop Ambassadors
Dublin 2019	EIRGRID, SONI, ENERCON, Vestas, ESB	SILENT GRID, Ørsted, seai		ESIG, IET, IET, Renewables Grid Initiative, iea, entsoe, Fáilte Ireland, MEET IN IRELAND, Wind EUROPE
Stockholm 2018	Vestas, ENERCON	SIEMENS Gamesa, VATTENFALL, Ørsted, SILENT GRID		ESIG, STandUP for WIND, IET, Renewables Grid Initiative, entsoe, POWER CIRCLE, Wind EUROPE
Berlin 2017	ENERCON	TenneT, SIEMENS Gamesa, DONG energy, SILENT GRID, Vestas		UVIG, htw., IET, Renewables Grid Initiative, entsoe, European Energy Students Network, Wind EUROPE
Vienna 2016	ENERCON	SILENT GRID, APG, DONG energy, Vestas	SIEMENS Ingenuity for life, SENVION wind energy solutions	UVIG, IET, Renewables Grid Initiative, TU WIEN TECHNISCHE UNIVERSITÄT WIEN
Brussels 2015	ENERCON	50hertz, SILENT GRID, elia, DONG energy, Vestas		UVIG, EUREC, IET, EWEA, WindJobs, Renewables Grid Initiative, ISES
Berlin 2014	SIEMENS, ENERCON	50hertz, SILENT GRID, DNV·GL, DONG energy, Vestas, ABB		UVIG, IET, Renewables Grid Initiative