

2ND ANNUAL

ELECTRIFICATION, FUEL CELLS AND BATTERY DEVELOPMENT FOR MARINE VESSELS

30th–31th March 2023 – Barcelona, Spain

VENUE



FEATURED

- Electrification
- Alternative fuels safety
- Alternative fuels optimization
- Market overview of marine engines
- Limitations of full-electrification
- Fuel transition
- Fuel cells
- Hybridization
- Retrofitting
- Leisure boats and yachts' challenges for decarbonization
- Shipping vessels challenges for decarbonization
- Regulatory developments
- On-shore supply challenges
- Impact of energy crises in fuel availability
- Technology and availability of on-shore power infrastructure
- Battery recycling, repairing and disposing
- Future alternative power sources

SPEAKER PANEL

Kjeld Aabo
Director New Technologies, Two Stroke Sales and Promotion
MAN Energy Solutions, Denmark

Marco Tommaso Coiatelli
Head of Basic and Executive Design
Azimut-Benetti Group, Italy

François Richard
CEO
Lanéva-Boats, Monaco

Oskar Levander
SVP Concepts & Innovation
Kongsberg Maritime, Finland

Roland Teixeira de Mattos
President
European Onshore Power Supply Association (EOPSA)

Pieter Huyskens
Director Research, Development and Innovation
Damen Shipyards, Netherlands

Mia Elg
R&D Manager
Deltamarin, Finland

Giouli Kommata
Manager, Marketing & Quality Control
Piraeus Port Authority, Greece

Tim Verhoeven
Projects & Policy Manager
Sustainable Shipping
Port of Antwerp, Belgium

René Zuidam
Senior Account Manager – Marine Business
Wärtsilä, Netherlands

Ana Arévalo
Energy Transition Manager
Port of Barcelona, Spain

Johan Schonebaum
Co-Founder
Flying-Fish, Netherlands

Johan Burgren
Business Manager
PowerCell Group, Sweden

Alexandre Bellot
Research Project Coordinator
LMG Marin, France

Helge Saatendal
Lead Consultant, Supply Chain Marine Operations
Equinor, Norway

Sigurd Enge
Maritime Manager – Shipping Electrification
Bellona, Norway

Erdeniz Erol
R&D Manager
Waterborne TP / Elkon, Turkey

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08.30 Registration & morning coffee

09.00 Opening address from the Chair

KEYNOTE ADDRESS

09.10 Challenges and opportunities of the energy transition for shipbuilders. The experience of Damen Shipyards Group

- Challenges of full electrification. Current battery market limitations
- Exploring the profitability and operability of alternative fuels:
 - Hydrogen
 - Efuels
- Experience in using the right energy solution for the right applications

Peter Huyskens
Director Research, Development and Innovation
Damen Shipyards, Netherlands

09.50 Technology and availability of onshore charging infrastructure

- Overview of the available infrastructure and technology around energy supply
- Challenges of “Cold Ironing” for providing large amounts of electricity for vessels
- How are vessels adapting to this technology
- Examples of successful cases of OPS

Ana Arévalo
Energy Transition Manager
Port of Barcelona, Spain

10.30 Coffee-break ~ Ice-breaking session

11.00 On-shore power supply availability and how does it impact decarbonization strategies

- Examining Port of Antwerp’s multi fuel port strategy
- Analyzing the lack of access to alternative fuels for ports
- Safety challenges that ports face in providing various alternative fuels
- What are we pushing for? An overview on the OPS projects of the Port of Antwerp
- Communicating with ports and energy suppliers to excel in decarbonization strategies

Tim Verhoeven
Projects & Policy Manager Sustainable Shipping
Port of Antwerp, Belgium

11.40 Fuel transition and the availability of alternative fuels and profitability

- Finding the right fuel or power supply for your kind of vessel
- Available marine engines for different alternative fuels
- How will the energy crisis affect our choice of fuel? Examining the global situation of alternative fuels availability in ports
- Optimizing efficiency for systems using alternative fuels
- Cost-gap: addressing the profitability of the use of alternative fuels

Oskar Levander
SVP Concepts & Innovation
Kongsberg Maritime, Finland

12.20 Lunch

13.30 The SWIM hydrogen-electric powertrain for heavy duty maritime applications

- How our SWIM consortium designed and built the first 100kW hydrogen-electric powertrain used in a commercial water taxi
- How we use the lessons learned from our on-board data collection to improve the powertrain design
- How our improved design can be applied to boats with 20kW to 1000kW of motor power
- Which challenges we encounter in new projects with regards to infrastructure and how to mitigate them.

Johan Schonebaum
Co-Founder
Flying-Fish, Netherlands

14.10 Why hydrogen fuel cells are a viable solution for maritime

- Why LT PEM fuel cell technology in marine space
- How do marine fuel cells work
- What is important to know about safety and hydrogen as a fuel
- Where can hydrogen come from and how can it be stored
- What references does PowerCell have in the marine market?

Johan Burgren
Business Manager
PowerCell Group, Sweden

14.50 Coffee & networking break

15.20 A focus on the development and use of Vessel-2-Grid applications

Roland Teixeira de Mattos
President
European Onshore Power Supply Association (EOPSA)

16.00 New technologies and design – merging the future with the present

- Efficient evaluation of fuel cells and batteries in new designs
- Communication and information exchange: getting all stakeholders involved
- Evaluating in the design process the main benefits and obstacles in regarding new technologies and fuels
- The necessary design process for keeping up with the fast-developing technology

Mia Elg
R&D Manager
Deltamarin, Finland

16.40 End of Day One - Closing word from the Chairman

08.45 Morning coffee

OPENING ADDRESS

09.10 An encompassing view on the optimal use of different technologies for decarbonization

- Market developments and position of Fuel Cells technologies in Maritime
- Efficiency, lifetime, fuel storage and availability
- Choosing the right mix of ICE, Batteries and Fuel Cells
- Balancing the grid, a pathway to High Power Shore Charging

René Zuidam
Senior Account Manager – Marine Business
Wärtsilä, Netherlands

09.50 Successfully exploiting developing technology

- Commercially competitive batteries – What are we seeking?
- Maximising battery range
- System integration for propulsion, power electronics and control
- A focus on the development of hybridisation
- Where are we with fast-charging infrastructure?
- Prospects for improved battery recycling
- NEMOSHIP and FLEXSHIP Marine Battery Propulsion range extension - Horizon Europe Projects

Erdeniz Erol
R&D Manager
Waterborne TP / Elkon, Turkey

10.30 Coffee & networking break

11.00 Lessons learnt from battery adoption in Offshore Support Vessels (OSVs)

Helge Saatendal
Lead Consultant, Supply Chain Marine Operations
Equinor, Norway

11.30 Future fuels for de-carbonization of marine vessels using MAN – B&W 2 stroke engines

- Status and development of engines operating alternative fuels:
 - Methanol
 - Ammonia

Kjeld Aabo
Director New Technologies, Two Stroke Sales and Promotion
MAN Energy Solutions, Denmark

12.10 Considerations on electrification and alternative fuels for yachts and other leisure vessels

- An overview of the yacht market – what is the client asking from us
- Where will we sail next? Challenges posed by lack of standard voyages and how to overcome them
- Architectural challenges of having 2 or more energy sources on board
- Addressing the challenges of hybridization posed by the lack of deck space
- Bringing fresh ideas to achieve decarbonization

Marco Tommaso Coiatelli
Head of Basic and Executive Design
Azimut-Benetti Group, Italy

12.50 Lunch

13.50 Excellence in project planning for electrification, use of alternative fuels and batteries for shipping vessels

- Right production to the right customer – what do shipping companies look for?
- Architectural challenges of correctly allocating fuel cells on board: under the deck or outside?
- Exploring the availability of fuels in the different ports of the world. Correctly communicating with the ship owner to make the right choices
- Hybridization or full electrification? What can the fast evolving technologies bring us in the near future?

Alexandre Bellot
Research Project Coordinator
LMG Marin, France

14.30 Alternative fuels, electrification and batteries in retrofitting

- Considering the cost of electrification for retrofit in the long run
- Challenges of fuel transition when retrofitting vessels
- Choosing the right fuel cells to maximize the access to energy supplies around the world
- Considering having 2 or more energy sources on board
- What re-engining packages are available in the market? How do others do it?

François Richard
CEO
Lanéva-Boats, Monaco

15.10 Coffee & networking break

15.40 Successfully reducing European ferry fleet GHG emissions by 50%

- A focus on ferry battery range
- Lessons from real case studies
- How strong is the political impetus for marine electrification?
- Vessel-2-Grid infrastructure and challenges
- Evaluating alternatives to batteries

Sigurd Enge
Maritime Manager – Shipping Electrification
Bellona, Norway

CLOSING ADDRESS

16.20 A focus on the development of Shore-Side Electricity (SSE) – Lessons from Piraeus Port Authority

- Strategic priorities for SSE for PPA in the next years
- Status of SSE implementation in passenger and cruise terminals
- Required needs for grid network - Collaboration with competent authorities.
- Prospects and challenges

Giouli Kommata
Manager, Marketing & Quality Control
Piraeus Port Authority, Greece

17.00 Closing word from the Chairman & close of conference



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We are helping to create a fossil-free world. Our technology makes tomorrow's solutions available today.

PowerCell Group develops and produces fuel cell stacks and fuel cell systems with a uniquely high power density, for applications in the stationary, marine, off-road and on-road segments.

PowerCell's products run on pure or reformed hydrogen and generate electricity and heat without any other emissions than water.

Our technology combines high efficiency with compact design, and contributes to increased energy efficiency and a substantial reduction of emissions regardless of application.

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