

## Real Ballast Facts Bulletin

Issue #4, 13 May 2021

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### The Face of Leadership at BEMA

When you think of the term “maritime industry” certain things immediately come into your mind. Maybe you think of cargoes carried around the world, or the environmental impact of shipping. There is no doubt that the maritime industry can at times feel like an Old Boys Club where women are outside of leadership positions and places of influence. Nowhere, though, is that less true than within our own Association, where women make up a substantial part of the leadership team.

From our President, Dr Efi Tsolaki of [ERMA FIRST](#), to our Secretary-General, Marcie Merksamer, Vice President of [EnviroManagement](#) down through Michelle Guy of [Wärtsilä](#) and Jorunn Seglem of [Knutson Group](#) who serve on the Board of Directors, BEMA is a colorful representation of the way that the maritime industry is changing and evolving to bring many new voices to the forefront.

When Marcie Merksamer, Secretary-General of the Ballastwater Equipment Manufacturers' Association (BEMA), first encountered our industry she saw, “a huge opportunity to help the world.” As a young biology student, Merksamer “was looking for a summer abroad experience but [I] couldn't afford to take the time off from my studies. I found a cooperative program at my university that provided an opportunity to sail on the T/S *Golden Bear* for a summer and I learned about the complicated problem of aquatic invasive species; it just infected me. I knew I had to do something.” She dedicated herself to the complex issues with ballast water treatment. “I love research, but I wanted to be part of the onboard water treatment solution,” she remarked. She credits her grit and ability to overcome fear as key to her success. “It was a long time before I could quit my day-job and focus on ballast water topics exclusively. But it was worth it.”

Jennifer Cisneros of Charter Member [Scienco/FAST](#) is another example of a BEMA leader in the making. A recipient of many awards, Jennifer is no stranger to leading. She comes from the wastewater industry and was drawn to ballast water to also be a part of the solution. “I want to bring a focus on not overcomplicating what we do. We need to focus on the impact our systems have rather than over-engineering them.” She brings a strong, technical voice to customer conversations for her company. “People just don't know enough about water,” she says. “We need to educate them about what technology can do and the risks that we face.”

Tsolaki is also no stranger to the life of an engineer in the marine environment. “I started my journey in environmental engineering and wastewater treatment. I encountered invasive species through my PhD and it was love at first sight! Since 2005, ballast water has been part of my life.” Tsolaki quickly moved to a leadership role in the ballast water industry. “The great people I worked with taught me that I could transform this world into a better place for the future. It was never a matter of gender, mine is solely an engineering and sustainability story.” Her dedicated leadership and unique touch helped BEMA navigate the first few years and she has largely driven BEMA's social media presence.

Another regular contributor to BEMA is Alfa Laval's Frida Norlin. A biologist and process specialist by trade, Norlin is a familiar face in the industry. When asked what she enjoys most about our industry, Norlin replied,

"I enjoy the opportunity to interact closely with the diversity of competent people this industry attracts. Being part of something as meaningful as solving such an important environmental issue as the transport of aquatic invasive species is my driving force. This ensures my daily work never gets boring."

There may be a temptation to take for granted the strength of the leadership team at BEMA but not so long ago, such a diverse group would have been hard to imagine. Women faced a challenging road to have their voices heard and their capabilities recognized throughout the world, and in the maritime industry it is no exception. So it is important to recognize the need to put our own leadership forward as an example for the next generation.

"The more examples that young people see, the more grit they can manufacture to chase after the dreams that they have, regardless of traditional gender roles," offers Merksamer.

If you have any questions about how you can join our leadership team, contact BEMA at [info@BWEMA.org](mailto:info@BWEMA.org).

## IMO News to Support



IMO and WISTA International have launched the Women in Maritime – IMO and WISTA International Survey 2021 to examine the proportion and distribution of women working in the maritime sector, from support roles to executive level positions. They invite Member States and companies/NGOs to fill in the survey to provide essential baseline data.

Click here for NGOs/Companies survey: [Women in Maritime - IMO and WISTA International Survey 2021 \(research.net\)](#) ([PDF full industry survey here for reference](#))

Click here for Member State survey: [Women in Maritime - IMO and WISTA International Survey 2021 \(research.net\)](#) ([PDF full Member State survey here for reference](#))

\*\*\*The deadline for the completion of the survey is June 30th, 2021\*\*\*

## BEMA Updates & News

### BEMA Annual Meeting and Board Election Results

Continuing COVID restrictions meant that the 4th BEMA Annual Meeting was held virtually this year as well. During the meeting, each BEMA Committee Chair presented their Committee reports, all accessible in the [2020-2021 Board of Directors Annual Report](#). BEMA President Efi Tsolaki reviewed BEMA's strategic directions for the year ahead and provided summaries for the association's strategic priorities, with special mention given to BEMA's NGO Consultative Status application with the IMO. Board Member election results were also announced, followed by an open forum, whereupon Committee Chairs answered questions related to BEMA and its work. For those who couldn't make it, the draft [4th Annual Meeting Minutes](#) offer a detailed account of the proceedings. Following the meeting's official adjournment, BEMA members, many with their favorite beverage in hand, explored the lighter side of ballast water treatment. Everyone looked forward to around this time next year, when they will enjoy an offline, face-to-face and equally successful annual meeting.

In case you missed it, the results of the election were also published! Efi Tsolaki (Charter Member, ERMA FIRST) and Kechao Lu (Charter Member, Headway Technology) retained their Board Seats. Jorunn Seglem

(Charter Member, KBAL Knutsen Tech) and Mark Riggio (Associate Member, Filtersafe) will both join the Board this term. A special thank you to all of the candidates who ran and for everyone who voted! Also, BEMA would like to extend a special thank you to Michelle Guy (Charter Member, Wärtsilä) for her service on the Board during the previous term.

Check out this screenshot captured during the meeting!



**The 4th BEMA Annual Meeting of Members**

## Regulation Updates & Info

### ★ IMO UPDATES

Since the last Real Ballast Facts Bulletin, the IMO's Pollution Prevention and Response Group met for their eighth session (PPR 8). A discussion of standards for compliance monitoring devices (CMD's) was continued. The aim is to produce a standard of performance for CMD's enabling Port States, or owners to be able to confidently assess biological performance of BWMS in real time onboard regularly operating vessels. A Correspondence Group on the "Development of a Protocol for Verification of Ballast Water Monitoring Devices" has been set up to prepare an updated Draft Protocol. Lloyd's Register has produced a good summary of PPR 8: [IMO Pollution Prevention and Response Eighth Session \(PPR 8\)](#)

The 76<sup>th</sup> Session of IMO's MEPC is scheduled to take place June 14<sup>th</sup> -18<sup>th</sup> 2021. Several papers have been submitted on the important topic of ballast water management in ports with challenging water quality. Look for a BEMA publication on this topic soon!

During the upcoming Council 125 Session, scheduled for 28 June - July 2, 2021, a decision will be made on BEMA's application to achieve Non-Governmental Organization (NGO) Consultative Status at the IMO. BEMA is hopeful for a positive outcome to allow for BEMA's technical resources to be directly available to all stakeholders at the IMO level.

The 77<sup>th</sup> MEPC Session is also scheduled for later this year in November. As yet, no BW specific Agenda Items have been published.

### ★ UNITED KINGDOM

In March the United Kingdom's Maritime and Coastguard Agency (MCA) issued a Consultation Document for "Consultation on the draft Merchant Shipping (Control and Management of Ships' Ballast Water and Sediments) Regulations 2021". [Consultation on draft regulations for the control and management of ships' ballast water and sediments - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/consultation-on-draft-regulations-for-the-control-and-management-of-ships-ballast-water-and-sediments)

This consultation is open to the public, and MCA has formally invited BEMA to provide comment. An Ad Hoc Subcommittee of BEMA Members has been formed under the External Affairs Committee to prepare comments. This Subcommittee is open to any BEMA Member wishing to contribute.

MCA stated that these draft regulations "...will bring the UK in line with the 86 States that have already ratified and introduced legislation to implement the BWM Convention".

#### ★ UNITED STATES

There have been no updates either from the EPA or the USCG regarding VIDA. However, as this issue of Real Ballast Facts showcases the women leaders of BEMA, it is pertinent to note and to congratulate, USCG Vice Admiral Linda Fagan. President Joe Biden will nominate Vice Admiral Linda Fagan to receive her fourth star and become the [Coast Guard's](#) vice commandant -- a historic step that could make her the highest-ranking woman in the service's history.

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## BEMA Member Spotlight

*Disclaimer: The Member Spotlight expresses the opinion of the contributing Member. BEMA is not responsible for the statements nor does BEMA endorse individual persons or companies.*

*Each publication of the Real Ballast Facts Bulletin will shine a spotlight on a featured BEMA Charter or Associate Member. We're proud of our Members and are happy to share their accomplishments, industry developments and latest news. All BEMA Charter and Associate Members have equal opportunity to be featured and are encouraged to contact [external-affairs@bwema.org](mailto:external-affairs@bwema.org) for details. In this issue the spotlight is on [FILTERSAFE AUTOMATIC SCREEN FILTRATION!](#)*

## BWMS filters need to be up to the challenge – not just good enough

by Filtersafe



With ballast water regulations maturing and shipping shifting its focus to operational compliance, ballast water management system (BWMS) manufacturers must have access to strong and robust filters that support the overall performance of their system, ensuring it meets ship owner and end user expectations.

As manufacturers know better than anyone, each BWMS is unique. Each vessel also faces its own set of challenges. The more challenging the water conditions, the more pressure on the BWMS. This is particularly the case for commissioning testing, which often takes place in challenging conditions including shipyards with poor water quality, shallow harbors with a high silt loading, and difficult initial loading conditions. In fact, commissioning testing can present some of the most challenging conditions that a BWMS and its filter ever face.

### The Challenges

It is perhaps unsurprising that when confronted with these challenges some BWMS fail initial commissioning testing. In a recent webinar hosted as part of Riviera Maritime's Ballast Water Webinar Week, Dr. Guillaume Drillet, Regional Manager at SGS, stated that the main reason BWMS failed during their compliance testing was because the discharge rates of organisms greater than 50 microns in size exceeded the standard. These

findings are critical. They place filters at the heart of BWMS commissioning failures – suggesting that filters on the failing BWMS couldn't prevent organisms from entering tanks.

### Collaboration

At Filtersafe, we take the challenges of ballast water treatment very seriously. We also believe that it is only through direct collaboration with our partners that we can achieve the goals of our end users. We start with the belief that stainless steel, the core material used to build filters, should be a key factor in long-term performance. This is the first critical building block to realise greater value. In a recent announcement, Filtersafe confirmed that it transitioned away from 316L grade steel, the typical steel used in maritime applications, to 904L – a more robust grade of steel that offers a more appropriate balance between filter durability and affordability. At the same time, we conducted independent testing to verify the cleaning abilities and performance of our filters. We have also focused on boosting the quality, durability and lead time of our filters – all without impacting their affordability.

### The Road Ahead

It's essential that BWMS manufacturers have access to components that support their BWMS. Collaborative relationships are key to achieving this aim. That's why we are also making a huge effort to reach out to BWMS manufacturers, asking them to open our filters and assess their performance. Whether the findings are good, bad or anything in between, we want to hear about it from you so that we can extract lessons learned and share them with others to increase standards across the industry. This outreach program is only set to grow once the COVID-19 pandemic subsides and international travel mobility improves.

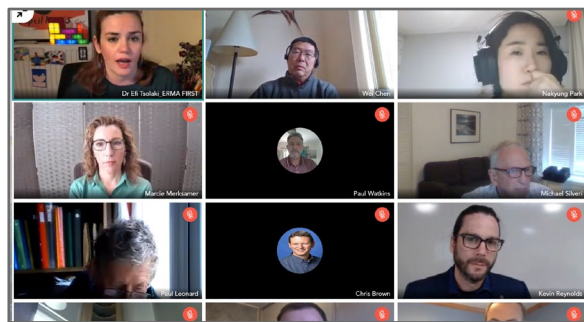
We have been a proud partner of the industry and a proud member of BEMA since the beginning. We look forward to supporting BEMA now and in the years to come.

## BEMA Events and Meetings

These past months were still dominated by COVID-19 restrictions in many parts of the world and travelling remains virtually impossible. Trade shows and conferences continue to be cancelled, postponed or are held virtually.

7th IMarEST Ballast Water Technology Conference (Virtual event; 17-18 March 2021)

In this difficult industry environment, the 7th IMarEST Ballast Water Technology Conference that took place on March 17th and 18th was an inspiring exception. Based on a virtual platform, it gave the industry the chance to exchange knowledge and expand its network. Although BEMA was not specifically asked to present, several BEMA members and officials participated. In her presentation on commissioning, Dr Efi Tsolaki of [ERMA FIRST](#) referenced BEMA's [Ballast Water Commissioning Testing Guidance](#) and showcased the importance of BEMAs input to industry discussions.



Inspiring discussions during the 7th IMarEST Ballast Water Technology Conference

### Forthcoming events

To be announced

## Experience Building Phase: Complete Project (EU Funded)

BEMA aims to support the IMO's Experience Building Phase (EBP) and serve as a resource for sharing experiences from stakeholders as implementation of global ballast water management regulations continues.

In this issue, we are pleased to present the [EU Funded COMPLETE Project](#) as a case study, to support the experience beyond Ballast Water.

The COMPLETE Project was funded by the Interreg Baltic Sea Region Programme. The project ran from 1.10.2017 until 30.09.2020 with a total budget: 3.2 million €.

A closing conference for the COMPLETE Project was organized online on February 9th-10th, 2021. The recorded presentations and discussions from the online conference can be viewed at this link: <https://www.enchant.fi/merikotka/complete>

During the conference, the following topics were presented, enabling implementation of harmonized management strategies for the entire Baltic Sea Region. Conference sessions were organised around key issues related to biofouling and ballast water management:

| Harmonized implementation of Ballast Water Management Convention (BWMC)  | Proposal for regional biofouling management strategy   | Harmonized monitoring of non-indigenous species (NIS)  |
|--|--|--|
| <ul style="list-style-type: none"> <li>Overview of introductions via ballast water in the BSR</li> <li>Improved HELCOM-OSPAR JHP tool</li> <li>Target species selection criteria for the HELCOM-OSPAR JHP tool</li> <li>Risk assessment for the HELCOM-OSPAR JHP tool</li> <li>Key issues to BWMC compliance monitoring</li> <li>Decision support system for ballast water management</li> </ul> | <ul style="list-style-type: none"> <li>Biofouling potential in the BSR: commercial shipping and leisure boats</li> <li>BSR areas of high risk to alien species introductions</li> <li>Biofouling database for the BSR:               <ul style="list-style-type: none"> <li>-national legislations</li> <li>-cleaning practices</li> <li>-waste quantities &amp; handling</li> <li>-interactive map of hull cleaning services</li> </ul> </li> <li>Guide on the best practices for biofouling management in the BSR</li> <li>Guidance on performance of different antifouling systems</li> <li>A tool to optimize antifouling systems and cleaning measures</li> </ul> | <ul style="list-style-type: none"> <li>Assessing the ecosystem impacts of marine non-indigenous species based on the absolute effect size</li> <li>Molecular markers for NIS detection</li> <li>NIS sampling protocol for leisure boats and marinas</li> <li>Recommendations for integrated monitoring system of NIS in the BSR</li> <li>Information system of HAOPs: AquaNIS</li> <li>Practical application of AquaNIS: the Early Warning System</li> </ul> |

In summary, the COMPLETE Project worked towards minimising the introduction of harmful aquatic organisms and pathogens by developing a consistent and adaptive management system for the Baltic Sea region.

The COMPLETE Project addressed two major sources of harmful organisms introduced by shipping: ballast water and ship hulls. The project tackled several gaps in current knowledge and management:

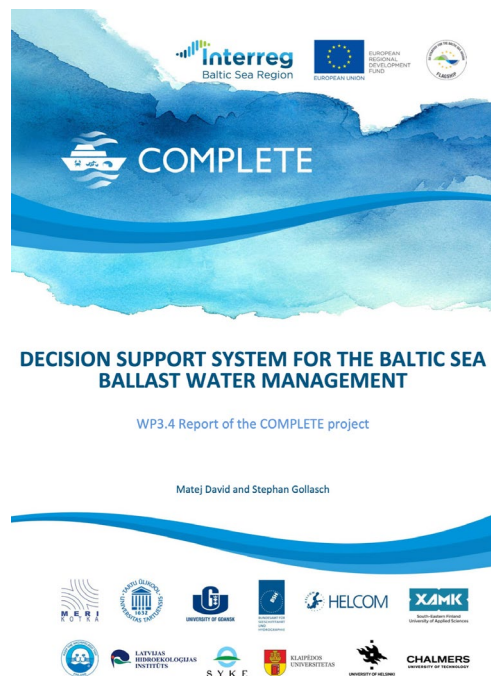
- Rights and obligations of involved stakeholders such as ship owners and port authorities
- Approaches for monitoring of non-indigenous species and surveillance for the EU Marine Strategy Framework Directive and the International Maritime Organization Ballast Water Management Convention
- Risk assessment based exemptions from ballast water management requirements
- Legal aspects
- Regional cooperation and information exchange. The technical aspects of that complex problem include still limited knowledge on antifouling practices and procedures (and resulting level of biofouling)
- The lack of common cleaning procedures and facilities and their cost-efficiency analysis

- Quantities of biofouling waste and its handling procedures
- The role of leisure boats and their trailers in primary introductions and secondary spread of invasive species

Ballast water decision-makers are faced with the difficulty of taking decisions especially on very complex issues. This usually requires the input of large data sets and a timely decision process. DSSs are multi-faceted tools that provide decision makers with an instrument to (a) reduce uncertainties, (b) simplify and speed-up the decision process without losing essential information, (c) avoid subjectivism induced by the decision-maker and (d) guarantee transparency of the entire decision process.

The DSS approach was introduced in Ballast Water Management (BWM) because of the selective BWM approach, which means that the appropriate BWM measures to be taken vary depending on the different levels of risk posed by the intended ballast water discharge, which also depends on the BWM feasibility in certain circumstances.

More precisely, it was soon recognised that a supporting tool is needed to provide transparency and consistency on BWM requirement decisions with the aim to improve environmental protection and to lessen the BWM burden on vessels.



The COMPLETE Project's [DSS for Baltic Sea Ballast Water Management](#) report is also available online.

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