

Local Communities



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IMarEST BeNeLux Branch - Technical Meeting

The energy transition of the Royal Netherlands Navy

Speakers: Rinze Geertsma and Moritz Krijgsman
Positions: Teamleader concept development and senior project manager
Companies: Defense Materiel Organisation (NL) and MARIN
Date: Thursday 19 September 2019
Time: 18:30 – 22:00
Venue: Delft University of Technology – 3ME Faculty – lecture room tbd
 Mekelweg 2
 2628 CD Delft
Contact: IMarESTBeNeLux@gmail.com
Parking: P-Aula or P-3ME; see campus map on <http://www.tudelft.nl/en/contact/>.

Dear member or friend,

You are hereby cordially invited to the coming Technical Meeting of the IMarEST BeNeLux Branch. Details of the programme and additional information can be found below. Your attendance to this Technical Meeting will be much appreciated. I look forward to seeing you on the 19th of September.

Would you kindly let me know if you plan to attend this event by registering [online](#). Please register before Monday 16th of September, so that we can order sufficient refreshments. Please note we have changed our policy concerning refreshments for non-members of IMarEST. We now kindly ask a contribution to refreshment costs of 5 euro's from non-members. The bank account number of IMarEST BeNeLux branch is: [NL67 RABO 0364 6179 69](#) (no refunds).

Thank you in advance.

Yours sincerely,
 Erik-Jan Boonen – Honorary Secretary IMarEST Benelux Branch.

Detailed Programme

18:30 Welcome incl. coffee; meet other attendees
 19:00 Technical Presentation
 19:45 (Coffee) Break
 20:00 Technical Presentation
 20:45 Discussion / remaining questions
 21:00 Drinks / Networking event
 21:45 Closure

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Abstract

The Netherlands armed forces have adopted the Operational Energy Strategy in order to reduce the dependency of operations on their logistic supply lines of fuel and reduce the impact of their operations on the environment. In this lecture, the Defence Materiel Organisation will discuss the developments in the future Royal Netherlands Navy fleet in support of this energy transition, through two case studies: the propulsion and power generation plant of the future frigate and the power generation plant of the future hydrographic survey vessel.



For the future frigate various hybrid propulsion configurations have been compared on basis of energy efficiency and various performance parameters. The control strategy turns out to provide opportunities to find a good trade-off. For the future hydrographic survey vessel, various future technologies, such as batteries, fuel cells and combustion engines running on alternative fuels have been investigated. The results of both studies will be discussed.

About the Speakers

Rinze Geertsma

CDR (E) dr. ir. Rinze Geertsma, CEng, MIMarEST is an experienced naval engineering officer with a strong interest in applying revolutionary technology on naval vessels to improve their performance, reduce their environmental footprint and increase their autonomy, while leaving key operational decisions to human operators and maintainers. He currently is team leader concept development energy and smart maintenance in the Life Cycle Modelling section of the Netherlands Defence Materiel Organisation and part-time lecturer and researcher at Delft University of Technology and Netherlands Defence Academy.

In 2018 he attained his Phd degree at Delft University of Technology with his dissertation on autonomous control for adaptive ships with hybrid propulsion and power generation. In this work, he investigated various hybrid propulsion and power generation architectures, its performance over multiple measures of performance and advanced control strategies to improve performance. His previously experience covers sea-going appointments as Marine Engineering Officer of HNLMS de Ruyter and HNLMS Tromp and research and development project management, system and project engineering and in service support.

Moritz Krijgsman

ir. Moritz Krijgsman is an experienced associate with a demonstrated history of working in the shipbuilding industry. He is currently senior project manager at MARIN, responsible for hydro systems. His team develops design methods and conceptual ship designs for the maritime energy transition. Moreover, a scaled physical test setup, the Zero Emission Laboratory, and a numerical model of future engine room systems are developed and built.

He has previously served as Marine Engineering Officer on RNLN diesel-electric submarines, as engineering manager of the naval dockyard in Den Helder and of Smit Power Transformers and as director Technology and Innovation of Alewijnse Marine Systems.