

**Delft University of Technology** 

# Control for autonomous all-electric ships

## Integrating maneuvering, energy management, and power generation control

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# **Propositions**

## **CONTROL FOR AUTONOMOUS ALL-ELECTRIC SHIPS**

INTEGRATING MANEUVERING, ENERGY MANAGEMENT, AND POWER GENERATION CONTROL

by

## Ali HASELTALAB

- 1. Without the adoption of advanced control approaches, autonomous all-electric ships cannot be as advantageous as they could be (this thesis).
- 2. Integration of maneuvering control, energy management, and power generation control modules is necessary to maximize the efficiency and robustness of ships (this thesis).
- 3. Constraint handling and the prediction of future load are essential for the integration of above-mentioned control modules (this thesis).
- 4. The negative influences of autonomous shipping on certain social classes must be studied, though, cannot be prevented.
- 5. To promote development of critical reflexive knowledge on top of instrumental knowledge, market-oriented policies should be limited in universities.
- 6. To eliminate submissiveness to the demands of political-economical ruling systems, engineers should first educate themselves about the true role of technology that is controlling nature, its forces, and even humans.
- 7. Academic freedom is under massive threat by capitalism which cannot be stopped as capitalism is proving to be indestructible.
- 8. Modern universities are in desperate need of true feminism which goes beyond gender diversity issues and does not limit itself to them.
- 9. Perhaps, the most successful institutions in enabling one-dimensional minds are technical universities, and for individuals, philosophy is the only way out.
- 10. There is no document of civilization which is not at the same time a document of barbarism (Walter Benjamin).

These propositions are regarded as opposable and defendable, and have been approved as such by the promotors Prof. Dr. R. R. Negenborn and Prof. ir. J. J. Hopman.