

<b>Name of organization</b> Tallinn University of Technology		<b>Year of information updating</b> 2020
<b>Year established</b> 1918		<b>Year of joining the ITTC</b> -
<b>Address</b> Ehitajate tee 5, Tallinn, Harjumaa, Estonia, 19086		<b>Status in the ITTC</b> -
<b>Contact details</b> (phone, fax, e-mail) Tallinn University of Technology – +372 620 2002, +372 620 2020, <a href="mailto:info@taltech.ee">info@taltech.ee</a> Small Craft Competence Centre – +372 566 199 89, <a href="mailto:tarmo.sahk@taltech.ee">tarmo.sahk@taltech.ee</a> , <a href="mailto:info@scc.ee">info@scc.ee</a>		<b>Website</b> <a href="http://www.taltech.ee">www.taltech.ee</a> <a href="http://www.scc.ee">www.scc.ee</a>
<b>Type of facility</b> Towing tank	<b>Year constructed/upgraded</b> Constructed 2015	
<b>Name of facility</b> Small Craft Competence Centre	<b>Location</b> (if different from the above address) Tallinna 19, Kuressaare, Saaremaa, Estonia, 93811	
<b>Main characteristics</b> (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top) Towing tank (L x B x D) – 60 x 5 x 3 meters		
<b>Drawings of facility</b>		
Top-view plan		
Cross-section-view plan		

### Detailed characteristics (carriages, wave/current/wind generators, instrumentations, etc.)

Unmanned belt-driven towing carriage, maximum model dimensions up to 3 m and 250 kg. Highest speed 5.7 m/s. The vibratory response and the deflection of the carriage at its midspan remain below 1.0 mm during test runs.

6-flap wave generator – linear (1st order Stoke wave) and nonlinear (Jonswap, Pierson-Moskowitz, ISSC, TMA Spectra) waves; wave height up to 0,35 m; wave length 0,2 – 20 m; Wave frequency up to 2,8 Hz.

### Applications (Tests performed)

#### Model tests

- Resistance test
- Seakeeping test
- Roll decay test, dynamic stability test
- LCG optimization tests
- Wedge/interceptor trim optimization test
- Streamline test
- Open-water maneuvering
- Propulsion/bollard pull test

#### Other tests

- Lainergy NextWave wave energy converter prototype tests
- TalTech Centre for Biorobotics underwater robot tests
- Autonomous Surface Vessel NYMO tests in towing tank and on open water
- TalTech Centre for Biorobotics underwater pressure and velocity sensor tests
- Hull cleaning device prototype tests

### Published description (Publications on this facility)

#### Publications on SCC

- "Masters plan at Kuressaare", Jake Frith, Maritime Journal, October 2018 - <https://www.maritimejournal.com/news101/onboard-systems/safety,-survival-and-training/masters-plan-at-kuressaare>
- "Feature: Estonia", The Royal Institute of Naval Architects, Ship & Boat International, September/October 2017 - [https://www.scc.ee/wp-content/uploads/2017/10/SBI-SepOct17\\_Estonia.pdf](https://www.scc.ee/wp-content/uploads/2017/10/SBI-SepOct17_Estonia.pdf)
- "Market Update: Estonia. Taking to the Water", Carol Fulford, Marina World, July/August 2017 - <https://www.scc.ee/wp-content/uploads/2017/10/MarinaWorld-Estonian-harbours.pdf>
- "Сааремаа. Там, где строят Эстонские лодки", Anatolij Pohlebkin, *Rybolov Elite*, 5/2017 - [https://www.scc.ee/wp-content/uploads/2017/10/Rybolov\\_Elite\\_by\\_A.Pohlebkin.pdf](https://www.scc.ee/wp-content/uploads/2017/10/Rybolov_Elite_by_A.Pohlebkin.pdf)
- "Курессаарский «Зонтик»", Alexey Danajev, Kapitan Klub, #2/2017 - [https://www.scc.ee/wp-content/uploads/2017/10/CaptainClub\\_Danjaev.pdf](https://www.scc.ee/wp-content/uploads/2017/10/CaptainClub_Danjaev.pdf)
- "Estonian Workboats. Piercing through Waves and International Markets", Daniel Barnes, Inside Marine, Jan/Feb 2017 - <https://www.scc.ee/wp-content/uploads/2017/10/Inside-Marine-Baltic-Workboats-2.pdf>

#### Scientific publications

- Kõrgesaar, M.; Romanoff, J.; St-Pierre, L.; Varsta, P. (2019). Effect of weld modelling on crashworthiness optimization. In: Josko Parunov & C. Guedes Soares (Ed.). Trends in the Analysis and Design of Marine Structures. CRC Press.10.1201/9780429298875.
- Lakatoš, M.; Sahk, T.; Kaarma, R.; Tabri, K.; Kõrgesaar, M.; Andreasson, H. (2019). Experimental testing of spray rails for the resistance reduction of planing crafts. Trends in the Analysis and Design of Marine Structures: MARSTRUCT 2019 7th International Conference on Marine Structures 6 – 8 May 2019, Dubrovnik, Croatia. Ed. Puranov, J.; Guedes Soares, C. London: Taylor & Francis Group., 334–343.

- Kõrgesaar, Mihkel (2019). The effect of low stress triaxialities and deformation paths on ductile fracture simulations of large shell structures. *Marine Structures*, 63, 45–64.10.1016/j.marstruc.2018.08.004.
- Kõrgesaar, M.; Romanoff, J.; St-Pierre, L.; Varsta, P. (2019). Effect of weld modelling on crashworthiness optimization. In: Josko Parunov & C. Guedes Soares (Ed.). *Trends in the Analysis and Design of Marine Structures*. CRC Press.10.1201/9780429298875
- Etc...