[Estonian Navy letterhead]

[Estonian Navy, Miinisadama 15, 10129 Tallinn, Estonia]

Tallinn, [date] November 2026

NATO Science for Peace and Security (SPS) Programme
NATO Headquarters, Boulevard Léopold III, 1110 Brussels, Belgium

Letter of support and end-user commitment: SPS Multi-Year Project application, Call 2027-1

Project: Bio-HYDAR: Passive Hydrodynamic and Bio-Optical Sensing to Protect Harbours and Undersea Infrastructure (short title: Bio-HYDAR)
NATO-country Project Director: Dr. Jeffrey A. Tuhtan, Tallinn University of Technology (TalTech), Estonia
Partner-country Project Director: Dr. Yizhaq Engelberg, Tel-Hai University, Israel

Dear Members of the SPS Programme,

The Estonian Navy supports the Bio-HYDAR application and will take part in the project as an end-user. The project addresses a gap we face in protecting naval berths and their approaches.

Who we are

The Estonian Navy is the maritime component of the Estonian Defence Forces, based at Miinisadam in Tallinn. It defends Estonia's territorial sea and its approaches, carries out mine countermeasures and seabed surveillance, and contributes to NATO maritime forces and to the protection of undersea infrastructure in the Baltic Sea. [Navy to adjust wording; optionally name Baltic Sentry or Task Force X Baltic.]

The gap we see

Naval berths and harbour approaches are shallow, crowded and noisy. In this clutter, small craft, swimmers, combat divers and small underwater vehicles are hard to detect with sonar, radar and cameras, especially at night and in poor visibility, and active sensors reveal the position of the asset they protect. The attack by an underwater drone on a ship in Novorossiysk in December 2025 shows that small underwater vehicles can now reach ships inside a defended harbour. What we lack is low-cost, passive and persistent sensing on the seabed that raises an early cue and directs our other sensors and patrols to the right sector. [Navy may add one sentence in its own operational words.]

Bio-HYDAR addresses this gap with a seabed node that combines passive pressure arrays, which detect the wake and pressure signature of a passing vessel at distances of up to several kilometres, with near-bed optical sensing of the particles and plankton that the passage disturbs. The node is acoustically silent and does not depend on AIS, radar or GNSS. It gives a cue with a confidence level, not an identification, so it adds a layer to the sensors we already use rather than replacing them. We see no overlap with our existing systems or programmes.

What we will contribute

Over the 36 months of the project we will:

1. **Advisory group.** Hold one seat in the project's end-user advisory group, attend [two] meetings per year (online or in Tallinn), starting at month 6, and take part in the go/no-go review at month 12.
2. **Requirements for naval berths and approaches.** Provide, at unclassified level, the event types of concern (small craft, divers, small underwater vehicles, seabed contact), the cue delay and false-alarm rate that would make a cue useful, and how cues should reach the duty officer. These requirements set the success criteria for the harbour trials.

3. **Diver scenarios.** Advise on realistic diver and swimmer tracks for the towing tank and harbour trials. [Option: make a navy diver team available for up to X days of trials, subject to operational commitments.]
4. **Demonstration and assessment.** Observe the second harbour trial (month 30) and the final demonstration (month 36), and give a written assessment of the usefulness of the cues for force protection.
5. **Path to use.** If the node reaches TRL 5, consider a trial at a naval berth [for example Miinisadam] through national defence research and development funding [for example via the Estonian Centre for Defence Investment].

[Estonian Navy] will receive no funding from the SPS grant, and no classified information will be exchanged within the project. These are statements of intent; access to sites, vessels and data will be agreed with TalTech in writing before each activity, subject to our operational priorities and to Estonian law. We support the application and look forward to working with TalTech and Tel-Hai University.

Yours sincerely,

[Signature]
[Name]
[Rank and title, for example Commander of the Estonian Navy]
Estonian Navy
[email], [phone]

Notes for TalTech (not part of the letter)

- Remove this notes page before sending the letter for signature.
- Everything in [brackets] must be confirmed or filled in by the signing organisation.
- NATO receives the signed English letter. The Estonian version is for the organisation's internal review; if they sign in Estonian, attach the English version as a translation.
- Ask for the letter on letterhead, signed and dated, as a PDF. SPS merges all end-user letters into one PDF upload.
- Estonian text was drafted by Claude; have a native speaker read it before sending.
- The Navy may prefer that the letter come from the Estonian Defence Forces or the Ministry of Defence; ask who signs.
- Item 3 (navy divers) is valuable for the diver trials but optional; delete if the Navy declines.