



22-01-2025

Subject

Invitation to Market Consultation for Electrification of Ferries in Amsterdam – Charging Infrastructure (including System Integration and Maintenance)

Dear Partner,

Amsterdam, one of the world's most renowned cities, boasts an impressive public transport network that serves approximately 800,000 travelers daily. Among these, the ferries operating on the IJ River play a significant role, transporting an average of 72,000 passengers per day (as of 2019). This number is expected to increase by 40% between 2019 and 2030, driven by substantial residential developments, particularly along the northern IJ shores. Over the next decade, ferries will play a crucial role in connecting Amsterdam north and south of the IJ.

Currently, there are seven ferry connections on the IJ, operated by GVB Ferries under commission from the Municipality of Amsterdam (these are known as the IJ ferries). The current IJ ferry fleet consists of two series: the 50-series, which are fully diesel-powered, and the 60-series, which operate with a hybrid propulsion system (diesel generators). To enhance reliability, capacity, safety, and sustainability, the Municipality of Amsterdam aims to operate emission-free ferries by 2030. This requires not only new and retrofitted vessels (including electrification of the 60-series and possibly the 50-series) but also the implementation of comprehensive charging infrastructure, including ongoing maintenance.

In preparation for this tender, GVB is exploring how to present this challenge to the market and invites your input. Our goal is to align our needs with market capabilities and ensure opportunities are not overlooked.

We greatly value your willingness to share your insights on this matter.

How to Participate

To facilitate an efficient process, we kindly ask you to complete the Market Consultation Question and Answer Form (attached as Annex 1) and email it to Jules.Boterman@GVB.nl.

While we appreciate receiving as detailed input as possible, even partial responses to the questions are valuable. We encourage you to provide comments or suggest alternatives where necessary.

We kindly request your input by **[February 20, 2025.](#)**

Attachments: see under

To streamline the process, we have chosen this light approach and will not conduct live interviews upfront. However, we may follow up for additional consultation via telephone, email, or scheduled meetings. This ensures that answers can be compared efficiently.

All responses will be treated confidentially due to the potential sensitivity of competitive information.

More details about the project requirements are outlined below. If you have additional questions after reviewing this document and its annexes, please contact us using the details provided at the end of this document. Questions must be submitted by **February 6, 2025**. Responses to questions will be shared via TenderNed within seven calendar days.

Scope Overview

The electrification program for ferries encompasses the design, installation, turnkey delivery, and maintenance of the following components:

1. **Charging Stations and Interfaces**
 - o System components
 - o Installation of components and connections
 - o Construction work (housing/enclosure)
 - o Connection to the electricity grid (Liander)
 - o Permits
2. **PhyInfrastructure**
 - o Cables and infrastructure
 - o Charging connectors
 - o Integration of charging stations with connectors (cables and infrastructure)
 - o Adjustments to landing areas if necessary
3. **New Electric Ferries** (as a separate tender)
4. **Electrification of Existing Ferries** (60-series and potentially 50-series)
5. **System Integration**
 - o Coordination with shipyards
 - o Coordination with Liander for grid connection
 - o Coordination with other permitting authorities
 - o Full system FAT testing
 - o Delivery and acceptance process
6. **Maintenance**
 - o Maintenance based on KPIs focusing on availability, reliability, and cost over the technical lifespan (approx. 30 years)
 - o End-of-life recycling and circularity of components and materials

The acquisition of new ferries and retrofitting of the existing fleet (items 3 and 4) will likely be tendered separately unless advised otherwise. These tenders are expected to begin in 2025.

All other components fall within the scope of this market consultation and are expected to result in a single main tender for charging infrastructure (items 1, 2, and 5–10).

The precise demarcation has not yet been determined. Therefore, we encourage shipyards and battery suppliers to participate in this market consultation as well. For GVB, it is essential that all components function as seamlessly as possible. (Once you have actively participated in this market consultation, we will, of course, keep you informed about the tender planning for the vessels.)

System Integration and Interconnected Components

With an average of 72,000 passengers using the ferries daily, this number is expected to grow significantly. The IJ ferry timetable involves short crossing and docking times, ranging from two to fifteen minutes. This requires a robust, uniform, and reliable system.

We aim to assign a single party as the system integrator responsible for charging infrastructure. This party will deliver, install, and maintain the charging stations and connectors based on performance requirements. While vessel acquisition and retrofitting will not be managed by the system integrator, they will be required to ensure seamless integration into the overall system.

By 2027, a hybrid 60-series vessel will be available for system mock-up and testing. Testing will require at least one charging station and two connectors to be operational.

Flexibility and Locations

Amsterdam is undergoing significant development, which may impact ferry connections. This includes residential developments requiring new connections or alternative solutions such as bridges or tunnels. Additionally, grid congestion could delay the availability of the necessary grid capacity.

To address these challenges, we seek a multi-year framework agreement that enables flexible assignments for charging infrastructure, emphasizing standardization and modularity for interoperability, speed, minimal disruption, and high availability.

The electrification plan includes the following five connections and one depot:

Nr.	Locatie	Netcapaciteit verwacht d.d.	Gewenst jaar van oplevering*
1	F2: IJpleinveer (voldoende netcapaciteit	Q4 2026	2027
2	F3: Buiksloterwegveer.	Q4 2026	2028
3	F4: NDSM-werfveer.	2031	2031
4	F6: Distelwegveer.	2031	2031
5	F7: Houthavenveer.	2031	2031
6	Depot (ponthaven)	2031 (uitbreiding capaciteit)	2028 (op huidige capaciteit)

Electrification of five connections and the depot must be completed by 2031, with the IJplein ferry expected to be the first.

The reason why five, rather than all seven, connections are being considered for electrification is that two connections are currently uncertain. This is due to the construction of the Oost Bridge and the "Zeeburgereiland" connection, which is a pilot (temporary connection).

Below is an overview of the landings where charging infrastructure is most feasible (for now, the charging infrastructure will only be implemented on the northern bank of the IJ).



Aantal veren bij de huidige dienstregeling (2022) en dummy-dienstregeling 1 per veerverbinding.



North Sea Canal

GVB operates three ferry connections on the North Sea Canal (outside of Amsterdam's IJ ferries), which have already been electrified and are serviced by five electric vessels. These ferries primarily operate electrically, but under certain conditions, such as strong winds, a diesel generator may provide support. The crossing duration for these ferries is approximately 20 minutes.

This allows for significantly longer docking times, enabling extended charging and connection periods. These ferries are designed to accommodate cars and trucks. Additionally, maintenance was not included in the initial contracts during implementation (which is now the standard approach). The North Sea Canal ferries and connections are not directly comparable to the IJ routes due to the shorter crossing and docking times on the IJ. Moreover, the IJ ferries primarily transport pedestrians and cyclists.

If you were involved in the implementation of the North Sea Canal ferries, we would greatly appreciate your lessons learned (to be included in your responses to the questions in the form, Annex 1).

Charging Capacity in Relation to Batteries

For the required charging capacity, it is currently assumed that the longest route (F4: CS to NDSM) consumes a maximum of 39 kWh with the least efficient ferries (the retrofitted 60-series). This represents the minimum output that charging stations, in combination with connectors, must be able to deliver to batteries within a docking time of 150 seconds, throughout the year. Battery levels must remain between 20–80% under all circumstances.

A direct current (DC) system has been selected due to the required charging speed and to avoid costly converters.

Standardization and modularity of charging stations are pursued to ensure more efficient operations and availability of components.

Lifespan and Maintenance

The minimum technical lifespan must be as long as possible, with considerations already in place for the availability of parts, reuse, and circularity. Maintenance should align with this lifespan.

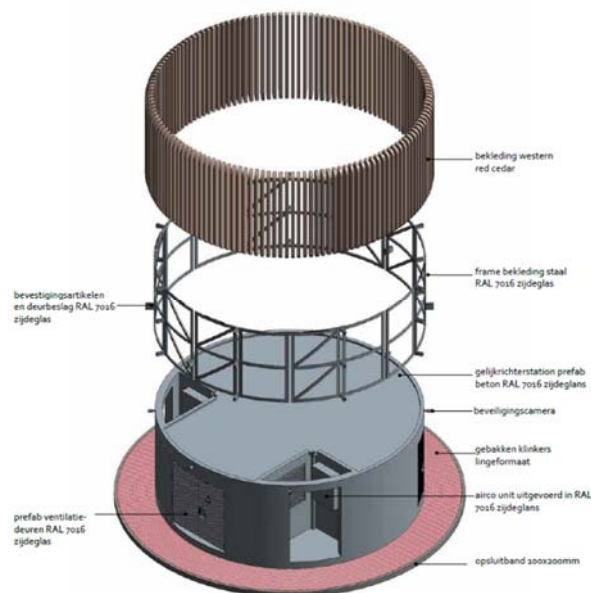
Architectural Design (Item 1c of the Scope, see p. 2)

Regarding the construction work for the charging stations, architectural integration is also an important consideration. For the first location (IJplein), the Municipality of Amsterdam (specifically the V&OR department) has developed the design below, emphasizing integration into the urban environment. This building is specifically designed for this location and is unlikely to be replicated for future charging stations along the IJ shores.

How the other charging stations should be designed is not yet known. The interior must be modular and adaptable to any desired exterior.



2.3 Materialen



houten elementen -
red cedar



door de afrondingen per
plank ontstaat een
eenduidige en sterke vorm

Key dates

		DATA
1	Dialogue	March 2025
2	Contracting specialists	Q2 2025
3	Procurement plan finalized	Q3 2025
4	Preselection for main tender (charging infra)	Q4 2025
5	Award phase for main tender	Q1/Q2 2026
6	Preparation for first connection (IJplein)	Q1 2025

It is not inconceivable that the decision-making process will take additional time. The scope of the main tender for charging infrastructure will be determined during the research phase. A detailed timeline with durations will follow during the tendering process itself.

Questions

If you have any questions, please contact Jules Boterman (Senior Procurement Advisor), reachable at +31 (0)6-24928157 or Jules.Boterman@gvb.nl. We prefer that content-related questions be submitted in writing by February 6, 2025. Answers will be published on TenderNed within seven calendar days of this deadline.

This market consultation has intentionally been designed with a light approach. However, to ensure clarity, transparency, and a level playing field later in the process, some rules have been established (see Annex 3, if applicable).

We sincerely thank you for your expert input!

Kind regards,

GVB Ferries

Attachments:

1. Question and Answer Form (Excel file)
2. Update Note Ferries 2021 (only available in Dutch)
3. Rules market consultations

Disclaimer: This document is an electronically translated version from Dutch to English. The Dutch version is leading.