

Market consultation – Final report

In preparation of the proposed tender

'Radar systems Wadden Sea and Wijk bij Duurstede'

Colophon

Published by	Inkoopcentrum IV
Information	inkoopcentrum-iv@rws.nl
Executed by	Siem Doeze Jager
Datum	01-06-2023
Status	Final

Contents

1. Introduction 4

1.1 Motivation4

1.2 Aim of the market consultation5

1.3 General outline of this Market consultation 5

2. Conclusions of the Market consultation 6

1. Introduction

1.1 Motivation

The objective of this market consultation is to explore the possibilities for the future tender for the replacement of radar systems in two areas of application: the Wadden Sea and the channel connecting Amsterdam with the river Rhine (Amsterdam-Rijnkanaal).

Rijkswaterstaat (RWS), part of the Dutch Ministry of Infrastructure and Water Management, is responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands. RWS highly values the opinions of market parties and seeks to involve them early and actively before the proposed call for tenders

starts. Early market approach is one of the instruments for making optimal use of the knowledge, skills and creativity of the market. For example, together we analyze the task facing RWS and look for the most suitable solution (fit for the future).

On the Wadden Islands and along the Amsterdam-Rijnkanaal there are several radar systems that are used for vessel traffic management purposes. The radar systems on the Wadden Islands monitor marine traffic on the Wadden Sea and on the North Sea. The radar systems along the Amsterdam Rijnkanaal are used by the traffic management post in Wijk bij Duurstede. These traffic management posts safeguard and manage shipping traffic in the Wadden area and on the Amsterdam-Rijnkanaal. The data from the radar systems on the Wadden Islands of Terschelling and Schiermonnikoog is also shared with the Dutch coast guard for Search and Rescue (SAR) missions and law enforcement activities.



The goal of this project is the purchase of radar systems to replace the current systems which are end-of-life. It is expected that there will be no functional/software changes to the vessel traffic management systems. The tender for this project will most likely be published in the second half of 2023.

1.2 Aim of the market consultation

RWS has published this Market Consultation Document on TenderNed with the aim of reaching as many market parties as possible, to interest and encourage them to help seek solutions.

With this Market Consultation, RWS aims:

- to gather insight into the feasibility of the project and the conditions under which the tender can be executed;
- to gather input for the purchasing/tender strategy and the contract documents;
- to involve the market in an early stage of the project to ensure our demand aligns with the current market situation;
- to identify which parties are interested and are able to take part in the tender;
- to see what the possibilities with regards to sustainability are.

RWS emphasises that this market consultation is not part of the tendering procedure and that no rights can be derived from this document.

Any insights gained from the market consultation may be used by RWS (wherever relevant) in preparing the tendering procedure and the tendering documents. RWS reserves the right to not (fully) make use of these insights

1.3 General outline of this Market consultation

The Market consultation started with the publication of the Market consultation document on TenderNed.

Every interested party who was of the opinion that they could contribute to the Market consultation was asked to submit answers to the questions in the Market consultation document in writing.

Four parties have submitted answers to this Market consultation, namely:

1. Terma A/S
2. Saab Technologies B.V.
3. Radio Holland Belgium nv
4. Sperry Marine B.V.

All parties have been invited by RWS CIV to give oral clarifications to a selection of their answers.

RWS CIV expresses gratitude to all the parties that participated in this Market consultation.

This report will be published on TenderNed on the 1st of June 2023. Parties that participated in this Market consultation will also receive this report digitally after publication.

2. Inventory of answers from the Market consultation

Questions regarding your interest in this tender	
A1	Are you considering participating in the tender, based on the information in this Market Consultation document? Why or why not?
	All participants are considering to join the tender.
A2	Which aspects of this tender make it interesting for you to participate in the tender?
	The answers focused mainly on why the parties were interesting for Rijkswaterstaat. Parties did really go into detail about why this tender would be interesting for them.
A3	How could we make this tender more interesting for you?
	Several parties suggested how the tender could be made more interesting for them, for example: - Set up a framework agreement - Take the total cost of ownership into account - Adding maintenance to the scope of the agreement
A4	RWS is considering to split up the tender into smaller lots. Parties will be able to make an offer for one or more of these smaller lots. In your opinion, what would be the ideal composition of lots to improve your willingness and ability to submit an offer? What are your considerations for this answer?
	Several parties have suggested dividing the tender into lots. Different parties have different vision on how to divide the tender. Dividing the tender up into lots increases administrative burdens but increases market forces.

Questions regarding the contents of the project	
B1	Which information do you need from RWS in order to determine if you can fulfill the requirements?
	- Technical requirements for the radar systems - Technical information with regards to the placement points for the radars - Interfaces - A list of 3rd parties and systems that are involved
B2	Which challenges, opportunities and/or risks do you see for this project which RWS should take into account?
	Challenges: no particular challenges were mentioned. Opportunities: standardization (across categories and contracts) was mentioned multiple times Risk: Generally, participants see this as a low-risk project.
B3	Which industry standards with regards to safety and quality are commonly used for comparable projects?
	Several suggestions have been given.
B4	Can you identify features of this project that are in your opinion not attainable or not feasible? (e.g. timeframes, technical features etc.)
	For short range radars (e.g. gap fillers) magnetron radar sensors might be more suitable than solid state radar sensors.
B5	Which (technological) developments or products do you think we should take into account for this project?
	Several innovations have been shared. Due to confidentiality these suggestions cannot be shared.
B6	In your opinion, which improvements can be made in the approach described in this document in order to improve your ability to submit a good offer?
	The answers did not provide many improvements for the tender.
B7	RWS aims to use as much open standards as possible in order to improve interchangeability of systems. In which way can you contribute to this goal?
	The general consensus is that interchangeability is not a problem.
B8	Can you suggest a list of 5 qualitative aspects through which we can establish the distinctive characteristics of different suppliers?

	Possible qualitative aspects for this tender: - Quality of the radar (e.g. MTBF / short range resolution) - Ability to make use of future (technical) developments - Maintainability - Sustainability
B9	Do you see any risks with regard to the production of radar systems? Are there any problems with regard to (for example, but not limited to) resources, which can have a negative influence on the delivery times for the radars? In what way can we take this into account in our tender?
	The answers diverge. Some parties mention resource availability in the current market. Other parties see no risks.
B10	Installation and integration of the radar systems into our Shipping Traffic Management system will be performed by a third party. Do you see any challenges or possibilities for just-in-time delivery of radars if we provide you with a detailed schedule of these activities?
	The mentioned risks are: - Needed permits - Experience of third party with the radar system

Technical questions	
C1	There are several short range radar systems, i.e., category C in Section X along the Amsterdam-Rijnkanaal (Sperry Marine Bridgemaster). These radars have 6 foot antennas. The constructions on which these radars have been installed will not be adapted. It would be preferred to replace these by radar systems based on Solid State technology in order to minimize maintenance. These current radar systems have a minimum detection range of 30 m. Since the systems are located close to the waterway, reducing the minimum detection range will be beneficial. Which possibilities do you see to reduce the minimum detection range and to what extent can it be reduced?
	Range is dependant on the height of the mast and the angle of the radar sensor. Magnetron radars perform better at short range than solid state radars.
C2	Does your radar system have provisions to minimise degradation of the quality of the maritime surface picture by the presence of large scatterers, such as high rise buildings, bridges, and wind turbines?
	All parties can meet these requirements.
C3	RWS has been assigned the frequency range between 9.3 GHz and 9.5 GHz. Can your radar systems deliver the desired IALA Advanced capabilities within this frequency span?
	All parties can meet these requirements.
C4	If not, can your radar systems provide the desired capabilities if we expand the frequency range from 9.2 GHz to 9.5 GHz?
	See previous question.
C5	Do your radar systems provide plot extraction and tracking functionalities ? This question is only applicable to the IALA Standard and IALA Advanced radars.
	All parties can provide this functionality.
C6	RWS would like to separate communication of radar output data and data needed for operation and maintenance purposes. Do your radar systems offer possibilities for data communication in two separate VPN environments?
	Several complications have been described by parties with regards to this requirement.
C7	Do your radars support Simple Network Management Protocol (SNMP)? If so, which versions of SNMP are supported?
	Not all radar systems support the most recent version of SNMP yet.
C8	Do your radars support the following functionalities with regards to operation?

	1. The radar sends status data about whether or not the radar antenna is able to rotate; 2. The radar sends status data whether or not the radar is transmitting; 3. It is possible to configure the radar locally; 4. It is possible to configure the radar remotely.
	All parties can meet these requirements.
C9	Do your radars support the following security related functions? 1. Authorization is required for accessing radar data; 2. Authorization is required for operation related activities; 3. It is possible to set requirements for passwords; 4. It is possible to prevent passwords from being re-used; 5. Automatically generated passwords have to be changed after the first use; 6. The radar creates a non-alterable log of user interaction data; 7. This log is only accessible through an administration interface; 8. Unnecessary data network services can be disabled; 9. Access to ports which are not being used by the radar can be disabled.
	All parties can meet these requirements. Not all aspects are relevant because some aspects are dependent on the certificate issuing entity.
C10	The IALA Advanced radars will be placed on specific locations. The antennas of the IALA Advanced systems can experience heavy wind loads. Do your radars experience any limitations in performance/operation based of wind speeds? If so, please elaborate what kind of limitations.
	Several party have mentioned the wind speeds at which performance will be influenced.
C11	RWS places the IALA-class Advanced radars on listed buildings for which maximum load calculations have been carried out. Can you give us the following information for your IALA Advanced radars? 1. Total weight (kg) 2. Wind catching surface of the radar(m²) 3. Windcatching surface of the undercarriage (m²) 4. Profile of the readar antenna (is it curved or not?) 5. r/b - ratio
	Several parties have provided this information.
C12	Can your IALA Advanced radars be equipped with an up-mast and/or down-mast construction?
	Both constructions can be supplied. Several parties have different preferences. For the Wadden sea radars, a down-mast construction is preferred by all parties due to maintainability.
C13	Do your radars offer the following safety related features? 1. Anchorage points; 2. Lifting eyes / lifting beam on the propulsion.
	All parties can meet these requirements.
C14	RWS strives for lower energy consumption. Temperature control in an unmanned radar station (ORP) has a relatively high energy consumption. A wider temperature bandwidth within which a radar can function reduces energy consumption. Between which minimum and maximum temperatures do the radars not require temperature control?
	Several parties have provided this information.
C15	Which fire prevention measures have been or can be taken for the radar systems? The category A radar systems are placed on locations where fire provides a bigger hazard. But this question is relevant for all categories.
	Several suggestions have been made. Due to confidentiality these suggestions cannot be shared.
C16	RWS strives for radar data output in standard and accessible formats. ASTERIX is a standard that is currently used for radar data output. Which ASTERIX categories are supported by your radar systems, especially for the communication of video, plot and/or track data? Would you propose any other standard besides ASTERIX, and if so, which standards and why?

	All parties can fulfill this requirement.
C17	Do you provide support for Search and rescue (SART) in your X-band radar systems? If so, what is the maximum distance that SART signals may be received?
	All parties can fulfill this requirement. Range is dependent on the set-up of the radar.
C18	What technology would you suggest for the new radar systems (magnetron, Solid state radar (SSR), hybrid) and with what rationale?
	Several parties have given diverging answers.
C19	Do your radar systems contain functionality to report about and/or evade intentional and unintentional sources of interference? If so, please provide some explanation?
	All parties can fulfill this requirement.
C20	Do your radar systems contain radioactive materials?
	None of the radars contain radioactive materials.
C21	Can you provide us with a material passport for the radar systems? (A material passport is a digital document listing all the materials that are included in the product in order to facilitate circular re-use of the product).
	Not all parties can provide a materials passport.
C22	Can you provide a CE-certificate for your radar systems?
	All parties can fulfill this requirement.

Other questions

D1	Which availability can you guarantee with regards to the reliability (for instance mean time between failures) of your radar systems?
	High reliability can be guaranteed if the systems are maintained properly. The exact percentages cannot be shared due to confidentiality issues.
D2	Which percentage of materials used in your radar systems can be re-used/refurbished and what percentage of materials is recyclable?
	Multiple parties have provided an answer. The exact percentages cannot be shared due to confidentiality issues.
D3	Can you specify the operational up-time of the radar systems that are relevant for this proposed call to tender? Can measures be taken by RWS to further increase the up-time?
	Multiple parties have provided an answer. The exact up-time cannot be shared due to confidentiality issues.
D4	Can you recommend a list of spare parts which are critical to the operation of radar systems, taking into account the impact on radar performance and delivery times?
	Not all parties have answered this question. The exact parts cannot be shared due to confidentiality issues.
D5	The four category A radar systems will be placed on lighthouses on the Wadden Islands. The other radars will be placed on masts or other constructions in the vicinity of the Amsterdam-Rijnkanaal. Parts of the radar systems will be exposed to the elements. How does this influence the performance and lifespan of your radar systems?
	All parties state that their radars are designed for the specified circumstances.
D6	RWS wants to let the party responsible for installation and integration of the radar systems perform a number of tests as part of the tender. These tests serve as a final check if the radar systems are compatible with the Traffic management system and will only be performed for the radar systems that get the winning score. It is not necessary to connect to the RWS system environment. One option is to visit a location of your choice for the tests. Which possibilities do you see for this?
	All parties can provide several options for testing the compatibility
D7	RWS wants to perform more expanded system integration tests within the RWS system environment after the conclusion of the tender. Which

	possibilities do you see to perform these tests on the radar systems that will be supplied as early as possible in the project?
	Not all parties have answered this question. One option is to use demo-equipment.
D8	What possibilities do you see to take into account life cycle management in this tender? Assuming that the installation and integration of the radar systems will be performed by a third party.
	One option is to include management in the tender or at least making sure that there is a contract for maintenance beforehand.
D9	How can we create an effective cooperation in the execution of this project? What do you need in order to provide maximum value (organization, deliberation, meetings)?
	Several answers have been giving, mainly pertaining to project management and communication.
D10	In your opinion, which factors will guarantee a successful cooperation with the party which will perform the installation and integration of the radar systems?
	Proper communications and a clear division of responsibilities.
D11	Can you provide a list with, in your opinion, the main cost drivers (in relative sizes) of the supply and testing of radar systems?
	The answers do not give any insights into the main cost drivers for the supply of the radars. Testing has been mentioned as a possible cost driver.
D12	Which other suggestions and/or tips do you have for RWS with regards to this tender?
	No suggestions outside of those mentioned earlier in this report.
D13	Which limitations do you foresee with regard to the transportation and storage of the radar systems?
	Transportation and storage is not an issue for this project.
D14	What possibilities and points of attention do you see with regards to knowledge transfer and troubleshooting during the installation and integration phase with the service integrator?
	- Training - Local or remote support - Good communication