GRONINGEN SEAPORTS

SCHEDULE OF REQUIREMENTS for

Subject	Replacement VTS radar system Groningen Seaports (NL)
Project number	P000176
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2 GENERAL

Groningen Seaports is the port authority and operator of the port of Delfzijl, Eemshaven and the adjoining industrial sites. Groningen Seaports manages an area totalling approximately 2,600 hectares. Groningen Seaports also comprises two inland ports: Farmsumerhaven and Oosterhornhaven. The location, the range of various types of business sites, the infrastructure, the space and the attractive land prices make the sites of Groningen Seaports ideal locations.

For more information about our organisation, please visit our website http://www.groningen-seaports.com.

2.1 Background

Groningen Seaports is responsible for safe and efficient shipping in the ports of Delfzijl and Eemshaven. Shipping in the ports is supported remotely by the HCC (Harbour Control Centre). The HCC is staffed 24/7 and uses a VTS radar system, a camera system, and a VHF system to communicate with shipping.

The current radar system is no longer supported by the supplier, necessitating Groningen Seaports to replace the system in full.

Groningen Seaports is responsible for safe shipping in the ports, and consequently the radar should provide optimum performance. The area around the port, including a large part of the river Eems, should also have good radar coverage.

3 PRINCIPLE/DESCRIPTION OF THE ACTIVITIES

The client wishes to replace the existing radar system with a completely new system. This Chapter describes the requirements.

3.1 Reason for the contract

The current radar system is no longer supported by the supplier, necessitating Groningen Seaports to replace the system in full.

3.2 The contract

In essence, the service to be provided consists of:

- To supply, configure, install and to hand over a complete ready-to-use VTS Radar system, including radars, radar antenna, the required hardware and software, and network components.
- Service and maintenance for at 10 years.
- Software in ownership (Licence with unlimited validity)
- Annual refresher training for the users.
- To improve the quality of the radar picture compared to the current radar.

3.3 Current situation

The current system comprises:

- 7 radar stations (4 Delfzijl, 3 Eemshaven)
- 2 workstations for shipping traffic control HCC Delfzijl
- Various servers in Delfzijl
- 2 workstations HCC Eemshaven
- Various servers in Eemshaven
- 1 workstation for service and replay in Delfzijl
- 1 AIS base station Delfzijl
- 1 AIS base station Eemshaven
- link with Meteo/Hydro system
- link with VHF system
- various switches and routers

3.3.1 Specifications of the current radar

Radar site	Location	Position Lat Long	Antenna type	Antenna length	Installation year Antenna	Height above mean sea level	Encoder Pulses	Rotation time RPM	Output power	Puls length
RS 1	Delfzijl	53°19'32,85" 06°56'44,01"	Atlas X-Band	22 ft	Before 2008	15 m	576	13.2	25kW	125ns
RS 2	Delfzijl	53°18'58,49" 06°59'36,84"	Atlas X-Band	22 ft	Before 2008	15 m	576	13.2	25kW	125ns
RS 3	Eemshaven	53°26'57,57" 06°50'23,04"	Wartsila X-band	8 ft	2020	15 m	72	24.8	25kW	125ns
RS 4	Eemshaven	53°27'15,04" 06°50'30,94"	CHL SHA37-9375-36	22 ft	2011	15 m	576	20.5	25kW	125ns
RS 5	Eemshaven	53°26'34,77" 06°50'13,09"	SAM X-Band	8 ft	2014	15 m	1920	24.8	25kW	125ns
RS 6	Delfzijl	53°19'27,79" 06°56'31,41"	SAM X-Band	8 ft	2014	15 m	1920	24.8	25kW	125ns
RS 7	Delfzijl	53°18'43,48" 06°00'27,60"	CHL SHA37-9375-36	22 ft	2014	15 m	576	20.3	25kW	125ns

3.3.2 Delfzijl

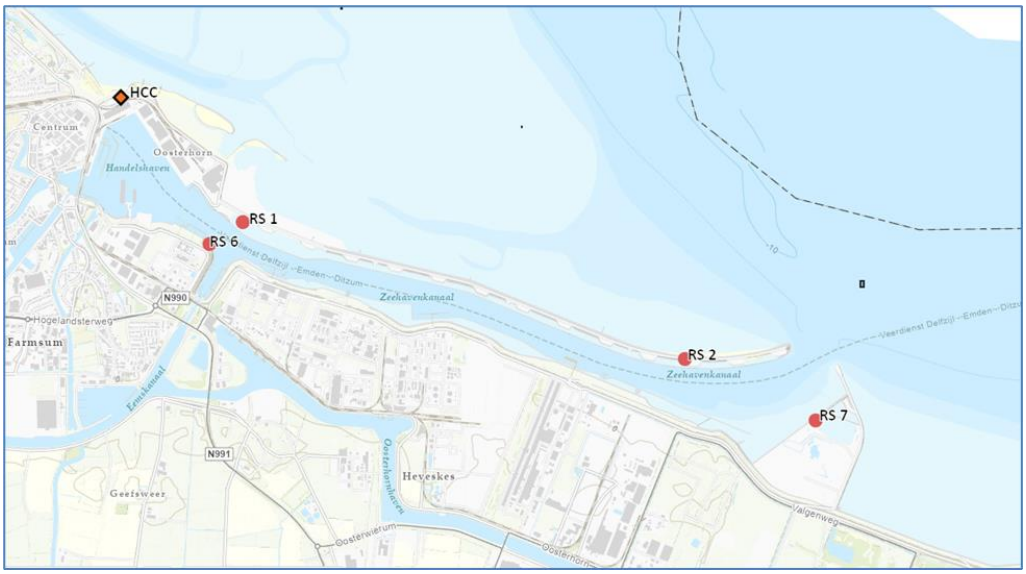
The port of Delfzijl is equipped with 4 radar posts. Each radar post has an electricity connection, emergency power supply, air-conditioning, and is connected to the Groningen Seaports fibre-optics network. A number of dark fibres is available for the VTS Radar in the fibre-optics network.

RS 1

RS 2

RS 6

RS 7



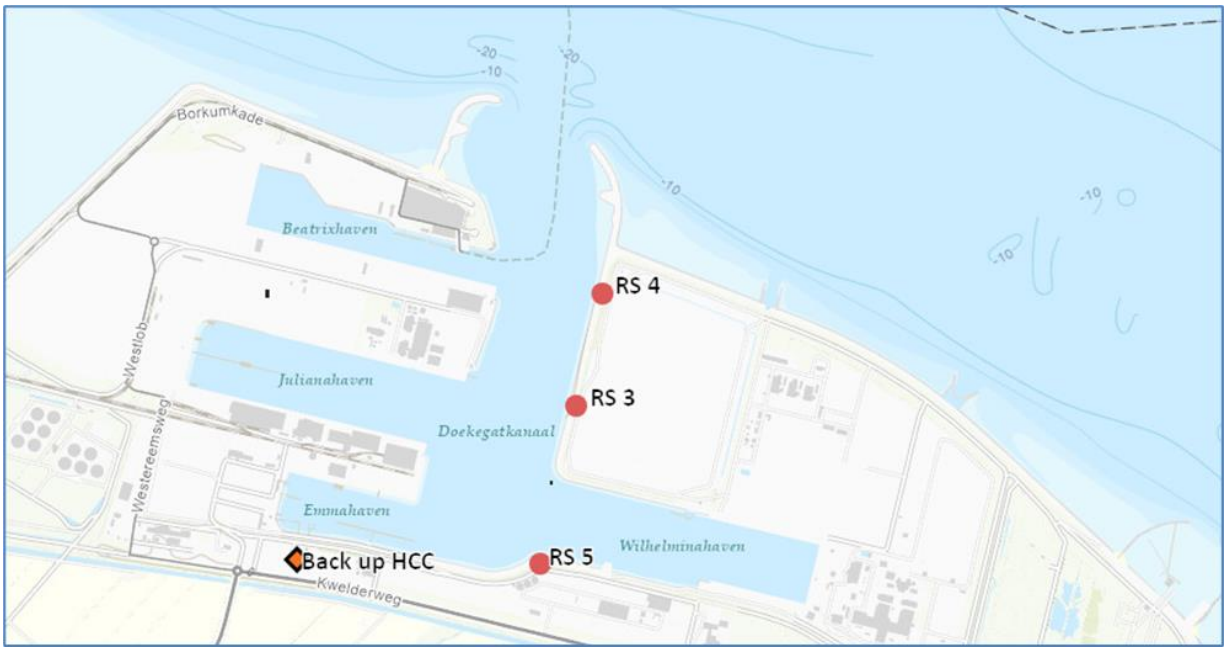
3.3.3 Eemshaven

The port of Eemshaven is equipped with 3 radar posts. Each radar post has an electricity connection, emergency power supply, air-conditioning, and is connected to the Groningen Seaports fibre-optics network. A number of dark fibres is available for the VTS Radar in the fibre-optics network.

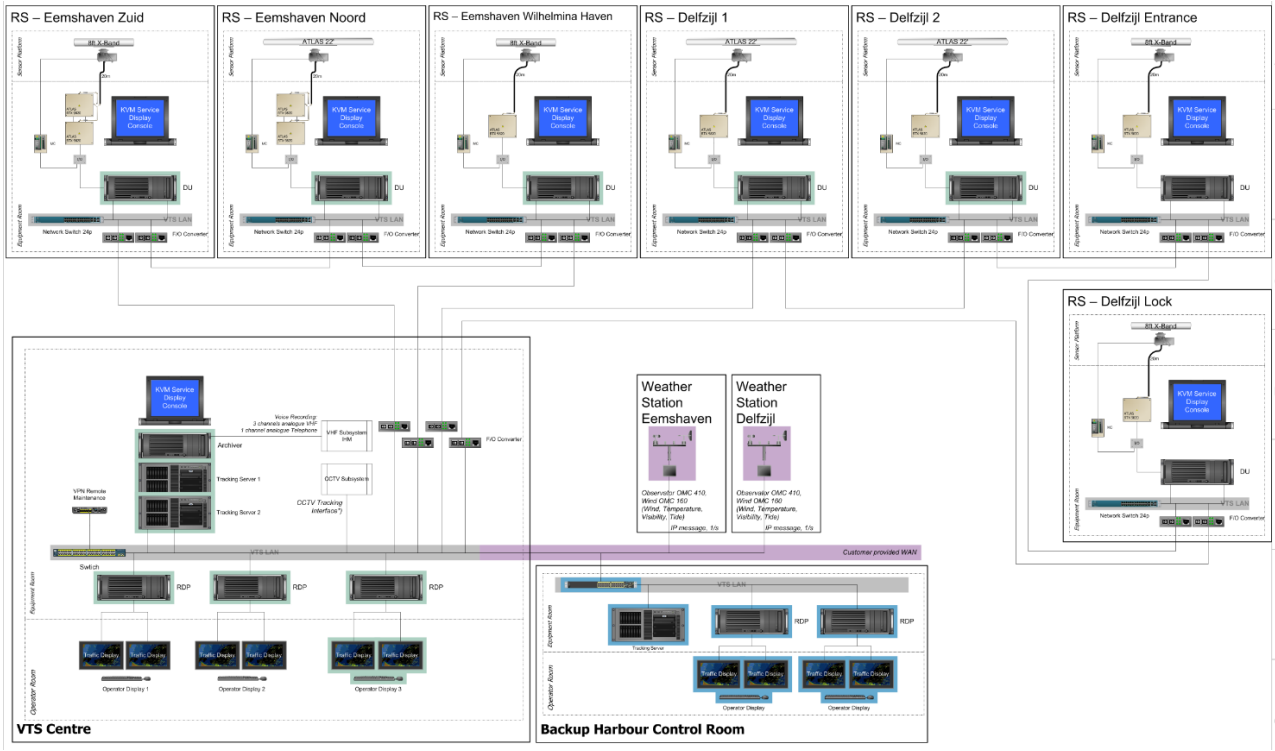
RS 3

RS 4

RS 5

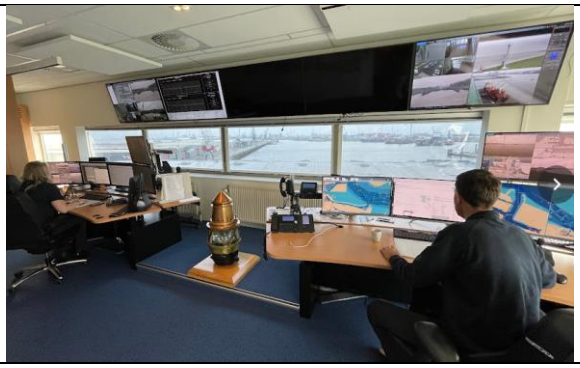


3.3.4 Current system configuration



3.3.5 HCC Delfzijl

The HCC has 2 workstations, which are staffed 24/7. All the equipment for these workstations and the servers for the radar system are in the technical room, which is one floor below the HCC. There is a 3rd workstation in another room close to the HCC. This workstation is mainly used for replay and maintenance, but it should also be possible to use it as a VTS workstation.



Overview HCC

1 workstation HCC

3.3.6 Emergency HCC Eemshaven

The emergency HCC in Eemshaven is used if the HCC in Delfzijl is not available for whatever reason. The emergency HCC must be immediately available for use and should operate fully independently of the HCC in Delfzijl. All the equipment for these workstations and the servers for the emergency HCC are in the technical room, which is immediately next to the HCC.

Emergency HCC

3.3.7 Fibre-optic connections

Groningen Seaports has its own fibre-optics network. All radar stations , the emergency HCC and the HCC Delfzijl are connected to this network.

4 REQUIRED SITUATION

The other requirements that are imposed on the system are set out in **Annex 04 requirements VTS system GSP.**

Annex 03 Occuring problems present VTS systeem GSP describes a number of situations that are currently experienced as problematic. It is required for the new system to solve these to a large extent.

5 REQUIREMENTS AND CONDITIONS

5.1 Requirements

The requirements imposed by GSP on the system are identified in **Annex 04 requirements VTS system GSP** For each item in the document, the tenderers shall set out how they will resolve this in their system. The solution will be given a score.

5.2 Conditions

- The current system has to be dismantled and disposed of in a correct and sustainable manner.
- The system shall be installed in such a manner that there is a minimum of nuisance. Not more than 1 radar may be out of commission at the same time in Delfzijl and in Eemshaven.
- The existing system is to remain in use as much as possible until the new system is fully operational.
- The installation of the new radar system may never interfere the daily operational VTS
- During the implementation there will be daily meetings, in order to agree on the activities that will take place.

5.3 FAT

Prior to installation there shall be a FAT attended by the client. The tenderer shall prepare a FAT protocol in advance . Installation may only take place once the client has approved the FAT.

5.4 SAT

After installation, there shall be a SAT for every component. The tenderer shall prepare a SAT protocol in advance . The component may only be commissioned once the client has approved the SAT.

5.5 Documentation and drawings

The following approved as-built drawings must be supplied to the client before completion:

- Installation drawing
- Installation diagram
- Manuals and handbooks for all components used
- All software, passwords and login details
- All other documents and drawings that belong to the installation
  Drawings shall be submitted as a PDF file.

5.6 Training

Users must have had training before the system is commissioned. A large part of the users works in shifts. Therefore, the training will have to be given several times to give everyone the opportunity to attend the training.

A limited group will have to be given technical training with the aim of resolving 1st line faults.

6 TIMETABLE

The tenderer shall submit a timetable that includes at least

- Start of the project.
- FAT
- Installation on site
- Completion date

A detailed timetable will be prepared together with the client after the contract has been awarded.

7 SLA

Groningen seaports would like to build a good and long-term relationship with the supplier and therefore wants to conclude an SLA for 10 years. The tenderer shall submit a proposal for an SLA; this proposal forms part of the assessment. The SLA must describe how the contract can be terminated if there is reason to do so within the term of the contract The minimum requirements imposed on the SLA are:

- Helpdesk available 24/7 by phone and email.
- In case of failure of the system imminent response is required
- A technical engineer on site within 48 hours
- Spare parts available and to be delivered promptly
- Remote service is possible by means of a secured connection.
- Preventive maintenance.
- Training: Annual refresher for the users.
- Maintenance on all hard and software including patches and software updates

8 PAYMENT TERMS

8.1 Realisation

The following payment instalments apply:

1. 30% On awarding the order
2. 20% Following a successful FAT
3. 30% After the start of the installation
4. 20% After completion

8.2 SLA

The annual costs for the SLA shall be invoiced quarterly.

9 ANNEXES

1. Price sheet
2. Price specification
3. Occurring problems with present VTS radar system
4. Requirements VTS system
5. Specifications Hydrological and meteo equipment
6. Delfzijl-radar coverage
7. Eemshaven radar coverage
8. Information security policy-3