

Zaaknummer 31158671
Nota van Inlichtingen Marktconsultatie Gladheid meldsysteem

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1	2.1 Requirements placed on RWIS stations and sensors	E.1	With reference to E.1, do the accuracy specifications relate to an embedded or non-contact road temperature sensor? We ask this question because an accuracy of 0.1°C is unrealistic for non-contact sensors. An accuracy specification of +/- 1°C is a more realistic accuracy specification for non-contact sensors.	For het purpose of this market consultation, we have included a few requirements as an example. These requirements are about the embedded road temperature sensor. During the official tender, the requirements regarding the road temperature sensor will be divided into embedded sensors and non-contact sensors.
2	2.1 Requirements placed on RWIS stations and sensors	E.6	With reference to E.6, does encryption refer to a level of encryption of the data, beyond the HTTPS secure connection?	E.6 is about safe and secure communication, not about the structure of the data. Concerning the organization of data, we prefer Open Standard such as Sensor Observation Service Interface Standard (OGC) or other comparable services, however for the time being we do not require this. With this consultation, we intend to expand our vision and to expand our knowledge about technology development. What is your proposal?
3	2.1 Requirements placed on RWIS stations and sensors	E.8 & E.9	With reference to E.8 and E.9, is the intention to use the existing RWS central system to configure and manage the RWIS station via its interface (e.g. via HTTP)?	The intention is to connect the RWIS station to the existing front-end/ central system through an integration system. The interface to configure and to manage the RWIS station has to be established through a safe connection. This includes maintenance of the firmware etc. Is your system able to do this?
4	2.1 Requirements placed on RWIS stations and sensors	E.8	With reference to E8, can additional detail please be provided on the configuration expectations for the RWIS from the central system?	Our aim is to achieve a Service Oriented Architecture (SOA). However, we also realize that some of these components are not possible yet. Our estimation is that the products that match the Service Oriented Architecture have a greater chance. How does your product relate to SOA?
5	2.1 Requirements placed on RWIS stations and sensors	E.9	With reference to E9, can additional details please be provided on what management tasks on the RWIS are expected to be performed by the central system?	We would like to refer to the features of a Service Oriented Architecture (SOA). You might check for an example: https://nl.wikipedia.org/wiki/Service-oriëntatie . Is your product, idea of service compliant with these features?
6	2.1 Requirements placed on RWIS stations and sensors	E.10	E.10 refers to data collection, whereas the information provided on page 5 indicates that data is pushed by the RWIS. Is it expected that data can be both pushed and collected from the RWIS?	The current RWIS station functions on a push based system, in which the RWIS information is 'pushed' towards the central system. The push method makes it is difficult to scale up and establish a high availability (redundant central facilities). A "pull" or "observe" (push over pull) method is more loosely coupled and therefore a better fit. Does this method match your product or do you have something better in mind?
7	2.1 Requirements placed on RWIS stations and sensors	E.15	E.15 refers to the RWIS being interfaced by 5 clients. Can more details be provided on what the clients are?	When answering this question we assume that with the word 'client' you refer to the context of server-client connection. We mean that the RWIS station can serve 5 independent client systems (service). With this mechanism we are able to establish a high availability and migration in the future. Is your system able to facilitate 5 independent clients? Does this also apply for the configuration? What is your idea about managing for example the firmware?
8	2.1 Requirements placed on RWIS stations and sensors	E.20	With reference to E.20, are the poles and masts that are currently in-situ passively safe?	Currently the RWIS stations are not tied to a pole as the enclosures of the RWIS stations are placed on the ground. The instrument shelter is tied to a gooseneck pole, which is currently not collision-friendly.
9	2.1 Requirements placed on RWIS stations and sensors	E.21	With reference to E.21 could a photograph of the currently used instrument shelter please be provided?	https://beeldbank.rws.nl/MediaObject/Details/Een weerhut langs RW12 tussen Gouda en Woerden 12 2223
10	2.1 Requirements placed on RWIS stations and sensors	E.27	With reference to E.27 can a full list of the expected 28 sensors please be provided?	This depends on the type of sensor to be connected. Therefore we ask the possibility to connect 28. For some part these could be the same, however these could also be different (kinds of sensors). Examples are road surface temperature sensors, conductivity sensors, air temperature, relative humidity and status of the road surface (wet, dry, salt etc.). These could be both fixed and contactless sensors. A complete list in this phase is not yet possible.
11	2.1 Requirements placed on RWIS stations and sensors	E.28	With reference to E.28, can Rijkswaterstaat provide examples of typical sensor requirements for a Comprehensive, Basic and Minimum system?	We have not yet decided what should be the extensive, the basic and the minimum system. You might think along the lines of a system with for example only contactless sensors which run on solar energy or a system with only road surface sensors or a system which contains every type of available sensors.
12	2.1 Requirements placed on RWIS stations and sensors	5	On page 5, reference is made to configuration data and tasks performed on the RWIS station from the central application. Can a list of the current configuration data and tasks please be provided?	There are lists available with configuration data. We have different reasons for not sharing them just yet. 1) The goal of the market consultation is to gather new ideas, we expect that sharing information about the current system would impair this process. 2) We aim for COTS products, this means suppliers/ producers are free to determine how to solve the configuration issue. 3) With sharing detailed information the focus will shift to the details. We aim for new insights on the matter. What would you like to learn from the configuration data?

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13	2.1 Requirements placed on RWIS stations and sensors	5	On page 5, reference is made to RWIS stations having an actuator function capable of activating spraying systems via a serial interface:	
14	2.1 Requirements placed on RWIS stations and sensors		a) Will Rijkswaterstaat be able to provide specifications for the current spray systems that require activation? Specifications required include electrical/power requirements for activating the spray system, the criteria used for triggering the spray system, and the timing of this (over what length of time is the spray system activated for once triggered).	On three of the bridges sprayer installations are attached to the RWIS station. The installation in itself is not part of the scope. However, the control of this installation, in this specific case the interface of the systems, is part of the scope.
15	2.1 Requirements placed on RWIS stations and sensors		b) Will Rijkswaterstaat be able to provide details on the serial interface commands to be sent to activate and deactivate spray systems?	See the answer on question 12. Could you specify why you might need this? How would you deal with such an issue?
16	2.1 Requirements placed on RWIS stations and sensors	6	On page 6, reference is made to the facility for connecting the current sensors that Rijkswaterstaat have in their RWIS network to the intended new RWIS stations. Can Rijkswaterstaat provide details / specifications on the current sensors in their RWIS network?	See the answer on question 12. Could you specify why you might need this? How would you deal with such an issue?
17	2.1 Requirements placed on RWIS stations and sensors	6	On page 6, reference is made to whether it is possible to have the current RWIS stations managed by the supplier of the intended new RWIS stations (to enable old RWIS systems to be phased out over several years). Does Rijkswaterstaat have a plan to manage the requirement for spares/replacement parts for these old RWIS stations during this phase out period? We ask this question because the ability for one vendor/contractor to manage/maintain other vendor systems will partly depend on being able to access spare parts etc...	In the current situation, with regard to maintenance and management of the RWIS stations the supplier is responsible for keeping stocks (spares/replacement parts) and the associated planning. Both commonly available parts and customized parts are used. Third parties deliver the customized parts. Some parts are delivered through RWS. For the sake of circularity, there is a possibility for the maintenance supplier to reuse the parts of the phased out RWIS stations to maintain the current stations.
18	General Question	Not applicable	Whilst the central system application is out of the scope of this market consultation, is there any current thinking on the intended implementation of this, i.e.:	
19	General Question	Not applicable	a) Will it be on premise or cloud based?	This application is currently in the cloud and we expect this will remain in the cloud. However we are open to suggestions for other options.
20	General Question	Not applicable	b) Will there be a separate tender for that system?	The central system has already been acquired.
21	General Question	Not applicable	c) Is the intent to change the existing central system in the future to interact with the new RWIS station?	Indeed this is possible. However, application of the central system will not be part of the Tender.
22	General Question	Not applicable	It is mentioned that there should be a minimum of 4G network capability. Is cellular data connectivity the only intended connection for the new RWIS stations to support?	Currently we use 4G, but also in this regard we are open to better alternatives regarding the quality.
23	General Question	Not applicable	With a future tender, will the provision of cellular data plans for new RWIS stations be the responsibility of the RWIS station vendor?	This will be determined in a later stage. Do you have suggestions about this?
24	General Question	Not applicable	What is the required frequency of camera images on Rijkswaterstaat's current RWIS stations, and is there a requirement for live video also? We ask this question because it has consequences on data costs on a 4G network connection.	In the current system, the cameras are directly approachable outside of the central application. Streaming videos is possible through this hardly ever used method. The users who approach the cameras through the central system take a snapshot by pushing on a button. What is possible with AI? (such as recognizing weather situations).
25	2.1 Requirements placed on RWIS stations and sensors	E.5	Will new RWIS stations be required to support any specific communications protocol for transfer of data beyond the mention of HTTPS or COAPS in Table 2.1, section E.5?	It is basically not allowed to use a separate solution to configure and maintain the stations. Two aspects could be mentioned: - Security - Life-cycle of coupled system Security The interfaces must be safe and meet the safety requirements set by our government, RWS is no exception here. Furthermore, the solution must be able to function in the RWS network and beyond. The requirements set help to implement the requirements by a solution in a simpler way. Maintenance and management interfaces can have more impact on security issues and should therefore certainly meet requirements. Life-cycle of coupled systems (Loosley Coupled) As mentioned further the RWIS should be able to maintain and configure by other (minimal 5) systems therefore an separate solution makes it unnecessarily complicated with other solutions. One of the aspects of loosely coupled systems is that life-cycle management of all connected systems are separated and can change with minimal impact in the hole system. Of course we are open to ideas and suggest however the RWIS will integrated in a larger system.

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26	General Question	Not applicable	In terms of support, can the details of the current support arrangements and expectations for the RWIS please be supplied?	The aim of this market consultation is to gain insights. What is your vision?
27	2.1 Requirements placed on RWIS stations and sensors	E.1 - E.31	RWS mentions the requirements of the RWIS stations and sensors. Could RWS specify whether E.1 up until E.31 are hard or soft requirements?	As mentioned earlier, these are just a few examples. During the official Tender, all the requirements will be arranged according to the MOSCOW (MOSCON) method. Do you have ideas or requirements we should consider during the Tender?
28	General Question	Not applicable	The candidate establishes the translation to the English Document has led to some confusion. For example, the RWIS station and system are translated into the same English word in the translated version. Could RWS clarify this?	Unclear to which pages this refers to. Please be specific. For future reference, the Dutch versions are the guiding documents.
29	General Question	Not applicable	Could RWS clarify the term system. According to the candidate a system consists of sensors, actuators and the central management system (CMS). Is this correct?	The RWIS consists of components and facilities that are considered necessary for such a product. This does not include the central/ integration system.
30	2.1 Requirements placed on RWIS stations and sensors	E5, E7, E8 en E9	RWS sets requirements for the interface. The interface is a part of the new system to be acquired. According to the candidate requirement should be set for the new system and not for the internal interface. Is this correct?	We indeed set requirements for the interface of your product. This should be complete and should be able to be used by others. The internal interfaces are not of interest to other parties. Do you have any suggestions?
31	General Question	Not applicable	Could RWS answer the question in Dutch and English?	Up until now, all the documents were published in both languages. This will remain the same.
32	1. Introduction	3	You write: The objective of this RWIS project is to achieve a high-grade, flexible, future-proof and sustainable replacement for the current RWIS stations (basics) with the aim of: 1. Bringing about the expansion of the RWS Partner Programme with regard to RWIS. 2. Enabling updating/replacement of end-of-life RWIS stations and sensors with a future-proof solution. 3. Fulfilling RWS and partners' changing needs with regard to RWIS. Could you specify what is meant by 'changing needs'?	The changing need is not explicitly described. Rijkswaterstaat foresees a constantly changing need and is therefore looking for a system that can adapt to this changing need. Stating and writing out this need will unintentionally cause for the system to be stiff and rigid while we prefer flexibility and adaptability. With the changing need we for example mean new or different measurement values than the values we currently measure, for example water film thickness. We are not currently measuring this parameter. The changing need can also be about different types of sensors, other ways of power supply or things we do not know the exist. For the greatest part, the changing need will be asked for during the Tender in the form of functional requirements.
33	2. Scope of RWIS project	5	Paragraph 2 states that the scope of this market consultation concerns the procurement of the new RWIS station. The front-end (central web application) and the location determination (cold spot measurements) for the RWIS stations are not considered part of this scope. Is the backoffice (containing central software for communication with the RWIS station and obtaining and processing measurement data) a part of the scope for the market consultation and the following tender?	No. Central software is not a part of this consultation. What does this mean for your product? Is there anything we should take into consideration?
34	2.1 Requirements placed on RWIS stations and sensors	E.3	For the parameters between dry and not dry you assume water film thickness of 0,01 mm. As confirmed in the reliability requirements set in E.4 (50%), the accuracy of the measurements of such water film thickness is not trivial? What reliability of the conditions dry and not dry is to be expected?	We expect the market players to possess the knowledge and the skills to make these considerations and to eventually present these. What is your proposal?
35	2.1 Requirements placed on RWIS stations and sensors	E.6	Are there requirements set for the encryption or is this to be determined by the supplier?	Government-wide requirements apply for among others the encryption and the content of the messages. Your product needs to comply with the legal framework and directives. We leave it to you to determine how to do this.
36	2.1 Requirements placed on RWIS stations and sensors	E.6	Could you indicate what the purpose is of the encryption?	From the perspective of safety and reliability, requirements are derived from the legal framework and with the encryption we intend to comply with some of these requirements.
37	2.1 Requirements placed on RWIS stations and sensors	E.12	Candidates are ought to describe how the system can be integrated. Could you specify what you mean with this?	With integration we mean a platform on which different subsystems are connected to each other. An Enterprise Service Bus (ESB) is an example of such a platform.
38	2.1 Requirements placed on RWIS stations and sensors	E.27	You require the RWIS station to process a minimal of 28 different sensors. Often there is a rationale behind such a specific number. Could you specify this?	This number is considered to be the minimum for the current system. The explanation is that the current system is a less flexible system and we aim for a flexible system that should not have any restrictions.
39	2.1 Requirements placed on RWIS stations and sensors	E.30	Does this mean that the RWIS station has to be provided with a GPS receiver and has to be able to transmit position?	This means that the RWIS station has to contain a GPS sensor that is able to transmit the exact location.
40	4. Questions	Question B1	In the document, you specify what kind of system you require, but not what kind of service is required. Could you specify the service?	Correct. We want to have an improved impression of the possibilities the market players are able to offer. What is your idea? Concerning the service we desire a high quality and to be unburdened.
41	2.1 Requirements placed on RWIS stations and sensors	E.10	Requirement E.18 states: The enclosure of the RWIS station is required to be capable of withstanding temperatures ranging between -40 and + 80 degrees Celsius. This means that the contents remain functional within this range. What are the temperature requirements for the components of the enclosure?	Perhaps it is better to define the application circumstances: it concerns the Dutch highways and the Dutch provincial roads for some years to come. This might help you as a supplier to adjust your product. What is your idea? The main importance is that RWIS stations will continue to function in all circumstances.
42	General Question	Not applicable	Considering circular economy, what are the thoughts of Rijkswaterstaat about prospective suppliers reusing, or reprogramming, the equipment (such as the central processor/ sensor module) into the current RWIS station that are not end-of-life?	Reusing materials at the old RWIS stations, which are not yet phased out, is not a problem. Within the new RWIS stations, the components should function without for example a heating element. In other words, this is not a problem as long as the functional requirement are complied with during the Tender.
43	General Question	Not applicable	On your document, you talk about some "sprayer installation". Can you tell me more about this systems? Which kind of system is it? Where is it installed?	On three of the bridges sprayer installations are attached to the RWIS station. The installation in itself is not part of the scope. However, the control of this installation, in this specific case the interface of the systems, is part of the scope.

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44	General Question	Not applicable	What is the view of RWS on the optimal organization of maintenance and management?	RWS expects complete service regarding maintenance and management, meaning the supplier would take the "burden/concerns" off RWS in this regard by providing a "full service". This also applies to the new and current 330 RWIS stations. How are you planning to do this?