

Sub award criteria

For these sub award criteria, the Tenderer should answer the questions below. For each answer fictitious discount can be obtained. Sub award criteria and maximum discount are given in the table below.

Sub award criteria		Maximum fictitious discount*	Form**
Quality – Input/Output		€ 196.000, -	
1	Input - Data/message types supported	€ 29.400, -	Free format text, max 1 A4 for substantiation
2	Weather Chart production	€ 98.000, -	Free format text, max 2 A4 for substantiation
3	Output - Data selection/file production	€ 68.600, -	Free format text max 1 A4 for substantiation
Quality - Interfacing		€ 196.000, -	
4	Connection to KNMI aviation users website	€ 117.600, -	Free format text max 2 A4 for substantiation
5	Connection to SADIS/WIFS and/or other suppliers of meteorological data and OPMET messages.	€ 78.400, -	Free format text max 2 A4 for substantiation
Quality – Flightdoc***		€ 196.000, -	
6	Pre-Flight Information Briefing structure based on IWXXM input.	€ 58.800, -	Free format text, max 2 A4 for substantiation
7	Flightdoc selection and flightpath calculation.	€ 58.800, -	Free format text, max 2 A4 for substantiation
8	Flightpath presentation.	€ 19.600, -	Free format text, max 2 A4 for substantiation
9	Pre-flight briefing document on schedule	€ 19.600, -	Free format text, max 2 A4 for substantiation
10	Pre-defined table driven routes	€ 19.600, -	Free format text, max 2 A4 for substantiation
11	Airport list – maintenance and storage of metadata	€ 19.600, -	Free format text, max 2 A4 for substantiation
Quality - Nonfunctionals		€ 196.000, -	
12	Software Depot	€ 19.600, -	Free format text, max 1 A4 for substantiation
13	Implementation and support plan	€ 98.000, -	Free format text, max 5 A4 for substantiation
14	Project risks	€ 19.600, -	Free format text, max 1 A4 for substantiation
15	Exit Plan	€ 39.200, -	Free format text, max 2 A4 for substantiation
16	Sustainability	€ 19.600, -	Free format text, max 2 A4 for substantiation
Total fictitious discount achievable		€ 784.000, -	

Important!

*The quality is very important for the Contracting Authority. Therefore, after consensus in the assessment, in each category of the sub award criteria (categories are: Input/Output, Interfacing, Flightdoc and Nonfunctionals) the Tenderer must achieve a total fictitious discount for that category that is not lower than 40% of the maximum fictitious discount for that category.

**The amount of space available for substantiations is given in terms of A4 pages. The text must be clearly readable. It is allowed to include figures/graphs or pictures, but please make sure not to exceed the number of pages that are prescribed. All information that exceeds the number of pages will be ignored and will not be assessed.

*** Please see Annex 10A and 10B. KNMI method flightpath calculation and table driven routes for more details.

Explanation of Sub Award criteria

1. Provide an overview of all data- and message types and formats that are supported by the proposed solution/system. In your explanation, distinguish between the options that your solution/system offers to receive, store and retrieve various data/message types and formats.

Additional datatypes (also non-OPMET) can be beneficial to the Contracting Authority because they might offer opportunities to terminate the use of other systems and applications.

The provided overview will be assessed on the added value for the Contracting Authority based on the relevance and the amount of data types that are supported by the proposed System. More added value means that a higher fictitious discount will be granted.

2. Indicate whether the proposed solution is capable to produce WAFC (SIGWX and UWT) weather charts. If the solution can, indicate which data formats the solution supports to generate these weather charts. Further, provide an example of these weather charts for KNMI regions Amsterdam FIR and the Dutch Caribbean Islands.

If the system is not capable of producing these weather charts itself, describe which systems and applications are required and the recommended interaction with them. This is relevant in the light of future WAFC developments ([WAFS2023](#)).

The Substantiation will be assessed on the added value for the Contracting Authority. If the proposed System adds more value in terms of functionality, ease of use and reliability, a higher fictitious discount will be granted.

3. Provide an overview of the various output file types supported by the System and describe the various possibilities for the selection of data for output. To assess this criterion, the Tenderer is asked to explain how a file with all South American SIGMETs for a given date is produced and how this file is delivered to the user requesting it. The assessment is based on added value for the Contracting Authority. If the System provides both 'push (batch data selection/file transfer)' and 'pull (API)' mechanisms for data delivery more value will be awarded. More selection criteria possibilities and more output file types to select from will lead to more value as well. More added value means that a higher fictitious discount will be granted.
4. Explain how the System can be launched from the KNMI aviation user's website (<https://aviationweather.nl>). Aviation users that are already logged in to that website, should have direct access to the OPMET system and its data- and information-products, without having to log in to the OPMET System again. All users that access the system via aviationweather.nl, should have the same default profile on the OPMET System. Assessment of this substantiation will focus on the added value in terms of ease of use, functionalities offered and the required effort by KNMI (or its subcontractors) to realise the interfacing between the aviation weather website and the OPMET system. More added value means that a higher fictitious discount will be granted.
5. KNMI uses a Message Switching System (MSS) that plays a central role at KNMI to retrieve data and OPMET messages from SADIS (and back-up WIFS). In the future KNMI MSS may also be used to retrieve data and OPMET messages directly from other suppliers of meteorological data and OPMET messages.

For the Contracting Authority it is Desirable that also the proposed solution/system can connect or interact directly with SADIS/WIFS (e.g. as back-up for MSS) and with other suppliers of meteorological data and OPMET messages, such as ICAO (Space-WX Advisories), Volcanic Ash Advisory Centres (VAACs), Tropical Cyclone Advisory Centres (TCACs), Meteorological Watch Office (MWO), Aerodrome Meteorological Offices (AMO's) and Aerodrome Meteorological Stations (AMS's). Tenderer is asked to explain/substantiate what possibilities their solution/system offers for this.

Assessment of this substantiation will focus on the added value for Contracting Authority and the required effort by KNMI (or its subcontractors) to realise the connection or interaction

between the offered system and SADIS/WIFS, and other suppliers of meteorological data and OPMET messages. More added value and less effort required by KNMI means that a higher fictitious discount will be granted.

6. The Contracting Authority requires Pre-Flight Briefing Documents (PFBD's). The Tenderer is asked to explain how the PFBD's are produced based on OPMET in IWXXM format and provide an example for both an IFR and VFR flight from Amsterdam to Athens. Assessment of this substantiation will focus on legibility/usability of the produced documents, and the added value it provides for the Contracting Authority. More added value means that a higher fictitious discount will be granted.
7. For the Pre-Flight Briefing Document (PFBD), users of the System should be able to specify routes and the system should calculate the corresponding IFR and VFR flightpaths (see also Annex 10A). The Tenderer is asked to describe how routes can be specified in the System (fixed routes or providing startpoint/endpoint and waypoints?) and how the flightpaths are calculated in the System. It is also important that the System Administrator can configure the corridor width for flightpath calculation. The Tenderer is asked to substantiate what options the System offers for this.

Assessment of this substantiation will focus on added value, in terms of ease of use, of the possibilities the solution offers for defining a flightpath, for selection of stations with OPMET data and for configuration of the flightpath corridor. Assessment will also focus on the description of how the flightpath is calculated. More added value and a better description of flightpath calculation will lead to a higher fictitious discount.

8. The Contracting Authority values a graphical view of flightpaths on a map. The Tenderer is asked to describe the possibilities for such a graphical view. The description must contain the following subjects:
 - Geographical maps available.
 - Projections available.
 - Possibilities of overlays, e.g., flightpath and weather charts.

Assessment of this substantiation will focus on added value in terms of the possibilities of the solution offered and ease of use for the (aviation) end-user. More added value means that a higher fictitious discount will be granted.

9. For the Contracting Authority it is Desirable that the proposed solution is able to produce pre-flight briefing documents in PDF format on schedule. It should be possible to do this e.g. by calling a flight document API. For the administrator of the application/system, it should be possible to configure departure and destination airports, and the weather charts used in the pre-flight briefing documents.

KNMI currently uses this approach for aviation users in the Caribbean. A number of predefined pre-flight briefing documents (5 routes) are produced every half hour and are available for download as a PDF on the website (www.knmidc.org/aviation).

Tenderer is asked to explain/substantiate what possibilities their solution/system offers for the production of pre-flight briefing documents in PDF format on schedule.

Assessment of this substantiation will focus on added value in terms of the possibilities of the solution offered and ease of use for the Contracting Authority. More added value means that a higher fictitious discount will be granted.

10. In the current OPMET system, KNMI uses approximately 1000 fixed predefined flight routes, all of which depart from Amsterdam Schiphol airport. These routes are not calculated, but they are extracted from a table (see also Annex 10A and 10B). In the table all airports from which OPMET information is needed "en-route" are given in a specific order. In the table, first the destination airport, than the departure airport are specified, followed by the list of airports "en-route". The "en-route" airports are ordered in the list by distance from the departure airport. Airports are specified in the table by their 4-letter ICAO code (EHAM for Amsterdam Schiphol airport).

Tenderer is asked to explain/substantiate what possibilities their solution/system offers for table driven routes.

Assessment of this substantiation will focus on added value in terms of the possibilities of the solution offered and ease of use for the Contracting Authority. More added value means that a higher fictitious discount will be granted.

11. The system must contain an up-to-date list of all civil and military airports worldwide, for which OPMET data is made available. The list must be maintained and metadata from each airport in the list must be stored.

Tenderer is asked to explain/substantiate how the airport list is maintained, which metadata is stored in the System and which metadata is available for data selection.

Assessment of this substantiation will focus on added value in terms of the possibilities of the solution offered and ease of use for the Contracting Authority. More added value means that a higher fictitious discount will be granted.

12. In order to guarantee operations and maintainability of the delivered System, e.g. in the event that the Tenderer is not capable to continue its services and/or operations, the Tenderer is requested to give, in Depot to the Contracting Authority, all source codes of the software required to build and maintain the software.

The Tenderer is asked to provide the Software Depot as a service. The service is applicable for the sources of the full release as well as for the software upgrades that have been released as agreed in this agreement. In case of any modification, supplement, extension and / or improvement to the software formulated in machine language and / or object code, the Tenderer shall accordingly replace or supplement the Depot. The price for the depot service is included in the costs for service and maintenance of the software.

The Tenderer is asked to substantiate the process for this Depot and which securities this will provide for the Contracting Authority. The substantiation will be assessed on the quantity and quality of the guarantee and security for Contracting Authority that the Depot will provide. If the Contracting Authority is convinced of more certainty, security and assurance, a higher fictitious discount will be granted.

The Tenderer is asked to give a short description of the Depot on the following points:

- The type of data carrier on which the source code has been stored, type and manner of storage to be determined in consultation with the Contracting body in such a way that the data carrier can be read and used on the Contracting body's hardware.
- An overview of the stored source code that shall at least consist of a summary of the names of all the modules, a brief description of their function, the programming language in which they are written and their mutual correlation.
- An overview of all the software (such as system software, editors, compilers, linkers and other special software) required for processing and rendering operational of the source code, with a specification of the software stored on the data carrier.
- An overview of the minimum configuration (description of the required hardware, operating system and system software) required for processing and rendering operational of the source code.

13. The Tenderer is asked to provide insight into the proposed cooperation with the Contracting Authority /KNMI during implementation and operation of the System. Please describe:
 - How you envision the proposed cooperation, which tasks and division of roles you propose between your organization and the Contracting Authority.
 - What roles and functions you plan to use for this assignment and why.
 - The way in which you propose the communication and means of communication to be used between your organization and the Contracting Authority.
 - How you envision work breakdown structure/milestones/deliverables during the implementation of the OPMET System.
 - Your policy on software support/maintenance/updates/customisation.

The substantiation will be assessed on the added value. More added value in terms of partnering, support and service will lead to a higher fictitious discount.

14. The Tenderer should provide an overview of possible risks, both project and operational risks, and counter/mitigation measures.
The substantiation will be assessed on the credibility of proposed counter measures. The more concrete the relevant identified risks and countermeasures are described, the higher the fictitious discount that will be granted.
15. Provide an Exit Plan in which transfer and migration of the content, in terms of fixed data (airport lists, airport metadata, FIR and UIR configurations, pre-defined flightpath information, etc.), of the software system is described towards KNMI or another future provider at the end of the contract period. This is important to make migration towards another OPMET system possible.

The Tenderer is asked to describe how they will ensure that KNMI will not become completely dependent on the Tenderer's service. At the end of the contract period, it must be possible for the Contracting Authority to transfer its OPMET services to another party. In that case the Tenderer should contribute to a good and smooth transfer.

The assessment will focus on completeness and quality of the Exit Plan. If Contracting Authority can be convinced that a smooth transition will be possible, a higher fictitious discount will be granted.

16. Give a description of the Tenderers sustainable development goals, e.g., for software development and usage.

Sustainability is an integral part of the Contracting Authority's procurement policy. The Tenderer is asked to describe its sustainability policy and goals (and more particular the sustainability possibilities and goals in this assignment). In the assessment of this sub award criteria, the Contracting Authority will look at aspects such as:

- Dealing with human rights.
- Possibilities for serverless software to minimize power consumption.
- Possibilities to extend the life of the software.
- Separation and modularity of software components, such as e.g., the database and user interface. Lifetime of a database is typically 20 years, but a portal with user functionalities will probably be needed to be upgraded after 6 to 10 years. Explain how sustainable these technical components are.
- The use of open standards which contributes to the interoperability of systems and its communication and connecting possibilities with other systems.
- Efficient use of available (hardware) resources by containerization and virtualization.
- Etc.

The substantiation will be assessed on the contribution or added value in the field of sustainability. More relevant possibilities or initiatives for sustainability offered, will lead to a higher fictitious discount granted.