

Het Waterschapshuis (HWH)

Market consultation document (including annexes)

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List of Acronyms

COTS – Commercial-Off-The-Shelf

ICT – Information and Communication's Technology

IPR – Intellectual Property Rights

PCP – Pre-Commercial Procurement

PPI – Public Procurement of Innovative solutions

OECD – Organisation for Economic Cooperation and Development

OMC – Open Market Consultation

TED – Tenders Electronic Daily

VC – Venture Capital

List of Definitions

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1. Introduction

This document describes the objectives and the rules applicable to the Open Market Consultation (OMC) of HWH. The OMC aims to inform market operators regarding the Strategic Partnership for Cloud Technology. This OMC is performed under Dutch law.

The OMC also aims to understand the operators' capabilities to satisfy the procurers' needs and to obtain market parties' input on the viability of the procurement plans and conditions as described in this document and annexes.

The provisional timetable for the OMC is as follows. HWH reserves the right to modify/update the following dates:

22nd January 2021	Publication of pre-announcement and making available market consultation documents & list of questions (through the EU Survey)
2nd February 2021	Final date to register for the meeting in WebinarGeek: https://corvers.webinargeek.com/het-waterschapshuis-strategic-partnership-for-cloud-technology
4th February 2021 (15:00 to 16:00 CET)	WEBINAR in WebinarGeek
12th February 2021	Deadline to receive answers to the questions in the EU Survey
5th March 2021	Publication of market consultation report.
5th March 2021	Closure of market consultation.

HWH is entitled to adjust the time schedule. HWH is and remains entitled to terminate the OMC for its own reasons at any time. In such a case, HWH will make the termination known as such through a publication on TED and TenderNed.

The OMC starts on the date of its publication in the EU's Official Journal (TED) and ends on March 5th, 2021, unless terminated earlier. The market consultation is organised in the form of an online meeting and an online questionnaire. The meeting will take place on February 4th, 2021. Interested parties can register for participation via <https://corvers.webinargeek.com/het-waterschapshuis-strategic-partnership-for-cloud-technology> by February 2nd, 2021.

For the EUSurvey questionnaire it is possible to save a draft by clicking on the “save” button on the platform and continue working on it at a later stage. Once you have a final version, please click on the “submit” button to send it online.

All interested operators are invited to take part in this OMC, regardless of their geographical location, size or governance structure. Participation in the OMC is voluntary and non-binding and, moreover, is done for own account and risk. A market party cannot charge any costs to the procurers for participation in the OMC or for (re)-use of its information in the context of a future procurement procedure.

In case the information provided in this document and annexes needs further clarification, market parties may ask questions during the online meeting or via the following email address: Ana Lucía Jaramillo (a.jaramillo@corvers.com).

Any market operator who desires to supply additional confidential information that is not revealed during the OMC meeting, may send such information (clearly marked as confidential) at the following email address: Ana Lucía Jaramillo (a.jaramillo@corvers.com) before the end date of the market consultation.

Market parties are requested to fill out the questionnaire available at <https://ec.europa.eu/eusurvey/runner/HWHCLOUD2021>. The questionnaire should be submitted automatically through EUSurvey before February 12th, 2021. After having received their answers to the EUSurvey questionnaire, HWH may plan bilateral meetings with one or more respondents.

The responses to the questionnaire should not contain any confidential information. As the questionnaire is intended to explore the market ‘as-is’, there can be no wrong or right answers. The answers provided will be used as input for our procurement strategy and conditions, in case a procurement procedure is initiated.

Each market party/technology vendor/supplier participating in the OMC warrants and guarantees that in the context of the Open Market Consultation, it will not provide information that is subject to any trade secret rights or protected intellectual property rights, as the information provided will be analysed and, where possible (partially) (re) use it in the context of a future procurement procedure.

Moreover, the information received may be shared with HWH's employees and its external of counsels and consultants for the purpose of analysing the Open Market Consultation and for the preparation of a potential innovation procurement project as a follow-up of the Open Market Consultation.

In order to avoid any misunderstanding, the HWH is not entitled to treat any information as “sensitive” if that information:

- a) was already in possession of HWH before receipt from the market party;

- b) is or becomes a matter of public knowledge through no fault of HWH;
- c) is rightfully received by HWH from a third party without a duty of confidentiality;
- d) is disclosed by the market party to a third party without a duty of confidentiality on the third party;
- e) is independently developed by HWH; or
- f) is disclosed by HWH with the market party's prior written approval.

After processing the questions and responses of all suppliers, HWH will communicate the results widely. In this context HWH will treat all information provided by operators as commercially sensitive and will therefore not communicate any supplier specific details. Only the general findings will be summarised and communicated. The resulting anonymised report (excluding the confidential information) will be published on March 5th, 2021 via Tendered and TED.

All communication (before, during and after the OMC) will be carried out in English. Participation in this OMC is not a condition for submitting a tender in the subsequent procurement. Also, the provided input in this OMC will not be used to evaluate future proposals.

By carrying out this market consultation, the procurers do not commit to subsequently deploying a procurement procedure. Moreover, in case this OMC will be followed by a procurement procedure, the public procurers reserve the right to change any elements that define the desired solution. No rights can be derived from any statements made by the procurers during the OMC.

The annexes form an integral and inseparable part of this OMC document. In the event of any conflict between the provisions of this document and the provisions in the appendices, the provisions in this document prevail.

Please note that the questionnaire (EU Survey) is explicitly qualified as an annex to this market consultation document and is not a standalone document but is part of a set of documents. For the sake of readability, the choice has been made to have the questions asked in this document come back within the framework of the EU Survey (<https://ec.europa.eu/eusurvey/runner/HWHCLOUD2021>); in this way the context of the questions can be better explained.

2. Background to the OMC

2.1. Het Waterschapshuis

Het Waterschapshuis is a joint subsidiary company of the Dutch Water Boards (Scr. 2015, 7407 dated 13-03-2015). The aim of this subsidiary is to set up an expert institute and service organization to achieve profitable cooperation on information and business processes for the Dutch Water Boards (Waterschappen) and any third parties, thus representing the general needs and interest of the complete water sector in the Netherlands. Het Waterschapshuis (HWH) is the management, administration and administrative organization in the field of digital information service for the Waterschappen. It is a service organization of, and for, the Waterschappen that is responsible for the procurement and contract management of (joint) information services and data. For more information, see <https://www.hetwaterschapshuis.nl/>.

The Waterschapshuis' objective is to promote cooperation in the field of ICT between the water boards and the other authorities active in the water sector by:

- Improving the quality of business operations.
- Saving/limiting costs.
- Making the access and transfer to information more efficient.
- Increasing innovations.
- Supporting the professional modern governance of the water boards.
- Supporting a broader cooperation between water boards and other authorities.

The Waterschapshuis will be, in principle, acting on behalf of various entities and institutions in the water sector as described in Annex 1. Participating entities.

2.2. Objectives of the project

HWH is looking to a long term strategic partnership for cloud technology and its related products & services (such as AI, ML and Big Data, Data lake and Data virtualization/integration) as the trends suggest that many applications and solutions needed to better manage water, water treatment and water systems will be stored and used in a cloud environment.¹ HWH intends to initiate innovation procurement projects together with this strategic partner related to new applications in AI, machine learning, Big Data, Data lake and Data virtualization/integration, etc. in order to improve the effectiveness and efficiency of its public tasks. HWH also foresees the transition of its current on premise database technologies, workplace technologies and process automation related technologies to a cloud platform. Therefore, HWH is currently drafting a clear way forward in order to achieve the following objectives:

- Achieve innovative results based on a public business/value case approach that leads to a win-win situation for both HWH and the strategic partner, as well as the indirect beneficiaries of the cooperation (the Dutch waterboards). The underlying rationale is that as a result of the strategic partnership the efficiency and effectiveness of the public tasks (public business case) of the waterboards (HWH) can be improved in a robust and structural manner, and as such can be measured and monitored.

¹ See Annex 2 for a list of examples

- Turn the Netherlands into a worldwide reference site for water on topics related to societal impact, sustainability and innovation.

The road to innovation will start by mapping the 'Water' applications in order to discover the process and applications which could support innovation. Scenarios will be prioritized based on mutual agreement of both parties and speed of impact (i.e. quick wins).

The selection of the strategic partner/platform will be based on:

- A firm and long-lasting commitment from the partner to invest on R&D in the platform's technology to ensure continuity and market adaptation.
- Compliance with GDPR requirements.
- Compliance with Critical Infrastructure Security requirements (E.g. Security Certificates in PS/Gov/Vital Infra)
- Ease of migration/agreements in place with Oracle, Microsoft and Siemens.
- A cloud technology platform that allows hybrid solutions.
- Policies enabling complementary products and services (SaaS service providers) related to Cloud technology platform and related products and services (such as AI, ML, Big Data, Data lake and Data virtualization/integration).
- Experience on hybrid solutions, on co-funding projects and on fresh water supply and consumption management. Strategic Industry Reference Cases are highly valued.

The goal of the questions in this Open Market Consultation is to gather the necessary information to prepare an upcoming procedure to select the best partner to work with for the coming 5 to 15 years. For HWH - and to ensure the continuity of the service offered - it is extremely important to understand if the technology vendor has previous IPR and invests in their protection. As the envisaged partnership is intended for long term, interoperability of the solution and migration possibilities are also relevant subjects of this OMC.

HWH sees the solution provider as a partner and is therefore interested in exploring cofounding opportunities and the possibility to make use of corporate Venture Capital (VC).

Risk monitoring and risk mitigating measures are essential aspects of the solution to be provided due to the strategic position of HWH. A set on questions on this basis, including potential standards, is included in the document.

HWH is looking for a solution that is sustainable in the long term. Not just in monetary terms, but also in environmental terms. HWH would like to know from you if you can suggest standards on sustainable management.

Lastly, price schemes are also a relevant element for the upcoming procurement.

⚠ What are the benefits for the strategic partner?

1. Possibility to align and team up with water boards from the Netherlands to speed up the time to market of innovative solutions developed in co-creation with the Contracting Entities.
2. Broaden the market share and have a national sector as reference.
3. Reference site for (other innovation) procurement projects from water boards or similar organizations in Europe and other regions.
4. Act as reference when it comes to sustainability and the objectives of the European Green Deal.
5. Act – together with HWH – as a forerunner in Innovation Procurement projects related to AI, ML and Big Data.

2.3. Objectives of the OMC

This Open Market Consultation has two main objectives:

1. **Crosscheck with the market and get info from the market**
2. **Inform the market**

1. Crosscheck with the market and get info from the market

THE OMC will help HWH to assess whether the key contractual set-up and conditions for the foreseen procurement (for example the duration of the framework agreement) and the project feasibility are correct.

The Open Market Consultation can provide HWH with the justification to finetune the demand strategy and related contract terms for entering into an agreement with a strategic partner.

2. Inform and challenge the market

An OMC makes market operators aware of the public procurers' needs and gives them time to prepare, well in advance, for the upcoming procurement procedure, so that they can come up with a solution within the foreseen time schedule and budgetary limits.

The market can react to the expectation of HWH and explain if their expectations are unrealistic or how to better shape their requirements.

3. OMC EUSurvey - Questions for the market consultation



Please fill the questionnaire in the following link:
<https://ec.europa.eu/eusurvey/runner/HWHCLOUD2021>

In order to answer these questions you may also refer to the relevant paragraphs of your standard policy documents which can be uploaded on the EUSurvey platform.

HWH- Questions for the market consultation	
Strategic partnership	
1.	Do you have strategic partnerships with other contracting authorities on the national level? Do you have a strategic partnership at the national level for specific sectors? (preferably in the water sector). How do you foresee and manage a strategic partnership in the water sector in order to achieve a WIN-WIN situation?
2.	How do you align with EC Data Strategy of 2020 in the context of a partnership?
3.	How do you embed a business and value case approach in your strategic partnerships?
4.	How do you ensure the knowledge transfer (e.g., training programs) to the contracting authorities in a strategic partnership?
5.	Can you recommend your preferred governance structure for supporting the strategic alliance with HWH?
R&D policies and investments	
6.	Do you have an R&D policy related to your Cloud technology platform and related products and services?
7.	In what areas of R&D are you investing in relating to your Cloud technology platform and related products and services?
8.	What would you consider as vital in an R&D policy? (e.g. time to market of new products and services, R&D human resources in house, R&D facilities...)
Migration and agreements	

9.	Do you have agreements in place with Oracle in order to migrate and operate Oracle's data base technology on the Cloud platform?
10.	Do you have agreements in place with Siemens in order to migrate and operate Siemens PLCs technology on your Cloud technology platform?
11.	Do you have agreements in place with Microsoft in order to migrate and operate MS365 technology on your Cloud technology platform?
12.	Do you have agreements in place with other business application vendors, which in your opinion, are relevant for the water sector?
13.	Do you support through your Cloud technology platform Hybrid solutions?
14.	Do you have a partner policy for complementary products and services related to Cloud technology platform and related products and services?
15.	How do you ensure that new versions/releases/updates of your Cloud technology platform and its related products and services does not create a necessity for the application layer to be changed/modified thereof (e.g. by using mandatory development languages tools, development environment)?
Venture Capital & Partner Programs	
16.	Do you have the possibility through Venture Capital funds to invest in start-ups and/or SMEs in order to scale up/have a better time to market for their technologies?
17.	Is the Venture Capital possibility part of your partner program?
18.	How do you ensure the access and outreach of start-ups and SMEs to your partner programs?
19.	How can a strategic partner enjoy the benefits of the partner programs? Please describe how a start-up of the Asia Pacific rim can offer its services through the partner program to the strategic partner? Please explain your experience and willingness to co-fund together with the strategic partner in new innovative applications.
IPR policies and strategies	
20.	Do you have IPR policies Cloud technology platform and related products and services? How many patents have you registered in Europe? How many are still valid? How many patents do you file on average per year?
21.	Do you have an Open source policy and open standard policy? Please describe your open policies. Please elaborate the way it affects your Cloud technology platform and related products and services.

Standards & Standardisation activities	
22.	Do you participate in international standardisation committees regarding (ISO, CEN/CENELEC, ITU) Cloud technology, AI, big data and machine learning? In which ones?
23.	Do you participate in the international standardisation committee regarding Open Geospatial Consortium?
24.	Do you comply with ISO/IEC 27001 and/or ISO/IEC 27002:2013 and/or ISO/IEC 27701:2019 and/or ISO/IEC 27018:2014 or equivalent? Please elaborate in the equivalent standards? Do you know other relevant standards?
25.	During the desk research the standards EN 301 549 V2.1.2 (2018-08) and ISO/IEC 40500:2012 came up as relevant standards regarding interoperability and accessibility of ICT products and services. Do you agree? Why/why not? Can you propose additional standards and/or certifications to maximise interoperability and accessibility?
26.	During the desk research ISO 50001:2018 and the Certified Green Computing Facility of the Green Computing Initiative came up as relevant standards regarding sustainability. Do you agree? Why/why not? Can you propose additional standards and/or certifications?
Critical infrastructure	
27.	Do you have experience with critical infrastructures in the context of the NIS Directive? Please describe the measures that you have implemented to comply with the NIS Directive.
28.	Are your Cloud technology platforms and related products and services certified by ENISA?
Sustainability and Corporate Social Responsibility	
29.	Please describe/refer to your sustainability and CSR policy. What kind of benefits can you give to the strategic partner? Do you have schemes in place enabling upscaling or downscaling the use of the service (during peak and rest hours for example)?
GDPR, data ownership, data transfers and data storage	
30.	What are your GDPR compliancy measures? Please explain how you deal with Privacy & Security by design and default. Could you explain your data portability and deletion protocols?
31.	How do you deal with extraterritorial legislation issues (e.g. Cloud Act, and US Freedom Act)? How do you protect the data storage and customers IPRs?
32.	What is your data ownership policy? Please explain.
33.	Do you have a data ESCROW policy? Please describe.

Lobbying activities	
34.	How do carry out lobbying activities regarding technologies, AI, big data, etc.?
Payment schemes	
35.	What are your payments schemes for the public sector? Do you have schemes in place enabling upscaling or downscaling the use of the service (during peak and rest hours for example)?
36.	Can you please describe your most relevant pay per use schemes?
37.	What are the price structures of your cloud services? Please split them based on Iaas, Paas, and Saa services.
Service Level Agreements	
38.	Can you please give a general overview of the SLA policy and schemes?
(Third party) audits	
39.	Do you allow third party audits? If so, can the client select the third party auditor? How often are these audits allowed?
Risk mitigation measures	
40.	Do you expect the customer to collaborate with the risk mitigation measures? Is the client provided with additional tools to mitigate the risk? Do your customers need to purchase these tools or are these provided as part of the services? (e.g. related to virus and cyber attacks)
41.	What is your vision on the use of Geographical data in the cloud environment? What experience do you have in this respect? Do you have partners delivering GIS software solutions/services to Contracting Authorities/Entities?
42.	Can you describe the migration data policy after termination of the contract? You may upload your standard policy document.

ANNEX 1: (Provisional) participating entities

1. Institutional organizations

- Waterboards (“waterschappen”).

A water board is a regional government body that is administratively responsible for water management in an area. They are responsible for the management of flood defenses, regional water management and the treatment of waste water. There are a total of 21 water boards in the Netherlands.

- Gemeenschappelijke regeling het Waterschapshuis.²

Het Waterschapshuis is a public body with legal personality, created on behalf and by the Dutch Waterboards, to act as supporting organization and purchasing centre for the water boards. In turn, the water boards influence the HWH in various ways:

- 1) They decide on the creation, amendment and dissolution of the HWH. In doing so, they determine the range of duties and powers.
- 2) They appoint their representatives for the general management that will have an information and accountability obligation to their water board. The representatives are often members of the general board of the water board and sometimes the dike officer.
- 3) They are informed about the performance of tasks via the budget and annual accounts.
- 4) They can give their feedback on the (draft) budget.

- Unie van Waterschappen.³

The Union of Water Boards is the association of the Dutch water boards. It represents the water boards on the national and international playing field, represents the interests of the water boards and stimulates knowledge exchange and cooperation.

- Daughter companies of one or more waterboards:
 - Waterschapsbedrijf Limburg, which is a subsidiary of the Limburg Water Board.⁴
 - Aquaminerals B.V. provides services to its participants in order to create economic and sustainability value for current and future raw materials deriving from the water cycle.⁵ Currently AquaMinerals has 14 participants: 11 drinking water companies and 3 water boards.

2. Gemeenschappelijke regelingen for watertaxes - initiated by one or more waterboards and one or more municipalities).

3. Water research institutes such as Aquon

Aquon is an innovative full-service partner for the nine water boards and water boards in the central

² <https://www.uvw.nl/>

³ <https://www.hetwaterschapshuis.nl/gemeenschappelijke-regeling>

⁴ www.wbl.nl

⁵ <https://aquaminerals.com/home/>

and southern Netherlands who provides professional water research, expert information and advice.⁶ They research on water quality as the basis for healthy and sustainable water management.

4. Water laboratories such Aqualysis

Aqualysis is a laboratory for water research owned by five Dutch water boards.⁷

⁶ <https://www.aquon.nl/>

⁷ <https://www.aqualysis.nl/>

ANNEX 2: List of examples

1.1 Artificial Intelligence models for the water sewage system of Het Waterschapbedrijf Limburg (WBL PCP).

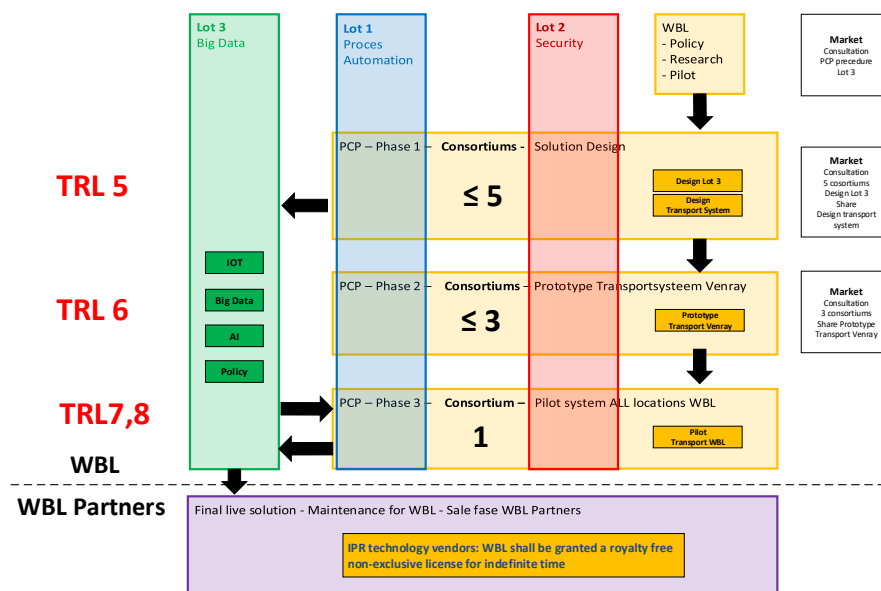
This PCP aims to improve the management of the pipelines for the transportation of wastewater.

From the beginning, there was a clear definition of the need. And from a selected keyword, a prior art analysis, an IPR search and an analysis of the standards were conducted, among other things, to assess the TRL, which showed the lack of patents in Europe (there were patents in China) and the potential risk of vendor of lock-in.

A first market consultation followed, in order to guarantee that this information was correct. Thanks to the input of this Market Consultation, WBL decided to divide the procurement into three lots: Process Automation, Security and Big Data.

This first market consultation also helped to collect preliminary input on the technological possibilities and approach to the Big Data analysis, which forms the subject-matter of the PCP. But more in-depth knowledge was needed, and thus, another market consultation was conducted for the R&D services related to the Big Data lot.

This last market consultation showed that there was no already existing and available technology which combined IoT, Data Analytics, Artificial Intelligence and deep knowledge about the transportation of wastewater and wastewater treatment plants that met the needs of WBL, which allowed room for innovation and justified a Pre- Commercial Procurement approach.



Another novelty of this procedure is the use of Value Engineering clauses to implement the R&D results of the PCP in the ongoing contracts of the aforementioned Lots.

1.2 Open data

Het Waterschapshuis is responsible for the acquisition of nationwide aerial photography for all

national and regional government bodies in the Netherlands (www.beeldmateriaal.nl). The height model of The Netherlands is also made under the responsibility of Het Waterschapshuis (www.ahn.nl).

In the Netherlands it is common practice for different government layers to publish their data as Opendata using the CC By license structure. Major geographical datasets that are available include topographical maps, Base maps, Aerial photography, lidar height maps and satellite data.

It is perceived that the publication of data as Opendata results in the development of a lot of a business based on these datasets. A research performed by the Wageningen University and Research centre pointed out that the revenues of making the height model of the Netherlands available as Opendata far exceeded the investments made producing this dataset.

Developments with AI and ML on Aerial photography and satellite imagery show that useful information for the watermanagers can be produced based on these datasets. A rather new development in The Netherlands is the decision to make high resolution aerial photography available as Opendata as of 2021. For the short term this challenge Het Waterschapshuis to provide an infrastructure for storage and distribution of the 200TB/Year dataset. For the long term it is more important to be able to facilitate businesses to make optimal use of this dataset in the cloud. That requires easy and open access to these datasets for low costs. That also entails having the processing facility close to the dataset.

Applications now foreseen, based on the high resolution aerials are in the area of:

- 1 Dense image matching for height modelling
- 2 AI for difference analysis
- 3 Stereo mapping in the cloud
- 4 Etc.

1.3 Working towards a 'Digital twin' of relevant water-objects

At this moment there are many forms of data models, designed for certain specific use. For example, hydrologic models, structures to determine the strength/ stability of dikes etc.

These models are not easy to combine. The idea is that we should create a digital twin of the real world, which can be used for all kind of different usage. This will have effects on the way data has to be stored and models to cope with this data.