

Het Waterschapshuis (HWH)
Strategic Partnership for Cloud Technology
Market consultation report

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1. Introduction

The Open Market Consultation of HWH on the Strategic Partnership for Cloud Technology had the objectives to: (i) make market operators aware of the public procurers' needs giving them time to prepare in advance for the upcoming procurement procedure; and (ii) crosscheck with the market the key contractual set-up and conditions for a foreseen procurement, in order to fine-tune the demand strategy and related contract terms for entering into an agreement with a strategic partner.

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

The 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
26th February 2021 (12:00 CET)	Deadline to receive answers to the questions in the EU Survey
19th March 2021	Publication of market consultation report and closure of market consultation.
Q2 2021	Go/No-go decision on Procurement Strategy

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 started on the date of its publication in the EU's Official Journal (TED) and ends on March 19th, 2021, unless terminated earlier. The market consultation was organised in the form of an online meeting and an online questionnaire. The meeting took place on February 4th, 2021. Interested parties registered for participation via <https://corvers.webinargeek.com/het-waterschapshuis-strategic-partnership-for-cloud-technology> by February 2nd, 2021.

All interested operators were 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 were able ask questions during the online meeting or via the following email address: Ana Lucía Jaramillo (a.jaramillo@corvers.com).

Any market operator who desired to supply additional confidential information that is not revealed during the OMC meeting, could 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 were requested to fill out the questionnaire available at <https://ec.europa.eu/eusurvey/runner/HWHCLOUD2021>. The questionnaire was submitted by respondents automatically through EUSurvey before February 26th, 2021. After having received their answers to the EUSurvey questionnaire, HWH may decide to plan bilateral meetings with one of 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 warranted and guaranteed 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 presents this Market Consultation Report. As stated in the Market Consultation document, the information provided by operators is treated as commercially sensitive and therefore no supplier specific details are communicated. Only the general findings are summarised and communicated.

The resulting anonymised report that summarises the OMC results is published on March 19th, 2021 via Tendered and TED.

2. Results of the EUSurvey questionnaire

The Open Market Consultation (OMC) of HWH sought to obtain information with the purpose to prepare an upcoming procedure to select the best cloud technology partner to work with for the coming 5 to 15 years.

The feedback received from interested parties in the OMC through the EUSurvey platform/questionnaire helps HWH understand the operators' capabilities to satisfy the procurers' needs and the viability of the procurement plans and conditions as described in the Market Consultation document and annexes.

In this context, HWH aims to understand:

- If technology vendors have previous IPR and invest in their protection.
- The interoperability and migration possibilities, as the envisaged partnership is intended for long term.
- The cofounding opportunities and the possibility to make use of corporate Venture Capital (VC).
- Possible monitoring and risk mitigating measures, including potential standards.
- Sustainable alternatives in the long term. Not just in monetary terms, but also in environmental terms, including standards on sustainable management.
- Existing price schemes to inform the upcoming procurement.

To address these topics, the market consultation questionnaire had 14 sections, containing in total 42 question. All respondents have provided useful in-depth and detailed information. They have also made use of the option to upload additional files.

In total 10 replies were received through the EUSurvey platform in response to the questionnaire: <https://ec.europa.eu/eusurvey/runner/HWHCLOUD2021>

From the feedback provided by the interested parties, it is possible to conclude that there is room for a partnership in cloud technology and its related products & services (such as AI, ML and Big Data, Data lake and Data virtualization/integration).

The results of the OMC confirm that many applications and solutions, which are needed to better manage water, water treatment and water systems, can be stored and used in a cloud environment. Therefore, HWH foresees, in principle, the transition of its current on premise database technologies, workplace technologies and process automation related technologies to a cloud platform. Nevertheless, based on further analysis, the final decision will be made in a following stage.

A summary of the main results and conclusions are provided for each of the sections of the questionnaire, as follows.

2.1. Strategic Partnership Q. 1–5

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?

General summary:

Respondents do have strategic partnerships with other contracting authorities on the national level, but also global footprint with NGOs and suppliers of solutions/services.

Respondents have strategic partnerships at the national level for specific sectors, also in the water sector in relation to water management, decision and support systems, urban water planning through deep learning, models to assess digitally the maintenance of waterways.

Respondents foresee different opportunities, capabilities and tools to manage a strategic partnership in the water sector in order to achieve a WIN-WIN situation. For example: cooperation, global position, partnerships for satellite and weather station data, drone images, contribution to public-private consortia, experience in smart city solutions.

Respondents align with EC Data Strategy of 2020 in the context of a partnership as infrastructure solution provider, open data in a safe and responsible manner, value added resellers to develop data, comprehensive product and services features that meet customer needs. Some respondents are active in the EC Data Strategy as part of different memberships, for example in Public Private Partnerships, networks and projects.

Regarding how to embed a business and value case approach in a strategic partnership, respondents refer, for example, to: their mission to drive digital transformation to obtain results, the importance to develop a good understanding of HWH's principles, strategies, values and requirements to translate them into technical capabilities, share insights of comparable situations in the world, a user centric design, an approach that links strategic thinking to pain points, the scientific community involvement in knowledge sharing and co-innovation, agile innovation, ethical standards, strategic value in terms of satisficing goals and benefits from a multi-stakeholder perspective, co-branding, co-marketing on

sustainable efforts, global and local community of experts to support a transition to digital transformation. One respondent indicates that it is desirable to have the business or value case be part of a MoU.

To ensure the knowledge transfer (e.g., training programs) to the contracting authorities in a strategic partnership, respondents indicate, for example: world class educational services and knowledge transfer abilities and executive solutions centers around the world, where engineers and management can interact; that the speed of technical evolution in the Cloud and constantly growing material requires good understanding on the type of skills needed and degree of in-depth understanding, existing training and tutoring methods; co-developing material, regular meetings, a water academy for co-innovation in the involvement of specialists, remote information sessions, tailor-made training.

On the preferred governance structure for supporting the strategic alliance with HWH, respondents mention different possibilities, for example: a dedicate account executive and support team, a triangular structure including HWH and an operational partner responsible for daily administration, governance adapted to the roles, responsibilities. One respondent indicates that the governance structure can be considered as part of a MoU for the strategic partnership. Also detailed diagrams to illustrate the governance structure have been provided.

Conclusion: There are promising opportunities, tools and commitment towards a possible partnership for cloud technology in the water sector.

2.2. R&D policies and investments Q. 6–8

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...)

General summary:

Respondents have an R&D policy related to their cloud technology platform and related products and services. They mention, for example: future hybrid solutions, R&D investments in cloud technology, internal policies, patents portfolios of technical innovations, customer data IPR ownership and company ownership of services and software, joint inventorship/authorship of IP, collaborative innovation centers. One respondent indicates that they develop most of their products and services internally through engineering groups.

Regarding the areas of R&D investment relating to their cloud technology platform and related products and services, respondents indicate, for example: turn-key and integration solutions, IoT and AI/ML, emerging technologies, industrial analytics, and other related to multiple domains.

Respondents consider as vital in an R&D policy, for example, the following: availability and security, features and functionality, key success factors and performance indicators for new technology domains (like Quantum Computing), time to market and return on investment (ROI), business value, collaborative tooling, ethical behaviour, universally accessible information, ongoing innovation and improvement.

Conclusion: There are interesting R&D initiatives and considerable investments for future innovation and ongoing improvement, in a collaborative environment.

2.3. Migration & agreements Q. 9–15

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)?

General summary:

Regarding the agreements in place with Oracle in order to migrate and operate Oracle's data base technology on the Cloud platform, most respondents indicate to have them and collaborate with Oracle.

Regarding the agreements in place with Siemens in order to migrate and operate Siemens PLCs technology on the Cloud technology platform, several respondents indicate not to be aware of this particular one but have collaboration with Siemens, others do not have agreements on the topic, but refer agreements with other suppliers.

Regarding the agreements in place with Microsoft in order to migrate and operate MS365 technology on the Cloud technology platform, some respondents indicate to have them, other do not have specific

agreement with MS365 but use MS Azure.

Regarding the agreements in place with other business application vendors relevant for the water sector, respondents indicate, for example: to have a wide network of vendors and partners, no specific partners but technical certifications, a list of key partners including those making offerings in architectural layers.

On the support of Hybrid solutions through their Cloud technology platform, most respondents replied affirmatively.

Regarding a partner policy for complementary products and services related to Cloud technology platform and related products and services, respondents mentioned, for example: an eco-system working together with major cloud service providers, large partner network and partnership programs with complementary solutions available.

To ensure that new versions/releases/updates of the Cloud technology platform and its related products and services does not create a necessity for the application layer to be changed/modified thereof, the respondents indicate different possibilities, for example: pre-engineering and pre-validation, release of new versions, application refactoring, mobile and scalable systems, tracking supported database versions, segmentation of compute and storage principle, compatibility table, a multi-dimensional roadmap, tailoring and administering iterative and agile change programs.

Conclusion: Some parties have relevant agreements and collaborations related to Oracle, Siemens and Microsoft, and other key partners in the water sector. Hybrid solutions are supported. There are different possibilities for the complementary products and to ensure new updates of the Cloud technology without the need to change the application layer.

2.4. Venture Capital & Partner Programs Q. 16–19

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.

General summary:

On the possibility to invest in start-ups and/or SMEs through Venture Capital funds in order to scale up/have a better time to market for their technologies, respondents have diverse approaches, for

example, that they: do not provide financial cash-out but offer resources for them to build their business, have a technical approach and a market approach through portals and showcases, have launched start-ups collaboration programs, host several venture capital related organisations, are investors for the long run, have incubation programs, provide infrastructure and run a start-up village, invest private capital in R&D projects. One respondent has launched a specific program for start-ups, which is a free, global program dedicated to helping B2B start-ups successfully scale their companies.

Regarding a Venture Capital possibility as part of the partner program, some respondents are open to discussions, others do not have VC as part of their partner program but offer special terms and conditions, discounts and accelerator programs. In other cases, there are R&D funds and have R&D labs on strategic technologies (e.g., AI, HPC, IoT) with an ecosystem of partners and start-ups in several countries with a sustainable, ethical and cybersecurity by design approach. Other handle it on a case-by-case basis, a business proposal and revenue models. In another case, the party invest own capital to develop new technology.

To ensure the access and outreach of start-ups and SMEs to partner programs, respondents mention several possibilities, for example: promote young entrepreneurs, showcase start-ups, give them access to their customers and partners, have different approaches on case-by-case basis, focus on specific areas like future cities, industry and transportation, a partner collaboration service.

Regarding how a strategic partner can enjoy the benefits of the partner programs (how a start-up of the Asia Pacific rim can offer its services through the partner program to the strategic partner) and the experience and willingness to co-fund together with the strategic partner in new innovative applications, respondents indicate, for example, the following: making the solution visible to the entire world, making it possible that companies register and team-up, become a partner in an existing program, co-creation leading to the release of globally available applications or modular technical platforms, joining an open community, joining events and networking opportunities, through a partner collaboration service.

Conclusion: There are diverse options to address Venture Capital & Partner programs as in the examples mentioned above.

2.5. IPR policies and strategies Q. 20–21

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.

General summary:

On the Cloud technology platform IPR policies and related products and services, the number of valid

patents registered in Europe and those filed on average per year, respondents indicate, for example: a number ranging (for different respondents) from a portfolio of over 63,000 U.S. and international patents issued and over 24,500 pending worldwide, or 30.000 patents and patent applications in total, to 82 in a year, and specifically 5 new patent applications each year relating to Cloud platforms.

Regarding the Open source policy and open standard policy, and the way it affects the Cloud technology platform and related products and services, respondents indicate, for example: design able to run any type of OS, dedication to open source and open standards, open source innovation with new enterprise-level features and one-stop global services, contributions to open source communities, participation in the GAIA-X initiative. One respondent mentions that the OpenChain Project plays an important role in building trust by setting standards that define how to operate a high-quality open source compliance program.

Conclusion: Many respondents have open source and open standards policies in place, and some are active contributors to OSS.

2.6. Standards & Standardisation activities Q. 22–26

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?

General summary:

On the participation in international standardisation committees (ISO, CEN/CENELEC, ITU) regarding Cloud technology, AI, big data and machine learning, respondents indicate, for example: that they participate in diverse ISO working groups; that they are aligned with the principles outlined in ISO/IEC 27034 'Information technology, Security techniques, Applications security'; that they collaborate through many industry venues such as SAFECode, BSIMM and IEEE, and have active involvement in diverse organisations (e.g. Cloud Security Alliance (CSA), Distributed Management Task Force (DMTF), the Forum for Incident Response (FIRST), International Committee for Information Technology

Standards (INCITS), International Standardization Organisation (ISO), Internet Engineering Task Force (IETF), Organization for the Advancement of Structured Information Standards (OASIS), Storage Networking Industry Association (SNIA), European Cyber Security Organization, GAIA-X AISBL, CEN-CENELEC, ITU, IEC, IETF/IAB, NIST, ICASA, ENISA, W3C, ICANN, SWIPO). Some respondents do not refer due to need to obtain information from another department and other respondent does not participate in these standardisation committees.

Regarding the participation in the international standardisation committee on Open Geospatial Consortium, some are (were) active or associate members and others not.

On the compliance with ISO/IEC 27001 and/or ISO/IEC 27002:2013 and/or ISO/IEC 27701:2019 and/or ISO/IEC 27018:2014 or equivalent standards, most respondents indicate that they adhere to all these standards in every country of operation, some refer the links to the website where all the details on the current compliance and specific compliance reports are made available. Some respondents mention they have external auditors to maintain their certification level. Additional standards and EU Model Contract Clauses have been mentioned (e.g. ISO/IEC 27018 Cloud Privacy, NIST 800-53, NIST 800-171, ISO9001:2015, ISO14001:2015, ISO20000-1:2011, ISO27001:2013, ISO22301:2012, ISO45001:2018, ISO50001:2011). One respondent provides verified compliance mappings to the Baseline Informatie Beveiliging Overheid (BIO) and other relevant standards: ISO22301; Business Continuity: ISO 22301:2012 Business Continuity Management Standard; IT Service Management; ISO/IEC 20000-1:2011 Information Technology Service Management.

Regarding the validation of possible relevant standards which came up during the desk research: standards EN 301 549 V2.1.2 (2018-08) and ISO/IEC 40500:2012 regarding interoperability and accessibility of ICT products and services, some respondents need more internal research for further discussions. Other respondents are using these standards and propose additional standards and/or certifications to maximise interoperability and accessibility (e.g. WCAG, ISO 17575, 12855, 12813).

Regarding the validation of ISO 50001:2018 and the Certified Green Computing Facility of the Green Computing Initiative came up as relevant standards regarding sustainability, some respondents need more internal research for further discussions. Other respondents refer, for example, to their position documents available online, tables and graphics, the membership to Green Grid, also information on being Carbon neutral and having reached 100 percent renewable energy for its operation, as well as investments in renewable power projects. One respondent holds the “CO2-bewust Certificaat, level 5 (CO2 prestatie ladder v3)”, and the data centers are also affiliated with Green Grid and the EU Code of Conduct for Data Centers and have started a new certification project for ISO 14001 to comply with European Energy Efficiency Directive (EED).

Conclusion: The standards identified are relevant and the participants to the OMC are mostly active in standardisation activities and comply with relevant standards.

2.7. Critical infrastructure Q. 27–28

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?
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General summary:

On the experience with critical infrastructures in the context of the NIS Directive and measures implemented to comply with the NIS Directive, some respondents indicate that they follow international guidelines and the NIS Directive, other mention their credentials and experience securing critical business systems in complex environments. Some have referred to information in their official pages. One points out that EU Directives give EU countries some level of flexibility to consider their national circumstances and different national practices which may make products/solutions not directly compliant with NIS but through national ones (e.g., one measure is a tool that controls and commands the full transmission network replacing existing in-house solutions at national and regional levels in a single system). Certifications and audits such as ISO 27001, ISO 27017, ISO 27018 and SOC2 that cover the technical and organizational security 'state of the art' measures suggested by ENISA have also been mentioned. One respondent refers to compliance assurance with the NIS directive in respect to measures and controls which is provided through Third Party Memoranda, like the ISAE3000 SOC2-TypeII and FedRAMP accreditations.

Regarding the Cloud technology platforms and related products and services certified by ENISA, some respondents need further internal research for further discussion. Some respondents refer to the relevant information on their websites. Some are not ENISA certified but ISO 27001 certified. Other interacts with ENISA's working groups. Also, the following have been mentioned: ANSI, CEI 62443 enforced into specific products. Other are in process of getting to ENISA certification. One respondent is a member of the Ad Hoc Working Group set up by ENISA to support the development of the EUCS by ENISA.

Conclusion: There is knowledge and experience in the context of critical infrastructures and NIS Directive, also in complex systems also in the security and defence domains. Some are ISO certified and/or in process of an ENISA certification.

2.8. Sustainability and Corporate Social Responsibility Q. 29

Sustainability and Corporate Social Responsibility	
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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)?
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General summary:

Regarding the sustainability and CSR policy, the benefits to the strategic partner, and schemes in place enabling upscaling or downscaling the use of the service, some respondents provide examples of their strategies, collaborations to circular economy, championing of privacy rights, and schemes in place. References to detailed information on websites, including environmental policy and innovative green initiatives, and sustainability programs have been provided.

Conclusion: CSR and sustainability are important and embedded in the policies and strategies. The parties have their own schemes in place.

2.9. GDPR, data ownership, data transfers and data storage –Q. 30–33

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.

General summary:

Regarding the GDPR compliancy measures and how parties deal with Privacy & Security by design and default, respondents recognize the value of privacy and have measures (such as Corporate regulations and codes of conduct) in place (on the roles or controller, processor, etc.), some of which involve a dedicated privacy team of experienced certified privacy professionals and attorneys. On the data portability and deletion protocols, respondents refer, for example to: IP EC VPN Connect. One respondent indicates that customer can control (i.e., upload, extract, or delete) that data through the standard interfaces (portals or APIs) that are provided in the platform, and per the Data Processing Agreement: *“At all times during the term of Customer’s subscription, Customer will have the ability to access, extract and delete Customer Data stored in each Online Service.”*

On how to deal with extraterritorial legislation issues (e.g., Cloud Act, and US Freedom Act) and the protection of the data storage and customers IPRs, respondents refer to their commitment to GDPR and other security measures, including for example, privacy codes for processing personal information. Relevant references have been made, for example, to data storage, binding corporate rules, security and assessment and authorization, customer transparency report, etc. on their websites. A respondent indicates to have implemented by December 2020 “additional safeguards” to the Standard Contractual Clauses.

Regarding the data ownership policy, some respondents are willing to discuss further and provide more information under an NDA. Other indicate that clients retain all ownership and intellectual property rights to client content, and clients may have access to third party content through use of the services. Some have data stewardship policies. References to relevant information on websites have been provided.

On the data ESCROW policy, some respondents may provide further information under an NDA. Other respondents do not provide ESCROW for cloud service, but have other protection measures to backup databases, or resort to different options (e.g., encryption key management, data segmentation, isolation of critical assets, “lift and shift” migrations, modernizing with cloud-native and DevOps methods, and ultimately managing and securing hybrid, multi-cloud environments).

Conclusion: There is awareness on the importance of GDPR compliance and different measures are in place according to the policies and strategies of each of the participants.

2.10. Lobbying activities Q. 34

Lobbying activities	
34.	How do you carry out lobbying activities regarding technologies, AI, big data, etc.?

General summary:

On the lobbying activities regarding technologies, AI, big data, etc., respondents indicate, for example: a large salesforce interaction with customers, resellers and stakeholders, participation in smart cities, activities through trade associations (e.g., EU Transparency Register), the active participation in standardisation commissions like OGC or W3C and European initiatives, work with market analysts. Reference has been made to relevant information on their websites. One respondent indicates that lobbying activities are not part of their ethics guidelines. Another respondent has a large partner network with deeply rooted relations in Non-governmental and Governmental organizations, with whom they are serving both the clean and wastewater industries.

Conclusion: Not all the participants to the market consultation carry out lobbying activities, but other are active in diverse commissions and initiatives.

2.11. Payment schemes Q. 35–37

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 SaaS services.

General summary:

Regarding the payments schemes for the public sector, and possible schemes in place enabling upscaling or downscaling the use of the service (during peak and rest hours for example), respondents refer to different options (e.g., Project APEX for delivering a radically simplified as-a-Service and cloud experience). Some respondents offer many payment schemes, but also mention Cloud functions. Other respondents can make available more information under an NDA.

Some additional examples on relevant pay per use schemes are provided (e.g., Technology Rotation,

Technology Ownership, Deferred Payments, Short Terms, Universal credits, Pay as You Go model PAYG, Contract Foundation, Contract Infrastructure, Contract Instance Management).

On the price structures of the cloud services (IaaS, PaaS, and SaaS services), some respondents are willing to discuss further at a later stage, other provide examples (price per different options). It is also mentioned that pricing structures are many and varied and span the range of IaaS, hybrid, PaaS, SaaS, managed, and serverless offerings. Pricing can be adapted to the needs of the particular client or partner, ranging from monthly billing per use to set-price subscriptions based on expected workloads. More detail is available based on focused scoping related to the particular technologies or services, the use case, and estimated loads. Pricing calculators and billing specialists are available to work out pricing schemes to fit the needs and requirements of the client or partner at-hand. One respondent mentions a partner program in place to support resellers and partners in pass-through billing, including administrative tools and support. Another respondent indicates that their most relevant Pay per Use scheme is based on the principle of $P \times Q$, in which “P” stands for Price and “Q” stands for Quantity in the unit applicable to the resource, for example, Processing capacity will be charged by the number of vCPU’s, Memory and Storage will be charged in GB’s, Bandwidth in mbit.

Conclusion: Multiple payment schemes are available, some require an NDA to be made available and require further analysis.

2.12. Service Level Agreements Q. 38

Service Level Agreements	
38.	Can you please give a general overview of the SLA policy and schemes?

General summary:

On a general overview of the SLA policy and schemes, respondents refer to relevant information on their websites. Some respondents indicate examples Service Levels for effort and availability at various levels/values in categories. Other respondents refer to Service Level Agreement Estimator, and to coverage including software license, software maintenance, engineering service and 24/7 support. Other mentions that the SLA is tailor-made per customer. The overview of a SLA policy indicates the impact, urgency and priority levels.

Conclusion: Diverse options regarding the SLAs require closer analysis.

2.13. (Third party) audits Q. 39

(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?

General summary:

To the question on third party audits, the possibility that the client selects the third party auditor, and how often these audits are allowed, respondents indicate, for example: that the client can select the auditor, that external auditors are hired every year, the use of security penetration tests, the frequency, objectives and requirements can be discussed. One respondent indicates there is an independent yearly audit and they receive an ISAE3402. A respondent refers to an amendment that states: "(...) An audit may be carried out as many times as Customer requires through the Central Framework for Auditing Compliance (...)". Reference is also made to audits regarding processing of personal data. Relevant references have been provided.

Conclusion: Third party audits are possible, the terms of these can be further discussed.

2.14. Risk mitigation measures Q. 40-42

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.

General summary:

On the risk mitigation measures, the collaboration of the customer and the tools provided to the client to mitigate the risk (e.g., related to virus and cyber-attacks), respondents expect this collaboration, as well as the client's awareness of security and compliance responsibilities. Risk mitigation measures are part of a plan and trainings can be provided. Tools are provided as part of the services based on security and privacy by design. One respondent indicates that a holistic approach to risk management and governance is required with key values of visibility, accountability and responsibility, as well as traceability throughout all steps of IT governance process and traceability to ensure effective management, audit and compliance. A respondent refers to a wide array of configurable security options and the ability to control them to customize security to meet the unique requirements of the organization's deployments.

Regarding the vision and experience on the use of Geographical data in the cloud environment, and partners delivering GIS software solutions/services to Contracting Authorities/Entities, respondents explain their relevant experience and mention, for example: ESRI, ArcGIS, 3D data processing, a GeoCloud system, Cegal, BigQuery Geo Viz, Geoserver for OGC, TaKaDu, geospatial data in WKT format which can interface with GeoJSON and GeoESRI format.

On the migration data policy after termination of the contract, respondents mention different aspects, for example: the possibility to exit the infrastructure as easy as moving out of it, that multiple public

clouds in a hybrid setup will eliminate cloud lock in risk after contract termination, that public cloud providers may charge exit costs for migrating data to a different location. One respondent mentions various scenarios. Another respondent mentions that upon expiration or termination, the customer may extract their company's data, ownership of documents, records, and other data remains with the customer, so it does not need to be processed upon termination. References to relevant information available online have been provided.

Conclusion: The collaboration of the customer in the risk mitigation measures is expected. Some tools are provided as part of security and privacy by design. The possibilities available on Geographical data and the migration data policy need further analysis.

3. Follow up procurement procedure

HWH intends to select a strategic partnership for cloud technology through a procurement procedure which will be informed and fine-tuned based on the results of the OMC.

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.
- 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 can, in principle, 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.
- Adequate risk mitigation measures, as part of the management plan, for a sound implementation of technologies, given the characteristics of the relevant operational environment.
- Interoperability and accessibility of ICT products and services, as well as migration possibilities, based upon standards and /or certifications.

Participation in the 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.

The procurers do not commit to subsequently deploy a procurement procedure, but in case of 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.

ANNEX. 1. OMC EUSurvey - Questions



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 you 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 SaaS 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?
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