



Science

## Call for proposals

### **Sustainable water technology**

### **Partnership Programme NWO-Wetsus on the Impact of Water Research on Energy, Industry, Health, Economy, and Environment**

2018 3rd round

The Hague/Utrecht, December 2018  
Netherlands Organisation for Scientific Research

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Background	1
1.2	Available budget	2
1.3	Validity of the call for proposals	2
<b>2</b>	<b>Aim</b>	<b>3</b>
<b>3</b>	<b>Guidelines for applicants</b>	<b>5</b>
3.1	Who can apply	5
3.2	What can be applied for	6
3.3	When can applications be submitted	8
3.4	Preparing an application	9
3.5	Conditions on granting	10
3.6	Submitting an application	12
<b>4</b>	<b>Assessment procedure</b>	<b>13</b>
4.1	Procedure	13
4.2	Criteria	15
<b>5</b>	<b>Contact details and other information</b>	<b>16</b>
5.1	Contact	16
5.1.1	Specific questions	16
5.1.2	Technical questions about the electronic application system ISAAC	16
5.2	Other information	16
<b>6</b>	<b>Annexe(s)</b>	<b>17</b>
6.1	Annexe 6.1 Call themes and topics	17
6.2	Annexe 6.2 NWO-Wetsus Programme Compulsatory consortium agreement	18

# 1 Introduction

## 1.1 Background

The Dutch government designates 'Water & Maritime' as one of the nation's 'Top Sectors'. Within Top Sectors, the business community, knowledge institutions, and government pool finances and know-how on the subject in order to co-develop knowledge and achieve innovation. Joint arrangements are laid down in Knowledge and Innovation Contracts. These contracts provide an overview (in Dutch) of activities to be carried out by, among others, NWO in cooperation with each Top Sector. The NWO-Wetsus Partnership Programme "Sustainable water technology: Impact of water research on energy, industry, health, economy and environment" is one of the activities in connection with Top sector 'Water & Maritime'.

NWO (Netherlands Organisation for Scientific Research) and 'Wetsus, European centre of excellence for sustainable water technology', set up this joint Partnership Programme to stimulate effective collaboration and interaction between academia and industry regarding sustainable water technology for society. Each project will be operated by a consortium consisting of both a knowledge institution and one or more industrial partners, not limited to members of Wetsus. Industrial commitment and hands-on participation provide this initiative with a firm foundation into the private sector. The partnership programme benefits society in at least 5 ways:

- By strengthening national and multinational enterprises based in the Netherlands;
- By stimulating Dutch research groups active in sustainable water technology;
- By providing training and excellent research facilities to researchers and their academic-, private-, and other partners;
- By incorporating researchers into a Europe-wide network of specialists, representing a wide array of areas of expertise, on which to exchange ideas, and;
- By exemplifying Wetsus' role as central roundabout and national 'hub' through which both member organisations and non-member organisations may establish wider cooperation within the international water technology community.

NWO and Wetsus have decided to join forces to address societal and scientific issues spanning all the themes the Wetsus community encompasses. Many of society's challenges in this field are of a multidisciplinary nature. The scope of each Partnership programme call is limited to a subset of themes. The themes addressed in this third call are presented in section 2 ("Aim"). Within each of the subjects included in section 2, multidisciplinary approaches are encouraged, also if this involves crossing boundaries between listed subjects and beyond.

The NWO-Wetsus Partnership Programme "Sustainable water technology: Impact of Water Research on Energy, Industry, Health, Economy and Environment" has links to the National Science Agenda's 'exemplary routes': [Kwaliteit van de omgeving: de waarden van natuur, landschap, bodem, klimaat, water en milieu](#) and the [Blauwe route](#).

This call for proposals was prepared in consultation with the Top Sector Water & Maritime.

Research within the NWO-Wetsus Partnership Programme is precompetitive in nature. General emphasis lies on detailed analysis of (managing) complex, industrial, scientific and/or societal aspects of freshwater- and waste water cycles and processes, relevant for sustainable water technology. This research programme aims to generate accurate solutions to enhance sustainable water management and technology. The methods of choice, and the disciplines involved, will vary from theme to theme.

Provided (co-)applicants meet the general NWO criteria presented in section 3.1, participation in the call is equally open to knowledge institutions and industrial partners that are, and are not (but are willing to become in the case of granting of the project proposal), members of Wetsus.

To be effective as a programme, projects must deliver results that can be applied, for the benefit of society and industry, with respect to product/service development and/or process improvement. Thus, project deliverables must lie within the sphere of interest of members of the Wetsus community.

Research activities must take place at the Leeuwarden research laboratory of Wetsus. This working side-by-side will facilitate interdisciplinary exchange of information about research approaches, and -ideas, among participants from different universities and institutes, connecting different Wetsus- and Partnership Programme initiatives, and stakeholders in different Wetsus-based projects. This unique collaboration brings synergy and new creativity to the search for new sustainable water treatment technology.

In exceptional cases, field work, and other activities that can't be performed at Wetsus' lab, may, if in accordance with the granted research proposal, be carried out at a more appropriate location. If activities are planned at other locations than Leeuwarden or the location described in the granted proposal, both the programme director of Wetsus and the programme manager at NWO have to grant their prior permission.

## 1.2 Available budget

The maximum NWO budget available for this call within the Partnership programme amounts to € 500,000. This budget is available to cover marginal project related costs resulting from 4 year research projects for PhD students and/or 2 to 3 year research projects for postdocs up to a maximum of € 250,000 per project.

In this Public Private-partnership, NWO's financial contribution must be matched by a financial contribution provided by contributing partners, including private sector companies, represented by Wetsus. In special cases, Wetsus may agree to finance (part of) the required private party contribution through the research budget of one or more appropriate Wetsus theme groups.

## 1.3 Validity of the call for proposals

This call for proposals is valid until the closing date **June 27, 2019, 14:00 hours CE(S)T.**

## 2 Aim

The programme aims to explore new knowledge fields for sustainable water treatment technology.

The world needs new solutions to growing and emerging problems in availability and quality of water for domestic, agricultural- and industrial use and for nature. The focus must not only be on the efficacy of these solutions but on their sustainability as well, e.g. by requiring less energy, reusing valuable resources (minerals and metals, energy), and reducing greenhouse gas emissions. Existing engineering approaches alone will not be able to provide solutions for these challenges that our society faces now and in the future. Development of new water process technology will be necessary to develop new concepts to treat and reuse waste water and to produce clean water from alternative sources like saline water, impaired water or humid air to minimize the use of precious groundwater.

Within the programme, knowledge institutes and private companies, sometimes in cooperation with societal organisations, collaborate actively in pre-competitive research and development of new concepts for innovative water treatment technologies and for breakthrough improvements of current technologies. These developments can flourish best in an atmosphere where scientific knowledge and conceptual understanding are fostered in concordance with a thorough understanding of societal needs. It is therefore the philosophy of the programme that breakthrough practical developments can only come in tandem with the aim to enhance the scientific understanding in the relevant fields.

The technical results generated are expected to be of strong and immediate interest to all contributing industrial partners. After, or during, know-how development, the technology providers in the consortium can develop scalable technologies for prototyping and demonstration, ultimately resulting in market introduction; the end-users in the consortium can integrate the technologies in their treatment schemes, and thus companies introduce the programme's results into society.

### Focus

Focus of this call is "Physico and/or chemical based process engineering for water treatment and (process) monitoring". To be eligible for funding, applications must (at least) cover one out of the following five subjects:

1. Desalination;
2. Priority Compounds;
3. Advanced Water Treatment;
4. Sensoring;
5. Smart Water Grids.

For more information on each subject, please see annexe 6.1. Besides information included in the call, you may, since call subjects coincide with a number of the 'Wetsus Themes', look on the Wetsus website (<https://www.wetsus.nl/research>) for additional information.

Projects must be based on challenging concepts for technologies, and must include scientific study of basics and concepts, with experimental verification of hypotheses, leading to the generation of new research results and new technologies. In addition, proposals include a description of the potential impact of expected results on technology development, and societal and commercial relevance. For each of the subjects listed above, not more than one project proposal will be granted.

### Scientific disciplines

The disciplines needed to execute the partnership program include – amongst others -:

- electrochemistry,
- electrochemical engineering,
- process technology,
- numerical methods,
- chemical kinetics,
- photochemistry,

- sonochemistry,
- surface chemistry,
- spectroscopy,
- (physical) chemistry,
- materials science,
- membrane science,
- (physical) organic chemistry,
- (applied) physics,
- optical physics,
- mechanical engineering,
- electrical engineering.

## 3 Guidelines for applicants

### 3.1 Who can apply

Full, associate and assistant professors and other researchers with a comparable appointment can submit an application if they:

- are employed (i.e. hold a salaried position) at one of the following organisations:
  - Dutch universities;
  - University medical centres;
  - NWO and KNAW institutes;
  - the Netherlands Cancer Institute;
  - the Max Planck Institute for Psycholinguistics in Nijmegen;
  - researchers from the DUBBLE Beamline at the ESRF in Grenoble;
  - NCB Naturalis;
  - Advanced Research Centre for NanoLithography (ARCNL);
  - Princess Máxima Center; and
  - Royal Netherlands Meteorological Institute;
- and also have an appointment period for at least the duration of the application procedure and the entire duration of the research for which the grant is being applied for. Personnel with a zero-hour appointment is excluded from applying.

Additional conditions<sup>1</sup>:

Per call, a researcher may act as an applicant of up to two different applications, provided (s)he acts as principal applicant not more than once per call.

#### Project consortium

Each proposal involves a project consortium, consisting of:

- one or more knowledge institutions that employ the researcher(s) appointed to the granted project;
- one or more private sector partners, contributing financially, in the consortium represented by Wetsus;
- Wetsus;

and, optionally:

- one or more partners from outside the private sector, not including knowledge institutions, like water boards, drinking water enterprises, governmental entities, or societal organisations, contributing financially, in the consortium represented by Wetsus;
- one or more partners from outside the private sector, not including knowledge institutions, like water boards, drinking water enterprises, governmental entities, or societal organisations, not contributing financially, in the consortium represented by Wetsus.

Public sector partners are institutions that neither belong to the category of institutions that can submit proposals to NWO (listed above), for instance TNO and DLO, nor belong to the category of private sector institutions, like for instance water boards, drinking water enterprises, governmental entities, or societal organisations.

NWO does not act as a consortium partner.

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<sup>1</sup> The word 'applicants' refers to both main applicants and co-applicants.

Neither the scientific institution(s), nor the contributing parties from the private and the non-private sector need to be Wetsus members at the moment of application, but are expected to have become Wetsus members at the signing date of the consortium agreement.

With regard to this specific partnership programme, Wetsus and the scientific institution(s), as consortium members, have to observe the 'NWO Grant Rules 2017', referred to in section 3.5, in full.

With regard to granted project proposals this is achieved by:

- a) the obligation to submit a 'data management plan' (see section 3.5);
- b) having all members of a consortium, prior to the official start of a granted project, sign the filled out format of the compulsory consortium agreement (Annexe 6.2);
- c) securing that all parties involved in any application are fully aware of, and agree to, the rules and conditions regarding this research programme (through section 3.6 and the 'Statements' at the end of each application form).

## 3.2 What can be applied for

In drawing up an application, the applicant makes use of "modules". These building blocks, from which an application can be constructed, have been standardised across NWO:

- NWO determines which modules are available, their budget and the number of times that a module may be used, depending on the aim of the instrument as well as on the needs of the research field and any stakeholders involved;
- Within that framework, the researcher then chooses the combination of modules he/she needs, and the budget for each module, in order to answer the research question.

For an application, the following modules are available within this call:

### 1. Module Personnel

The salary costs will be remunerated according to the agreements in the 'Agreement for Funding Scientific Research' made with the Association of Universities in the Netherlands and are based on the collective labour agreement of the Dutch universities. In addition to salary costs, the project employee funded by NWO will receive a one-off individual bench fee (€ 5000) to encourage his or her scientific career. The agreement and the maximum amounts for personnel costs can be found at <https://www.nwo.nl/approval-of-funding-for-scientific-research-2008> and <https://www.nwo.nl/salarytables>.

the project employee funded by NWO will be employed by a knowledge institution mentioned in 3.1 that is part of the project consortium. The staff will be stationed at the Wetsus lab in Leeuwarden.

NB: Remunerations for PhD students/PhD scholarship students at a Dutch university are not eligible for funding from NWO.

#### Module 1a) PhD/PDEng/MD PhD

The guideline is that 1 fte PhD for 48 months or 0.8 fte for 60 months can be applied for. If a different duration of appointment is desired for the realisation of the proposed research, then the guidelines may be deviated from as long as this is well justified.

**Module 1b) Postdoc**

The guideline in this call is that the appointment period of a postdoc can be between 24 and 36 months. If a different duration of appointment is desired for the realisation of the proposed research, then this deployment can be spread over a longer or shorter period, for example across the entire duration of the project, as long as this is well justified.

**2. Module Material Credit**

A maximum of € 15,000 per year per full-time scientific position (modules 1a and 1b) can be applied for, specified according to the three categories stated below:

**Project-related goods/services**

- consumables (glassware, chemicals, cryogenic fluids, etc.);
- software (e.g. specialist computer programs, etc.);
- measurement and calculation time (e.g. supercomputer access, etc.);
- costs for acquiring or using data collections (e.g. from Statistics Netherlands);
- access to large national and international facilities (e.g. cleanrooms, synchrotrons, datasets, etc.);
- work by third parties (e.g. laboratory analyses, data collection, etc.);
- personnel costs smaller in size than those offered in module 1.

**Implementation costs**

- national symposium/conference/workshop organised by the project;
- costs of open access publishing;
- data management costs;
- recruitment costs (incl. advertisement costs);
- costs involved in applying for licences (e.g. for animal experiments).

**Costs that cannot be applied for are:**

- basic facilities within the institution (e.g. laptops, desks, et cetera);
- maintenance and insurance costs.

If the maximum amount of € 15,000 per year per full-time scientific position is not sufficient for realising the research, then it may be deviated from if a clear justification is provided in the proposal.

Wetsus is responsible for gathering information on how NWO's contribution to cover direct material costs was spent by the organisation where the project takes place, to enable the applicant to prepare its final report on the NWO contribution for NWO.

**3. Module Internationalisation****Module 5b) Money follows Cooperation (MfC)**

The aim of this module is to encourage international collaboration via the principle of Money follows Cooperation, for which the national research budget is used for cross-border collaboration that offers the possibility to create added value for individual research projects by deploying expertise from abroad which is not available in the Netherlands at the desired level for the project. This concerns expertise from organisations outside of the Netherlands that have a public task and carry out research independently. In the proposal, the applicant must convincingly demonstrate that the expertise concerned is not available in the Netherlands. This will be assessed in the selection process. If the arguments are not sufficiently convincing, then the funds for this module cannot be made available.

Furthermore, the applicant needs to state the amount to be deployed for this module in the budget. In principle, there is no limit to the amount that can be requested.

#### 4. Module PPP/Co-funding: 50% co-funding

##### Module 6e) 50% co-funding

In this Public Private-partnership, NWO's financial contribution must be matched by a financial ('in cash') contribution provided by consortium partners, including private sector companies. In special cases, Wetsus may agree to finance (part of) the required private party contribution through the research budget of one or more appropriate Wetsus theme groups.

Knowledge institutions, employing a Wetsus-based researcher, contribute to the programme budget by providing *pro memori* support. Except for NWO's contribution which helps covering direct personnel costs, and private partners' contributions to Wetsus, all remaining costs of a knowledge institution have to be covered from the employing knowledge institution's own budget.

The financial ('in cash') contribution by NWO will neither exceed € 250,000 nor will it exceed the financial contribution Wetsus declares to have received from the private and other contributing partners for the project. The matching contribution by contributing partners to Wetsus must for at least 61.2% consist of contributions by private sector partners. Value added tax (BTW) or other taxes do not qualify as partner contributions.

#### 5. Example of cost breakdown for a typical project under this call

As an *example*, the below table provides an indication of how the breakdown of integral costs for a typical PhD project may look like.

Description	Amount	Funded by	Receiver
Module Personnel	€ 237,000 <sup>2</sup>	NWO	Knowledge institution
Module Material Credit	€ 13,000 <sup>3</sup>	NWO	Knowledge institution, transferred to Wetsus
Indirect cost Wetsus laboratory & organisation ('matching'); remaining direct costs materials	€ 250,000 <sup>4</sup>	Contributing partners, (mainly) from private sector	Wetsus
Indirect cost at knowledge institution ('matching')	P.M.	Knowledge institution	Knowledge institution

### 3.3 When can applications be submitted

The deadline for the submission of preproposals is **April 18, 2019, 14:00 hours CE(S)T**.

The deadline for the submission of proposals is **June 27, 2019, 14:00 hours CE(S)T**.

When you submit your application to ISAAC you will also need to enter additional details online. You should therefore start submitting your application at least one

<sup>2</sup> Including a €5.000 bench fee. Personnel costs are funded in accordance with the most recent VSNU rates,

<sup>3</sup> NWO's contribution for the aggregate modules will not exceed € 250,000. The module personnel, and the realised contribution from contributing partners determine NWO's share in covering the direct costs of materials in Module Material Credit.

<sup>4</sup> The financial contribution by contributing partners must equal the financial contribution by NWO.

day before the deadline of this call for proposals. Applications submitted after the deadline will not be taken into consideration.

### 3.4 Preparing an application

Preparing a preliminary research proposal or full research proposal involves the following steps:

- Download the appropriate obligatory application form from the electronic application system ISAAC or from NWO's website (on the grant page for this programme).
- Contact the appropriate Wetsus theme coordinator (via [jan.post@wetsus.nl](mailto:jan.post@wetsus.nl)) about your idea for a preliminary research plan in order to:
  - check with Wetsus whether this idea fits this call.
    - Prospective applicants who, according to Wetsus, do not comply with the intended scope of this call are strongly discouraged to apply;
  - obtain information useful in writing the 'motivation with regard to criterion B'. (Wetsus will advise the evaluation panel about each preliminary research plan's quality regarding criterion B);
  - besides looking for suitable partners within your own network, the Wetsus network may prove helpful in finding (industrial) contributing partners. In exceptional cases, and in agreement with Wetsus, (private sector members of) a Wetsus Theme Group may agree to contribute financially;
- Involve Wetsus for demonstrating the required level of (intended/committed) financial support from private sector contributing partners and, in some cases, and to some extent: contributing partners from outside the private sector (public, governmental, societal);
- The appropriate obligatory application form (either for a 'preliminary research plan' or for a 'full research proposal') has to be filled out in full, in accordance with the instructions included in the application form, and this call's brochure, including the non-exhaustive list below:
  - Using a standard font of at least 11 points to fill out the form (literature references may be in font size 9);
  - Not including references to external documents other than literature references;
  - If an item indicates that a maximum number of words is to be observed, include your word count to demonstrate that the requirement is met.

If, during the process of preparing an application questions arise, do not hesitate to contact the programme manager at NWO.

#### **Preliminary research proposal**

- The application form includes a 'data paragraph' which has to be filled out in full, but isn't included in the evaluation of the preliminary research proposal
- With regard to the 'description of the proposed research', the preliminary research proposal consists of 2 sections:
  - Section a, the 'scientific description';
  - Section b, the 'motivation with regard to criterion B'.

Both section a and b of the 'description of the proposed research' may not exceed 750 words each (approximately 1 page), not including references, publications and the literature list; the word count does include footnotes, figure captions and tables).

#### **Full research proposals**

- The application form includes a 'data paragraph' which has to be filled out in full, but isn't included in the evaluation of the full research plan.

- With regard to the 'description of the proposed research', the full research proposal has only 1 section. The 'scientific description', including the 'motivation with regard to criterion B', may not exceed 3600 words (approximately 4 pages), not including references, publications and the literature list; the word count does include footnotes, figure captions and tables). The updated version of the former 'motivation with regard to criterion B' may either be fully integrated into the section's text or may still be recognisable as a sub-section.

### 3.5 Conditions on granting

The NWO Grant Rules 2017

(<https://www.nwo.nl/en/funding/funding+process+explained/nwo+grant+rules+2017>) and the Agreement on the Payment of Costs for Scientific Research (the most recent version can be found through: <https://www.nwo.nl/financiering/hoewerkt-dat/salaristabellen>) or, [in English](#), apply to all applications. After a proposal has been awarded funding, NWO designates the applicant as project leader; the project leader receives the instructions of the Domain Science for project and programme leaders.

#### Open Access

All scientific publications resulting from research that is funded by grants derived from this call for proposals are to be immediately (at the time of publication) freely accessible worldwide (Open Access). There are several ways for researchers to publish Open Access. A detailed explanation regarding Open Access can be found on [www.nwo.nl/openscience-en](http://www.nwo.nl/openscience-en).

#### Data management

Responsible data management is part of good research. NWO wants research data that emerge from publicly funded research to become freely and sustainably available, as much as possible, for reuse by other researchers. Furthermore NWO wants to raise awareness among researchers about the importance of responsible data management. Proposals should therefore satisfy the data management protocol of NWO. This protocol consists of two steps:

##### 1. Data management section

The data management section is part of the research proposal. Researchers should answer four questions about data management within their intended research project. Therefore, before the research starts the researcher will be asked to think about how the data collected must be ordered and categorised so that it can be made freely available. Measures will often need to be taken during the production and analysis of the data to make their later storage and dissemination possible. Researchers can state which research data they consider to be relevant for storage and reuse.

##### 2. Data management plan

After a proposal has been awarded funding the researcher should elaborate the data management *section* into a data management *plan*. The data management plan is a concrete elaboration of the data management section. In the plan the researcher describes whether use will be made of existing data or a new data collection and how the data collection will be made FAIR: Findable, Accessible, Interoperable, Reusable. The plan should be submitted to NWO via ISAAC within a maximum of 4 months after the proposal has been awarded funding. NWO will approve the plan as quickly as possible. Approval of the data management plan by NWO is a condition for disbursement of the funding. The plan can be adjusted during the research.

Further information about the data management protocol of NWO can be found at [www.nwo.nl/datamanagement](http://www.nwo.nl/datamanagement)

### **Nagoya Protocol**

The Nagoya Protocol became effective on 12 October 2014 and ensures an honest and reasonable distribution of benefits emerging from the use of genetic resources (Access and Benefit Sharing; ABS). Researchers who make use of genetic sources from the Netherlands or abroad for their research should familiarise themselves with the Nagoya Protocol ([www.absfocalpoint.nl](http://www.absfocalpoint.nl)). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.

### **NWO Policy on Intellectual Property**

With regard to intellectual property, Model 1, Option 1 (the so-called “appropriate reflection”) as laid down in section 4.2.4.3 (i) of the NWO Grant Rules 2017 applies. In the ‘consortium agreement’ (see Annex 6.2) the project partners assign the IPRs in a way that appropriately reflects their respective tasks, contributions and interests, in accordance with rules and legislation regarding competition and state aid. The early assignment of IPR among consortium partners in a consortium agreement is expected to enhance utilisation of the generated knowledge.

### **Rules regarding public-private partnerships**

The obligatory consortium agreement (annexe 6.2) reflects the NWO rules regarding cooperation between public and private partners. In 2013, on request of the government, NWO, KNAW, TO2, VSNU, Vereniging Hogescholen, VNO-NCW and MKB Nederland have formulated rules, in Dutch, for public-private partnerships in the programming and conduction of fundamental and applied research and for intellectual property. According to these ‘game rules’, this programme is ‘PPS-version 3 (intensive form)’. The ‘game rules’ are implemented in this brochure and will be observed throughout the programme.

### **NWO-Wetsus cooperation**

NWO and Wetsus have agreed that the selected research projects will take place at the lab facilities of Wetsus in Leeuwarden. Each project is managed by its co-ordinator, but the overall Wetsus laboratory organisation is managed by Wetsus. Within this Partnership Programme, Wetsus participants, who have signed bilateral agreements with Wetsus, and applicants/partners who are not participating in Wetsus have equal opportunities to obtain a NWO grant.

For granted projects, the obligatory consortium agreement results in equal rules for all parties involved and safeguarding that NWO’s standards and general conditions are met. NWO and Wetsus have agreed that, per call, not more than one proposal will be granted for each of the subjects listed in section 2 of this document.

### **Start of the project**

If the proposal is successful and granted, the partners are required to fulfil certain conditions before (payments by NWO to) the project can (officially) begin. Starting conditions that are part of the granting letter will include at least:

- a ‘data management plan’ which has to be presented to NWO by the consortium partners within 4 months after the proposal was granted. This plan should be in accordance with the NWO policy on data management, and meet the FAIR standard (Findable, Accessible, Interoperable, Reusable);
- A reconfirmation to NWO of the financial commitment of private sector contributing partners by Wetsus on behalf of these partners;
- Obtaining NWO’s acceptance on the signed obligatory ‘consortium agreement’, within 6 months after the proposal was granted;
- Information on the research scientist appointed to the project has been uploaded in ISAAC, always preceded by submitting a ‘starting form’ in ISAAC.

Grant applications are awarded on condition that the partners will set out the arrangements concerning matters such as confidentiality and intellectual property rights in a consortium agreement. An awarded project cannot be started until NWO has approved the consortium agreement (see annex 6.2). A standard consortium agreement will be made available via the website for this call.

### **3.6 Submitting an application**

An application can only be submitted to NWO via the online application system ISAAC. Applications not submitted via ISAAC will not be taken into consideration.

An application consists of at least 2 pdf-files: one pdf-file with the filled out application form and a pdf-file containing Wetsus' confirmation of the contributing parties commitment. You should not combine application and letters into a single pdf-file. None of the pdf-files must be protected against writing or editing.

A principal applicant must submit his/her application via his/her own ISAAC account. If the principal applicant does not have an ISAAC account yet, then this should be created at least one day before the application is submitted to ensure that any registration problems can be resolved on time. If the principal applicant already has an NWO-account, then he/she does not need to create a new account to submit an application.

When you submit your application to ISAAC you will also need to enter additional details online. You should therefore start submitting your application at least one day before the deadline of this call for proposals. Applications submitted after the deadline will not be taken into consideration.

By submitting a preliminary research plan or full research proposal, the main applicant officially declares that all the consortium partners involved in the project have read, and agree with, all the conditions that apply to this NWO-Wetsus partnership programme.

For technical questions please contact the ISAAC helpdesk, see Section 5.2.1.

It is permitted to mention the names of three persons who may not act as external references for your application (non-referees). These may be researchers or representatives of private and public parties. The names of these non-referees can be entered directly by the applicant into the ISAAC application system.

# 4 Assessment procedure

## 4.1 Procedure

### Admissibility of applications

The first step in the assessment procedure is to determine the admissibility, or eligibility, of the application. This is done using the conditions stated in Chapter 3 of this call for proposals.

NWO will not process an application (preliminary research plans and/or full research proposals) in cases where one or more of the following apply:

- The application was not completed correctly (for instance: not using the obligatory form for this call, exceeding a set maximum of words, exceeding the set maximum budget, is protected against writing or editing, or not written in the English language, not including (private sector) Wetsus' confirmation of the contributing parties commitment, lacking a 'motivation with regard to criterion B', or without a complete 'Data management paragraph');
- The principal applicant does not qualify according to section 3.1;
- The application was not submitted using ISAAC, not before the set deadline, or not using the main applicant's own ISAAC account;
- The scientific content of a full proposal is not in line with the pre-proposal on other grounds than the panel's feedback.

In cases where it is possible to correct the application, the applicant can resubmit a modified application within 48 hours. If the application is not corrected adequately, the insufficiently corrected preliminary research plan/full research application will not enter the evaluation procedure.

### Preliminary research plans

Preliminary research plans will be evaluated by the evaluation/assessment panel. The panel consists of three independent members appointed by NWO. Each panel member has the skills and knowledge to assess the preliminary research plans and subsequent full research proposals. A NWO staff member will act as secretary to the panel. The evaluation panel evaluates eligible preliminary research plans using both evaluation criteria described in section 4.2. An analysis by Wetsus of each research plan's 'motivation regarding criterion B' is taken into account by the evaluation panel as a non-binding advice. The panel may provide feedback regarding the data management paragraph of the preliminary research plan, but won't take this section into account when evaluating the preliminary research plan.

The assessment committee will write a recommendation to the Science board of NWO, nominating up to six preliminary research plans the panel considers at least 'very good' with regard to both evaluation criterion A and evaluation criterion B. Subsequently the board decides on which applicants receive an invitation to submit a full research proposal. Wetsus will be asked for input on each preliminary proposal's fit within the themes listed in section 2.

Although full research proposals have to be in line with their preliminary research plan, it is allowed, and recommended, to implement any feedback on the preliminary research plan that is provided by the evaluation panel. Applicants receiving an invitation to submit a full research proposal, may also react to the panel's feedback on the preliminary research plan through the full research proposal's rebuttal.

### Full research proposals

For each eligible full research proposal NWO will obtain a minimum of two, preferably three, analyses by internationally renowned scientific reviewers with a background in a relevant scientific discipline. The applicants will receive the review reports and have the opportunity to submit a rebuttal. The rebuttal may include a reaction to earlier feedback by the panel regarding the preliminary research plan. Full research proposals (except for the data management paragraph), the analyses by reviewers, and the rebuttals by applicants are evaluated by the evaluation/assessment panel according to the evaluation criteria described in section 4.2.

Regardless of their position on the ranking list, only proposals rated at least 'very good' both on criterion A and criterion B, will be recommended for funding by the evaluation panel. For each of the subjects listed in section 2 the panel will recommend not more than one proposal for funding.

### Granting decision

The assessment committee will present its funding recommendation, including the ranking list, to the domain Science board of NWO, which then takes the decision. The board has the right not to use the entire NWO budget available, depending on the number and quality of the applications.

### General remarks regarding the assessment procedure

The NWO [Code of Conduct](#) on Conflicts of Interest applies to all persons and NWO staff involved in the assessment and/or decision-making process.

The data management section in the application is not evaluated and hence not included in the decision about whether or not to award funding. However both the referees and the committee can issue advice with respect to the data management section. After a proposal has been awarded funding the applicant should elaborate the data management section into a data management plan. Applicants can make use of the advice from the referees and committee when they write the data management plan. For more information on data management requirements, see section 3.5 'Data management'.

NWO gives all full proposals a qualification. Only proposals that receive at least the qualification 'very good' both on criterion A as well as on criterion B will be eligible for funding. The applicant of a full proposal is informed about NWO's qualification of the application together with the decision about whether or not to award funding is announced. For further information about qualifications, see [www.nwo.nl/kwalificaties](http://www.nwo.nl/kwalificaties).

#### *Tentative timeline*

	Publication of call for proposals
January 2019	
Thursday 18 April 2019	Deadline for submitting preliminary research plans
Before 23 May 2019	Selected applicants receive an invitation on behalf of domain Science board of NWO to submit a full research proposal
Thursday 27 June 2019	Deadline for submitting full research proposals
July-October 2019	Consultation referees
October 2019	Obtaining rebuttals from applicants, responding to recommendations from referees and to earlier feedback by the panel
October/November 2019	Meeting of the evaluation panel, advice sent to NWO

November/December 2019	NWO domain science board decides on granting or rejecting applications
May/June 2020	Indicative starting date for granted projects

## 4.2 Criteria

Applications are to be assessed on the basis of the following criteria:

A. Originality and scientific quality

B. Value in economic or societal terms and strategic fit.

The data management paragraph is not included in the evaluation. Criterion 'A' and Criterion 'B' are of equal weight in the assessment procedure and prioritisation. NWO makes use of scores on a scale from 1 (excellent) to 9 (unsatisfactory). A separate score is provided for each criterion.

### A. Originality and scientific quality

- Originality and innovative nature, potential for excellent, precompetitive scientific contributions; development of new knowledge and/or concepts, or ground breaking methods and technologies;
- Scientific quality of proposal: objectives, approach and methods, fitness for purpose and feasibility;
- Scientific quality of the group: national and international embedding, publications, expertise, multidisciplinary and interdisciplinary collaboration, and access to required equipment and facilities.

### B. Value in economic or societal terms and strategic fit

- Urgency of the proposed research in terms of the scientific reinforcement of the themes described in the call for proposals;
- The added value and potential for practical application of the envisaged research results in economic and/or social terms;
- Extent to which the application is within the aim and themes of this call for proposals (see section 2 and Annexe 6.1).

# 5 Contact details and other information

## 5.1 Contact

### 5.1.1 Specific questions

For specific questions about Sustainable water technology: Impact of water research on energy, industry, health, economy and environment and this call for proposals please contact:

the programme manager:  
Drs. Erik van Aert,  
NWO Science domain (ENW)  
T: 070-3440638  
Email: [watertechnologywetsus@nwo.nl](mailto:watertechnologywetsus@nwo.nl)

For consulting Wetsus about a research plan's fit with this call's research subjects, about suitable industrial partners, about the Wetsus organisation and facilities, or other Wetsus-related questions:

Dr.ir. Jan Post (Wetsus' programme manager)  
T: 058-2843000  
Email: [jan.post@wetsus.nl](mailto:jan.post@wetsus.nl)

### 5.1.2 Technical questions about the electronic application system ISAAC

For technical questions about the use of ISAAC please contact the ISAAC helpdesk. Please read the manual first before consulting the helpdesk. The ISAAC helpdesk can be contacted from Monday to Friday between 10:00 and 17:00 hours CE(S)T on +31 (0)20 346 71 79. However, you can also submit your question by e-mail to [isaac.helpdesk@nwo.nl](mailto:isaac.helpdesk@nwo.nl).

You will then receive an answer within two working days.

## 5.2 Other information

# 6 Annexe(s)

## 6.1 Annexe 6.1 Call themes and topics

This call's focus encompasses five research subjects which will be briefly introduced in this annexe.

### 6.1.1 Desalination

The focus of this theme is on research and development of innovative, sustainable and cost-effective demineralization technologies that are complementary or substitutionary to state-of-the-art thermal desalination or reverse osmosis desalination. These innovations should have the potential to become key technologies in closed-loop schemes for (i) water treatment and reuse and/or (ii) for (specific) mineral removal and extraction. Examples of potential applications of interest include desalination of solutions containing high concentrations of organic matter, specific removal or recovery of inorganics (e.g., phosphate, metals, sodium), and salt production from saturated brines. Improvements of (reverse) osmosis membranes or processes for seawater desalination, or improvements of state-of-the-art thermal processes, are discouraged.

### 6.1.2 Priority Compounds

The focus of this theme is on treatment of micropollutants (dissolved chemical substances observed in low concentrations, like pesticides and pharmaceuticals) in sources for drinking water and in waste water. One of the selected approaches in this theme is degradation of micropollutants by using advanced oxidation processes (AOPs). Projects based on new AOPs are of special interest. Examples include chemical dosage free UV-based AOP, UV-chlorine AOP, or AOPs based on ultrasound or hydrodynamic cavitation. The project should use LP and MP UV-peroxide treatment as benchmark with regards to the potential efficacy and the expected formation of byproducts. Projects that characterise and develop new adsorbents with adsorption kinetics favourable over activated carbon are also of interest. Processes based on membranes, suspended nanoparticles (catalysts, adsorbents) or specific adsorption by affinity, are discouraged.

### 6.1.3 Advanced Water Treatment

Advanced methods of water upgrading, in which the focus is on removal of organic micropollutants to very low (ppb) concentrations, like pesticides and medicine remains mainly in complex water streams. Methods can be based on membrane technology, adsorption technology or use electrochemical methodologies using electrodes (porous or non-porous; capacitive, faradaic, or mixed). Strong driving fields of an electric (electrokinetic) or mechanical (pressure gradients) nature can lead to chemical treatment or selective separations. Also other innovative technological approaches are invited. Processes based on photochemical oxidation are discouraged.

### 6.1.4 Sensoring

The aim of this research theme is the development of sensors to monitor water quality. The envisioned sensor devices should measure on-line and continuous, be sensitive, reliable, fast and potentially low-cost. Sensors are more than the measurement principle only. It also involves signal conditioning, the interface and how to interpret data (converting data to information). Networks of sensors make it possible to combine data to increase accuracy, sensitivity, or the number of parameters measured (sensor fusion and soft-sensing). This call aims for projects on sensor data fusion. Sensor data fusion has been defined as: "...a method of combining sensor data from multiple sensors to produce more accurate, more complete, and more dependable information that could not be possible to achieve through a single sensor". Development of new algorithms is required to realize this new type of robust and continuous sensor systems. Depending on the application, development of new measurement principles/sensors might be required as well.

### 6.1.5 Smart Water Grids

The focus of this theme is to research and develop methods to improve knowledge about the state of water mains, in order to improve asset management. The theme is addressing research on and

application of new ultrasonic inspection technologies, big-data processing, smart sensing on assets and robotic inspection technologies. Projects in the field of solely visual inspection are discouraged. However, new types of (online) material characterization techniques may result in faster or more accurate testing methods. Examples may be electromagnetic radiation techniques, such as ground-radar techniques or optical detection (Raman) or non-ultrasonic acoustic methods. The proposal should contribute to the portfolio of useful and feasible methods for inspecting water carrying mains.

## **6.2 Annexe 6.2 NWO-Wetsus Programme Compulsatory consortium agreement**

Annexe 6.2 is available as a separate document from NWO's website, choosing the 'documenten' tab on ISAAC's grant page for this programme.

### **PROJECT AGREEMENT**

#### **IN RELATION TO the call "[INSERT NAME CALL]", and the project entitled "[INSERT NAME PROJECT]"**

#### **AN AGREEMENT made between**

**[NAME OF UNIVERSITY]**, Operating through its [NAME section/department/faculty], [ADDRESS], the Netherlands, legally represented by [NAME, FUNCTION], hereinafter referred to as "[NAME/ABBREVIATION UNIVERSITY] or Knowledge Institute";

and

**STICHTING WETSUS, European centre of excellence for sustainable water technology**, having its office at Oostergoweg 9, 8911 MA Leeuwarden, legally represented by Johannes Boonstra and prof.dr.ir. Cees J.N. Buisman, executive board; hereinafter referred to as "Wetsus or Private Partner", also on behalf of the Contributing Parties;

the Knowledge Institute together with Wetsus referred to as "Project Partners" or "the Parties".

#### **— RECITALS**

1. NWO supports the activities of the "Topsector Water" financially through the programme "[NAME OF CALL PROGRAM]".
2. The Board of NWO Domain Science, is entitled under the law to take granting decisions on behalf of the NWO Executive Board. It will act according to the "NWO Subsidieregeling 2017" (**Appendix 2**) and has the responsibility that procedures are carried out accordingly.
3. Article 4:33, sub a, of the "Algemene wet bestuursrecht" states that the receiver of a grant may be obliged by the grant decision to cooperate to the conclusion of an additional agreement as meant in Article 4:36 of the "Algemene wet bestuursrecht" to arrange for essential issues on the execution of the project for which the grant is received.
4. Each project selected to be executed will, therefore, receive grants only after the signing of a project agreement between the Private Partner and the Knowledge Institute, in which they agree, amongst other things, on ownership of results and IP transfer.
5. The Parties wish to cooperate under the terms and conditions of this Project Agreement.

#### **NOW THEREFORE IT IS AGREED AS FOLLOWS:**

– **Article 1 – Definitions**

The following expressions shall have the meanings specified.

- 1.1 “Affiliate”  
in relation to a Private Partner shall mean any other company which is directly or indirectly (i) owned or controlled by that Party; (ii) owning or controlling that Party; or (iii) owned or controlled by the legal entity owning or controlling that Party, but any such legal entity shall only be considered an Affiliate for as long as such ownership or control exists. For the purpose of this definition, an entity is controlled if more than 50% (fifty per cent) of its voting stock is owned by the controlling entity or if such controlling entity has the ability to direct the business activities of the entity or to appoint the majority of the directors of the entity concerned.
- 1.2 “Agreement”  
This Project Agreement, including its annexes, concluded between the Parties, the signing of which is a prerequisite to start the Project.
- 1.3 “Authorized Representative”  
Authorized Representative means a director, officer, employee or consultant of the Receiving Party and/or an Affiliate thereof who has a “need to know” the Disclosing Party’s Confidential Information with respect to achieving the goals of the Project.
- 1.4 “Background Information”  
In relation to a Project Partner means any and all information and materials which are not publicly available when disclosed under this Agreement, as well as intellectual property rights pertaining to such information and materials that are  
a) developed or obtained by the Project Partner prior to the commencement of the Project, or  
b) developed or obtained by the Project Partner subsequent to the commencement of the Project, but independently of the Project, or  
c) acquired by the Project Partner from a third party subsequent to the commencement of the Project, in each case only when offered by the Project Partner as potentially suitable for use by the Parties in pursuit of the Project, but only in pursuit of the Project, and listed in **Appendix 3** to this Agreement.
- 1.5 “Board of NWO Domain Science”  
Board of the Domain Science of the Netherlands Organisation for Scientific Research.
- 1.6 “Commercial Use”  
Direct and/or indirect use of the Results aimed at generating income, such as by the sale of products or services incorporating the Results.
- 1.7 “Confidential Information”  
Confidential Information shall have the meaning as described in Article 7.1.
- 1.7.1 “Contributing Parties”  
the external parties that are linked to this Project through Wetsus, via their commitment as company participant to the Wetsus research program. In this Project the Contributing Parties are: [NAME 1, 2, 3, X]
- 1.8 “Disclosing Party”  
Disclosing Party shall have the meaning as described to it in Article 7.1
- 1.9 “Effective Date”  
The signing date of the last Party to sign the Agreement.
- 1.10 “Financial Contribution”  
Monetary (In-Cash) contribution by each Private Partner to Wetsus as set forth in **Appendix 1a** to this Agreement, in order to co-fund the Project.
- 1.11 “FRAND”  
Fair, reasonable and non-discriminatory terms.
- 1.12 “Grant”  
Grant to the Project including the Financial Contribution, as approved by the Board of NWO Domain Science, set forth in **Appendix 1b** to this Agreement.
- 1.13 “In-Kind Contribution”

Any contribution other than a Financial Contribution, including, but not limited to contributions in the form of man hours, materials and (use of) equipment, as set forth in **Appendix 1a** to this Agreement. Rules for participation with an In-Kind Contribution are set forth in Section 6.1 of the Call for proposals.

1.14 "Invention Costs"

Documented actual out-of-pocket and labour costs related to and specified in the Grant, as incurred by the Inventing Partner in performing the research that has led to the Results for which a patent application is filed and covering that portion of the Project period beginning with the development of an invention concept and means of carrying out that concept, which concept and means of carrying out that concept are communicated to an Authorized Representative of the Inventing Partner who is not a co-inventor, and continuing until a priority patent application is filed on such invention. In case the invention is an improvement of an existing priority patent forthcoming from the Project, the period begins with the date on which such existing priority patent application is filed and continues until a priority patent application is filed that includes claims to such improvement.

1.15 "Inventing Partner"

The Project Partner that employs the person(s) who make(s) a contribution to an inventive concept and means of carrying out that concept or generates knowhow, data or materials.

1.16 "Patent Family"

Any patent applications filed and any patents granted which originate from the same priority document, which patent application(s) and patent(s) include claims to an invention as determined in accord with Paragraph 1.12 above.

1.17 "Project"

The research to be executed by the Knowledge Institute(s) and the Private Partner as described in the Project Description (Appendix 1c) and as approved by the Board of NWO Domain Science.

1.18 "Project Budget"

The entire budget consisting of Financial and In-Kind Contributions as provided in **Appendix 1a**.

1.19 "Project Description"

Description of the research to be executed in the Project as set forth in **Appendix 1c** to this Agreement.

1.20 "Project End Date"

The ultimate date on which Project activities can be executed which is four years after the Project start date.

1.21 "Project Partners" or "Project Partner"

Wetsus and the Knowledge Institute jointly or each of these individually.

1.22 "Receiving Party"

Receiving Party shall have the meaning as described to it in Article 7.1

1.23 "Results"

All results, including but not limited to data, information, materials, conclusions and findings generated by the Project Partners in carrying out activities under the Project pursuant to this Agreement.

1.24 "Term"

Term shall have the meaning ascribed to it in Article 9.2.

## **Article 2 – Cooperation under this Agreement**

- 2.1 The Parties' cooperation under the Project shall be subject to the terms and conditions of this Agreement unless explicitly otherwise provided or unless application of the provisions of this Agreement contravene with the European rules concerning state aid, or the "NWO Subsidierregeling 2017 (**Appendix 2** to this Agreement), in which case the latter two regulations shall prevail over this Agreement.
- 2.2 Each Party undertakes to take part in the efficient implementation of the Project and to cooperate, perform and fulfil, promptly and on time all of its obligations as described in this Project Agreement as may be reasonably required from it and in a manner of good faith.

### **Article 3 – Funding**

- 3.1 The funding scheme of this Project is contained in **Appendix 1a** and is based upon Table 1 of the call “[NAME OF CALL]” (**Appendix 4**).
- 3.2 Throughout the Term, Wetsus shall secure and, if so requested by NWO, demonstrate to NWO the Private Partner Financial Contribution set forth in **Appendix 1a** to this Agreement
- 3.3 The Financial Contributions mentioned in **Appendix 1a** are exclusive of VAT, but include any and all other overhead, taxes, charges, duties and governmental levies.
- 3.4 The Financial Contributions for the Project according to the Project Description are set forth in **Appendix 1c**.
- 3.5 In case a Private Partner makes an In-Kind Contribution, as set forth in **Appendix 1a**, said Private Partner shall account for this In-Kind Contribution as set forth in **Appendix 1a**. If a Private Partner fails to account in such a way for (a part of) the In-Kind Contribution, (that part of) the In-Kind Contribution will be deemed not to have taken place and Wetsus will invoice said Contributing Parties Partner for this (part of) the In-Kind Contribution as if it were a Financial Contribution.
- 3.6 NWO will start the payment of the Grant to the Project only after the Effective Date and after it has received a completed starting form (startformulier, see granting letter (**Appendix 1.b**)). The Grant can only be used for costs made after the Effective Date. Appointment by a Knowledge Institute before the allowed start date of any personnel to be paid from the Grant is for the risk and on the expenses of that Knowledge Institute.
- 3.7 Disbursements on behalf of the Project Budget are only possible until the Project End Date, unless
  - a) the approved budget includes a financial reservation to be paid after the Project End Date, or
  - b) the Grant closure decision by NWO allows – on request of the Project Leader - explicitly a specific payment to be disbursed ultimately on a date after the date of the Grant closure decision,provided (in both cases) that the commitment concerned has been made before the Project End Date.

### **Article 4 – Project Organisation, Management and Progress Monitoring**

- 4.1 The Parties shall appoint a principal investigator<sup>5</sup> from the Knowledge Institute (“Principal Investigator”). The Principal Investigator is responsible for the scientific quality and progress of the research performed in the Project. The name of the Principal Investigator shall be included in **Appendix 1a**.
- 4.2 The Parties shall appoint a project manager from Wetsus (“Project Manager”). The Project Manager monitors, together with the Principal Investigator, the Project progress and is responsible for managing the process of obtaining economic and/or societal value out of the Results. The name of the Project Manager shall be included in **Appendix 1a**.
- 4.3 The Project Manager, together with the Principal Investigator, shall organize and conduct Project meetings according to the project plan specified in the Project Description (**Appendix 1.c**) at least twice per calendar year. The milestones and deliverables of the Project as specified in the Project Description shall be used for project monitoring.
- 4.4 The Project will be executed along the starting points defined in the the call “[NAME of CALL]” (**Appendix 4**). Amongst others, this means that the research will be carried out in the Wetsus Laboratory in Leeuwarden, and that Wetsus and Knowledge Institute will jointly secure that the safety and other working conditions in the Wetsus laboratory will be observed in the Project.

### **Article 5 – Intellectual Property**

#### *Background Information*

- 5.1 Prior to the start of the Project, the Project Partners will identify and agree on the Background Information they want to make available for use in pursuit of the Project. Such Background Information (which may be in the form of a written non-confidential summary of the

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<sup>5</sup> The ‘principal investigator’ = the ‘project leader’ as defined in article 1.2.1 of the NWO Subsidieregeling 2017s (Appendix 2).

Background Information), including, where applicable, any legal restrictions or limits of use, shall be listed in a Background Information Notification annexed to this Agreement (**Appendix 3**). In case a Project Partner wishes to make available additional Background Information it developed or obtained independently from the Project, and/or background Information it acquired from a third party subsequently to the commencement of the Project, the Project Partners shall mutually agree in writing to add such additional Background Information through signature of an (amended) Background Information Notification, or, if the Background Information is introduced during the Project, in an additional Notification, before disclosing and/or introducing such Background Information. In case listed Background Information is not available or only limited available for commercial use of the Results, this must be reported in sufficient detail in said Notification.

- 5.2 If the Project Partners determine that a portion of the Background Information owned by one Project Partner (the "Contributing Project Partner") is needed by another Project Partner (the "Receiving Project Partner") to enable the Receiving Project Partner to perform its obligations under this Agreement, the Contributing Project Partner shall, grant to the Receiving Project Partner a limited licence to use only that portion of the Contributing Project Partner's Background Information and only for the purpose and duration of this Project. The limited licence, subject to conclusion of this Agreement, shall be non-exclusive, non-transferable, and royalty-free. The Receiving Project Partner will only use the Background Information of the Contributing Project Partner for the purpose of pursuing the Project and will not use the Background Information of the Contributing Project Partner commercially.
- 5.3 In case a Project Partner needs access to (a portion of) the Background Information notified pursuant to Article 5.1 and recorded in **Appendix 3**, owned by another Project Partner, for the Commercial Use of the Results, the Contributing Project Partner shall, following receipt of a written request from the commercialising Project Partner, provided this request is made within the Term, or, if this Agreement has been terminated, within twelve (12) months after termination of this Agreement, and to the extent the Contributing Project Partner is legally able to do so, grant the commercialising Project Partner a licence under mutually acceptable, FRAND (fair, reasonable and non-discriminatory), royalty-bearing terms with the right to grant sublicenses to Affiliates and toll manufacturers, under the Background Information solely in so far as such licence is necessary for the Commercial Use of the Results, determined as a result of good faith, arms-length negotiations, which licence shall not unreasonably be withheld. Any compensation due to the Contributing Project Partner shall be for the sole use and benefit of the Contributing Project Partner.
- 5.4 Each Project Partner shall remain owner of and shall retain control of any and all of its Background Information which it makes available to other Project Partner(s) under Articles 5.2 and 5.3 of this Agreement.

#### *Results/Foreground Information*

- 5.5 The Project Partners shall report the Results shortly – in writing – to each other and via the Principal Investigator to NWO in accordance with the "NWO Subsidieregeling 2017" using the Reporting forms available on the NWO ENW website, or more frequently as appropriate and/or agreed between or among the Project Partners.
- 5.6 For the duration of the Project, all Results, whether patented or not, will be available and accessible for use by all Project Partners and/or their Affiliates to perform their work in the Project, under the provision that this use will not constitute a violation of Article 7 (confidentiality). This right is free of charge, non-exclusive and non-transferable.
- 5.7 The starting point is that the Project Partners are jointly entitled to the Intellectual Property Rights that can be vested on the Results. Before the start of the Project however, Parties have agreed on a distribution of intellectual property rights (IPRs) on the Results and the right to make Commercial Use of the same, and have made arrangements between or among themselves regarding these rights as recorded in **Appendix 5** to this Agreement. The benefits that these arrangements bring to each of the Project Partners are an 'appropriate reflection of the efforts, contributions and respective interests of the Parties in the Project'. The Project Partners will secure that the distribution of IPRs agreed upon does not imply forbidden state aid. If the benefits of the agreed distribution are not an 'appropriate reflection of the efforts, contributions and respective interests of the Parties in the Project', or are non-compliant with state aid directives, arrangements will be made to include the payment of an additional market-conform financial compensation from one Project Partner to the other(s).
- 5.8 All Project Partner(s) and/or their Affiliates that have not been assigned IPRs on particular Results according to Article 5.7, will be granted irrevocable, worldwide, perpetual, royalty free, non-transferable licenses, without the right to sublicense, to use those Results for research purposes (excluding contract research but including research in national and EU-funded subsidy projects) and for educational purposes.

### **Article 6 – Payments of financial compensation and licence fees**

- 6.1 Any financial compensation for or licence fee on user, access or ownership rights to the Results as agreed in this Agreement or to be negotiated in the course of the Project, if any, will be paid directly to the beneficial Party.

#### **Article 7 – Confidentiality**

- 7.1 The Disclosing Party shall use reasonable efforts to mark any Confidential Information that is disclosed in documentary or tangible form under this Agreement as follows: Confidential Information as used herein shall mean only that information, whether technical, commercial or economic, disclosed under this Agreement by a Party and/or its Affiliates (the "Disclosing Party") to another Party and/or its Affiliates (the "Receiving Party"), either in a writing marked as "Disclosing Party [insert name of Party making the disclosure] Confidential Information" or if disclosed in non-written form, with contemporaneous identification of such non-written information as confidential to the Disclosing Party and subsequent reduction to, or summarization in, a writing delivered to the Receiving Party within thirty (30) days after such non-written disclosure. See Article 9.4 for the terms that are in force.
- 7.2 Receiving Party shall:
- a. solely use the Confidential Information for the performance of its obligations under this Agreement;
  - b. not analyse or have analysed any of the samples delivered under this Agreement other than necessary for the performance of its obligations under this Agreement;
  - c. not divulge or make accessible any Confidential Information to any party other than the Authorized Representatives;
  - d. impose substantially the same obligations as defined hereinabove upon the Authorized Representatives;
  - e. inform the Disclosing Party by return to which Affiliates the Confidential Information will be divulged;
  - f. not apply for patents or any other rights in the field of industrial property covering any of the Confidential Information furnished to it.

The obligations of confidentiality and non-use shall not apply to:

- a. information which the Receiving Party can prove to have been in its possession prior to the disclosure thereof by the Disclosing Party and which was not obtained directly or indirectly from the Disclosing Party;
  - b. information which the Receiving Party can prove that it either was part of the public domain through publication or otherwise before receipt of the same under this Agreement by the Disclosing Party, or thereafter becomes part of the public domain by publication or otherwise through no fault of the Receiving Party;
  - c. information which the Receiving Party can prove by documentary (including any digital media by which information can be preserved) evidence that it was received from a third party imposing no restriction as to disclosure and which did not acquire any such information directly or indirectly from the Disclosing Party.
  - d. information which the Receiving Party can prove by documentary (including any digital media by which information can be preserved) evidence was developed by employees of the Receiving Party or its Affiliates who are not directly or indirectly involved with this Agreement and did not have any access to Confidential Information.
  - e. information which is independently developed by Receiving Party without any use of or benefit from the Confidential Information and such independent development can be documented by Receiving Party with written (including any digital media by which information can be preserved) records.
  - f. information which is required by law, judicial or arbitral process, regulatory authority or the rules of a recognized stock exchange to be disclosed, provided that, to the extent legally permissible, the Receiving Party gives the Disclosing Party prior notice of such requirement to disclose and a reasonable opportunity to obtain a protective order and the Receiving Party takes the necessary steps to minimize the extent of disclosure.
- 7.3 Upon the first request of Disclosing Party, Receiving Party will return to the Disclosing Party or destroy any and all of Disclosing Party's Confidential Information that Receiving Party obtains under this Agreement save that Receiving Party may retain one copy of Disclosing Party's Confidential Information for the sole purpose, in the event of a future dispute, of proving what information it did or did not receive hereunder.
- 7.4 Receiving Party shall promptly notify the Disclosing Party in writing upon the occurrence of any unauthorized disclosure or use of Confidential Information or any other breach of this Agreement of which it becomes aware.

#### **Article 8 – Publication and publicity**

- 8.1 The Project Partners shall, throughout the duration of the Project, take appropriate measures to ensure suitable publicity for the Project in order to highlight the NWO and Wetsus financial support. Any notice or publication by the Project Partners about the Project, including at conferences or seminars, must specify that: "This research received funding from the

Netherlands Organisation for Scientific Research (NWO) in the framework of the “[INSERT RELEVANT CALL NAME]”. Notwithstanding the foregoing, there shall be no publicity relative to Project Results without approval by the other Project Partner as set forth in Article 8.2.

- 8.2 The Project Partners acknowledge that the (employees of the) Knowledge Institutes are obliged to publish or by other means to make public all or part of the Results generated under this Agreement. To that end the following publication procedure is applicable.

All intended publications from the Project, including but not limited to publications (by employees or students) of the Knowledge Institute, including but not limited to scientific papers and conference presentations, shall be previously submitted for approval to the (other) Project Partners. Within four (4) weeks from receiving said submission, Project Partners will respond to the request to publish. If no objection is made by a Party within the time limit of 4 weeks above, permission for publication is deemed to be granted.

Any of the Project Partners may object to the publication within four weeks from the request to publish on any of the following grounds: (i) that they consider that the protection of the objecting Project Partners' Results or Background would be adversely affected by the proposed publication, (ii) that the proposed publication includes the Confidential Information of the objecting Project Partner.

The Project Partner objecting a publication has to include a request for necessary modifications.

In the event that an objection is raised on any of the above defined grounds within the above period of four (4) weeks, the Project Partner proposing the publication and the Project Partner objecting shall seek in good faith to agree a solution on a timely basis whereby such objection is resolved and the scientific quality of the proposed publication is maintained. The Project Partners undertake to cooperate to allow the timely submission, examination, publication and defence of any dissertation or thesis for a degree which includes their Results or Background.

In case of its ownership of IPRs to the Results, or its interest to acquire exclusive user or ownership rights, Project Partners can postpone the publication for a period of maximally nine (9) months from receiving said request for permission in which period a patent application can be submitted. .

- 8.3 Any notice or publication by the Project Partners, in whatever form and on or by whatever medium, must specify that it reflects only the author's views and that NWO is not liable for any use that may be made of the information contained therein.
- 8.4 NWO shall be authorized to publish, in whatever form and on or by whatever medium, including the Internet, the following information:
- the names of the Project Partners;
  - the title of the Project;
  - the name(s) of the scientist(s) in charge of the Project;
  - the name(s) of the researchers funded under the Project;
  - the general purpose of the Project in the form of the popular summary provided by and approved by all Project Partners;
  - the amount granted (the Grant) and the total Project budget.
- 8.5 Upon a reasoned and duly substantiated request by one of the Project Partners, NWO may agree to forego such publicity if disclosure of the information indicated above would risk compromising the Partner's security or commercial interests.

#### **Article 9 – Term/Termination**

- 9.1 This Agreement shall come into force on the Effective Date.
- 9.2 The Agreement shall remain in force until the date of termination or the date of conclusion of the Project (“the Term”) through a Grant closure decision, *i.e.* until the final settlement of the grant by NWO.
- 9.3 This Agreement may be terminated with respect to a Party prior to the termination due to Article 9.2, in the event of:
- 9.3.1 bankruptcy or a moratorium of payments (for more than 90 days) or entering into a debt rescheduling arrangement of a Party, immediately upon the occurrence of the relevant event and the Party's contribution cannot be taken over by one of the other Parties or the necessary finances to do so are not available; or
  - 9.3.2 a Party's continuing failure to perform its obligations under this Agreement after being requested by a notice in writing to do so within a term of two months.

Notwithstanding the foregoing, a Private Partner may at any time terminate this Agreement without cause with a prior written notice of three months, provided that it pays any unpaid part of its Financial Contribution at the date it effectively terminates this Agreement, and provided it will keep contributing the total In kind contribution committed to the project, as

set forth in **Appendix 1a**. The Private Partner that terminates this Agreement before the conclusion of the Project is also bound to other rights and obligations under this Agreement, as set forth in Article 9.4.

- 9.4 Rights and obligations under this Agreement which pursuant to their nature shall survive this Agreement, including but not limited to the obligation by a Private Partner to pay the Financial Contribution as well as to contribute non-delivered In kind contributions, remain in force after termination or expiration of this Agreement as set forth in this Article 9, while the rights and obligations pursuant to Articles 7 and 8 shall expire five (5) years after the end date of this Agreement.
- 9.5 Each Partner terminating this Agreement before the conclusion of the Project will immediately cease all use of Background Information of another Party, as described in Article 5, and is bound to keep its own Background Information listed in **Appendix 3** to be available for use by all Project Partners during the Project Term.

#### **Article 10 - Governing Law & Dispute Resolution**

- 10.1 This Agreement and the relationship hereunder between the Parties shall be exclusively interpreted in accordance with and governed by the laws of the Netherlands.
- 10.2 The Parties shall endeavour to settle amicably any and all disputes regarding or stemming from this Agreement. If an amicable solution cannot be reached, the disputes shall be brought exclusively before the court in The Hague, The Netherlands.

#### **Article 11 - Warranties / Limitation of Liability**

- 11.1 Each Project Partner contributing Background Information warrants that, to the best knowledge of contributing Project Partner:
- a) it has provided the Background Information as set forth in Article 5.1 correct and complete, however, on the basis of "as-is", without any warranty in that respect;
  - b) it has sufficient rights to grant the licences under the Background Information pursuant to Article 5, subject, however to the limitations set forth in **Appendix 3**
- 11.2 Project Partners do not accept any liabilities for damage or loss which arises due to the fact that the Results do not qualify for patenting or because rights of third parties are infringed when applying the Results. The Project Partner using or applying a Result shall indemnify and hold harmless the other Parties against any and all claims by third parties relating its use or application of the Results.
- 11.3 Except for the warranty under Article 11.1, the Project Partners disclaim any implicit or explicit warranty.
- 11.4 Except in case of gross negligence, wilful misconduct or breach of the warranty pursuant to Article 11.1, the maximum aggregate liability of a Project Partner shall be equal to its share in the overall Project Budget. Furthermore shall none of the Parties be liable for any indirect or consequential damage.

#### **Article 12 - Amendments**

This Agreement may not be amended, modified or terminated orally; no provision of this Agreement may be waived orally; and no amendment, modification, or waiver of any of the provisions hereof shall be binding unless in writing, signed by all Parties and pre-approved in writing by NWO.

#### **Article 13 - Waivers**

The Parties each agree that the waiver by any Party of a provision or of a particular breach by one or more of the other Parties of any obligation, or the failure of a Party at any particular time to exercise any of its rights herein provided, shall not be deemed to constitute a waiver of any other provision or subsequent breach or to prejudice the exercise in future of any right.

#### **Article 14 - Severability**

If any covenant, obligation or term hereunder or the application of any part of this Agreement to any person, party or circumstance shall, to any extent, be illegal, invalid or unenforceable, the remainder of this Agreement or the application of such covenants, agreements or obligations other than those which are held to be invalid or unenforceable shall not be affected thereby; and each covenant, obligation and agreement contained herein shall be separately valid and enforceable to the full extent permitted by law. The Parties shall make a good faith effort to replace any invalid or

unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering into this Agreement may be realized.

#### **Article 15 – Force Majeure**

None of the Parties will be responsible for delays resulting from causes beyond the reasonable control of such Party, including, without limitation, fire, explosion, flood, war, strike or riot; provided that the nonperforming Party uses its reasonable efforts to avoid or remove such causes of non-performance and continues performance under this Agreement with reasonable dispatch whenever such causes are removed. Illness and disease of individuals involved in research activities to be performed in this Project cannot be adduced as Force Majeure.

#### **Article 16 – Notices**

All notices, requests, demands and other communications to be given in accordance with this Agreement shall be given in writing and shall be given by prepaid registered mail, receipt return requested, or by email, return receipt or read receipt requested, to the relevant other Parties at the following addresses:

if to Wetsus:

Stichting Wetsus, European centre of excellence for sustainable water technology  
Oostergoweg 9, 8911 MA, Leeuwarden, the Netherlands  
email: :[EMAIL ADRESS]

if to the Knowledge Institute:

[NAME UNIVERSITY, FACULTY, ADRESS]  
Email:[EMAIL ADRESS]

or at such other address as a Party may have previously indicated to the other Parties in writing in conformity with the foregoing. Any such notice, request, demand or other communication shall be deemed to have been received on the seventh (7th) business day following the date of its mailing if sent by registered mail, or the next business day immediately following the date of transmission if sent by email.

#### **Article 17 – Assignment**

The Parties shall not assign this Agreement or any part thereof without the prior written consent of the other Parties; provided, however, that a Party may assign this Agreement without such consent but with notification of the other Parties in connection with the transfer or sale of substantially its entire business to which this Agreement pertains (or in the event of its merger or consolidation with another company).

No assignment shall relieve any Party of responsibility for the performance of any accrued obligation which such Party then has hereunder.

#### **Article 17 – Assignment (continued)**

AS WITNESS WHEREOF, each of the duly authorised officers of the Parties signed this contract, each with only one signature by the appropriate Party. A complete set of this Agreement comprises the copies of the individually signed contracts.

Leeuwarden, this

day of

,

#### **STICHTING WETSUS**

.....  
Johannes Boonstra  
Executive Board

.....  
Prof.dr.ir. Cees J.N. Buisman  
Executive Board





## **APPENDIX 1a: Project details, Project Budgets and Private Partner Contributions**

NWO Project number: [NUMBER]  
Project title: "[PROJECT]"  
Principle Investigator: [NAME]  
Project Manager: [NAME]  
Project Description: attached as Appendix 1.c  
Granting letter of NWO to this Project [NAME PROJECT], copy attached as Appendix 1.b

Granted budget\* (Maximum Subsidy) to this Project: € 250.000  
Total cash Budget (Granted Budget NWO € 250.000,- + in cash Private Partner 250.000,-):  
€ 500.000.

\* The Granted Budget is subject to the general conditions set forth in the "NWO Subsidieregeling 2017" prevailing at the moment of granting of the project (= version dated "May 2017"), attached as **Appendix 2** to this Agreement, and the additional conditions specified in the Granting letter of NWO to this Project, attached as Appendix 1.b.

### **Private Partner Contribution to this Project**

Wetsus acts as private partner for this Project. Wetsus derives cash contribution for this project from the following Contributing Parties, who are linked to this Project via their commitment as company participant to the Wetsus research program:

- [COMPANY 1: € XXX,
- COMPANY 2; € XXX
- ETC]

Wetsus will secure and, if so requested by NWO, demonstrate the receipt of the above contributions to NWO. Should the division of funds between the companies shift in the course of the project, Wetsus will secure that no more than 38.8% is to be provided by non-private sector partners. Wetsus will also secure that the stipulations of this agreement (including and not limited to stipulations regarding IP, confidentiality and publication) will be applicable in the cooperation with the above companies in the project.

### **Division of funds**

In the table below the breakdown of costs, funders and receivers is summarized.

<b>Description</b>	<b>Amount</b>	<b>Funded by</b>	<b>Receiver</b>
Direct costs personnel	€ XXX	NWO	Knowledge institution
Direct costs materials	€ XXX	NWO	Knowledge Institution, transferred to Wetsus
Indirect cost Wetsus laboratory & organisation ('matching'); remaining direct costs materials	€ XXX	Consortium partners, (mainly) from private sector	Wetsus
Indirect cost at knowledge institution ('matching')	P.M.	Knowledge institution	Knowledge institution

*The financial contributions are free of VAT*

### **APPENDIX 1b: Granting Letter NOW**

### **APPENDIX 1c: Project Description**

### **APPENDIX 2 – 'NWO Subsidieregeling 2017'**

### **APPENDIX 3 - Background Information Notification**

### **APPENDIX 4 - call "[NAME CALL].**

## **APPENDIX 5 – Handling Results and IP rights**

Parties have agreed on the below distribution of intellectual property rights (IPRs) on the Results and the right to make Commercial Use of the same. The benefits that these arrangements bring to each of the Project Partners are an 'appropriate reflection of the efforts, contributions and respective interests of the Parties in the Programme'. The Project Partners will secure that the distribution of IPRs agreed upon does not imply forbidden state aid.

1. All IPR developed in the field of and with relation to applications for [DEFINITION OF FIELD/APPLICATIONS] shall be owned by Wetsus ('Wetsus IPR'). Wetsus shall name Knowledge Institute as co-applicant on these patent applications.  
All other IPR not being Wetsus IPR shall be owned by Knowledge Institute.
2. Parties can access and use any IPR in accordance with the stipulations of article 5 of the Project Agreement.
3. Wetsus intends and is entitled to transfer ownership of the Wetsus IPR to the companies listed in Appendix 1a, and possibly to other companies from its Company Participant network according to the Wetsus IPR regulations, insofar that these Wetsus IPR regulations do not contravene this Agreement.
4. When transferring Wetsus IPR, Wetsus warrants towards Knowledge Institute, that it will negotiate a fair, reasonable and non-discriminatory right in line with the European framework on state aid and in accordance with the NWO policy as laid down in the NWO Subsidieregeling 2017. The results of these negotiations and any significant considerations pertaining to the negotiated price will be sent in writing to the project leader for filing and accountability.
5. If it transpires that any license- and/or transfer agreements made are not in line with the EU framework for State Aid for Research, Development and Innovation, as applicable at the time this Agreement comes into force, the Parties involved will re-negotiate in good faith about alternative arrangements that reflect the original provisions as closely as possible and are in accordance with said framework.
6. In addition to This Agreement, the Wetsus IPR regulations may serve as non-binding guidelines in discussions between the Project Partners about IPR, insofar as they do not contravene this Agreement.

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