ACE Project

Antarctic Circumnavigation Expedition ("ACE")
Call for proposals

Preamble

The goal of the ACE Project is to offer to international teams of distinguished scientists an outstanding and unique opportunity to study the marine and terrestrial environment of the sub-Antarctic ecosystem, based on the following components:

- A round trip of Antarctica in a single expedition (see Annex 1 Travel plan) of a 3-month duration. Project teams can participate in the whole expedition or only in one or two of the scheduled legs. Please see the Travel plan set out in Annex 1 ("Travel plan"), which shows the anticipated route along with a tentative time line for the three-month expedition, including proposed timing for island landings and cruising timelines between the islands. It should be noted that this map is purely provisional and will be adjusted, within the time frame, as required in light of the selected scientific projects.
- A polar vessel proposed by the Arctic and Antarctic Research Institute of St Petersburg will be made available for the Project, offering research labs and other facilities such as helicopters and other means of transport (see Annex 2 - Vessel description and research facilities).
- A high level International Panel composed of distinguished scientific experts from polar institutions located in ACE partner countries including South Africa, Australia, Norway, the United Kingdom, France, Switzerland and the Russian Federation, with participation by external experts, will be established. The Panel will play a strategic role in selecting the scientific projects that will participate in the ACE project;
- Two kinds of projects are expected: 1) Projects which are going to use the vessel and the research platform without any requested funding; and 2) Projects which require additional funding. For the latter, funding will be provided by a sponsor with anticipated grant levels of up to 200 thousand Euros per project.

The ACE project seeks to enhance international relations and collaboration amongst countries as well as to promote the interest of a new generation of young explorers in polar research. Therefore, we expect research projects submitted to the Panel to be open to any country or institution.

Applicants should pay attention to the strict conditions and rules allowed by countries to conduct research projects in the islands and their environs. Annex 3 provides an overview of the key elements applicable to research projects seeking access to the islands and their environs. Applicants are requested to confirm that their project will comply with the rules presented in the annex and to read the complete Island Management Plan if necessary.

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About the call for proposals

SCOPE

The call for proposals is a joint call between Ecole Polytechnique Federal of Lausanne -EPFL- (as coordinator) and the partnering polar institutes (Australia/ France/ Norway/ Russia/ South Africa/ UK) under the patronage of Mr Frederik Paulsen.

The call will be open between 23 November 2015 and 31 January 2016.

The Panel will select about 20 scientific research projects.

The access to the vessel and its facilities is free for the scientific teams whose projects are selected. Proposals that rely only on access to the vessel will be considered as well as those which require specific additional funding for running the project. Matching funding with existing projects is also encouraged.

Total allocation for science is EUR 2 million with anticipated grants up to 200 thousand Euros per project. However, it should be noted that the selection panel will look for scientific excellence regardless of the size and budget of the project.

Grants will cover the travel costs, the cost of science on board the ship or on the islands and the associated costs needed to perform the research (cost of materials/ samples/ use of observation collections/ purchase of specific equipments, travel costs etc.). For more information, see Annex 5 - Submission template for research projects part funding.

Proposals will be selected by 28 February 2016 by the Panel and the selection announcement will be made by the sponsor at the beginning of March.

The Antarctic Circumnavigation Expedition is expected to start in December 2016.

RESEARCH TOPICS

Research projects should address scientific questions related to either the sub-Antarctic islands or the Antarctic Ocean (or the linkages between them). The important science questions relating to these areas are already outlined in the strategic plans of many Antarctic institutes and the SCAR Horizon Scan document' and are readily available to the scientific community. Particular areas of interest within these topics include:

- Understanding the physics, chemistry and biology of the Antarctic ocean;
- Biology, biodiversity and the impact of climate change on the sub-Antarctic islands;
- Geosciences of the islands;
- Health and remote medicine in extreme environments.

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The expedition is also a unique opportunity for testing new exploration technologies based on automated vehicles, including air and submarine drones, gliders, and automated buoys etc. and to develop cross-cutting issues across the islands.

The scientific teams should also see this expedition as a way to establish high-level scientific cooperation among nations and a unique opportunity to undertake comprehensive observations and measurements all around the sub-Antarctic during a single mission. For Australian Islands, Heard Island is considered as a priority compared to Macquarie Island, given there is no permanent presence on Heard Island.

SELECTION PROCESS

Applicants can download all the information and submit their proposal directly on the EPFL submission platform. Due to the high demand for places aboard the expedition, the application will be a 2-step process:

1. Pre-registration via the form (see annex 4) as soon as possible (we strongly recommend you submit your pre registration as soon as possible to maximise the time available for completing stage 2, if selected)
2. If selected for the stage 2 by the relevant Polar Institute/Survey, you will be sent a full project description to complete and will have access to the submission platform and to the call updates (FAQ/news informations...). The deadline for submission of the full project is the 31st of January

Further details regarding the instruction and selection process may be found below:

- For proposals carried out by Principal Investigators belonging to ACE partner countries, the instruction will be performed by the relevant Polar Institute.
- For proposals carried out by Principal Investigators from non-partner countries and Norway, the instruction process will be implemented by EPFL.

A technical committee, led by EPFL, will gather all the partnering polar institutes in order to ensure common project instructions and a full transparency.

Final decisions regarding successful projects will be taken by the scientific panel on 27/28 February'

For practical information, see Annex 6 - Contact points.

ELIGIBILITY CRITERIA

- The project must be a science-driven research project and be related to research in the sub-Antarctic islands and/or Southern ocean.
- The Principal Investigators of the projects must have experience in undertaking research in these regions. Additional team members do not need to have previous experience of working in these regions.
- The Principal Investigator must engage under the auspices of a non-profit entity.

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SELECTION CRITERIA

- Scientific interest of the project: potential scientific discoveries, enhancing knowledge of a key subject, innovation[1], interdisciplinarity, etc.
- Credibility of project proposers: local or international credibility of the lead researchers, credibility in the scientific community.
- Project schedule: ability of the team to achieve its main targets to collect the data during the period of the expedition and to publish.
- Potential impact with the general public: can the project be understood by the general public? What could be the impact for civil society?
- International dimension: Is the project international in scope? Number of countries involved?
- Projects that include the young generation of researchers are welcomed (e.g. PhDs).
- Similarly, development of new technologies for observation and sampling are also welcomed.

SCHEDULE

- Projects must be submitted by proposers between 23/11/2015 and 31/01/2016. The final deadline will be 31/01/2016 1700 CET.
- Projects will be selected by the Panel between 27 and 28 February.

THE APPLICATION TEMPLATE (ANNEX 5 SUBMISSION TEMPLATE FOR RESEARCH PROJECTS)

The application template has 6 parts:

- Project abstract.
- Project information: Principal investigator, project characteristics, field of research, partners.
- Project description: the project objectives and the experiments planned, participation in one, two or three legs, overall planning, project location (the locations where experiments will take place), and information already available about current associated projects to which this proposal will add value (website, articles, etc.)
- Team presentation: CVs, publications and awards of the project proposer, post and roles of other team members.
- Budget for the project
- Presentation of project assets with respect to the selection criteria: scientific interest, proposer credibility, schedule, international dimension of the project and the impact on the general public.

It should be noted that scientific proposals must not exceed 10 pages (without annexes). Proposals exceeding the size limits will not be considered (12 pt text and standard margins).

[1] Innovation could linked to the discoveries or breakthrough or to the proposed methodology approach/ competences involved

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FAQ

- **What about the confidentiality of information related to scientific projects applying to this call?**

  The Jury and the Polar Institute partners guarantee strict confidentiality about every research project applicant. At the end of each stage, all the information concerning the unsuccessful projects will be fully erased from the databases.

- **Is it possible to have more than one project applying to this call?**

  Yes, different projects led by a same institution can apply to the call and for a given scientist can be involved in different candidate research projects.

- **With whom the selected project will contract?**

  The Panel will provide details regarding the contract process in a future communication.

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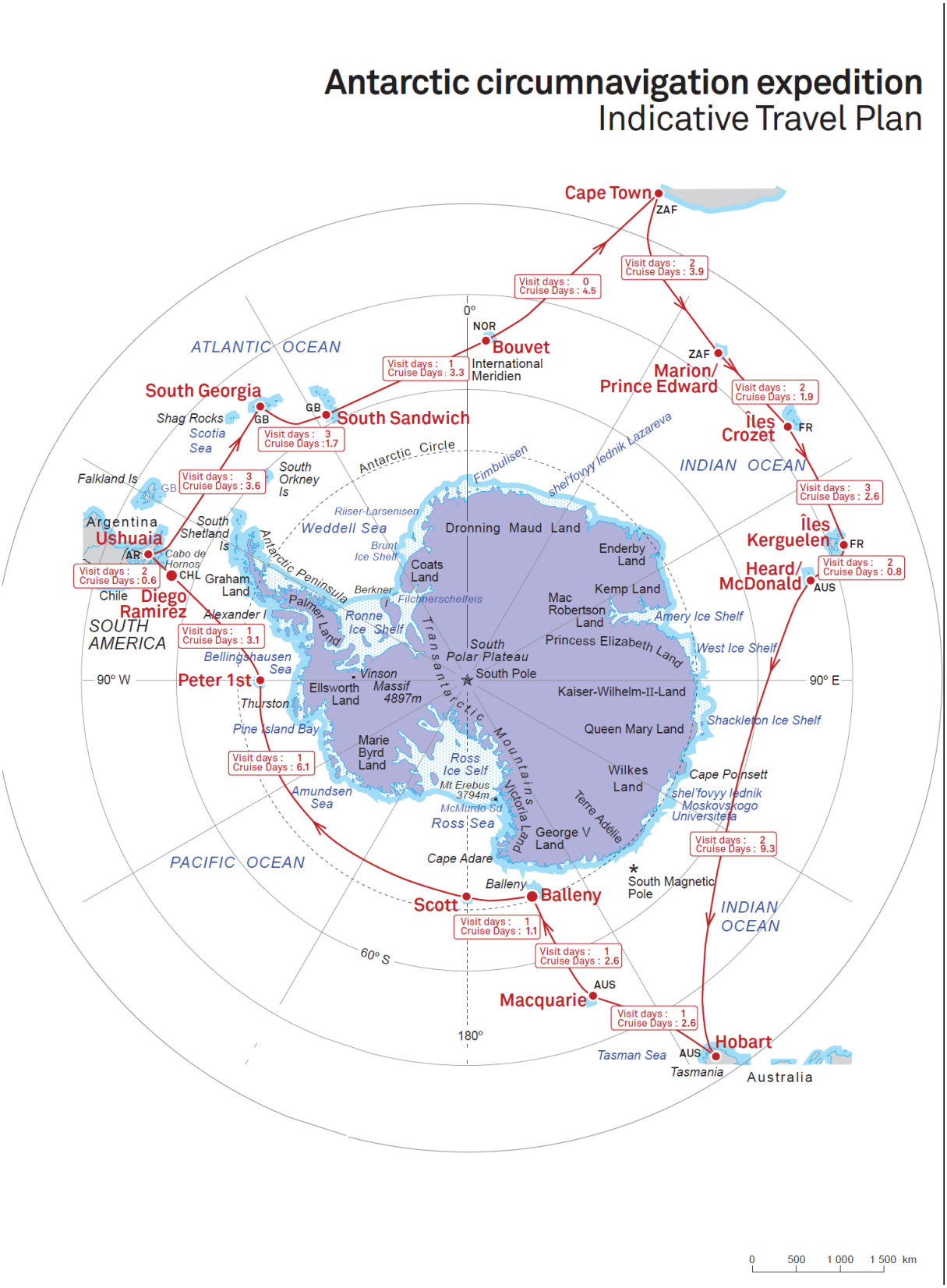
Annex 1 - Provisional travel map



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Annex 2 - Vessel description

Scientific equipment and laboratories at the research ship “Akademik Treshnikov”

№	Title	Addition
1.	Meteo lab: - Meteostation «MAWS-420» - Meteorological and axonometric sensors - Ceiling hight indicator - Transmissometer - Detector of CO_2 in the aprosphere - Satellite data receiving station “DARTKOM”	
2.	Oceanographic laboratory and equipment: - Hydrologic “wet” laboratory and equipment - Probing system CTD-SeaBird «SBE-911» - Profilograph SBE-19 plus - Probing system XBT - Bidistiller - Salimometer «Autosal – 8400”	
3.	Deep-water acoustic system, including: - Multiple-beam echo sounder SB 3020 - Deep-water echo sounder HydroStar - Bottom prophilograph SES-2000 - Current prophilograph OSII75 - Inertial instrument system Hydrins - Navigation system C-NAV, - Navigation comlex DGPS “Trimbl”	
4.	Computer laboratory and equipment: - Local network server (of the vessel) - Local computers network (LCN) - Scientific laboratory PC	LCN links all the vessel labs, crew cabins and expedition cabins
5.	- Oceanographic square frame winch (6 tons, 2 items) - Oceanographic overhead crane track winch (1,5 tons, 2 items) - Oceanographic cable and rope winch (3 tons with overhead crane track)	- Set on the stern deck - Set on the container labs deck PB and LB - Set on the main deck LB

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6.	Hydrochemical and environmental (ecological) laboratory: - Nutrient (biogens) analyzer «Auto-Analyzer 3» - Spectrophotometer UV-1800 - Spectrofluorometer RF-5301 - Titroprocessor (automatic) - Ultrathermostat - Gas chromatographer GS-2010 AF - Atomic absorption spectrometer AA-7000F - Microwave decomposition system «Mars» - Laminary flow hood - Ventilation hood - Drying box	
7.	- Self-contained freezer 12 m^3, T = -18° C - Self-contained freezer 4 $м^3$, T = -20° C	- Installed in the oceanographic laboratory no.2 - Installed in the 20-feet container
8.	- Ice core-cutting band saw - Circular saw for cutting ice cores - Electronic weights - Auger bit - Centrifugal machine - Motor ice auger	
9.	Telemetric automatic ice cover fixturing system	
10.	Ice force monitoring complex for the vessel construction	
11.	Shipborne magnetometer SeaSPY	
12.	Permanent scientific laboratories focusing on: - Meteo- and synoptic - Receipt of hydrometeorological data from satellite - Hydrography - Hydroacoustics - Oceanography no.1 - Oceanography no.2 - Hydrology, - Hydrochemistry - Ecology - Ice force monitoring - Computer center	Total laboratory area: 250 м2

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13.	Scientific mobile laboratories focusing on: - Ice research - Biology - Geophysics - Atmosphere	Mobile laboratories are arranged in the 4 removable 20-feet containers
14.	Communication systems: - Inmarsat Mini – C TT – 3000 - Fleet BroadBand 500 - Iridium OpenPort - Sea satellite station VSAT "Sea Tel", Ku-diapason	
15.	Diving equipment: - Dry diving-suits for dive down to 20m, 3 pieces. - Wet diving - suit - 1 piece; - Compressor - 1 piece; - Air hoses; - Video camera for underwater shooting; - Diving gazebo for lowering divers from the ship into the water.	

Annex 3 - Islands Management Plans: key points

To be added soon in the submission platform

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Annex 4 –Pre- Registration form

PRINCIPAL INVESTIGATOR DETAILS

- First Name .....
- Surname .....
- Profession (e.g. Professor, Postdoctoral fellow, etc.) .....
- Contact email .....
- Contact phone number: country code + number .....
- Lab website: .....

Did you receive the support, recently or currently of a Polar Institute for research projects? If any (check box)

☐ France ☐ Norway ☐ South Africa ☐ Switzerland

☐ UK ☐ Russia ☐ New Zealand ☐ Other

Please give an overview of your professional experience related to Polar research (1000 characters max)

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INSTITUTION DETAILS

- Name: .....
- Address line 1: .....
- Address line 2: .....
- City: .....
- Postcode: .....
- Country: .....

Is this Institution a non-profit/higher education establishment: ☐ Yes / ☐ No

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Website: .....

Project Details: .....

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Please give a short description of your project and it's relevance to Sub-Antarctic islands and the Southern Ocean (2000 characters max)

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If your project is terrestrial, please indicate which islands you would like to visit:

- ☐ Marion/Prince Edward
- ☐ Îles Crozet
- ☐ îles Kerguelen
- ☐ Heard/McDonald
- ☐ Macquarie
- ☐ Balleny
- ☐ Scott
- ☐ Peter 1st
- ☐ Diego Ramirez
- ☐ South Georgia
- ☐ South Sandwich

Is your project a collaboration between countries. If so, please indicate the partner countries and institutions

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Annex 5 - Submission Template (10 pages maximum, text point 12)

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PROJECT ABSTRACT (0.5 PAGES)	
NAME OF THE PROJECT	
PURPOSE OF THE PROJECT	
EXPECTED RESULTS AND ACHIEVEMENTS OF THE PROJECT	
PROJECT INFORMATION 3 PAGES	
PRINCIPAL INVESTIGATOR	Name : Organization (institution, laboratory etc. …) : Position : A CV of the PI including a short list of his/her major publications is requested in the Annex Address **:** Phone : E-Mail :
PROJECT CHARACTERISTICS	☐ Basic research ☐ Applied research ☐ Understanding the physics/chemistry/biology of the Antarctic ocean ☐ Biology, biodiversity and impact of the climate change on the sub Antarctic islands ☐ Geosciences ☐ Health and remote medicine in extreme conditions ☐ Other ……
FIELD OF RESEARCH	☐ Operation at Sea ☐ Operation at land ☐ Both
DURATION PARTICIPATION	☐ One leg ☐ Two legs ☐ Three legs
MAIN PARTNERS (IF ANY)	

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MAIN TASKS AND EXPECTED RESULTS.	
PROJECT PLANNING AND MILESTONES	
FIELD RESEARCH LOCATION	Operation on: ☐ land ☐ Islands ☐ Islands Specific areas If yes, how long is needed for the stop on the island Operation at sea : ☐ First leg ☐ Second leg ☐ Third leg ☐ All Does the research require the vessel to stop and for how long?
INFORMATION ALREADY AVAILABLE ABOUT THE PROJECT (PUBLICATION/WEBSITE/PREVIOUS PROJECT	

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PROJECT TEAM (BEING ON BOARD) 2 PAGES			
PRINCIPAL INVESTIGATOR	NAME	INSTITUTION	POSITION
	MAIN RESEARCH FIELDS	TOP FIVE PUBLICATIONS	AWARDS
PROJECT TEAM AND PARTNERS	NAME	INSTITUTION	CONTRIBUTION TO THE PROJECT
PARTICIPATION TO THE EXPEDITION: WILL THE TEAM PARTICIPATE TO ONE LEG, TWO LEGS OR THE WHOLE EXPEDITION?	☐ One ☐ Two ☐ All		

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PROJECT TEAM (NOT ON BOARD IF ANY)			
PRINCIPAL INVESTIGATOR	NAME	INSTITUTION	POSITION
	MAIN RESEARCH FIELDS	TOP FIVE PUBLICATIONS	AWARDS
PROJECT TEAM AND PARTNERS	NAME	INSTITUTION	CONTRIBUTION TO THE PROJECT

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FINANCING ELIGIBLE EXPENSES(1 PAGE) [2]				
	EMPLOYMENT		RESOURCES (INDICATIVE)	
BUDGET	Staff: - Principal investigator - Researchers (please specify the role) - PhD (please specify the role) - Master students (please specify the role) - Engineer (please specify the role) - Others (please specify) Scientific Equipment (please specify the equipment) -.... - .... - ..... Goods and services : - Data collection and analysis - Data storage - Web development - Others (please specify) Travel costs Others: Please specify: …	 ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... € ..... €	Funders: Proposal Proposal ..... Proposal Proposal Requested funding	 ..... € ..... € ..... € ..... € ..... €
	TOTAL	..... €	TOTAL	..... €

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[2] This section will be updated

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PROJECT BENEFITS (1 TO 2 PAGES)	
All projects will be evaluated with the following 5 criteria. Please summarize the main benefits of your project on each topic below	
SCIENTIFIC BENEFITS	**LEADER CREDIBILITY AND TEAM QUALITY**
- Is the project aligned with Polar Institutes scientific agenda? - How the project will link with the expedition goals? - Main discoveries and breakthrough expected? - Publications envisioned	- Experience of the PI in Antarctic research - Previous projects successfully delivered - Team composition and added value of each members proven capability to deliver results and manage the team
PROJECT TIMEFRAME	**IMPACT ON THE GENERAL PUBLIC**
Capability to collect data and perform research within the time frame of the expedition - Expected deadlines for delivering the outcomes and publications	- Capability to deliver the results to the general public - Communication impact to the general public
INTERNATIONAL DIMENSION	**ADDITIONAL BUT NOT MANDATORY**
- International team composition - International impact of the project	- How the will the project demonstrate the use of cutting-age technologies? - How will the project encourage the participation of young researchers?
SYNTHESIS	
Describe the proposed research in simple terms in a way that could be publicised to a general audience [up to 4000 characters	

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Annex 6 – Representatives & Contact points

CONTACT POINTS

COUNTRY	NAME	FUNCTION	CONTACT
Australia	Gwen Fenton	Acting chief scientist of AAD	gwen.Fenton@aad.gov.au
France	Pascal Morin	Deputy director and chief scientist of IPEV	pascal.morin@ipev.fr
Norway	Prof Kit M. Kovacs	NPI Biodiversity Section Leader	kit.kovacs@npolar.no
Russia	Prof Alexandr Makarov,	Head of the Geography division AARI -	makarov@aari.ru
S. Africa	Isabelle Ansorge	Associate Professor of Oceanography University of Cape Town	isabelle.ansorge@uct.ac.za
Swiss	To be confirmed		
U.K	David Walton	Professor	dwhw@bas.ac.uk
Algoé	Philippe Fournand	Project management	philippe.fournand@algoe.fr

TECHNICAL COMMITTEE REPRESENTATIVES

COUNTRY	NAME	FUNCTION	CONTACT
Australia	Nick Gales	Director of Australian Antarctic Division	Nick.Gales@aad.gov.au
Australia	Gwen Fenton	Acting chief scientist of AAD	gwen.Fenton@aad.gov.au
France	Yves Frénot	Director of IPEV	yves.frenot@ipev.fr
France	Pascal Morin	deputy director and chief scientist of IPEV	pascal.morin@ipev.fr
Norway	Dr Jan Gunnar Winther	NPI Director	jan.gunnar.winther@npolar.no
Norway	Prof Kit M. Kovacs	NPI Biodiversity Section Leader	kit.kovacs@npolar.no
Russia	Dr Alexandr Makarov,	Head of the Geography division AARI	makarov@aari.ru
Russia	Dr Ivan Frolov, -	Director AARI	frolov@aari.ru
S. Africa	Isabelle Ansorge	for marine science	isabelle.ansorge@uct.ac.za
S. Africa	Rosemary Dorrington	for terrestrial science	rosemary.dorrington@gmail.com
Switzerland	Philippe Gillet	Vice président affaires académiques EPFL	philippe.gillet@epfl.ch
Switzerland	Danièle ROD	Advisor to the Presidency	daniele.rod@epfl.ch
UK	Jane Francis	Director of BAS	janefr@bas.ac.uk
UK	David Vaughan	Director of Science BAS	dgv@bas.ac.uk