

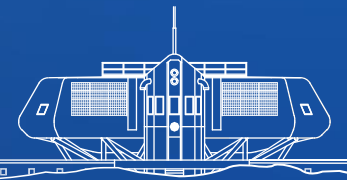
BELSPO - Egmont Institute - APECS - BNCAR - Polar Conference

Princess Elisabeth Antarctica

A station for science research support

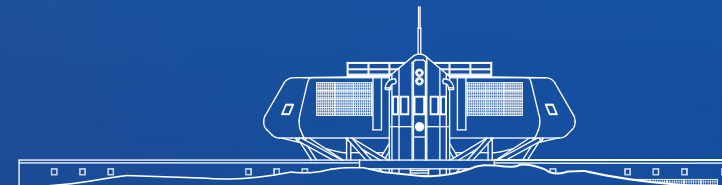


Henri ROBERT – Science Liaison Officer



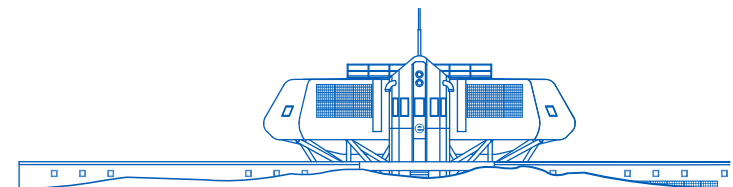
Presentation overview

- Princess Elisabeth Antarctica
 - A brief history and relevance
 - Localisation
 - Localisation and operation zone
 - Zero emission concept
 - Micro Smart Grid
 - PEA's assets for science
- Vehicles available at PEA
- Logistic at disposition
- Data collection & samples repatriation
- PEA a scientific platform
- Registration process
- Transportation and pre-deployment formalities
- PEA access
- Safety at PEA and in the field
- Inside PEA



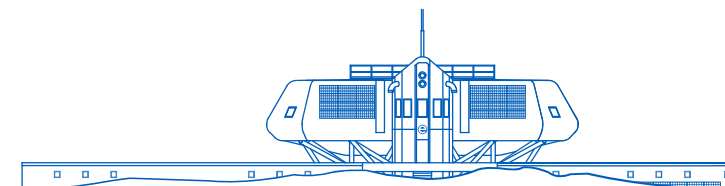
PEA - Brief history and relevance

- PEA, a new chapter in the Belgian-Antarctic history
- Built in 2007-2008 during IPY
- Allow independent scientific program
- Participate to the Antarctic climate monitoring network
- Renewable energy platform
- Education and awareness raising



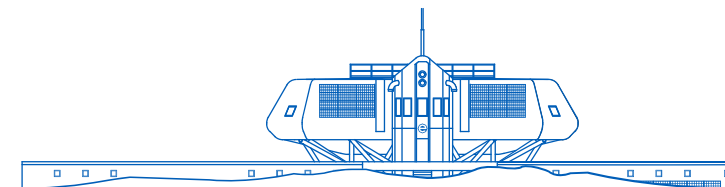
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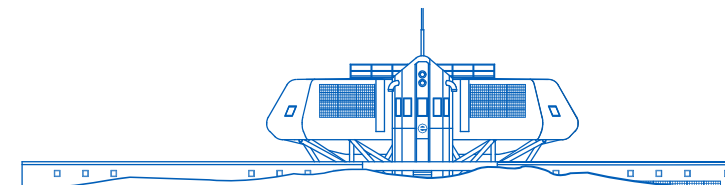
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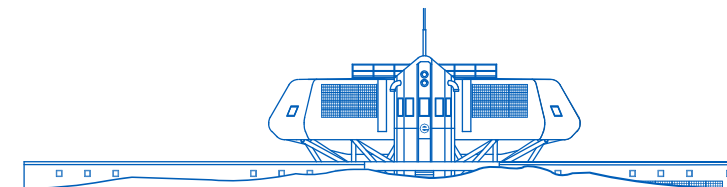
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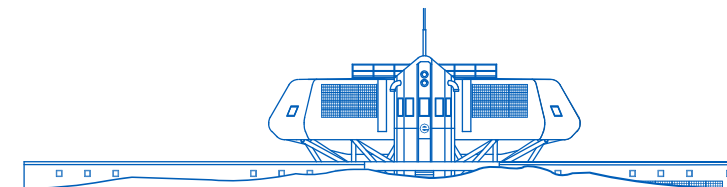
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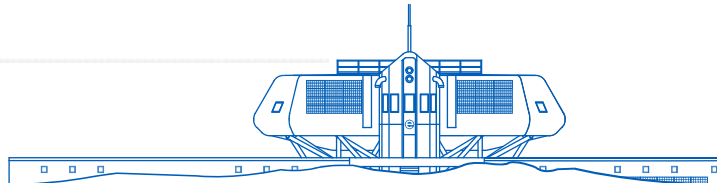
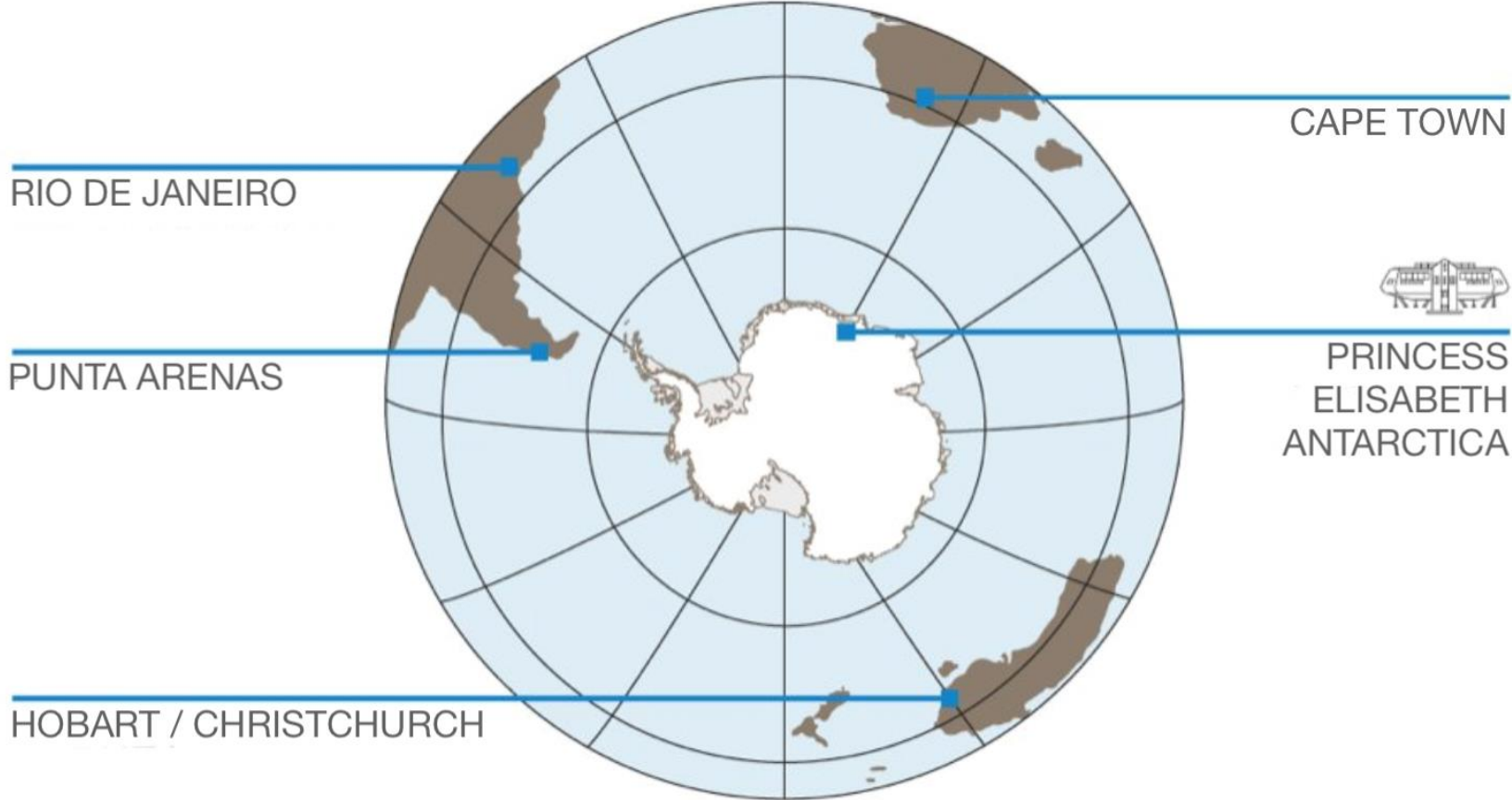


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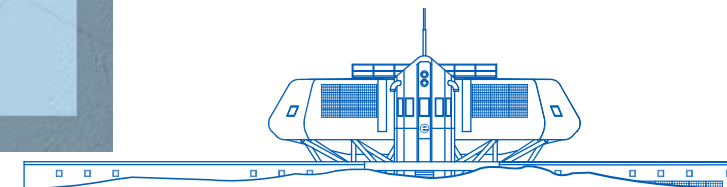
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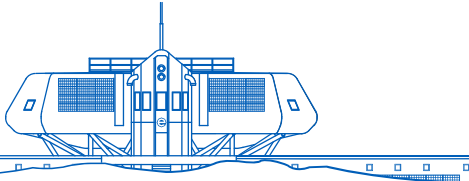
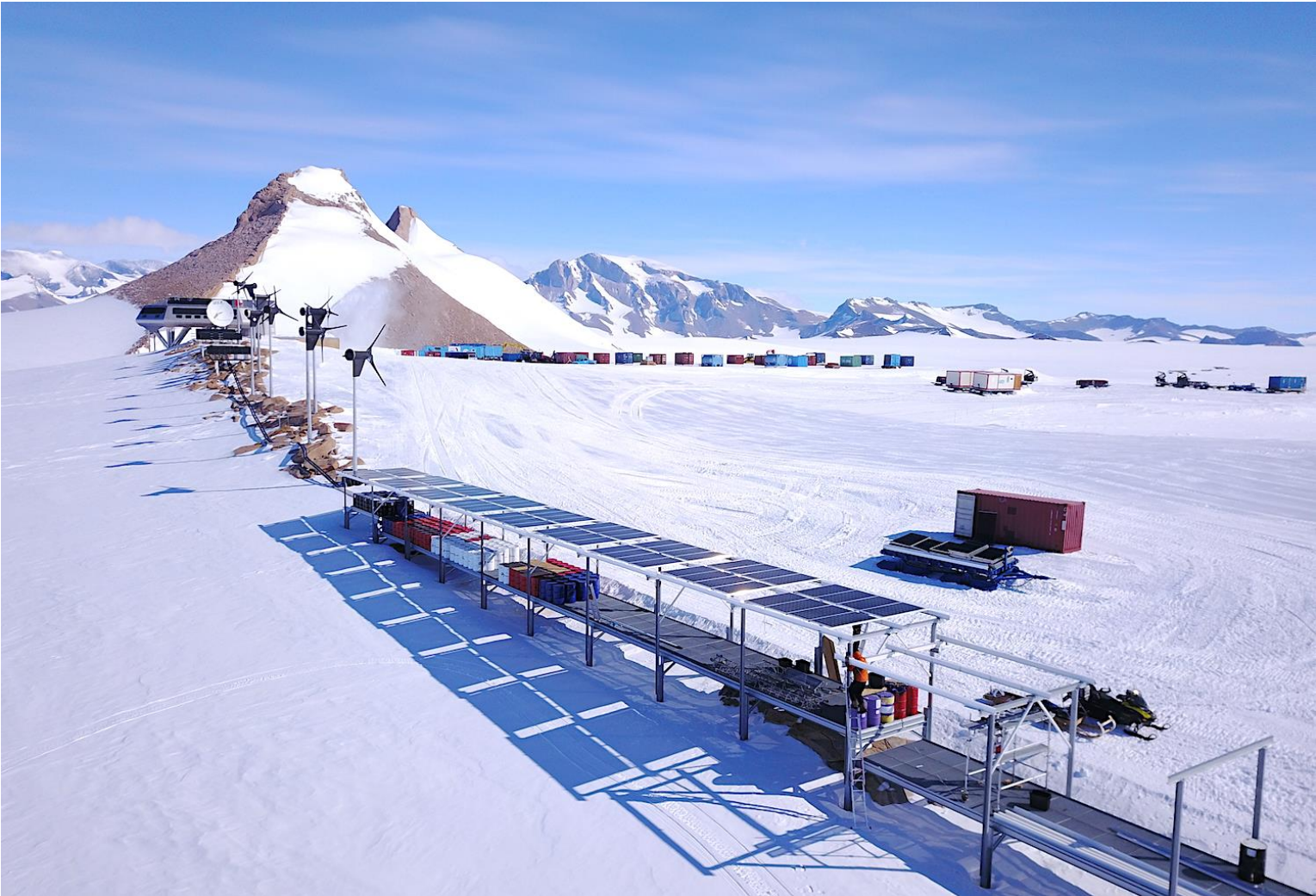
PEA - Localisation



PEA – Localisation & BELARE operation zone

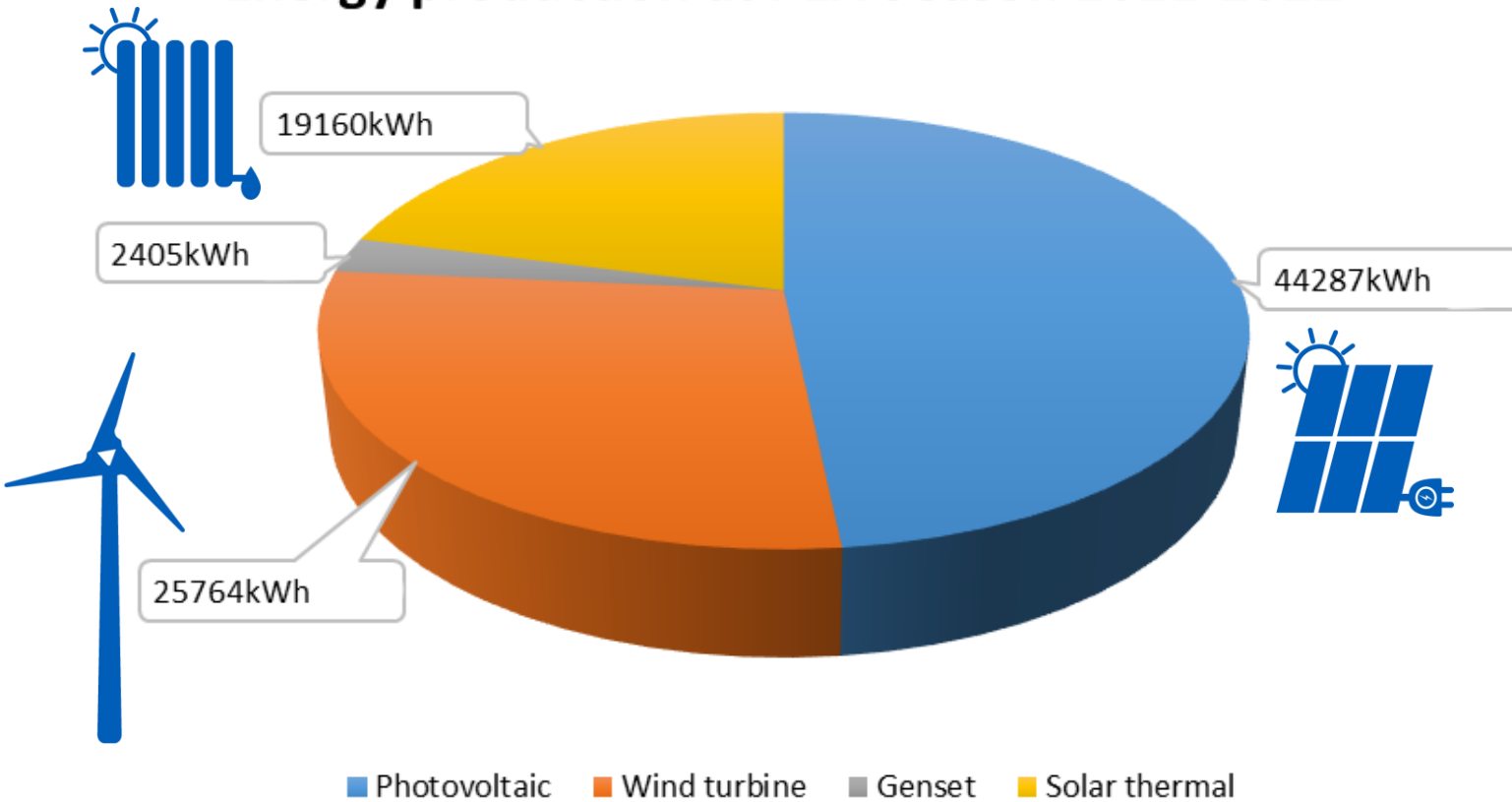


PEA - Zero emission concept

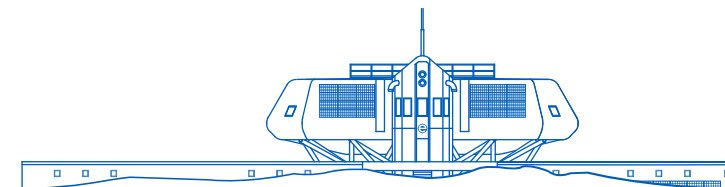


PEA - Zero emission concept

Energy production at PEA Season 2021-2022



- 👉 **9 wind turbines**
 - 6kWh each (54kW total)
 - Daily record production = 972kWh
- 👉 **315 solar panels**
 - Installation of 112 new SP
 - 43% more energy
- 👉 **36 Thermal panels**
 - 54 m²
- 👉 **2 Gensets**
 - Hydrogen conversion imminent



PEA - Micro Smart Grid

Based on a *Demand Power Management System*

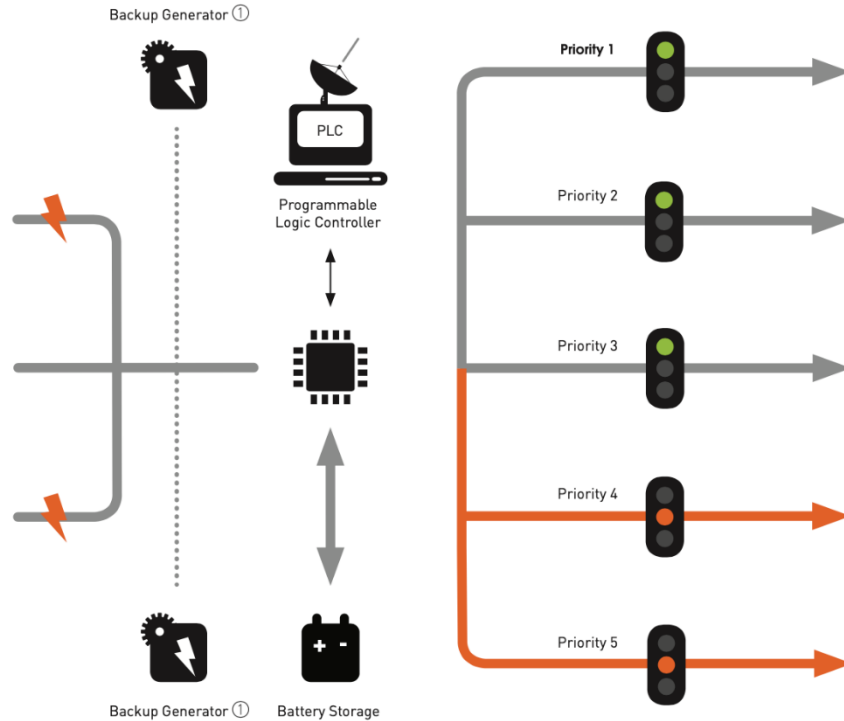
Energy Production

Limited Production Capacity



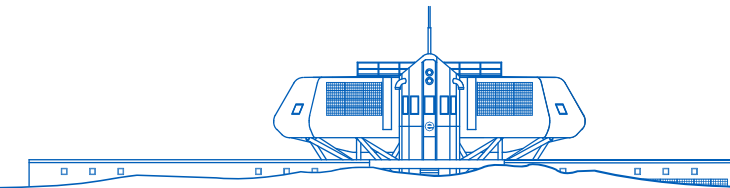
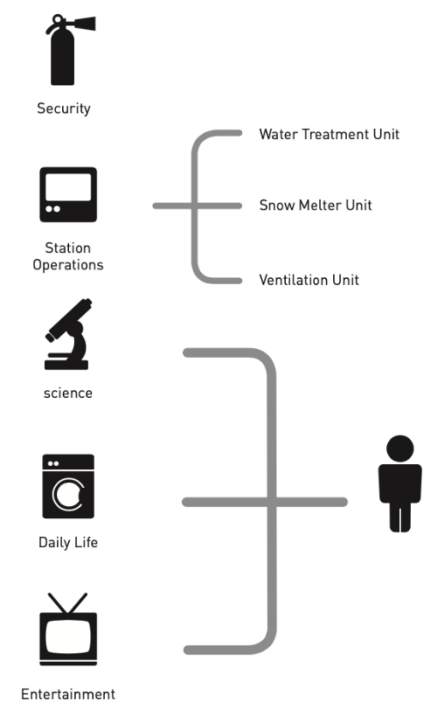
Control & Supply

Balance Available Energy & Cumulated Request
Dynamic Prioritization



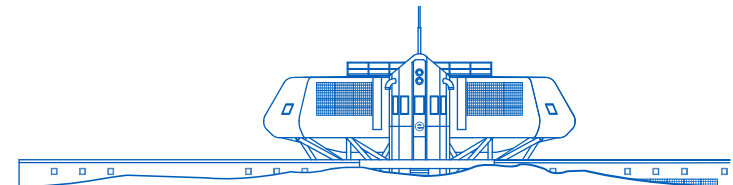
Variable Demand

Energy Request



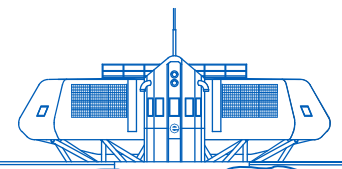
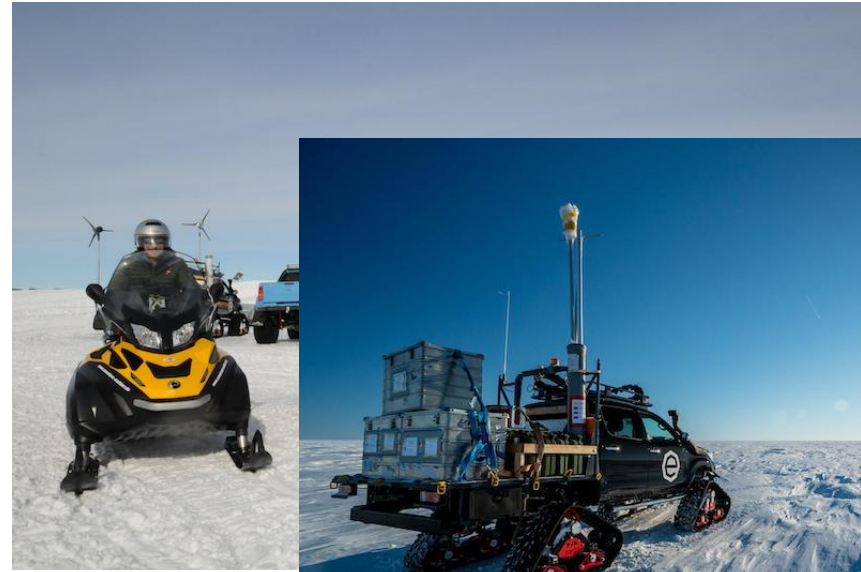
PEA's assets for science

- Multi-access, zero emission research station
- Pristine environment in the Sør Rondane Mountains
- Easy access to DML coast (200 km)
- Easy access to the Antarctic plateau (30 km)
- Improved satellite link for better internet communication (+Iridium & Inmarsat)
- Experienced/professional field guides
- Highly qualified engineer support
- Large selection of vehicles, mobile research facilities
- High flexibility and adaptability to scientists needs
- Full assistance from IPF staff to scientists for expedition preparation



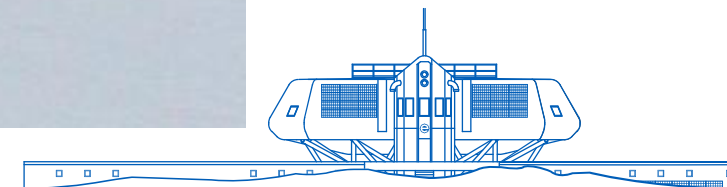
Vehicles available at PEA

- Skidoos + sledges
- Hilux jeeps
- Prinoth tractors + sledges
- Venturi Antarctica electric vehicle



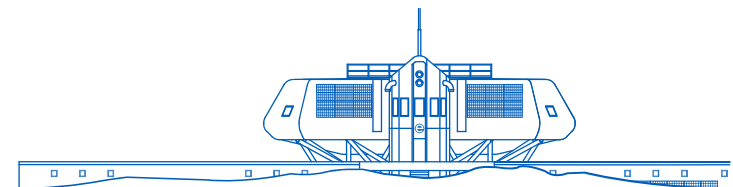
Logistic at disposition

- Mobile scientific laboratories & workshops (x4)
- Mobile Kitchen (x3)
- Mobile dormitory and bathrooms (x5)
- Mobile -25°C Reefer (x1)
- Tents and polar camping equipment



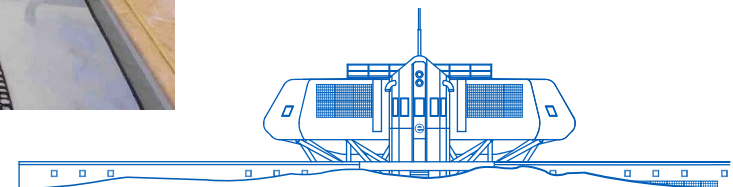
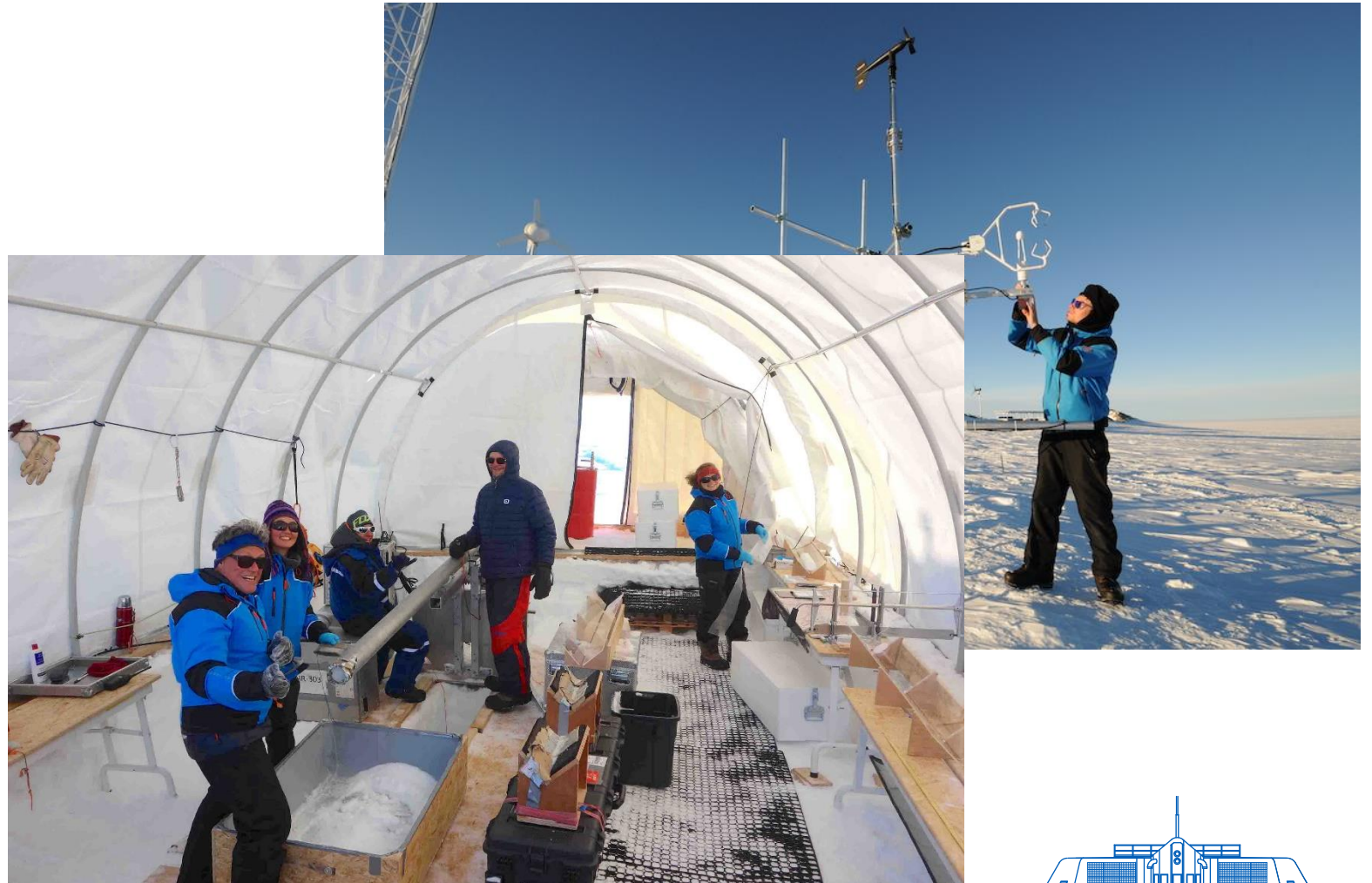
Data collection & Samples repatriation

- All scientific data are stored on a PEA virtual machines with appropriate allocated space
- Data remotely available for scientists 24/7 via satellite link
- Physical samples are sent to CT and final destination with IPF support
 - Regular air or sea cargo
 - Temperature controlled shipment (-25°C)



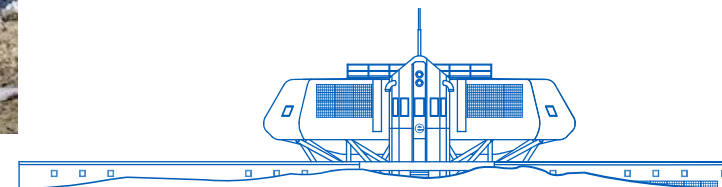
PEA, a scientific platform

- Climatology
- Glaciology
- Biology
- Microbiology
- Meteorology
- Seismology
- Geology
- Geochemistry
- ...



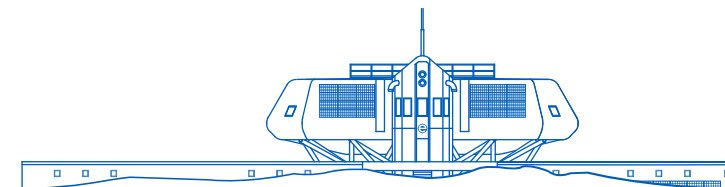
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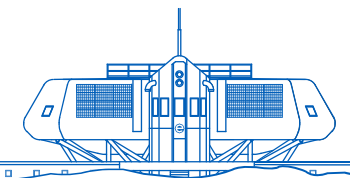
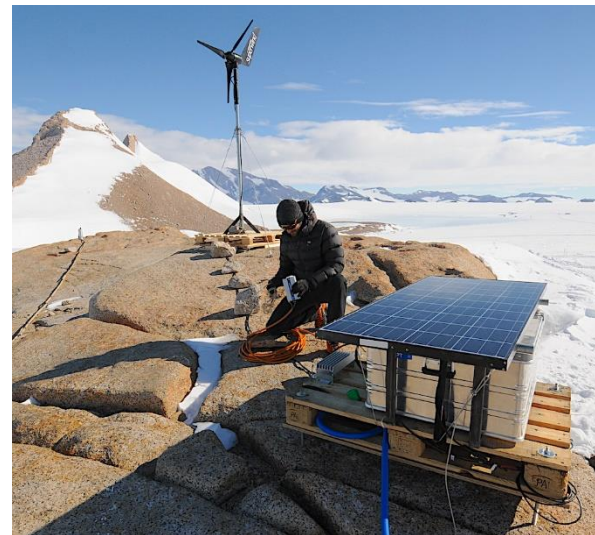
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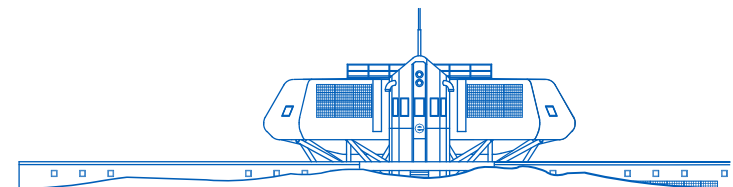


Projects selection

- BELSPO financed research projects
- Other projects



- Endorsed by the
Belgian Polar Secretariat



Registration process

- General registration form
- Limitation of Liability
- GDPR regulations and consent
- Medical questionnaire
- Field science support request form

Extra documentation

- Code of conduct in Antarctica
- Participant's notes
- Cargo procedures
- Antarctic Treaty and regulations under the Madrid Protocol

BELARE 2022-2023 MEDICAL EXAMINATION PATIENT DETAILS

Surname (Print)	
Forename (Print)	
MEY	
Date of Birth	
Address (Print)	
Nationality	
Present Occupation	
Antarctic destination (duration or deep field activities), Please indicate duration	
Period of Antarctic stay (dates)	

PATIENT DECLARATION
Applicant to read carefully before signing

I have understood that the information collected in this Medical Examination Form will be held by the BELARE Medical Office, and will be used for two primary purposes:

- to determine my fitness for travel to, and activity in Antarctica.
- to determine appropriate care should I require medical assistance while in Antarctica.

If as a result of this examination, the BELARE Medical Officer requires any further relevant details from my medical adviser, I understand that submission of the information requested is voluntary, but that failure to provide any of the requested details may result in my not being granted the permit to travel to Antarctica.

I understand that submission of the information requested is voluntary, but that failure to provide any of the requested details may result in my not being granted the permit to travel to Antarctica.

I certify that I have answered all questions concerning my health honestly and accurately, to the best of my ability, and may withhold any relevant information.

I am fully aware that knowingly withholding information concerning my health could jeopardize the expedition in the Antarctic and I am fully aware that in the event of a medical evacuation caused by a failure to disclose relevant information, may lead to a ...

BELARE 2022-2023
Limitations of Liability

The Belgian Antarctic Research Expedition BELARE 2022-2023 is organized by the International Polar Foundation (IPF) in partnership with the Belgian Polar Secretariat.

The International Polar Foundation, acting as the operator of the Princess Elisabeth Research Station, and as provider of science support services, assumes no responsibility for injury, loss of property or damage to person or property resulting directly or indirectly from: acts of God, detention, any means of conveyance to arrive or depart as scheduled, civil disturbances, government regulations or regulations, discrepancies or change in associated services over which it has no control.

The International Polar Foundation's liability, related to the organization of the Antarctic Expedition (BELARE), is limited to that which is attributable to demonstrable gross negligence on allowing them to participate in the activities foreseen in the Antarctic, including those risks associated with the extreme cold, risks attached to transport to and within the services, and difficult working conditions, and voluntarily assumed any foreseeable risks inherent in traveling unknown terrain, risks arising from limited access to the activity.

The International Polar Foundation recognizes that all directives, rules and procedures established by the expedition are intended to ensure the safety, health, and welfare of all participants, and to avoid conduct that could be injurious or harmful to him/herself or others, and that participants are aware of the risks associated with the expedition and accept the consequences of their own actions, and agrees to hold non-liable the International Polar Foundation and its staff.

BELARE 2022-2023 PARTICIPANT REGISTRATION

First Name: _____

Surname: _____

Date of Birth: _____

Age: _____

Marital Status: _____

Nationality: _____

Passport number: _____

Sex: _____

Height: _____

Weight: _____

Complexion: _____

Eye color: _____

Native language: _____

Place of Birth: _____

MEY: _____

No. of Children: _____

Residential Address: _____

Valid until: _____

Signature: _____

Date: _____

BELARE 2022-2023
General Data Protection Regulation (GDPR)
Prior Informed Consent

The Belgian Antarctic Research Expedition BELARE is organized by the International Polar Foundation (IPF) in partnership with the Belgian Polar Secretariat.

The International Polar Foundation, acting as the operator of the Princess Elisabeth Research Station, and as provider of science support services, collects personal data from participants to the BELARE - Belgian Antarctic Research Expeditions, for the purposes of organizing logistics, providing medical cover and other services for the participants.

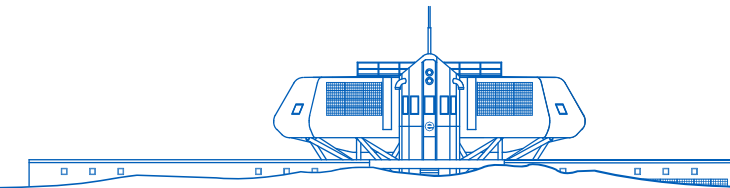
REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) is in application since the 25th of May 2018.

Under the GDPR Art. 6 (see pg 3), prior informed consent is required for the processing of the data relative to the participants in the BELARE. Personal data will be used to provide the services required for participants in the BELARE, and will be shared with the Antarctic air-link service providers, including passport details, telephone numbers, residential addresses, next of kin details and dates of birth. Medical examination results will be transmitted to the Expedition Medical Team members, who are bound by professional secrecy.

Copies of the legislation are provided in English, French and Dutch.

For the purposes of this legislation:

1. The "Data Controller" is the International Polar Foundation - represented by Alain Habert, Expedition Leader.
2. The "Data Protection Officer" is Mr Nicolas Van Hoocke
3. Personal data is processed for the organization of the Belgian Antarctic Research Expedition, pursuant to the mandate from the Belgian Polar Secretariat.
4. Personal data provided is necessary for the provision of services to the Expedition participants.

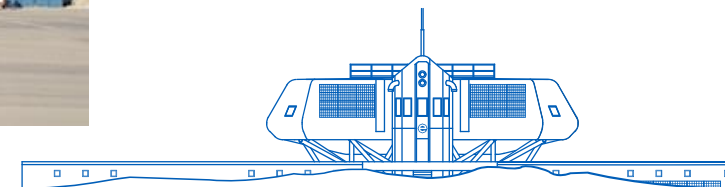


Transportation & pre-deployment formalities

- Transport from Brussels or anywhere in the world to Cape Town
- Polar clothing selection at IPF's Cape Town office



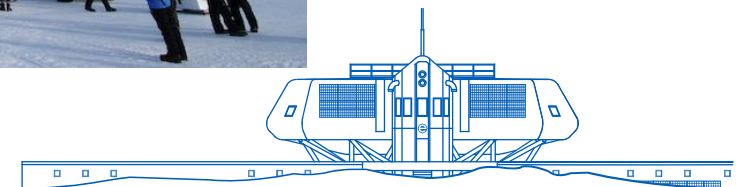
- Pre-deployment briefing
- Transport to Antarctica and PEA



PEA - Access

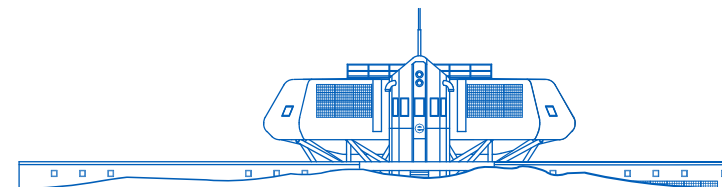
PEA can be reached:

- Via ALCI air base (Novo) from Cape Town to PEA skiway (1,7 km from PEA)
- Direct intercontinental flight to Perseus runway (60 km from PEA)

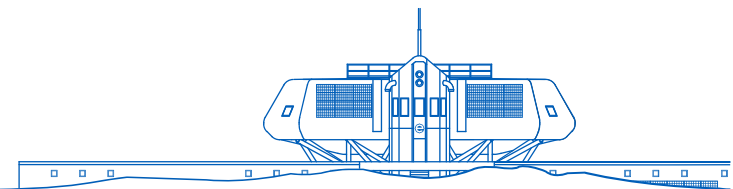


Safety at PEA and in the field

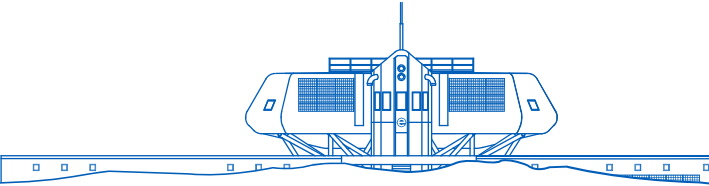
- Safety training (Chamonix or PEA)
- First aid
- Frostbites
- Crevasse rescue & orientation exercise
- Skidoo training



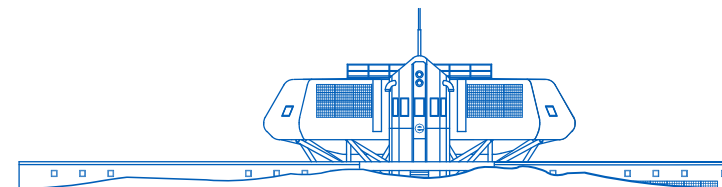
Inside PEA – Dining room and lounge



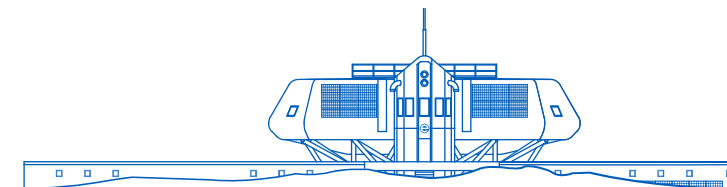
Inside PEA Kitchen & buffet



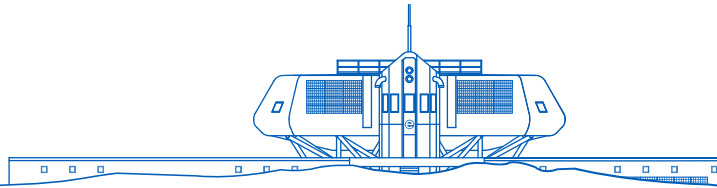
Inside PEA Office and bathrooms



Inside PEA Scientific workshop, Storage & Surgery room



Inside PEA Garage, carpentry and metal workshop







THANK YOU



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<http://www.antarcticstation.org>

