



detect and protect

ERVO 2023

A Polar Bear Warning System

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13th of June 2023

Topics to share with you today

- ☐ Human-animal conflict
- ☐ Vision: support system
- ☐ Hensoldt introduction
- ☐ Technical solution
- ☐ Future system updates – LRAD, Drones, VR Googles
- ☐ Trials (EGRIP, PBI Churchill, Denmark,)
- ☐ Polarstern expedition

Ice is melting and more polar bears lose their habitat



climate change is only going to make these negative interactions between humans and wildlife more common



Our motivation



Over **60 polar Bears** killed due to conflicts with humans in 2021*



Over **10 humans** killed or injured by polar bears from 2018-2021*



The numbers are increasing from year to year

* PBI 2022

Our Vision

Using the knowhow in the defence industry to contribute and reduce conflict...



With
High-End
Technology,
we will
secure
research-
operations

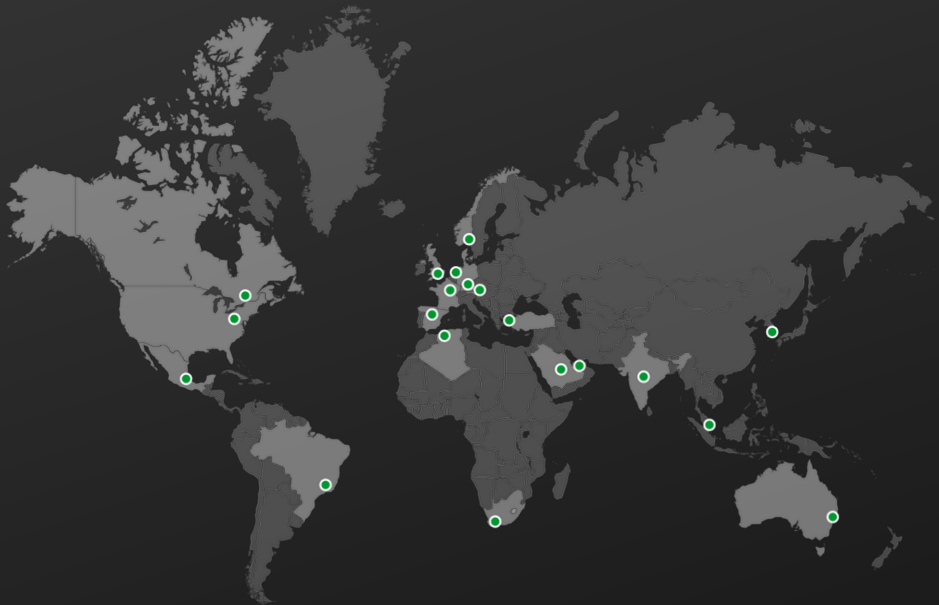
About us



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Some of our products

German roots, a European presence and a global footprint



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Use cases in wildlife protection



Protection of Abalone in South Africa

Situational Awareness to
prevent the illegal
harvesting of the strictly
protected sea snail.

Systems deployed in Cape
Town detecting promptly
poachers that approach the
coast line

Cape Nature, Police &
Department of Forest



Situational Awareness for polar protection

Detection of people and
polar bears at a distance of
~3.4 km in harsh weather
conditions -30°C

1 system deployed in the
framework of the East
Greenland Ice-core Project

PBI Churchill

University of Copenhagen
and PBI



Protection of Rhinos in

South Africa

Early warning and
Surveillance to protect
rhinos from poachers in high
risk areas

13 fixed systems deployed
on site generating
information 24/7 for rangers

„Buffalo Dream Ranch“



The product

Rapid deployable system in remote areas



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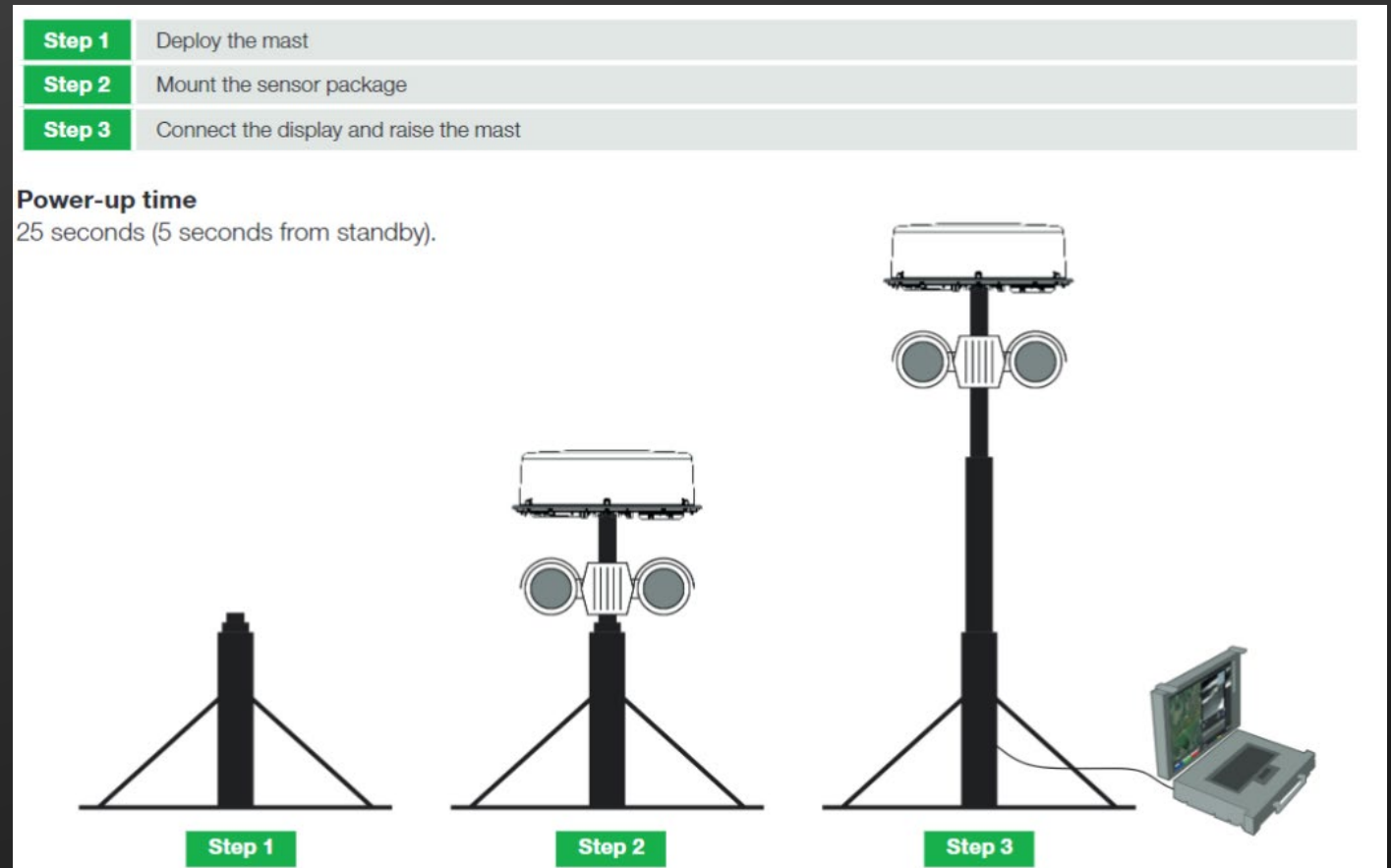


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Easy to use, reliable under harsh environments

- ⇒ 360° perimeter protection 24/7 on the research camp
- ⇒ Operational at -30°C
- ⇒ Few visual reference points, whiteout and difficult navigation
- ⇒ Alarm zones and recording functionality
- ⇒ Movement within a circle of 2.2km does not generate an alarm. Movement outside does up to 3.5km away from dome



Software with radar tracks and live video

- ⇒ If someone gets lost the last known position can be quickly identified
- ⇒ Walking person detection at 3.4 km and Airplane at 16 km
- ⇒ Not affected by snow and high winds
- ⇒ Main USP: capability of detecting small or low moving targets in severe weather conditions at longer ranges than similar approaches to radar design



EGRIP - East Greenland Ice Core Project

Implementation of radar technology to increase camp safety

24/7 situational awareness of the camp and the perimeter

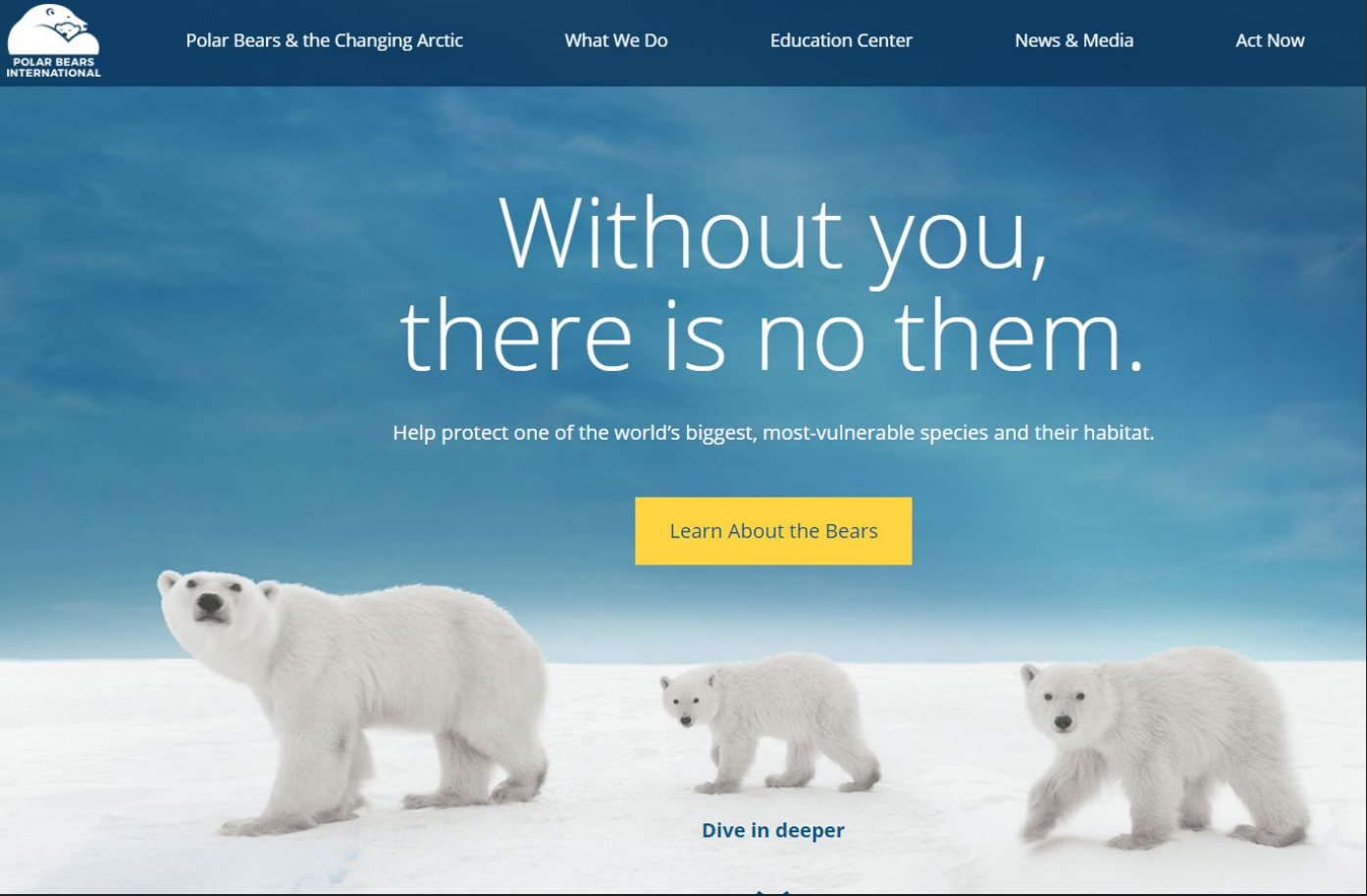
operational in temperatures as low as minus 30°C

Cooperation with Niels Bohr Institute at University of Copenhagen,



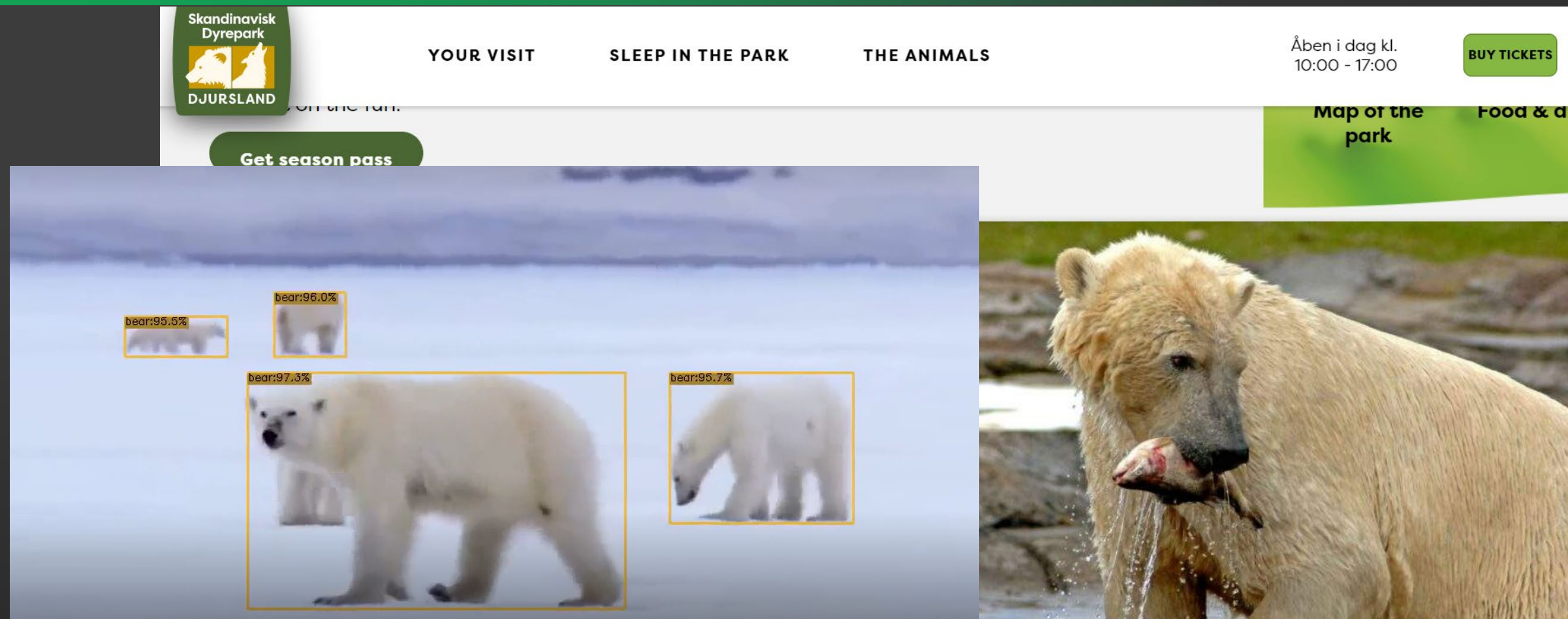
PBI cooperation

AI enhancement, annotations and database extension



Denmark image collection for AI development

AI enhancement, annotations and database extension



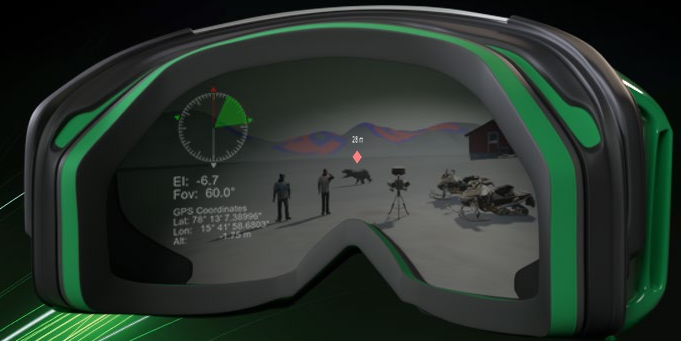
Virtual reality technology

Enhanced user experience and protection to other endangered species



[2023 04 14 SAMARitan MVP - YouTube](#)

SAMARitan®
saves lives.

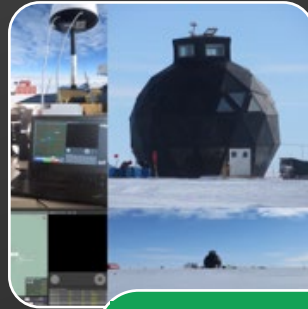


Our path and way ahead



Spexer360

- 360° surveillance
- 24/7 situational awareness
- Export Regulation
- Logistics



EGRIP Greenland

- Installation on a ice sheet
- Securing a camp of scientists
- Test phase under extrem poor weather conditions for 2 years



Evaluation Manitoba Churchill

- Cooperation with PBI
- Data analysis and research
- Onshore operation



Polarstern - Arctic Expedition

Aiming at protection of the crew in the ArcWatch Project

F. Laeisz operators
Trainings to follow



Polarstern - Arctic expeditions

- 2 months expedition on 1st of August
- 2 systems on board to secure scientist on research activities
- 24/7 and 360° camp surveillance



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Thank you for your attention!