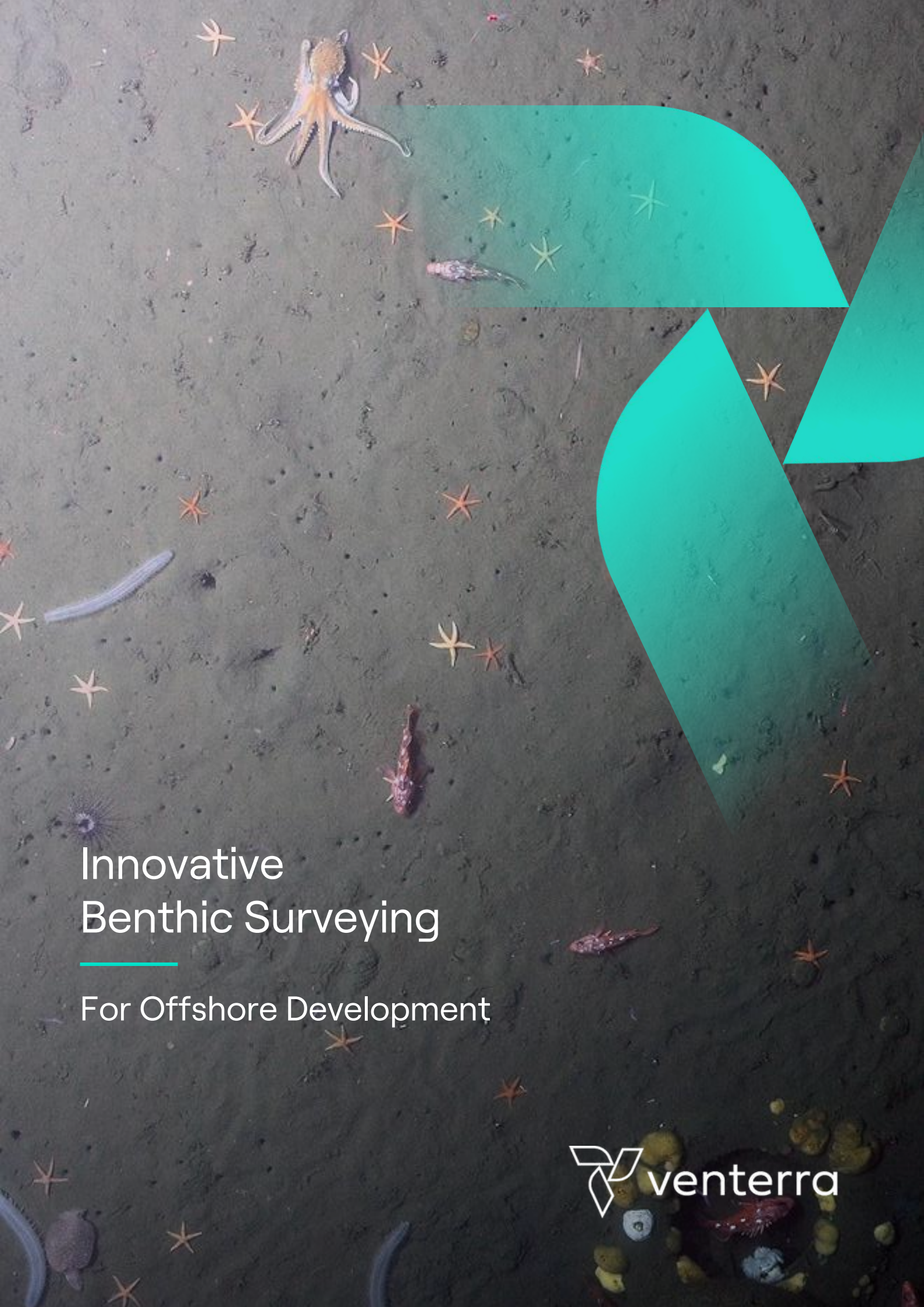


Innovative Benthic Surveying

For Offshore Development

venterra

At Venterra, we offer a smarter, more sustainable alternative to traditional benthic survey methods with our innovative Sediment Profile Imaging and Plan View drop-frame camera system, known as SPI/PV.

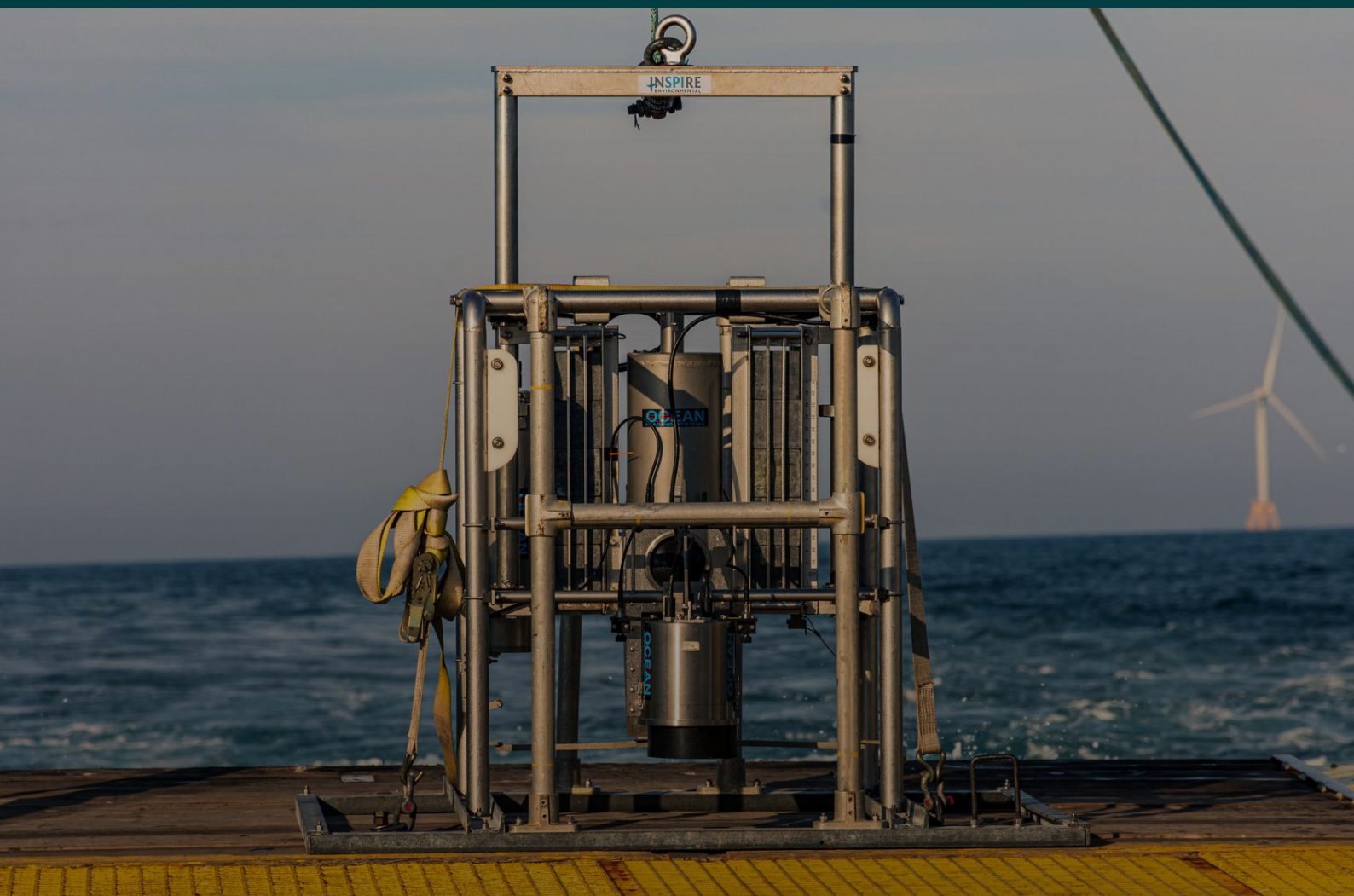
Delivering superior results at a similar or lower cost compared to traditional grab sampling, SPI/PV offers an ideal solution for offshore energy siting, permitting and ecological monitoring.

What is SPI/PV?

SPI/PV combines two advanced imaging techniques:

- Sediment Profile Imaging (SPI): An optical core that captures undisturbed profile images of sub-surface conditions up to 22cm below the seafloor, aligned with the Plan View image footprint.
- Plan View (PV): A drop-down camera system that captures high-resolution aerial images of the habitat on the seafloor.

See how SPI/PV works here.



What makes SPI/PV superior?

First developed at Yale University in the 1970s by the founders of Venterra's Environmental team, SPI/PV has been extensively validated in scientific literature worldwide. It offers a non-extractive, scientifically robust, and cost-effective solution for benthic habitat assessments.

- **Cost competitiveness:** SPI/PV surveys cost approximately the same or less than traditional benthic surveys, and provide many unique benefits.
- **Real-time results and adaptive sampling:** SPI/PV enables near real-time interpretation in the field, allowing rapid identification of key habitats and in-situ survey adjustments - reducing costs, uncertainty and the need for resampling.
- **Non-extractive methodology preserves ecological context:** SPI/PV is the only sampling method to gently penetrate the seafloor, leaving the benthic ecology intact, while capturing a high resolution "worm's eye" image of the sediment layer.
- **Integrated approach:** SPI/PV surveys can stand alone or be combined with traditional benthic sampling, geophysical data and other techniques to provide robust seafloor interpretations, support ecosystem and natural capital assessments, and identify archaeological resources.
- **Faster results:** Because we don't require a lab to process our SPI/PV imagery, preliminary survey results can be delivered as soon as two weeks after survey.
- **Delivery of multiple parameters:** SPI/PV imagery reliably provides multiple data parameters. This link compares benthic survey parameters derived from SPI/PV compared to sediment grab samples and video imagery.
- **Ideal for biodiversity and net gain monitoring:** SPI/PV captures sediment structure, habitat complexity and biological activity in situ - making it uniquely suited for establishing baselines and tracking ecological improvements over time.

Globally recognised and recommended

SPI/PV has been deployed around the world, including Australia, New Zealand, China, Hong Kong, Italy, the UK and Canada on projects ranging from offshore energy development and dredged material management to contaminated sediment characterisation.

In the US it has been used at approximately 75% of offshore wind leases. While many environmental survey companies now use SPI/PV worldwide, Venterra's Environmental team has the most collective experience interpreting SPI/PV data globally, bringing unmatched expertise to every project we support.

SPI/PV is officially recognised in benthic survey guidelines and best practice around the world, including, but not limited to:

- **EU:** Adopted for Water Framework Directive monitoring.
- **UK:** Joint Nature Conservation Committee (JNCC) includes SPI/PV in its marine habitat monitoring guidance.
- **Wales:** Highlighted the use of SPI in its guidance on best practice for marine and coastal physical survey and monitoring.
- **US:** Bureau of Ocean Energy Management (BOEM), and US Army Corps of Engineers endorse SPI/PV for benthic habitat and sediment surveys.

Want to learn more?

Click to find out more about SPI/PV and Forward Scouting (using SPI/PV as a reconnaissance survey tool to reduce the area for expensive site investigation surveys) or get in touch with Anntonette Zembrzuska for further information.

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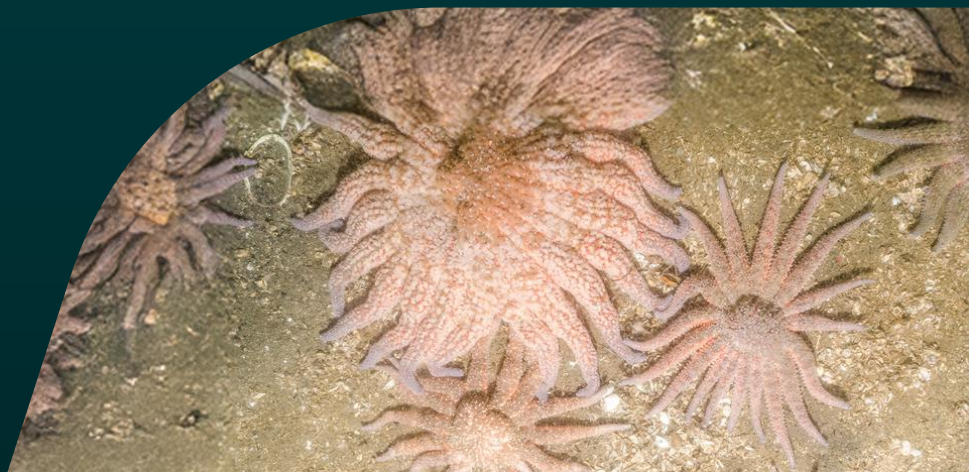

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