



**Launch of First Descent – a series of ground-breaking missions to explore and conserve the world’s most unknown ocean, The Indian Ocean**

**Embargo: 00:01 GMT, 24<sup>th</sup> January 2019**

**Bremerhaven, Germany:** The start of one of the most ambitious non-governmental marine expeditions ever mounted moves a step closer today as the mission’s Mothership, the Ocean Zephyr mobilises and sets sail from Bremerhaven in Germany for Seychelles.

An Alliance of over 40 world leading organisations have joined forces to support Nekton to launch First Descent - a pioneering series of missions from 2019 to 2022.

Combining innovations in technology, AI, big data and communications, First Descent is a bold bid to accelerate the scientific exploration and conservation of the Indian Ocean, the world’s least explored and least protected ocean.

The first 7-week long expedition starts in Seychelles in March 2019 where the Ocean Zephyr will be home to a team of scientists, submersible and ROV pilots, subsea engineers and journalists.

#### **INNOVATIONS:**

Supported by a dozen **subsea technology** companies, the team is deploying a raft of new cutting-edge research, sampling, survey and video technologies from their state-of-the-art submersibles and remote operated vehicles.

New **artificial intelligence** programmes are being developed by Nekton and the University of Oxford to accelerate analysis and publication. The data will be dynamically harmonised through OcToPUS – the new global ocean data portal, developed by Nekton – to provide a holistic and dynamic view of the changing state of the Indian Ocean, its biodiversity and human impacts.

First Descent will achieve **world firsts in communications**. New subsea technologies for optical transmission have been developed to enable live broadcasting from multiple submersibles as they undertake a series of descents into previously unexplored parts of the deep ocean, our planet’s last great unknown frontier. First Descent will be distributed live by Associated Press along with a series of live subsea programmes produced by Sky News and Sky Atlantic as part of Sky Ocean Rescue. The images will be broadcast around the world

from the ocean powered by ground-breaking technological innovations by Nekton's satellite communications partner Inmarsat and subsea technology partner Teledyne Marine.

**New technologies** being deployed on the mission include 15 different camera systems that will enable scientists to create the first 3D maps of newly discovered deep-sea ecosystems along with 15 different research tools to empower multi-disciplinary research across marine biology, chemistry and physical oceanography.

## **FIRST DESCENT: THE MISSION**

The mission's research is focused from the surface into the Bathyal Zone (200m to 3000m), home to the greatest patterns of biodiversity and impact of human activities on these vital ecosystems. How the Indian Ocean changes in the coming decades will profoundly affect the lives, livelihoods and wellbeing of 2.5 billion living in the region.

First Descent uniquely combines scientific research, capacity development programmes, ocean management and governance initiatives with public engagement and ocean literacy activities to achieve the greatest coordinated impact.

At least 50 first descents are planned during the first expedition to Seychelles. Very little research has been undertaken beneath 30 metres (scuba depth) across Seychelles' vast ocean territory of 1.37 million km<sup>2</sup>. First Descent will generate critical data to support Seychelles' commitment to protect 30% of their national waters, equivalent to nearly twice the size of the entire United Kingdom.

Callum Roberts, Professor of Marine Conservation Biology, Nekton Trustee said: "Our ocean is undergoing rapid ecological transformation by human activities. The scientific consensus is that we must have an enforced protected area covering at least 30% protection of the ocean by 2030 to support a resilient ocean and a resilient planet. Seychelles are a critical beacon and bellwether for marine conservation in the Indian Ocean and globally". Professor Roberts added: "Having overfished the majority of the surface waters, we are now gaining the industrial capacity to empty the Bathyal Zone before we discover what is there. We face a race for the deep".

Dr Lucy Woodall, Nekton Principal Scientist, University of Oxford, who is leading the research said: "The biological communities we are researching are critical for many reasons from climate stability to food security, from carbon cycling to the air we breathe. Our multi-disciplinary research investigates biological systems and their physical and chemical environment enabling us to identify key parameters and patterns of ocean change". Dr Woodall added, "We expect to discover dozens of species new to science that could be anything from new corals, algae or sponges to larger more charismatic animals like dog-sharks".

First Descent is organised by the Nekton Deep Ocean Research Institute ('Nekton') and supported by an Alliance led by Mission Partners Omega and Kensington Tours. Other partners include The Commonwealth, 12 Seychelles organisations, University of Oxford,

Teledyne Marine (Subsea Technology Partner), Inmarsat (Satellite Communications Partner) and GlobalSubDive (Submersible Operations).

Oliver Steeds, Nekton's Mission Director, Founder and submersible pilot, commented: "The deep ocean is the final frontier. It's our largest and most critical ecosystem, yet the most important part of our planet is still the least known. We now have the technology to discover more of our planet in the next ten years than we have in the past 100,000. We hope this will be our next giant leap. When we journey into the unknown, we move forward".

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#### EDITOR'S NOTES:

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For additional media materials (still images, b-roll, launch video, briefing notes) please visit our newsroom:

<https://www.dropbox.com/sh/a55g7z7pwrt27na/AACsYTEmtNsa5IBsQ2UYuogha?dl=0>

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#### KEY NEKTON PERSONNEL

##### **Oliver Steeds, Mission Director, Founder, Submersible Pilot**

The critically acclaimed broadcast journalist is recognised as one of a new generation of explorers focused on accelerating scientific understanding.

##### **Lucy Woodall, Principal Scientist**

Lucy is a world expert on the impact of humans on the marine environment.

##### **Professor Callum Roberts, Professor of Marine Conservation Biology, Nekton Trustee**

Callum is a leading marine scientist and expert on marine conservation.

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#### ABOUT NEKTON ([www.nektonmission.org](http://www.nektonmission.org)):

Established in Oxford in 2015, Nekton aims to help change our knowledge and understanding of the world's oceans to speed up the protection and governance of our last great wilderness, the deep ocean. *Nekton Mission I: NW Atlantic* 2016-2018 discovered 100+ new species, confirmed the discovery of the Rariphotic Zone (The Rare light zone: 130m to 300m depths), sparked Sky's [Ocean Rescue Campaign](#) and Ocean Risk Summit, reached a global audience of over 800million people, educated 1million through Submarine STEM, and launched UNESCO's High Seas initiative and Octopus - the global ocean data portal.

## OCTOPUS

Launched in May 2018 by Nekton, OcToPUS (the Ocean Tool for Public Understanding and Science) is the world's first open-sourced global ocean data portal. OcToPUS provides a single source to freely access the latest global marine data. OcToPUS dynamically harvests and harmonises open-access marine data including oceanographic observations, biodiversity and human stressors on the ocean. Its objective is to support scientific study and decision-making for the improved management of the ocean. Nekton lead the development and management of OcToPUS: <https://octopus.zoo.ox.ac.uk>

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## FIRST DESCENT ALLIANCE

**Mission Partners:** Omega & Kensington Tours

**Strategic Partners:**

- Programming Partner: Sky (Sky Ocean Rescue)
- News Agency Partner: Associated Press
- Subsea Technology Partner: Teledyne Marine
- Satellite Communications Partner: Inmarsat
- Submersible Operations: Global Sub Dive

**Collaborating Partners:** The Commonwealth; Sonardyne, Bowtech, Reson, LH Cameras, Seabotix, Bibby HydroMap, LH Cameras, Triton, ROV Support, RD Instruments, Teledyne PDS, CEFAS (Subsea Technology); Priavo Security (Maritime Security); Technicolor, AXA-XL & Encounter EDU (Education); Oxford University; Institute of Marine Engineering, Science & Technology – IMarEST; EYOS Expeditions (Logistics); Great Campaign (UK Government, Foreign & Commonwealth Office); Ocean Elders.

**Seychelles Partners:** Ministries of Environment, Energy and Climate Change, Education, Blue Economy and Tourism, Seychelles Fishing Authority, University of Seychelles (UniSey), Island Conservation Society (ICS), Seychelles Island Foundation (SIF), Marine Conservation Society Seychelles (MCCS), The Nature Conservancy (TNC), SeyCATT, Nature Seychelles, NISTI, Seychelles National Parks.

**Nekton Founding Partners:** AXA-XL, Garfield Weston Foundation, Kensington Tours

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## OTHER QUOTES

"The most critical journey we must now take, is not up to the stars, but down into the abyss with Nekton." - **HM Queen Noor of Jordan, Patron of IUCN, Ocean Elder**

"The destruction of the ocean, the key to life on our planet, is happening. Nekton is a call for urgency and action, not despair." - **Jean-Michel Cousteau, President of Ocean Futures Society, Ocean Elder**

"Nekton is boldly undertaking exploration of the vast depths of the sea with new technologies and new ways of communicating the urgent message that everything we care about - the economy, health, security and most importantly, our existence - depends on understanding and protecting the living ocean". **Dr. Sylvia Earle, Founder, Mission Blue, Ocean Elder**

"The Nekton Oxford Deep Ocean Research Institute is conducting research that will mark a step-change in our knowledge of the Indian Ocean. The Mission, which represents the best in the UK's marine science, technology and environmental protection offer, will work with governments to help inform sustainable ocean governance and policy and will aim to conclude with a "State of the Indian Ocean Summit" in 2022." **Nigel Casey, UK High Commissioner to South Africa** (*UK Statement, Indian Ocean Rim Association, Council of Ministers, November 2018*)