

**Information on Concept Paper for Partnerships Dialogue of The Ocean Conference:
6. Increasing scientific knowledge, and developing research capacity and transfer of marine
technology.**

Submitted by XPRIZE

Status and Trends

There are certain grand challenges facing humanity where progress and innovation toward a solution is stalled due to either (1) limited commercial motives and incentives driving R&D in the field, or, (2) due to their magnitude, an inability for government or social programs to tackle them. XPRIZE is a non-profit organization based in Los Angeles, California that focuses on using gamification of social impact, crowdsourced innovation, and incentive competitions to solve grand challenges where other more traditional methods may not succeed. An [XPRIZE](#) is a highly leveraged, incentivized prize competition that incorporates exponential technologies to push the limits of what is possible and change the world for the better. Using technology as a lever, the [XPRIZE Ocean Initiative](#) is committed to helping achieve the goals of the United Nation's SDG 14 through applying our winning ocean technologies from previous ocean XPRIZE competitions and designing and launching at least two more ocean XPRIZE competitions that will further the targets to conserve and sustainably use the oceans.

Challenges and Opportunities: Previous Prizes and Future Technologies

In October 2011, XPRIZE awarded [\\$1.4 Wendy Schmidt Oil Spill Cleanup XCHALLENGE](#) for improving oil spill cleanup technologies. In the wake of the Deepwater Horizon crisis, the Wendy Schmidt Oil Cleanup XCHALLENGE was designed to inspire innovative solutions to speed the pace of seawater surface oil recovery resulting from platform, tanker, and other industry spillage. Less than 2 years after the largest oil spill in the Gulf of Mexico, the winning team demonstrated that their technology could quadruple the rate of surface oil recovery over existing industry standards.

In July 2015, XPRIZE awarded the [\\$2 million Wendy Schmidt Ocean Health XPRIZE](#), a prize competition for developing breakthrough ocean pH sensors to improve understanding of ocean acidification. Prizes were awarded for accurate, affordable, and robust sensors. These sensors are allowing scientist to make laboratory quality in situ deep-sea measurements of ocean acidification. This XPRIZE also resulted in affordable and accurate sensors for environmental management.

In December 2015, XPRIZE launched the [\\$7 million Shell Ocean Discovery XPRIZE](#), a three-year competition challenging teams to advance breakthrough deep-sea technologies to rapidly map the sea floor at very high resolution and produce high-definition images. Embedded in this is the National Oceanic and Atmospheric Administration's (NOAA) \$1 Million bonus prize to incentivize pioneering underwater technologies to detect a biological or chemical signal and autonomously trace it to its source. This will allow us to respond rapidly to emergencies and discover and monitor new marine life and underwater communities in an unprecedented

manner. 21 semi-finalist teams, with team members representing 25 countries and including 170 students, are currently preparing for the first round of testing.

These and future XPRIZE ocean competitions create innovations that address the XPRIZE Ocean Initiative goal to make our ocean healthy, valued and understood. To make the ocean healthy, we need to value it. To value the ocean, we need to understand it. Increasing scientific knowledge, and developing research capacity and transfer of marine technology is fundamental to this XPRIZE Ocean Initiative goal.

Existing Partnerships

XPRIZE is working with partners to deploy more ocean pH sensors and expand ocean acidification monitoring. XPRIZE partnered with the U.S. State Department, the Ocean Foundation, Wendy Schmidt Ocean Health first place winning team Sunburst Sensors, and other groups in the “[ApHRICA](#)” project, to run a groundbreaking workshop and pilot project to build capacity and install these cutting-edge ocean pH sensors in Mauritius, Mozambique, the Seychelles and South Africa for the first time.

In addition to partnerships with Shell and NOAA for the Ocean Discovery XPRIZE, our partners include Esri and Fugro. Further, in alignment with the goals of GEBCO (operating under the joint auspices of UNESCO’s IOC and the International Hydrographic Organization), the long-term impact goal of this XPRIZE is that the technologies developed will be used to fully map the seafloor at a high resolution by 2030.

Possible Areas for New Partnerships

XPRIZE is committed to helping achieve the goals of the United Nation’s SDG 14 through launching at least two more ocean XPRIZES. We are seeking collaboration for sponsorship of prizes, deploying and advancing the winning technologies, and growing the impact of our prizes. Each XPRIZE has success states. For the Wendy Schmidt Ocean Health XPRIZE, this would be an understanding and monitoring of global ocean acidification using the new technologies to detect pH changes in the ocean. For the Shell Ocean Discovery XPRIZE, this would be a complete, high-resolution map of the sea floor by 2030. A broader success state would be to launch at least two more ocean XPRIZES that fit the goals of the UN SDG 14 and create innovations that make our ocean healthy, valued and understood. Future ocean XPRIZE match with the goals of SDG 14 including but not limited to: addressing marine pollution, protecting marine ecosystems, making fisheries sustainable, and increasing scientific knowledge, and developing research capacity and transfer of marine technology.