

## *XPRIZE FOUNDATION*

# Catalysing Huge Markets by Creating Breakthrough Technologies for Ocean pH Sensing



The Wendy Schmidt Ocean Health XPRIZE is a USD 2 million prize competition addressing the lack of data on ocean acidification. Ocean acidification cannot be fully addressed because most pH sensor technologies are too imprecise, not durable enough, or too expensive.

The Wendy Schmidt Ocean Health XPRIZE is designed to tackle this critical barrier: the winners of this competition will create accurate, robust and affordable pH sensors that will profoundly improve our understanding of ocean acidification.

The USD 2 million purse is divided into two purses of USD 1 million that will address the two distinct challenges in measuring ocean acidification. Each

purse will have a first and second place winner:

1. The winners of the Accuracy Purse will create extremely accurate sensors that will finally give scientists the ability to measure ocean acidification throughout the world.
2. The winners of the Affordability Purse will create affordable and easy-to-use sensors that will give everyone the tools necessary to track—and respond—to ocean acidification.

The Wendy Schmidt Ocean Health XPRIZE was launched in September 2013 and the competition will end mid-2015. The competition is currently in the first phase in which teams register and work on their technologies. Registration is open until 30 June 2014 and all innovators are welcome.

### **Competition Design**

Beginning in September 2014, teams will have their pH sensors put to the test in three phases: Lab Trials, Coastal Trials and Deep Sea Trials. In the fall of this year, the Lab Trials will put teams' technologies through a rigorous three-month controlled laboratory trial to test the accuracy, precision and stability of their sensors.

In February 2015, the Coastal Trials will place the top 20 teams' technologies in the face of challenging coastal conditions to evaluate their performance over the course of a month-long real-world test.

And finally, during the spring of 2015, the top five teams vying for the Accuracy Purse will compete in Deep Sea Trials to conduct repeated profiles to 3,000m depth to determine which sensor can measure pH with unprecedented performance in the deep sea.

Following the Deep Sea Trials, awards will celebrate the true breakthroughs in ocean pH sensing demonstrated by the winners of both the Accuracy and Affordability Purses. And that is when the real work of changing markets and changing our ability to address ocean acidification begins.

### **Catalysing Markets and Industries in Ocean Services**

An XPRIZE is about far more than radical breakthroughs in technology. An XPRIZE can also change public perceptions, drive new investments into an industry and build new markets where existing forces have failed to do so.

Ten years ago, USD 10 million was awarded as part of the Ansari XPRIZE for the first team to travel to space, 100km above the Earth's surface, twice within two weeks. In the course of that competition, the USD 10 million purse inspired dozens of innovators and investors to spend well over USD 100 million to bring about the innovations that vied to win. And that competition rapidly accelerated the growth of what is today a multi-billion-dollar private space industry. This type of leverage is a critical component of a successful XPRIZE.

We are confident that the Wendy Schmidt Ocean Health XPRIZE will result in a suite of remarkable breakthroughs in high-performance and low-cost pH sensors that will better measure ocean health. But in order to truly create impact, XPRIZE will build strategic activities to help catalyse the ocean services industry.

In addition to ensuring that pH sensors are deployed and used after the prize has been awarded, XPRIZE will work with its network of partners to create new value, understanding and uses of ocean data. By emphasising the power of big data and developing post-prize industry programmes with these partners, we will seed the growth of ocean services through the collection, analysis and access of massive quantities of ocean data.

XPRIZE is a catalyst. We require partners and experts to help identify opportunities and carry them through to fruition. Hence we are engaged in an extensive planning process to create the opportunities that will lead to a massive post-prize industry. We seek to leverage resources and partners to do this. In much the same way as the Ansari XPRIZE catalysed the private space flight industry, we know that the growth in markets for ocean services and marine technology will also be exponential.

During the recent Oceanology International conference in London, XPRIZE held an exclusive ideation workshop with competing teams and official partners of the competition. During this workshop, we brainstormed and prioritised the ways in which the growth of markets and industries in marine technology and ocean services could be rapidly catalysed. This group of experts helped identify ways in which an XPRIZE can contribute to the development of markets long after the prize has been awarded.

Ideas that emerged coincide with the needs to both coordinate and commodify data, to promote consistency or standards, to build markets by ferreting out new customers for data and information, and to continue to convene a community of innovators through workshops and events that ensure truly valuable products and markets continue to develop.

### Three Ways to Engage

We are keen to see the power of this community grow through additional partners. There are three primary ways to engage in the Wendy Schmidt Ocean Health XPRIZE.

1. **COMPETE**—you can form or join a team to compete for the XPRIZE. As building breakthrough sensors requires multiple parts, most teams will be made up of many different talents that all add up to a viable entry. So even if you only have part of the solution—power supply, sensors, pressure housings, etc.—you may be able to join up with others to form a team.
2. **RESOURCE**—become an official supplier to our teams or the competition. By offering your services you can help make teams both stronger competitors and market leaders. Resources could include supplies and equipment, training, legal or business advice, access to capital, or help with outreach and marketing.
3. **SPEAK OUT**—become an Ocean Ambassador and help build markets faster by ensuring that the whole world knows: promote the prize, communicate to your networks and engage as a partner in advancing ocean services and marine technology.

So sign up to compete or aid competing teams in building their devices and building markets. This is your chance to leverage unprecedented attention and support for changing the way the world sees ocean acidification and the way your industry can grow exponentially.

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<https://www.hydro-international.com/content/article/catalysing-huge-markets-by-creating-breakthrough-technologies-for-ocean-ph-sensing>

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