ご　案　内

2018 年 10 月 10 日
国立研究開発法人海洋研究開発機構
国立大学法人東京大学生産技術研究所
国立大学法人九州工業大学
国立研究開発法人海上・港湾・航空技術研究所
三井 E&S 造船株式会社
日本海洋事業株式会社
株式会社 KDDI 総合研究所
ヤマハ発動機株式会社

日本発の海底探査チーム「Team KUROSHIO」
Shell Ocean Discovery XPRIZE「Round2 実海域競技」（決勝）
開催地等の決定のお知らせ

国立研究開発法人海洋研究開発機構、国立大学法人東京大学生産技術研究所、国立大学法人九州工業大学、国立研究開発法人海上・港湾・航空技術研究所、三井 E&S 造船株式会社、日本海洋事業株式会社、株式会社 KDDI 総合研究所及びヤマハ発動機株式会社からなる「Team KUROSHIO」は、海中ロボット等を用いて、超広域高速海底マッピングの実現を目標とする海底探査技術の国際コンペティション「Shell Ocean Discovery XPRIZE」（※）に挑戦しており、2018 年 11-12 月に行われる「Round2 実海域競技」（決勝）へ進出いたしました。

2018 年 10 月 9 日 22 時(JST)、XPRIZE 財団より「Round2 実海域競技」の開催地等の決定に係る発表（別紙 1）が行われましたので、お知らせいたします。なお、Team KUROSHIO は 2018 年 12 月 9 日から 19 日までの間で Round2 を実施予定です。

Round2 実海域競技　実施概要
・開催時期：2018 年 11 月から 12 月
・開催地：ギリシャ共和国・カラマタ沖
・結果発表：2019 年 3 月

Shell Ocean Discovery XPRIZE の最新情報、重要な日程及び決勝進出チームに関する情報は、https://oceandiscovery.xprize.org をご覧ください。

※XPRIZE について

1995 年に設立された米国の非営利組織である「XPRIZE 財団」によって運営され、世界の大きな課題を解決することを目的とした世界コンペティション。「学習」「探査」「エネルギーと環境」「世界規模の開発」「生命科学」の 5 分野をテーマとする。最近では、民間による最初の月面無人探査を競う「Google Lunar XPRIZE」が話題となった。Shell Ocean Discovery XPRIZE の概要については、別紙 2 をご参照ください。

本件お問い合わせ先

Team KUROSHIO 広報担当　杉山・安蒜　　電話: 046-867-9250

Round2 開催地での取材申込みにつきましては、XPRIZE 財団に直接お問い合わせください。

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Deep Ocean off Southern Greece to be Field Test Site for Finalists in the $7M Shell Ocean Discovery XPRIZE

Oct 09 2018
XPRIZE

Final Phase of Global Competition Puts Rapid, Unmanned, High Resolution Mapping of the Sea Floor to a Real-World Test

Los Angeles (October 9, 2018) — **XPRIZE**, the global leader in designing and operating world-changing incentive competitions, today announced the deep sea off Kalamata, Greece, has been chosen as the field testing location for **finalist teams** competing in the **$7M Shell Ocean Discovery XPRIZE**. Deep sea, real-world testing is a key stage in the three-year global competition challenging teams to advance ocean technologies for rapid, unmanned and high-resolution ocean exploration and discovery. In this final field-testing round for the Grand Prize of the competition, which starts in November and runs through December, the teams have up to 24 hours to

map at least 250 km2 of the ocean seafloor - an area that is nearly three times the area of Paris - to depths down to 4,000 meters – a cold, dark and high-pressure environment that is more than twice as deep as the Grand Canyon.

On the southern coast of Greece, each team will launch and recover their autonomous underwater technologies from XPRIZE's Mission Control in Kalamata. The competition area is approximately 500 km2 and includes a number of underwater features. Finalist teams have to launch from shore and their entries must travel to the competition location by water or air and, with restricted human intervention, map at least 50 percent of the area – 250 km2 – at five meters resolution and at depths down to 4,000 meters, identifying and imaging at least ten archeological, biological or geological features at any depth, all within 24 hours.

"We are excited to be bringing this XPRIZE to Greece, an amazing country with a long history of scientific and technological advancements that have benefited the world," said Jyotika Virmani, Ph.D., prize lead and senior director of XPRIZE's Planet and Environment team. "The Shell Ocean Discovery XPRIZE competing teams are creating breakthrough technologies designed to operate in extreme conditions, with the goal of rapidly mapping an area that has not previously been mapped at such high resolution; we are providing the teams with an environment that is full of mystery and geological features that will offer a true test of their technologies."

The Shell Ocean Discovery XPRIZE has the support of the Government of Greece, including the Ministries of Foreign Affairs, Maritime Affairs and Insular Policy, Education, Research and Religious Affairs, Shipping, and Culture and Sports. The operational team is also working with multiple other organizations, including the National Centre of Scientific Research Demokritos, Office of the Mayor of Kalamata, Municipal Port Fund of Kalamata, Hellenic Coast Guard/Central Port Authority, and the Hellenic Center for Marine Research to ensure smooth operations by providing logistical assistance. Competition organizers also continue to work with Fugro, an industry leader in ocean mapping; and Esri, the global leader in geographic information system (GIS) software. XPRIZE is also partnering with Singularity University, which is hosting the **SingularityU Greece Summit** in November, at which Dr. Peter H. Diamandis, XPRIZE founder and executive chairman of XPRIZE, will give the opening keynote and Dr. Virmani will discuss the Shell Ocean Discovery XPRIZE.

"We are proud that Kalamata was chosen to be the host city to this international competition and are happy to be able to provide the infrastructure and logistics to support the demonstration of new and exciting technologies," said Panagiotis Nikas, mayor of Kalamata. "The waters surrounding Kalamata provide teams in the Shell Ocean Discovery XPRIZE with a unique and varied underwater landscape for exploration, and we look forward to supporting their work in this important final round of real-world testing."

At the end of the competition, a $4M Grand Prize and $1M Second Place Prize will be awarded to the teams that receive the top scores for demonstrating the highest resolution seafloor mapping. After the competition has ended, the high-resolution seafloor map will be used by NCSR-Demokritos, the largest research center in Greece, and their Institute of Nuclear and Particle Physics as part of a worldwide scientific collaboration to establish a new generation Neutrino telescope in the Mediterranean.

A secondary test location to support the National Oceanic and Atmospheric Administration (NOAA) $1M Bonus Prize will take place in early 2019, once the Grand Prize testing has been completed. This will give all Bonus Prize finalist teams an opportunity to test their technologies and will determine the Bonus Prize winner. In this prize,

competing teams will need to demonstrate that their technology can "sniff out" a specified object in the ocean by tracing a biological or chemical signal to its source.

For the latest information about the competition structure, important dates and the finalist teams please visit: **https://oceandiscovery.xprize.org** and view our new finalist **video**.

About XPRIZE

XPRIZE, a 501(c)(3) nonprofit, is the global leader in designing and implementing innovative competition models to solve the world's grandest challenges. Active competitions include the Lunar XPRIZE, the $20M NRG COSIA Carbon XPRIZE, the $15M Global Learning XPRIZE, the $10M ANA Avatar XPRIZE, the $7M Shell Ocean Discovery XPRIZE, the $7M Barbara Bush Foundation Adult Literacy XPRIZE, the $5M IBM Watson AI XPRIZE and the $1.75M Water Abundance XPRIZE. For more information, visit **www.xprize.org**.

About Shell

Shell companies have been technology pioneers for more than 100 years, and have come up with many industry-transforming "firsts" to deliver energy to its customers. Since 2007, Shell has spent more than $1 billion annually on research and development. In 2014, our research and development expenditures were $1.2 billion, and Shell's technical and engineering staff number more than 43,000 people.

Shell companies have operations in more than 70 countries and territories with businesses including oil and gas exploration and production; production and marketing of liquefied natural gas and gas to liquids; manufacturing, marketing, and shipping of oil products and chemicals and renewable energy projects. Royal Dutch Shell plc is incorporated in England and Wales, has its headquarters in The Hague, and is listed on the London, Amsterdam, and New York stock exchanges. For further information, visit www.shell.com.

About National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration (NOAA) is a science-based federal agency within the Department of Commerce with regulatory, operational, and information service responsibilities with a presence in every state and U.S. territories. NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage coastal and marine resources. For more information, visit **www.noaa.gov**.

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The Author

XPRIZE

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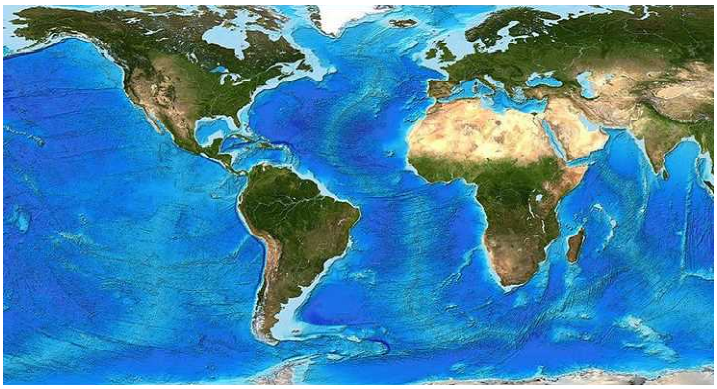
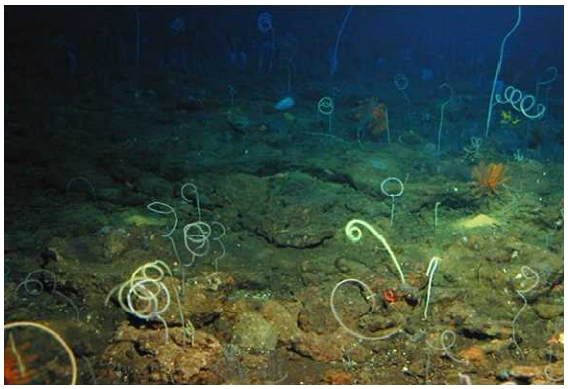


XPRIZE DEC 14 2015

New $7 Million XPRIZE Competition Seeks to Usher in a New Era of Ocean Exploration



JYOTIKA VIRMANI DEC 14 2015

Discovering a New Planet

"The day before something is truly a breakthrough, it's a crazy idea."

PETER DIAMANDIS

別紙 2

Shell Ocean Discovery XPRIZE について

〇目標

・500km^{2}の海底マッピング（解像度：水平 5m、垂直 50cm 以上）の実現

〇主なルール

・支援母船を用いない等、海域に人が立ち入らない（海域へのロボットの展開・回収含む）

・機材の持込みは 40feet コンテナ（外寸 L×W×H＝12.19×2.43×2.59（m））1 つまで

・調査後 48 時間以内での海底地形図の作成及び提出

〇賞金総額

・700 万ドル（約 8 億円）

（内訳：1 位 400 万ドル、2 位 100 万ドル、中間賞 100 万ドルは Round2 進出 9 チームに分配、NOAA ボーナス賞 100 万ドル（米国チームのみ））

〇コンペティション内容

Shell Ocean Discovery XPRIZE では下記の 2 ラウンドで海底マッピング技術を競います。

①Round1 技術評価試験（2018 年 1 月実施済）

・高速かつ広域での海底探査に必要な 11 項目の技術に関する評価試験

②Round2 実海域競技（2018 年 11-12 月開催）

・水深 4,000m で 24 時間以内に最低 250km^{2}以上の海底マップ構築

・海底ターゲットの写真撮影（10 枚）

〇Shell Ocean Discovery XPRIZE のスケジュール

Shell Ocean Discovery XPRIZE はおよそ 3 年間にわたるコンペティションです（図参照）。