



## **ECORD Mission-Specific Platform expeditions in the International Ocean Discovery Program: flexible operations and technological developments**

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The International Ocean Discovery Program (IODP) is supported by multiple Funding Agencies from around the world, and delivered by 3 Platform Providers; the US National Science Foundation provides the JOIDES Resolution, Japan's Ministry of Education, Culture, Sports, Science, and Technology provides the D/V Chikyu, and the European Consortium for Ocean Research Drilling (ECORD) provides mission-specific platforms (MSPs) which are contracted on a case-by-case basis. Each IODP platform provides specialist capability. However, as capable as the two dedicated IODP platforms are, they are unable to reach all geological targets, such as those located under ice-covered seas, in shallow water, in environmentally sensitive areas or in certain hard-to-drill lithologies.

To date, ECORD has implemented eight MSP expeditions in a wide range of challenging environments. Whilst these projects had multiple objectives, including the recovery of records of climate and sea level change, and previously unknown buried microbiological communities, all of them were driven by scientific demands. As the IODP evolves, so do the methods used to collect cores from below the seabed. From utilisation of In-Kind Contributions of vessels through to development of new tools with industry, ECORD aim to realise the call from the scientific community to continually push the scientific boundaries. ECORD is driving an initiative to use alternative coring technologies in addition to the wireline coring that is traditionally used for scientific drilling. This includes development of remotely operated seabed rockdrills and associated battery triggered wireline logging tools, to borehole plugs and water sampling and analysis whilst drilling capability.