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Mission Specific Platforms: Past achievements and future developments in European led ocean research drilling.

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Mission Specific Platform (MSP) expeditions are operated by the European Consortium for Ocean Research Drilling (ECORD). Each MSP expedition is unique within the Integrated Ocean Drilling Program (IODP). In order to complement the abilities of the JOIDES Resolution and the Chikyu, the ECORD Science Operator (ESO) must source vessels and technology suitable for each MSP proposal on a case-by-case basis. The result is that ESO can meet scientific requirements in a flexible manner, whilst maintaining the measurements required for the IODP legacy programme.

The process of tendering within EU journals for vessels and technology means that the planning process for each MSP Expedition starts many years in advance of the operational phase. Involvement of proposal proponents from this early stage often leads to the recognition for technological research and development to best meet the scientific aims and objectives. One example of this is the planning for the Atlantis Massif proposal, with collaborative development between the British Geological Survey (BGS) and MARUM, University of Bremen, on suitable instruments for seabed drills, with the European Petrophysics Consortium (EPC) driving the development of suitable wireline logging tools that can be used in association with such seabed systems.

Other technological developments being undertaken within the European IODP community include in-situ pressure sampling for gas hydrate expeditions, deep biosphere and fluid sampling equipment and CORK technology. This multi-national collaborative approach is also employed by ESO in the operational phase. IODP Expedition 302 ACEX saw vessel and ice management support from Russia and Sweden to facilitate the first drilling undertaken in Arctic sea ice.

A review of MSP expeditions past, present and future reveal the significant impact of European led operations and scientific research within the current IODP programme, and also looking forward to the start of the new International Ocean Discovery Programme in October 2013. Key successes encompass technological development, operational procedures in sensitive areas and research into palaeoclimate and shoreline responses to sea level change amongst others. Increased operational flexibility in the new programme only serves to make the future an exciting one for ocean drilling in Europe.