Database aggregating strategic views of fleet managers, innovative ship funding, innovation applicable to research vessels and major underwater equipment

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(*) Global, Ocean and Regional Research Vessels (RVs) considered in this study are multipurpose RVs, and also polar and fisheries RVs accessible for academic marine research in complement to their public service missions (such as support to polar stations, fish stocks assessment etc ...)

(**) List of Acronyms for RVs/UWV owners and operators

Country	National roadmaps including vessels and associated equipment for academic research		Present status of Global/Ocean/Regional vessels (including fisheries and polar RVs) for academic marine research (*)		Present status of major Under Water Vehicles (UWV) operated by Research organisations				New RVs or UWVs and renewal plans
	Roadmaps when available	Additional information	Global/Ocean RVs Vessel name (length/year built/Owner/Operator) (**)	Regional RVs Vessel name (length/year built/Owner/Operator)(**)	Autonomous Underwater Vehicles (AUVs) Name(depth/year built/Owner/Operator)(**) **with max. depths > 1000 m**	Human Occupied Vehicles (HOVs) Name(depth/year built/Owner/Operator)(**)	Remotely Operated Vehicles (ROVs) Name(depth/year built/Owner/Operator)(**) **with max. depths > 1000 m**	Towed sensors and camera systems Name(depth/year built/Owner/Operator)(**)	
BELGIUM	No national roadmap explicitly including RVs and associated equipment	N/A		* (1) *Belgica* (50.90m/1984/Ministry of Science Policy/RBINS_OD Nature in cooperation with the Belgian Naval Component) ****Renewal waiting for a funding scheme**** * (2) *Simon Stevin* (36.00m/2012/VLIZ/VLIZ)			* (1) Genesis (1600m/2006/VLIZ/VLIZ)	* (1) Towed video plankton recorder developed by WHOI (-/2013/VLIZ/VLIZ)	* **Renewal of R/V *Belgica* :** Budget study in 2013, preliminary design study in 2014, tendering for final design and building in 2015-2017 at the earliest. **Waiting for funding.**
BULGARIA	RVs are included in one of the seven roadmaps adopted by the Council of ministers of Bulgaria, named "Infrastructure for sustainable development of marine research including the participation of Bulgaria in the european infrastructure EURO-ARGO"	The Bulgarian national roadmap includes three research vessels and a research submersible	* (1) *Akademik* (55m/1979/IO-BAS/IO-BAS)			* (1) PC-8B (250m/1987/IO-BAS/IO-BAS)		* (1) Klein model 3000 digital side scan sonar (1500m/2009/IO-BAS/IO-BAS/Towed side scan sonars)	* **Renewal of R/V *Akademik* :** Budget study in 2014, preliminary design study in 2015, tendering for final design and building in 2015-2017 at the earliest. **Waiting for funding.** * **New Regional research vessel R/V *Izsledovatel* :** Exploring work under progress on the feasibility of building a 20-30 meter vessel that can perform fish monitoring as well as other WD and MSFD relevant work. **Waiting for funding.**
CROATIA	No national roadmap explicitly including RVs and associated equipment			* (1) *Palagruza* (45.50m/1975/Hydrographic Institute of the Republic of Croatia/=) * (2) *BIOS DVA* (36.8m/2009/IOF/IOF)					
DENMARK	Danish roadmap for research infrastructures 2011	(Extract translated in English from pages 23-24/57) "When it comes to the Arctic and North Atlantic, there is a need for Danish research environments investigating both the terrestrial and marine environment to participate as key contributors in research infrastructures for data collection and processing. An initiative of this nature will be of great importance and relevance and should be considered for the medium term in line with international developments in this field. In that context, one of the key factors is access to the necessary ships. It should be noted that Denmark's only ocean-going research vessel, "Dana", which is capable of operating in all waters within the Kingdom of Denmark (including the Arctic and North Atlantic) was built in 1981 and is nearing the end of its life. The Danish Agency for Science, Technology and Innovation will therefore be making a special recommendation for the initiation of discussions, in conjunction with the relevant authorities and universities, concerning plans ahead for when Dana is decommissioned. Similarly, the options for making supplementary grants to the Danish Centre for Marine Research will be considered, with a view to measures such as increased chartering of Danish or foreign vessels."	* (1) *Dana* (78.43m/1981/DTU Aqua/DTU Aqua) * (2) *Gunnar Thorson* (56m/1981/Royal Danish Navy/National Environmental Research Institute)						* **New Regional research vessel** : Exploring work under progress on the feasibility of building a 45-50 meter vessel that can perform fish monitoring as well as other MSFD relevant work. **Waiting for funding.** * **New R/V *Aurora*** for the Aarhus University (28m, up to 14 persons on cruise for up to 7 days): The vessel will be able to handle CTD, Seismic equipment, sediment coring, ROVs up to 1000m depth and trawling until 200m depth. It fits two 20' containers on deck. Ship expected to be in operation from Q3 2014.
ESTONIA	Estonian Research Infrastructures Roadmap 2010	(Extract from page 25/76) " Tallinn University of Technology owns a research vessel SALME, which was renovated and newly equipped in 2009 in the frames of a R&D infrastructure program project "Observatory for the Coastal Zone Environment". The renovated research vessel SALME will be operational for about 15 years. In order to maintain the high quality of marine research after this period, it is necessary to start with the design and building of a new research vessel in 2020. The research vessel, which could belong to a new series of European regional research vessels, has endurance and capabilities to work in the open sea areas and dimensions (length 32-35 m long, draught 2.5 m) to guarantee its cost-effective use and work in the coastal waters. It is planned to establish a system to ensure quality based access to the research vessel and equal financial conditions for all research groups. An inter-institutional steering group will produce a research vessel development plan (including initiation of the new research vessel project), set up the rules for applying ship time, find resources for covering basic expenses of the infrastructure.		* (1) *Salme* (31m/1974, renovated in 2009 and operationnal until about 2024/TUT/TUT) ***** Renewal announced in 2020 in the Estonian RI roadmap*****				* (1) Towed undulating vehicle carrying CTD probe and 2 fluorometers (Chl a and phycocyanin); additional sensors can be added	* **Renewal of R/V *Salme*** : Preliminary plan 2010 – New regional Baltic Sea research vessel included in the Estonian Research Infrastructures Roadmap 2011-2014 – Planning phase to define research vessel users and management, principles of access and funding. 2015-2019 – Design phase to define functionality of the research vessel, design, heavy equipment, possible funding schemes for construction. 2020-… – Construction
FAROE ISLANDS	No national roadmap explicitly including RVs and associated equipment			* (1) *Magnus Heinason* (44m/1978/Government of the Faroe Islands/FAMRI)					* **Renewal of R/V *Magnus Heinason*** : building of a new research vessel in preparation
FINLAND			* (1) *Aranda* (59.80m/1989/SYKE/SYKE)						
France	Research infrastructures Roadmap 2012-2020 Evolution plan of the French Oceanographic Fleet presented in 2013 to the Ministry of Higher Education and Research	(Extract from page 19/47) "Target n°3: To ensure the sea worthiness of the ocean research fleet"	* (1) *L'Atalante* (84.60m/1990/Ifremer/Genavir) * (2) *Marion Dufresne* (120.50m/1995/IPEV/CMA-CGM) * (3) *Pourquoi pas?* (107.60m/2005/Ifremer/Genavir) * (4) *Thalassa* (74.50m/1996/Ifremer and IEO/Genavir) ****Major refit in 2017 for extension to multipurpose missions - Waiting for funding**** * (5) *Le Suroit* (56.34m/1975/Ifremer/Genavir) ****Decommissioned in 2021 - Renewal waiting for funding****	* (1) *Antea* (36.00m/1995/IRD/Genavir)	* (1) ASTERx (3000m/-/Ifremer/Genavir) * (2) IDEFx (3000m/-/Ifremer/Genavir)	* (1) Nautile (6000m/1984/Ifremer/Genavir)	* (1) Victor 6000 (6000m/2000/Ifremer/Genavir)	* (1) 3D HDTV Camera (-/-/Ifremer/Ifremer/Towed camera systems * (2) SCAMPI (6000m/-/Ifremer/Genavir/Towed camera systems)	* **New Hybrid ROV (2500m)** : Deployable from costal RVs without dynamic positioning. Construction underway, delivery to science **in 2015** * **Renewal of R/V *Le Suroit*** : multipurpose Regional RV. Construction in 2018-2019 and operational for research in 2020. **Waiting for funding.** * **New deep water AUV (6000m)** : construction in 2016-2017. **Waiting for funding**
GERMANY	The German national roadmap for research infrastructures does not include RVs and associated equipment. Other relevant documents are: 1) Recommendations for the future development of the German Marine Research Fleet (Wissenschaftsrat, 2010) 2) The German research fleet requirements over the next decades; Strategy paper. Edit. Weinheim Wiley, 2008		* (1) *Maria S. Merian* (94.80m/2006/State of Mecklenburg Vorpommern, IOW/DFG) * (2) *Meteor* (97.50m/1986/BMBF/DFG) * (3) *Polarstern* (118.00m/1982/BMBF/AWI) *****Renewal funded, see new *Polarstern II****** * (4) *Sonne* (97.94m/1969/RF Forschungsschiffahrt GmbH/=) ***** Renewal funded, see new *Sonne****** * (5) *Poseidon* (60.70m/1976/State of Schleswig-Holstein, Germany/GEOMAR) *****Renewal funded, see new *Poseidon II****** * (6) *Walther Herwig III* (64.50m/1993/Federal Ministry for Consumer Protection, Food and Agriculture/Federal Agency of Agriculture and Food, Hamburg)	* (1) *Alkor* (54.59m/1990/State of Schleswig-Holstein/GEOMAR) * (2) *Heincke* (54.59m/1990/BMBF/AWI) * (3) *Solea* (42.70m/2004/Federal Ministry for Consumer Protection, Food and Agriculture/Federal Agency of Agriculture and Food, Hamburg) * (4) *Elisabeth Mann Borgese* (57m/1987/ State of Mecklenburg Vorpommern/IOW) **** ex Schwedeneck of German Navy, converted in 2011 to a multipurpose research vessel****	* (1) ABYSS (6000m/2008/GEOMAR/GEOMAR) * (2) Bluefin 21 (3000m/2003/AWI/AWI) * (3) SEAL (5000m/2006/MARUM/MARUM)	* (1) JAGO (400m/1989/GEOMAR/GEOMAR)	* (1) Cherokee (6000m/-/MARUM/Research Center Ocean Margins) * (2) Kiel 6000 (6000m/2007/GEOMAR/GEOMAR) * (3) Quest 5 (4000m/2003/MARUM/Research Center Ocean Margins) * (4) PHOCA (3000m/2010/GEOMAR/GEOMAR)	* (1) AWI-OFOS (-/-/AWI/AWI/Ocean Floor Observation System) (Towed camera systems) * (2) Towed body VD500-E (2000m/Towed vehicles with payload)	* **R/V *Sonne* (106 m)** : Contract for the construction signed in July 2011, construction underway and delivery to science planned October 2014 * **R/V *Polarstern II* (ice breaker)** : Scientific-technical expert committee (WTF) recently set up to define the scientific requirements of the Polarstern II, follow its implementation during the design and construction phase. A moonpool of the size 4 * 4 m shall be the main technical innovation, to deploy sensitive devices directly under the ice (including deep-sea drilling in ice-covered waters by a removable drilling rig). Planned timeline: - May 2013: opening of a tender for the future ship operator and assignments for tender beginning of 2014; - Beginning of 2015: opening of a European tender for the final design and construction of the vessel; - Commissioning planned for mid of 2019, with first research expeditions end of 2019. - March 2015: assignments for tender; - Calculated time to construct the vessel : 3 years; * **R/V *Poseidon II*** : Renewal granted, preparation for design study are ongoing
GREECE	No national roadmap explicitly including RVs and associated equipment	N/A		* (1) *Aegaeo* (61.50m/1985/Hellenic Centre for Marine Research/HCMR) * (2) *Philia* (26m/1985/HCMR - Hellenic Centre for Marine Research/HCMR)		* (1) Thetis (610m/-/HCMR/HCMR)	* (1) Max Rover (2000m/-/HCMR/HCMR) * (2) Super Achilles (1000m/-/HCMR/HCMR)		* **Renewal of R/V *Aegaeo*** : Budget request of 50 M€ to the Greek government for the building a new research vessel. **Waiting for funding.**
GREENLAND	No national roadmap explicitly including RVs and associated equipment			* (1) *Paamiut* (58.6m/1971/Greenland Institute of Natural Resources/Deep Sea Fishing) * (2) *Sanna* (32.00m/2012/Greenland Institute of Natural Resources Fishing and Research)					
ICELAND			* (1) *Arni Fridriksson* (69.90m/2000/Government of Iceland/Marine Research Institute/=) * (2) *Bjarni Saemundsson* (56.00m/1970 partly rebuilt 2002/Government of Iceland/Marine Research Institute/=)		* (1) Gavia (2000m/2002/Hafmynd/Hafmynd)				
IRELAND	No national roadmap explicitly including RVs and associated equipment		* (1) *Celtic Explorer* (65m/2002/MI/MI)	* (1) *Celtic Voyager* (31m/1997/MI/MI)			* (1) Holland I (3000m/2008/MI/MI) * (2) ROVlatis (1000m/2009/University of Limerick/Mobile & Marine Robotics Research Centre)	* (1) 2700 metre deepwater camera system	* **On R/V *Celtic Voyager* :** Upgrade of Multibeam system in 2014 * **On R/V *Celtic Explorer* :** Installation of Deepwater Multibeam in 2015, and replacement of existing *Celtic Explorer* EM1002 with high resolution multibeam system in 2015

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ITALY	"Documento Strategico per il Mare" adopted by the Ministry of Education, University and Research (MIUR). Engligh summary available herewith.	English summary of the Italian position paper "The development of the marine research in Italy - Ten-year strategy for the creation of an infrastructural and programmatic support to the marine research in Italy"	* (1) *Italica* (130m/1981/DIAMAR/Geolab S.R.L) * (2) *OGS-Explora* (72.63m/1973/OGS/OGS) * (3) *Urania* (61.30m/1992/SO.PRO.MAR. Spa/CNR)	* (1) *Dallaporta* (35.30m/2001/-/CNR) * (2) *Minerva1* (44.80m/2002/SO.PRO.MAR/=) ex-*Universitatis*	* (1) SARA (1000m/2002/Ente per le Nuove Tecnologie, l'Energia e l'Ambiente (ENEA)/ENEA)				The RVs related investments required in a 10-year period and described in the under-construction roadmap are based on : * the short term refit of R/V *OGS-Explora* (Mediterranean and Oceanic-polar area) and *Urania* (Mediterranean area); * the exploitation of a **new research vessel with polar capacity described in the RITMARE flagship project and to be constructed in collaboration with the Italian Navy**.
LITHUANIA			* (1) *Vejas* (55.60m/1980/Center of Marine Research/=)						* **New Research Vessel (38.7m)** for the Klaipeda University: construction in 2014. Funding in the frame of the Marine Valley programme
NETHERLANDS			* (1) *Pelagia* (66.00m/1990/Koninklijk Nederlands Instituut voor Onderzoek der Zee (NIOZ)/NIOZ) * (2) *Tridens* (73.54m/1990/The Ministry of Agriculture, Nature Conservation and Fisheries/The Ministry of Agriculture, Nature Conservation and Fisheries			* (1) C-Explorer (100m/-/U-Boat Worx submersibles/=)			
NORWAY	Scientific rationale for the renewal of the research vessels - 2006 Roadmap for research infrastructure managed by the Norwegian Research Council for investments in new scientific instruments and equipment	"Because of the Government's clear strategy for the Arctic region it has become evident that Norway has huge challenges in developing knowledge and understanding of our ocean areas in order to be recognized as a leading nation within marine science, as a basis for the management of resources, as a basis for a sustainable, ecosystem approach based management of the resources and the ocean environment, and in order to predict the effects of climate change which has started in our time. With this background in mind, **a scientifically based priority list of research vessels which should be built by 2015 has been developed**. **Three vessels are proposed: One large, icegoing research vessel, one regional vessel for Northern Norway and one regional vessel for Southern Norway in the same order of priority.** The report also contains an investment plan for the period 2017-2015 and a recommendation for which vessels to replace in order to free up funds to cover the manning and operation of the new vessels. It is also recommended that the research and monitoring tasks for the new vessels shall be prioritized and managed by the National Cruise Committee and not by individual institution alone."	* (1) *G.O.Sars* (77m/2003/IMR/IMR) * (2) *Dr. Fridtjof Nansen* (56.80m/1993/Ministry of Foreign Affairs/IMR) ***Renewal funded, see new *Dr. Fridjof Nansen* *** * (3) *Helmer Hanssen* (63.80m/1992/University of Tromsø/Troms Offshore) * (4) *Johan Hjort* (64.40 m/1990/IMR/IMR) * (5) *Lance* (60.80m/1978/NPI/NPI) ***Renewal funded, see new R/V *Kronprins Haakon* ***	* (1) *Hakon Mosby* (47m/1980/IMR/IMR) *** **On-going process to seek funding of its replacement** *** * (2) *G.M. Dannevig* (27,85m/1979/IMR/IMR)	* (1) Hugin 3000 (3000m/2008/Norwegian Defence Research Establishment and IMR/=)		* (1) Aglantha (2000m/1998/University of Bergen (UIB)/UIB)	* (1) MESSOR (3000m/-/IMR/IMR/Towed vehicles with payload) * (2) Deep Water Camera (CAMPOD) (3000m/-/IMR/IMR/towed camera systems) * (3) Towed body VD500-E (1500m/-/IMR/IMR/Towed vehicles with payload)	* ***R/V Kronprins Haakon* (Polar 10 Icebreaker, 100.00 m):** Ownership and usage of the new Polar RV (multipurpose with ice breaking capacity) will be shared between the Norwegian Polar Institute (30%), the University of Tromsoe (50%) and IMR (20%). The shipyard selection is planned in November 2015 and the RV *Lance* will be phased out when the new icegoing vessel is operational in 2016. * **R/V *Dr. Fridtjof Nansen*** (working on foreign aid programs in Africa, Asia and Latin-America) : Design on-going and yard contracting planned end 2013. This new vessel is expected to be operational in 2016. * **Replacement of R/V *Haakon Mosby*** : process started to seek funding for the replacement. Start of the replacement project in 2014 at the earliest, with a new vessel in operation in 2018-19 at the earliest. * **Deep water ROV NORMAR** included in the roadmap for research infrastructure managed by the Norwegian Research Council. **Waiting for funding**. The deep water ROV NORMAR will be a national infrastructure which will be designed such that it can operate in deep waters from the large vessels such as RVs *G.O. Sars* and *Kronprins Haakon* , but also to be modular such that it can be reconfigured in a lighter version to be used in shallow waters from smaller vessels such as RVs Johan Hjort and Håkon Mosby. The applicant is University of Bergen, and IMR and the University of Bergen together will have technical support for the ROV.
POLAND	No national roadmap explicitly including RVs and associated equipment			* (1) *Baltica* (41.00m/1993/Sea Fisheries Institute and Institute of Meteorology and Water Management/MIR) * (2) *Oceania* (48.93m/1985/Polish Academy of Sciences/IO-PAS) **To be decommissioned in 2021/2023 - Ongoing conceptual work for its renewal **					* ***R/V Oceanograf*** (catamaran, 40 m long) for the Institute of Oceanography, Universoty of Gdansk : construction of a Regional class vessel started in May 2013, by NAUTA Shipyard and Crist Shipyard, Gdansk (Poland). Delivery to service expected in Spring 2014. * **Renewal of R/V *Oceania*** : ongoing internal survey on requirements for this new vessel, its research capacity and capability. The new vessel has to retain the current ability to operate in polar regions, with reinforced hull. It will be powered by conventional engine as the main drive, with extended sea autonomy, better capability for operations in high seas, bigger working deck and lab area. **Planned to be nationally funded in a perspective of 10 years.**
PORTUGAL			* (1) *NRP "Almirante Gago Coutinho"* (68.20m/1985/Marinha de Guerra Portuguesa/Instituto Hidrográfico) * (2) *NRP "D.Carlos I"* (68.70m/1989/Marinha de Guerra Portuguesa/IHPT, Instituto Hidrográfico - Hydrographic Surveying Vessel Task Group)	* (1) *Noruega* (47.50m/1978/IPIMAR/IPIMAR); * (2) *Arquipelago* (25.00 m/1993/Autonomous Region of Azores/DOP-UAç)		* (1) LULA1000 (1000m/2012/Rebikoff-Niggeler Foundation/=)	* (1) Luso (6000m/2008/Ministry of Defense/EMEPC))		* **Renewal of R/V *Noruega*** : Possible renewal of the RV *Noruega* in the near future.
ROMANIA	No national roadmap explicitly including RVs and associated equipment	N/A	*(1) *Mare Nigrum* (82m/1971/GeoEcomar/GeoEcomar) ****Renewal waiting for a funding scheme****				* (1) ROV Vector M5 (1000m/-/GeoEcomar/GeoEcomar)		* **Replacement of R/V *Mare Nigrum*** : Pre-feasibility study made for a new RV building (Global/Ocean class) and **funding scheme to be defined in the near future (public or public & private partnership)**.
SPAIN	National roadmap under construction		* (1) *Cornide de Saavedra* (66.70m/1972/IEO/IEO) * (2) *Hesperides* (82.50m/1991/Armada Espanola/CMIMA-CSIC) * (3) *Sarmiento de Gamboa* (70.50m/2007/Unidad de Tecnología Marina/CMIMA-CSIC) * (4) *Miguel Oliver* (70.00m/2007/Ministerio de Agricultura, Pesca y Alimentación/Secretaria General de Pesca Marítima)	* (1) *Ángeles Alvariño* (40.00m/2012/IEO/IEO) * *(2) Garcia del Cid* (37.20m/1977/CSIC/CMIMA) * (3) *Ramón Margalef* (46.70m/2011/IEO/IEO) * (4) *Vizconde de Eza* (53.00m/2000/Secretaria General de Pesca Marítima/=)			* (1) Liropus 2000 (2000m/-/IEO/IEO)		* **Renewal of R/V *Cornide de Saavedra*** has been postponed. IEO cruise activity on stock assessment has been move entirely (almost 9 months/year) to R/V *Miguel Oliver* owned by the fisheries Ministry and not accessible for academic marine research.
SWEDEN	No national roadmap explicitly including RVs and associated equipment		* (1) *Oden* (107.80m/1988/Swedish Maritime Administration/Swedish Polar Research Secretariat) * (2) *Argos* (61.17m/1974/Swedish National Board of Fisheries/=)	* (1) *Skagerak* (38.70m/1968/Göteborg University/The Sven Lovén Centre for Marine Sciences) ***Renewal funded, see new Research Vessel 2015***					* New Research vessel 2015 : The University of Gothenburg ordered in November 2013 a new vessel for education and research (45 m long, crew of 5 persons and place for about 20 scientists and students). It will replace the R/V Skagerak and its delivery is planned for March 2015
TURKEY	The National Marine Research Strategy (TUDAS) initiated in 2011 is **under construction**. It will include a current status, renovation and operational issues of RVs and underwater equipment.			* (1) *Bilim* (40m/1983/IMS/IMS) * (2) *Marmara* (41.2m/commissioned in 2013/TUBITAK) * (3) *Alemdar-2* (63m/University of Istanbul/=) ****Refitted from a tugboat in 2012**** * (4) *K. Piri Reis* (36m/1978/IMST/IMST)		* (1) CAROLYN (50m/2000/Institute of Nautical Archaeology/=)			
UNITED KINGDOM			* (1) *Discovery* (99.7m/2012/NERC/NERC) * (2) *Endeavour* (73.00m/2003/CEFAS/CEFAS) * (3) *Ernest Shackleton* (80.00m/1995/NERC, BAS-uk/NERC, BAS-uk) * (4) *James Clark Ross* (99.04m/1991/BAS-uk/BAS-uk) * (5) *James Cook* (89.50m/2006/NERC/NERC)	* (1) *Atlantic Explorer* (51.00m/1987/BIOS/BIOS) operated by the British Overseas Territories Government of Bermuda * (2) *Corystes* (52.50m/1988/AFBI/AFBI) * (3) *Prince Madog* (34.09m/2001/P&O Maritime Ocean Sciences/=)	* (1) Autosub 3 (1600m/1996/NOCS/=) * (2) Autosub6000 (6000m/2007/NOCS/=) * (3) Autosub Long Range (6000m/2007/NOCS/=) * (4) HyBIS (6000m/-/NOCS/=)		* (1) Isis (6500m/2003/SPRI/=) * (2) Saab Seaeye Falcon (1000m/Plymouth University's Marine Istitute/=)	* (1) SHRIMP (6000m/-/NOCS /=/Towed camera systems) * (2) Bridget (600m/-/NOCS/=/Towed vehicles with payload) * (3) TOBI (6000m/-/NOCS/=/Towed side scan sonars)	* **Building of one Autosub6000 (6000m)** * **Building of two AutosubLong Range (6000m)**