



Infrastructure name	ROV KIEL 6000
Code	UHD QUEST 7, Schilling Robotics
Owner/Institution	Helmholtz Centre for Ocean Research Kiel GEOMAR
Manager	Dr. Friedrich Abegg (fabegg@geomar.de)
Equipment type	Class III Work Class ROV
System description	electrically driven ROV, 6000 m rated, electric winch, A-frame mounted LARS, no TMS
WEB LINK	www.geomar.de/go/rovkiel6000
WEB LINK TECH SPECS	
LEXI Data Base link	http://www.lexiinfobase.eurocean.org/sub.jsp?load=281&a=1336464551407
Vessels normally used	Global and Oceanic R.Vs., Regional vessels in config. 1. Already adopted to: Sonne, Meteor, Maria S. Merian, Polarstern, L'Atalante, James Cook, Celtic Explorer (config. 1)
Ship requirements	DP 1. Config. 1 (400 m diving depth): deck space for 2 x 20' container. Config. 2+3: 3 to 5 x 20' container with one approx. 30 t (winch)
Technical requirements	10 t SWL A-frame, lift rope from top of frame into center of LARS (SWL min. 5 t)
Power	
Frequency	50 Hz
Voltage	400 VAC
KVA	
Max Amps	ROV 350 A, 380-400V, config. 1: capstan plugged into work/power container. Config. 2+3: additionally second 350 A, 380-400V for winch
Other power requirements	
Hydraulic	own electrically driven deck unit, plugged into work/power container
Pressure	
Flow rate	
Compressed air requirements	yes, as dry as possible
Cooling water	yes, preferentially fresh water for winch
Subsea positioning requirements	
Compatible USBL systems	preferentially IXSEA Posidonia, ORE BATS, Sonardyne
Vessel GPS Feed or other requirement	yes, tbd.
Networking requirements	yes, tbd.
No. of System configurations possible	3, one shallow water (down to approx. 400 m), two for full ocean depth
Configuration 1	shallow water configuration using vessel's A-frame, 400 m umbilical with capstan, 2 x 20' containers on deck, 2 containers stored elsewhere on deck or shore

Configuration 2	deep water, using vessels A-frame with 30 t winch, 3 x 20' containers on deck, 2 empty containers stored on shore
Configuration 3	deep water, using vessels A-frame with 30 t winch, 3 x 20' containers on deck, 1 empty container stacked on work/power container, 5th container stowed on deck (spares)
Configuration 4	
Deck Layout Drawing	
Configuration 1	tbd., depending on platform
Configuration 2	tbd., depending on platform
Configuration 3	tbd., depending on platform
Configuration 4	
System weight/COG in each configuration	
Configuration 1	vehicle 3.5 t, LARS 1.2 t, config. 1: umbilical sheave 400 kg, config. 2 + 3: umbilical sheave 800 kg
Configuration 2	weight in operation 30 t
Configuration 3	weight in operation 59 t
Configuration 4	weight in operation 65 t
Number of containers/Items, Footprint Area required	
Configuration 1	2 x 20' containers, vehicle with working space 5.5 m length and 3.5 m width, height 2.4 m, approx. 2.5 x 2.5 for capstan, approx. 2.5 x 5 m auxiliary space on deck, space in cargo hold (spares)
Configuration 2	3 x 20' containers, vehicle with working space 5.5 m length and 3.5 m width, height 2.4 m, approx. 2 x 5 m auxiliary space on deck, space in cargo hold (spares)
Configuration 3	5 x 20' containers, vehicle with working space 5.5 m length and 3.5 m width, height 2.4 m, approx. 2 x 5 m auxiliary space on deck
Configuration 4	
Deck securing arrangements	
Configuration 1	2 containers twist-locked into standard iso 20' + chain ratched down, vehicle and auxiliaries strapped to deck or guardrail, capstan strapped on top of container or on deck
Configuration 2	3 containers twist-locked into standard iso 20' + chain ratched down, vehicle and auxiliaries strapped to deck or guardrail, spares strapped in cargo hold
Configuration 3	4 containers twist-locked into standard iso 20' + chain ratched down, 1 empty container stacked on another using twist lock connectors and chains, vehicle and auxiliaries strapped to deck or guardrail
Configuration 4	
Deck strength/Deck loading	
Configuration 1	vehicle 3.5 t, control container 8.5 t, work/power van 13 t, auxiliaries on deck approx. 2.5 t, spares downstairs approx. 2.5 t

Configuration 2	vehicle 3.5 t, control container 8.5 t, work/power van 13 t, winch 30 t, auxiliaries on deck approx. 2 t, spares downstairs approx. 2 t
Configuration 3	vehicle 3.5 t, control container 8.5 t, work/power van with empty container stacked on top 16 t, winch 30 t, auxiliaries on deck approx. 2 t, container with spares approx. 5 t
Configuration 4	
Transportation requirements (total weight and number of loads)	
Configuration 1	35 t, 4 x 20', with 1 container being a high cube
Configuration 2	65 t, 5 x 20' whereas 2 containers are high cube and one high cube with heavy weight (30 t)
Configuration 3	65 t, 5 x 20' whereas 2 containers are high cube and one high cube with heavy weight (30 t)
Configuration 4	
V.A.T. + Customs clearance practice	t.b.d.
Mobilisation Details	
Typical Mobilisation duration	3 days
Typical Mobilisation cost	depending on harbour and ship's cranes
Typical Demobilisation duration	2 days
Typical Demobilisation cost	depending on harbour and ship's cranes
Insurance arrangements	
Own use	Own Use: Full commercial insurance policy. Covered for total loss only.
Barter	Barter: Full commercial insurance policy. Covered for total loss only. Assumption proper operation on all RVs.
Charter	Charter: Full commercial insurance policy. Covered for total loss only. Assumption proper operation on all RVs.
Co-operation	Cooperation: Full commercial insurance policy. Covered for total loss only. Assumption proper operation on all RVs.
Transportation insurance	Transportation Insurance: Yes, % rate based on value of vehicle
Technicians	
Number and type of technicians required to operate system in various scenarios	config. 1: 6 pilots/technicians config. 2 + 3 down to 4000m : 8 pilots/technicians config. 2 + 3 down to 6000m : 9 pilots/technicians
System payloads	
Total maximum payload	100 kg
Existing specific payloads	ORION 7PE, RigMaster, tool skid with 2 hydraulically driven drawers (one with a permanent sample basket), space for integrated or autonomous samplers, porch, Kongsberg oe14-500 HD Video camera, 2 x Kongsberg oe14-366 SD video cameras, Kongsberg oe14-208 d