

ULTRADEEP  
SOLUTIONS  
COMPANY PROFILE



UltraDeep Solutions specializes in design, construction and operations of World - Class UltraDeep Diving Support Construction Vessels and provision of subsea support services to the offshore Oil & Gas industry.



**OVERVIEW**

UltraDeep solutions onshore and offshore expert teams provide top class quality offshore - related services / knowledge with excellent high standards to our client. Our established network of offshore vessels and personnel are ready to be mobilized when and where your project needs them. We pride ourselves on our excellent client service and rapid response times. Our experienced teams are available to support your worldwide operations.

**WHY US**

**Highly experienced** team which has more than 37 years of industry experience.

**Team members** played a vital role in major worldwide project completions for Hyundai, Shell, Exxon, British Petroleum, ONGC, Reliance, Total, Petro Canada, Stena and Collexip, amongst many others.

**Business philosophy** provides most profitable and efficient solutions to clients.

**One stop solutions** from vessels design, consultancy, chartering, supervising to various subsea support services including new offshore installations, construction and Inspection Remedial Maintenance (IRM).

**Vast global networks** of vessels and offshore personnel that can deliver the projects worldwide.



**SHIP BUILDING**

We design and build "STATE-OF-THE-ART" "ULTRADEEP HIGH TECH ADVANCED VESSELS" which will be one of the largest and most advanced DP3 vessels in the offshore industry. Our vessels are designed and built for the worldwide market, including Asia Pacific, African, South American and the Gulf of Mexico markets.

**SHIP CHARTERING**

We have enormous resources of Diving Support Vessels ready for charter with or without provision of subsea support services.

**SHIP BUILDING CONSULTANCY**

Services include :

1. Shipyard evaluation and selection
2. Technical specifications and contracts assistance.
3. Ship design and equipment review
4. Integration of Saturation System
5. Site supervision and engineering
6. Commissioning and trials

**SUBSEA SUPPORT SERVICES**

UDS provides a full range of subsea services including activities supporting new offshore Installation and Construction, as well as IRM ( Inspection Remedial Maintenance) of existing offshore production and pipeline facilities. All subsea works are performed using shallow Air and Deep Saturation Diving techniques aided by Remote Operated Vehicles ( ROVs). Certain projects in deeper waters could be engineered for ROV intervention alone.

Services include:

- Subsea project evaluation and solutions
- Subsea project engineering and procurement
- Subsea project supervision and inspection
- Subsea installation , construction
- Subsea repair & maintenance
- Offshore hyperbaric welding

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**SHELDON HUTTON**  
CEO - ULTRADEEP SOLUTIONS

Sheldon Hutton founded Ultra Deep Solutions Ltd in June 2014. Mr. Hutton has more than 35 years of industry experience. He has been diving since year 1979 and was promoted to Offshore Construction Superintendent at year 1996. Mr. Hutton was one of the youngest OCS in the world. His experience in the offshore industry spans both in Upstream and Downstream positions, including companies like Technip, Collexip, Stena, Global Industries and Oceaneering.

Mr. Hutton was one of the pioneers of Kreuz Subsea and developed Kreuz from its infancy in July 2008 into a multi-million dollar company. (Kreuz was established in July 2008 as a provider of integrated offshore subsea services to the oil & gas industry, Kreuz was listed on the Catalyst Board of the Singapore Exchange Securities Trading Limited ("SGX-ST") in July 2010 and successfully transferred to the Main Board of the SGX-ST in October 2012. In March 2014, Kreuz was acquired by Headland Private Equity Fund for \$3445.6m ) He owned **10% of company shares before publication and was diluted to 5.8%**.

Mr. Hutton was the Vice President - Offshore Installation with Kreuz Holdings. In this role, he was responsible for external tenders, offshore project execution, client relations management, vessel construction management. In line with the direction of the company, he was also involved in the company's strategic planning in the offshore industry. Mr. Hutton played a vital role in major worldwide project completions for Hyundai, Shell, Exxon, British Petroleum, ONGC, Reliance, Total, Petro Canada, PTT, amongst many others. Through these successful projects and collaborations with oil majors, he is widely recognized in the offshore.

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**SCOTT HUTTON**  
VP INSTALLATIONS

Scott Hutton is an Offshore Construction Superintendent and has 35 years of experience in the industry. He has been working as Offshore Construction Superintendent with Kreuz Subsea Pte Ltd for over 5 years.

Mr. Hutton is instrumental in developing and pioneering methods for providing cost effective and successful completions of various kinds of subsea construction and installation works, enabling oil companies and producers to get online faster and safety. With his vast experience and knowledge in hyperbaric Welding, Flex lay, FPSO installation, Hot Tap procedures and day to day offshore construction experience, Scott Hutton will play a vital role in constant development of innovative procedures for UltraDeep Solutions. His experience in the offshore industry spans both in upstream and Downstream positions, including companies like Technip, Global Industries and Kreuz.



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**JITHU SUKUMARAN NAIR**  
GENERAL MANAGER - SHIP BUILDING & DESIGN

Jithu Sukumaran Nair is a Marine Engineer with more than 9 years of experience in the Merchant vessels, Offshore Subsea and DP3 shipbuilding Industry. Prior to joining Ultra Deep, Mr. Jithu was the Project Manager for Kreuz Subsea, Singapore for their new build DP2 DSCV and involved in other major shipbuilding and DP conversion projects with Technip, Harkand etc.

Mr. Nair has an Honors in Mechanical Engineering, specialized in Marine Engineering, Naval Architecture and Shipbuilding. He is a Graduate Lifetime member of the Institute of Marine Engineer's India and a researcher in the offshore industry. He also holds various certifications related to offshore and shipbuilding industry. His vast knowledge and various certifications in the offshore and shipbuilding Industry will be an asset to Ultra Deep. Mr. Nair will be responsible for UDS new builds, chartering and marketing of the vessels.

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**JOEY TEO**  
GENERAL MANAGER

Joey Teo founded UltraDeep Solutions with Mr. Sheldon Hutton in June 2014. Ms. Joey has an Honours Degree in Management - Marketing. Ms. Joey has vast experience in Multinational Company including Kreuz Holdings, Unicredit Bank and CHEP. She was one of the pioneers of Kreuz Holdings and development Kreuz from its infancy in October 2008 into a multi-million dollar company. Joey Teo will be in charge overall management of the company.

# SUBSEA INSTALLATIONS SERVICES





#### Provision of Turnkey Subsea Solutions from Dive Support Vessels (DSV)

Armed with an experienced hands on team of professional, UDS offers customers innovations Subsea solutions on Turnkey basis. Equipped with new dive systems and offshore vessels, UDS guarantees the customers a final finished product utilizing its own resources and project management team.



#### Subsea Dive Support Consultations

37 years of experience in the industry provides consultations & solutions for all subsea dive support activities  
 Diving project evaluation and solutions  
 Diving project engineering and procurement  
 Offshore project supervision and inspection



#### Underwater Inspection , Repair and Maintenance (IRM) Services

Steel + concrete structures & pipelines are inspected for damages, corrosion, stress defects and design residual fabrication flaws by visual & non destructive testing (NDT) techniques.  
 Damage , flaws & defects are reported & logged remedial action follows.  
 Maintenance is an on going process in the life of an offshore oil field & includes activities such as marine growth removal, seabed corrections, pipeline stabilization & similar.

#### Subsea Diving and ROV Services

Services provided includes:

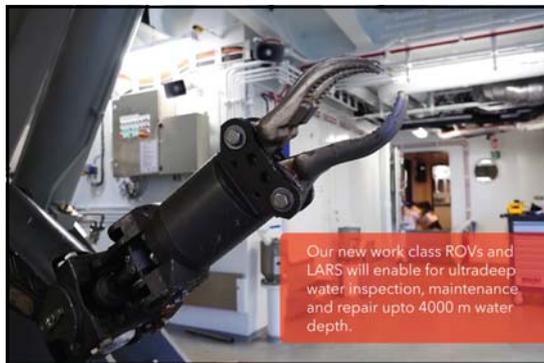
- Spool tie-ins
- Risers, spool & riser installations.
- Pipeline & stinger inspections.
- Pipeline crossing corrections.
- ROV inspections, Maintenance and Survey.



# ROV SERVICES



250 and 150HP WROVs upto 4000 m water depth.  
Active Heave Compensated LARS from KONGSBERG and ROLLSROYCE for 3000 to 4000m water depth.



Our new work class ROVs and LARS will enable for ultradeep water inspection, maintenance and repair upto 4000 m water depth.



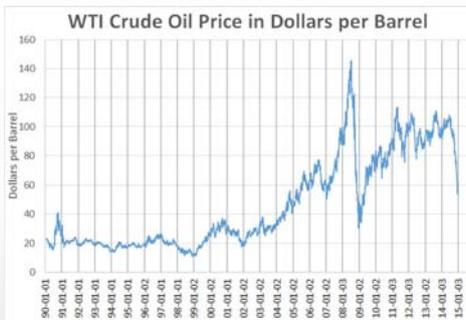
We have ordered 4 X SCHILLING WROVs and KONGSBERG LARS to deliver the latest technology to our clients.

## LIST OF DNV CLASS DIVING VESSELS

Vessel Name	Vessel Class Notation	Vessel Build Date
SEVEN OSPREY	SF DSV-III DYNPOS-AUTRO	14-Mar-84
BIBBY POLARIS	SF HELDK DSV-III ED DYNPOS-AUTRO DK(+)	7-May-89
KUMIK TOPKI ISMAYIL	SF DSV-I and III ECU DYNPOS-AUTR	15-Sep-89
BALMORAL 16221	Column-stabilised Drilling Unit Oil Production Unit SF HELDK CRANE F-AM POSMOOR	1-Aug-86
SEA FALCON	ICE-1C Supply Vessel SF HELDK DSV-III DYNPOS-AUTR	1-Jun-75
BAR PROTECTOR (DSV)	DSV-III	1-Jan-81
OCEANIC INSTALLER	HELDK DSV-III ED DYNPOS-AUTR	26-Mar-84
KREUZ INSTALLER	SF HELDK DSV-III ED DYNPOS-AUTR	19-Jun-81
SEVEN PELICAN	SF HELDK DSV-I and III ED F-AMC DYNPOS-AUTRO	27-Dec-85
ALTUS OPTIMUS	Fire Fighter II SF HELDK DSV-III ED DYNPOS-AUTR	11-Jan-85
ALLIANCE	SF HELDK DSV-III ED DYNPOS-AUTR	9-Mar-84
SEVEN EAGLE	SF DSV-III ED DYNPOS-AUTR	1-Apr-97
SEAWELL	ICE-1B Supply Vessel SF HELDK CRANE DSV-I and III ED DYNPOS-AUTR-(A)	1-Mar-87
SAMUDRA SEVAK	Supply Vessel Fire Fighter I and II SF HELDK CRANE DSV-III ED DYNPOS-AUTR	30-Sep-88
P.M.S. MAYO	ICE-C Supply Vessel SF HELDK DSV-III ED DYNPOS-AUTR	17-Jun-87
MERMAID COMMANDER	ICE-C Supply Vessel SF HELDK DSV-III ED DYNPOS-AUTR	1-Dec-87
UNCLE JOHN	Column-stabilised Offshore Support Unit SF HELDK CRANE DSV-III ED F-A	15-Jun-77
WELLSERVICER	Supply Vessel SF HELDK CRANE DSV-III ED DYNPOS-AUTRO	28-Apr-89
SKANDI PATAGONIA	Fire Fighter I SF HELDK DSV-III ED DYNPOS-AUTR DK(+), HL2(B)	19-Oct-00
BIBBY TOPAZ	SF COMF-V(D)(C) HELDK-SH DSV-SURFACE and SAT ED DYNPOS-AUTR CLEAN	2-Nov-07
WYATT CANDIES	DSV-SAT DPS2	28-Feb-13
SEVEN DISCOVERY	ICE-1C HELDK-SH DSV-SAT ED DPS2	17-Nov-90
ALTUS EXERTUS	ICE-C HELDK DSV-SURFACE and SAT ED DYNPOS-AUTR	15-Apr-81
SKANDI ARCHIVER	ICE-C COMF-V(D) HELDK DSV-SAT ED DYNPOS-AUTR-(A) NAUT-AW CLEAN DESIGN DK(+)	11-Aug-07
SEVEN FALCON	SF COMF-V(3) HELDK-SH DSV-SURFACE and SAT ED DYNPOS-AUTRO NAUT-AW CLEAN DESIGN	23-Feb-11
WELL ENHANCER	Well Intervention Unit SF COMF-C(3) HELDK-SH CRANE DSV-SAT ED DYNPOS-AUTRO DK(+)	25-Aug-09
SHADAD	SPS Fire Fighter I COMF-V(D)(C) CRANE DSV-SAT ED DYNPOS-AUTR DK(+), COAT-PPC BIS	28-Feb-14
MERMAID ENDURER	COMF-V(D)(C) HELDK-SH DSV-SURFACE and SAT ED DYNPOS-AUTR NAUT-OSV(A) CLEAN DESIGN	27-Mar-10
ORMAND COMMANDER	ICE-C SF COMF-V(3) HELDK-S DSV-SAT ED DYNPOS-AUTR CLEAN DK(+), HL2(S)	2-Jun-06
TOISA PERSEUS	SF HELDK DSV-SAT ED DYNPOS-AUTRO DK(+)	8-Sep-98
TOISA PEGASUS	SF HELDK DSV-SAT ED DYNPOS-AUTRO DK(+)	21-Apr-09
TOISA PALADIN	ICE-C SF COMF-V(D) HELDK-S DSV-SAT ED DYNPOS-AUTR CLEAN DK(+)	13-Mar-08
HARKAND ATLANTIS	SF COMF-V(3) HELDK-SH CRANE DSV-SURFACE and SAT ED DYNPOS-AUTR CLEAN DK(+)	3-Mar-11
HARKAND DA VINCI	SF COMF-V(3) HELDK-SH CRANE DSV-SURFACE and SAT ED DYNPOS-AUTR CLEAN DK(+)	28-Sep-11
SBM INSTALLER	HELDK-SH CRANE DSV-SURFACE and SAT ED DYNPOS-AUTRO NAUT-OSV(A) CLEAN DESIGN BWN	27-Sep-13
THEBAUD SEA	Supply Vessel SF HELDK-S DSV-SAT ED DYNPOS-AUTR DK(+)	30-Sep-89
SKANDI SINGAPORE	I-C COMF-V(3) HELDK DSV-SURFACE and SAT ED DYNPOS-AUTR NAUT-AW CLEAN DESIGN DK(+)	6-Sep-11

## Newbuild SUBSEA VESSELS Worldwide

Type	2015	2016	2017	2018	Total
CLV	1	2	1	0	4
CON	6	11	5	0	22
DSV	3	7	5	1	16
Heavylift/Pipeline	4	0	5	1	10
LAYSV	2	7	2	0	11
LCV	5	2	4	0	11
MPSV	7	7	3	0	17
MSV	11	2	0	0	13
ROV	0	0	0	0	0
<b>Total</b>	<b>39</b>	<b>38</b>	<b>25</b>	<b>2</b>	<b>104</b>



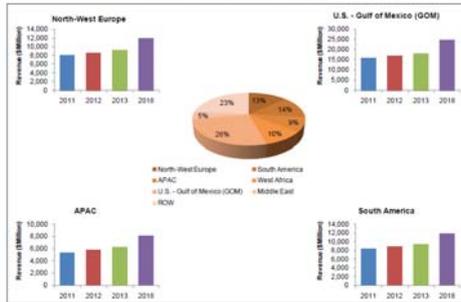
**U.S. - (GOM): OSV MARKET REVENUE (\$MILLION)  
& VESSEL COUNT (DEMAND), 2011 - 2018**

Particular	2011	2012	2013-e	2018-p	CAGR% (2013-2018)
Revenue	15,980.6	17,002.8	17,974.9	24,663.2	6.5
Vessel Count	571	578	604	868	7.5

e- Estimated, p - Projected  
Source: MarketsandMarkets Analysis

The market revenue of offshore support vessels in U.S. - (GOM) is estimated to grow at a CAGR of 6.5% to \$24,663.2 million by 2018. In terms of volume, offshore support vessel market is estimated to reach 868 by 2018, at the CAGR of 7.5% for the same period.

**OSV: MARKET REVENUE, BY GEOGRAPHY, 2011 – 2018 (\$MILLION)**



Source: Expert Interviews, MarketsandMarkets Analysis

**Strong growth in subsea hardware spend**

The chart shows a significant increase in worldwide expenditure on subsea hardware from 2009 to 2018. The total expenditure reached \$117 billion by 2018, representing an 83% increase over the previous five years.

- Worldwide expenditure to total \$117bn over the 2014-2018 period. (83% growth on the previous five years)
- 49% Subsea production hardware
- 36% SURF (subsea umbilicals, risers & flowlines)
- 15% Trunk pipelines

**World Subsea Hardware 2014-2018**

The map highlights regional expenditure on subsea hardware from 2014 to 2018. Asia is the largest market, followed by UK & Norway, Africa, S America, and N America.

- 40% Subsea production hardware
- 32% SURF (subsea umbilicals, risers & flowlines)
- 26% Trunk pipelines

# ULTRADEEP NEW BUILDS

## "THE RED CLASS" DP3 DPSV "ULTRADEEP INSTALLER"

Multipurpose Diving Support Vessel - OUTLINE SPEC.

Type: MT6027 DSCV (2382-01)  
Yard: CHINA MERCHANTS HEAVY INDUSTRY (SHENZHEN) CO., LTD.  
Delivery: TBN  
Owner: ULTRA DEEP BV



The vessel is a DP 3 Multipurpose Diving Support Vessel / SPS Code 2008, with an 24 man twin bell saturation system for depth down to 300 meter. The vessel is equipped with diesel electric frequency controlled propulsion, highly efficient azimuth thrusters, dynamic positioning system, offshore cranes and a large platform deck for construction duties. MT6027 is an optimized hull design with excellent characteristics for deployment worldwide.



The vessel is designed according to the class notation "Clean Design" and SPS Code and high focus is given to low fuel consumption, which reduces emission to the environment. FO tank arrangement according to "Clean Design" and MARPOL - oil fuel tank protection.

The vessel is designed to fulfill following duties:  
Diving operations with a 24 man SAT dive system rated at 300 msw, ROV and seabed construction work.

The vessel is a DP 3 Multipurpose Diving Support Vessel available for deployment worldwide.

### // TECHNICAL SPECIFICATION

<p><b>DIMENSIONS &amp; CAPACITIES:</b></p> <p>Length o.a. 142.00 m Length b.p.p. 132.40 m Beam o.a. 27.00 m Depth main deck 11.00 m Depth shelter deck 14.30 m Max. draft 8.00 m Block deck area (total) 2716 m<sup>2</sup> Cant. deck 450 m<sup>2</sup> @ 2x2m<sup>2</sup> Main deck 1500 m<sup>2</sup> @ 10m<sup>2</sup></p> <p>Fresh water 11500 m<sup>3</sup> Fuel oil 3000 m<sup>3</sup> Water (ballast) 18000 m<sup>3</sup> Air Handling 1400 m<sup>3</sup> Lubricating oil 35 m<sup>3</sup> Machinery oil 100 m<sup>3</sup> Grease 10000 kg Net tonnage 1100 Gross tonnage 1800 Deadweight approx. 4000 t Ball. Capacity, ROV &amp; LARS (in equipment and Tool Chest/Tool equipment)</p> <p><b>CLASSIFICATION:</b> DPV300 + 141, 80, SPS, DPV SAT Diving System SAT NAUTICOSAT CLEAN DESIGN, DYNAMIC POSITIONING CONTROL SYSTEM, CLEAN DESIGN, HELIX SH (D&amp;V) B15, Winterized Basic</p> <p><b>MAIN MACHINERY &amp; THRUSTERS:</b></p> <p>Main generators: Wärtsilä 6L32 &amp; x 3230 kW Emergency generator: 1 x 1000 kW Emergency diesel generator: 1 x 1230 kW Bow thruster: 2 x 1920 kW Aft thruster: 2 x 1920 kW Bow stern thruster: 2 x 1920 kW</p> <p><b>MAIN DECK MACHINERY:</b></p> <p>Main crane: 1 x 400 t @ 25.5 m radius (Subsea), Fully electric AHC Offshore Mast crane (offshore 90°), dual fall with wire capacity for 20000 t @ 180 m height, single fall down to 3200 m water depth, arranged with permanent lifting and remote diagnostic system. Auxiliary Crane: 1 x 40 t @ 15 m radius (Subsea) AHC knuckle boom crane, with wire capacity for 4000 t @ 180 m height, with auto, permanent lifting and remote diagnostic. Deck crane: 2 x 50 t @ 18 m radius Tugger winches: 4 x 15 t</p> <p><b>PERFORM CAPACITY:</b></p> <p>Max speed approx. 13 knots Normal speed approx. 11-12 knots Fuel autonomy approx. 90 days duration Diving gas autonomy approx. 60 days duration</p>	<p><b>CONSUMPTION:</b></p> <p>Speed 12 kn: 18-20 t/die Even transit 11 kn: 18 t/die DP operations: 17 t/die Port: 17 t/die</p> <p><b>ACCOMMODATION:</b></p> <p>Total no. of persons: 140 Full A/C and TV/Satellite service in all cabins, main rooms, control rooms and office 1 main cabin: 40 2 main cabins: 80 Mess cabin: 84 seating capacity Dive equipment store, store 42 Toilet, toilet/ward room Main deck: Two (2) air drier spread, drier and dry, driers, laundry, coffee shop, pantry, toilet 43, wardrobe, locker room, female wardrobe, table shop, hospital, ward, store, laundry, laundry dry clothes, engine control room, operations, bank, toilet 47, medic, rest room, garbage store, protection locker room, locker room Shelter deck: Ball control panel 42, ball control 42, SOC Gas Management room 42, drier room 42, generator, dry, cook, freeze (meat/fish), coffee, battery, cooling, rest room, for galley, protection, store room, 3rd dry room, internet with, room 42, toilet 47, reception, lounge, shower, shower Forecastle deck: Instrument room, cabins, locker, locker room Bust deck: Office 47, locker 42, store, laundry, table, communication, ROV Control Room, Dive section, Office 48, store 42, coffee corner toilet 44 Cantain deck: Captain's office, toilet 48, table 48, table 48, store 42, laundry, laundry, drier, rest room Bridge deck: Ship Office, Main Control room, Lounge 43, Tech Library, ICT/Server room, Toilet 43, instrument room PSSE, Office, DPV, Emergency Control Station, AC room Weather deck: Manoeuvring console, Fuel/Rail station, Survey area, Office, Toilet, Top of substructure deck, Reception TV room, Toilet, Shower/Water, store 42, Helipad</p> <p><b>WORKSHOPS &amp; SERVICES:</b></p> <p>Engine work shop, deck workshop, deck store, paint shop, ROV workshop, store, instrument room, computer, food waste, maintenance, large hull and hydraulic operated ball bearing deck hatch (4x4), deck store</p> <p><b>MOON POOL:</b></p> <p>Main pool: 2 x moon pool for twin bell SAT dive system, with slapping system</p>	<p><b>DIVE SYSTEM:</b></p> <p>Dive system: 24 man twin bell saturation system, for depth down to 300 m, Chamber full open, Hyperbaric life boats 2x 24 man, Twin Air dive system</p> <p><b>HELIXDECK:</b></p> <p>Construction: 23 m diameter Lift capability: For Liberty 902 to comply with Class HELIX SH, IMO regulations and ISG Code/Authorisation CAP 437, at least 13 strand</p> <p><b>ROV:</b></p> <p>Two (2) of WROV to be arranged in barge with total port, rated to 300 m water depth</p> <p><b>ELECTRICAL PACKAGE:</b></p> <p>ABB with CCM/PCS (flexible monitoring system, Remote Diagnostic system)</p> <p><b>DYNAMIC POSITIONING SYSTEM:</b></p> <p>DP(A&amp;A) Class B, DP(A) (ITTC), Kongsberg M&amp;K, auto-reference system, 2x GPS, 2x HPAR, 2x dual antenna beam interface, 2x DP</p> <p><b>NAVIGATION EQUIPMENT:</b></p> <p>Radar plot, navigation/direction finder, survey system, inertial motion &amp; wind &amp; water/ship</p> <p><b>CONTROL AND AUTOMATION SYSTEM:</b></p> <p>ICOM DP with ICOM with Remote Diagnostic System</p> <p><b>COMMUNICATION SYSTEMS:</b></p> <p>GMDSS A3 radio station, Iridium transmitters / emergency equipment, VHF &amp; UHF, digital command system, management/monitor screen, internet/FTP, system, LTE, LandMobile system, CCTV system, VSAT C band, internet, Sailer 77 Fleet Broadband</p> <p><b>CONTROL ROOMS:</b></p> <p>Engine control room, ROV &amp; data control room (remote/telemetry) on same deck level</p> <p><b>LIFE SAVING APPLIANCES:</b></p> <p>Deck fire extinguisher: 2 of 70 persons Life raft: 1 life raft on the SPS requirements according to rules Hydrophobic life boat: 2 of 24 persons capacity</p> <p><b>AVAILABLE DECK SERVICE:</b></p> <p>Anchor/chain &amp; beam, controlled air, hydraulics with a C/PFF control, hydraulic power pack, for towing of sea maintenance/repair, power pack, power pack, deck maintenance, electrical power take off, plug &amp; play communication, sensor control for ROV and other project deck equipment in ring main system, protected by bumper beam etc.</p>
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// TECHNICAL SPECIFICATION

**DP CONTROL AND NAVIGATION EQUIPMENT:**

DP System: Kongsberg K-Motion  
Kongsberg Inertial Positioning  
Kongsberg Dynamic Positioning System (Dynamic AP/DP), Dynamic Positioning System (DP) Kongsberg Class II Position Reference System (PRS), DP/DRS, inertial reference system, two hyperbaric acoustic reference units (HARU) connected to steel tracks with remote operated grab valves  
Kongsberg IAS  
Radar System: Satelite Navigation, Chart System, Contouring Computer System, Autopilot, Echo Sounder (Speed Log, Tail Log, AIS, VDR, etc. for Equipment), TV Monitor, Redundant System, monitoring system, etc. to rules and high class standard requirements

Navigation equipment according to ICAUT DSC Radio installation acc. to GMDSS - area A3 Satcom - C, Fleet TT, VHF, Full communication satellite (Global Communication SYSTEM COMBAT) connection of automatic telephone, data network and satellite TV antenna signal to all cabins and offices  
Battery/voice telephone system, separate PA, DECT TV satellite antenna

**LOADING COMPUTER:**

MT6023

**DIVE SYSTEM:**

Dive system: 10 man  
single full saturation system, for depth down to 500 m  
Chamber: 10 man  
Air dive system: 10 man  
20 independent lift and Recovery Systems. Design offshore use rated 1.5 m/s, wave height to be clarified with client supplier

**CONSUMPTION:**

Power: 10 MW  
Fuel: 1000 m<sup>3</sup>  
Consumption at 20-4 km



**"ANDY WARHOL"**  
DIVING SUPPORT AND CONSTRUCTION VESSEL

Type: MT6023 DSCV (2386-01)  
Yard: TBA  
Delivery: TBA  
Owner: TBA

The vessel is a Diving Support & Construction Vessel, designed to meet the general offshore market, with diesel electric, frequency controlled propulsion, highly efficient azimuth thrusters and a system for dynamic positioning.





// Diving Support & Construction Vessel

The vessel is designed according to the class notation "Clean Design" and SP5 Code and high focus is given to low fuel consumption, which reduces emission to the environment. PD tank arrangement according to "Clean Design" and MARPOL "oil fuel tank protection. The vessel to be arranged with a 18 men (single) bell dive saturation System.

In addition to diving, and construction work the vessel is arranged with 1 ROV's and 1 Oca ROV with LARS in the hangar. The vessel can also perform normal field support duties.

// TECHNICAL SPECIFICATION

**MAIN DIMENSIONS:**

Length o.a.	102.15 m
Length b.p.p.	95.25 m
Breadth m.s.	22.26 m
Depth Main Deck	10.90 m
Depth Shelter Deck	12.26 m
Max draft (DWL)	7.80 m
Corresponding keel draft	3.90 m

**CLASS / AUTHORITIES:**  
 DNVGL - T41 - SP5 - E0 - Diving A07R - DK-H - HELIX (see FIRE FIGHTER E - 00 - COMPACT) - CLEAN DESIGN - DIV GAT - DIV SURFACE - CLASS: ICE C - NAUT CRUISE - BROAD - Flag: NORWAY.

**SPEED:**  
 Speed at 40% rev. .... 12 knots  
 The vessel systems is designed for service with the following environmental conditions:  
 Ambient air temperature between 0°C to 20 °C to +40 °C, and sea temperature up to 32 °C.

**TONNAGE:**  
 Gross Tonnage (GRT) ..... 49300  
 Net Tonnage (NRT) ..... 27000

**ACCOMMODATION:**  
 Accommodation 120 persons,  
 20 x 1 man cabins, 40 x 2 man cabins

**Stores Deck:** Fuel Control Room, Dive System, Deckboard, crane, oil, 220 tons, Dive party, Dive for day, Dive, oil, tools, Switchboard room, Workshop room, Toilet 12

**Main Deck:** Locker room, Workshop, Toilet, oil, Laundry, wash, deck, Engine room, Store, oil, Lines, Laundry, Tech, Library, Instrumental, Tech, Workshop, Dive tank, Store, Toilet, office, Prepara office, Clean office, Air flow room, Dive control room, Oil Dive area, Dive for Workshop, ROV, Workshop, ROV Tank room, Dive Storage Area, Paint area, Staging area, Deck workshop

**Shelter Deck:** Reception, Dry provision oil, Cook, Press, Galley, Bakery, Scaffolding, Main room, Diagnostic, Day room, mechanics, Workshop, Brown cabinet, Toilet oil

**Forecastle Deck:** Client and Crew cabins, Laundry, Locker, Instrument control, ROV Control room

**Roof Deck:** Client and Crew cabins, Instrument room, Store, Laundry, Locker, Toilet, Brown cabinet, Hospital, Ward, Operation

**Deck Deck:** Client and Offshore cabins, Instrument room, Oil, Brown cabinet, Laundry, Locker, Ship's office, Control, Communication room

**Bridge Deck:** Bridge/maintenance control, Control, Survey area in large wings, Office area in forward part, Radio room, Radio, kitchen, Lobby

**Top of wheelhouse:** Hoisting, Sky lifting, Reception/TV room, Mail, Scales, Battery room, Store, Toilet

**ROV HANGAR:**  
 1 ROV LARS over 50 m  
 1 Oca ROV LARS over 3 m

**MOON POOL:**  
 7 of Moon Pool for dive bell 2.9 m x 3.9 m

**CARGO CAPACITIES:**  
 Deadweight at max d. .... 4000 T

**CARGO TANK CAPACITIES:**  
 Fuel Oil ..... approx -1150 m<sup>3</sup>  
 Fresh Water ..... approx -1000 m<sup>3</sup>  
 Water Ballast ..... approx -5000 m<sup>3</sup>  
 Air Handling ..... approx -1500 m<sup>3</sup>  
 Lubricating Oil ..... approx -150 m<sup>3</sup>  
 Misc. tanks (ink, ketchup) ..... approx -190 m<sup>3</sup>  
 Potable water ..... approx -400 m<sup>3</sup>  
 Oil recovery storage tank ..... approx -200 m<sup>3</sup>

**WORKING DECK AREA:**  
 Main deck (oil spill of range) ..... 800 m<sup>2</sup>  
 Cargo deck max width ..... 23 m  
 M. deck level Store-A-1 ..... 50 m<sup>2</sup>  
 M. deck level B-A1-B-100 ..... 5 x 10 m<sup>2</sup>

**MAIN ENGINES / GENERATORS:**  
 4 MAN 7J3240 ..... each 3380 kW  
 Total ..... 13520 kW

**EMERGENCY GEN. SET DIVE:**  
 1 of CAT 3512 ..... 1300 kW at 1800 rpm

**HARBOUR/EMERGENCY GEN. SET SHIP:**  
 1 of CAT 3512 ..... 1300 kW at 1800 rpm

**DISTILLED AND MAKE-UP WATER SYSTEMS:**  
 2 of FW reverse osmosis plant, capacity approx 20 m<sup>3</sup>/20h to be arranged  
 2 of DI separator for each main generator set  
 2 of DI separator

**PROPELLERS:**  
 2 of axial PP each 2000 kW, frequency controlled

**THRUSTERS FORE:**  
 2 of electric thruster PE 1800 kW, oil driven  
 1 of retractable thruster PE 1200 kW, oil driven  
 Thrusters are frequency controlled

**ELECTRICAL MAIN SWITCHBOARDS:**  
 Housed (Eaton) / Generator ABB  
 The three electrical power is generated by the main generator sets. The power levels are divided into 4 different voltage ranges: 400V 60Hz, 400V 40Hz, 400V 60Hz, 230V 60Hz and 230VDC

**DECK EQUIPMENT/CRANES:**  
 Integrated Automation System (IAS)  
 The system consists of the following functionality and sub systems:  
 Alarm and Monitoring System  
 Power Management System (PMS) interface

**Weld/Mixing:**  
 2 of Plasma or similar, max. .... 15 t  
 2 of Capacitive mixing, max. oil ..... 15 t

**Deck cranes:**  
 1 of max 400 t offshore crane  
 100 ton @ 10.5 m wire eye, for 400 cranes 3000 m, air with parts, 50kg/wiremaxe crane  
 1 of Air crane ..... 10 x 9 12.5 m  
 1 of crane telescopic boom ..... 20 x 9 22 m  
 OPTION 1 of crane ..... 10 x 9 12.5 m  
 2 of lattice crane ..... 2 x 9 15 m

**ROLL REDUCTION SYSTEM:**  
 A passive roll control  
 1 of roll reduction tank

**LIFE SAVING EQUIPMENT:**  
 1 of Life Saving Equipment ..... 120 man  
 1 of Life Saving Equipment ..... 120 man  
 2 of Life Buoy ..... 2 x 80 parts  
 1 of Rescue Matt Boat ..... 1 x 80 part  
 1 of Helicopter Life Boat ..... 1 x 80 part  
 OPTION 1 of HLB  
 OPTION 1 of HLB

**FIRE DETECTION SYSTEM:**  
 Special alarm activation for detection control for all emergency areas and cabins

**ANTI HEEL SYSTEM:**  
 Auto ..... 2 x 1000 m<sup>3</sup> h<sub>2</sub>o  
 Auto ..... 1000 m<sup>3</sup>

**HELICOPTER DECK:**  
 Helicopter deck of dimensions for Sikorsky 920 m<sup>2</sup>, to HELICOPTER operations, ICAO regulation and UK Aviation Authority LR A17 regulation. Sky helix directed for cargo passenger.

**FLOW METERS:**  
 Flow meter for fuel oil with power  
 LOGGING COMPUTER  
 Main, Toilet, ..... MT Ship/Land

**DIVE SYSTEM (TRIA):**  
 Dive system ..... 18 man  
 single bell saturation system, for depth down to 300 m  
 Chamber 18A  
 Air flow system 1/2 man  
 2x independent Launch and Recovery Systems  
 Design criteria see table 1.5 in right page height to be clarified with dive supplier



// TECHNICAL SPECIFICATION

**DP CONTROL AND NAVIGATION EQUIPMENT:**

DP System, Kongsberg 4 Master  
 Kongsberg independent system  
 Kongsberg dynamic positioning system (Dynpos A07R)  
 Dynpos Positioning Unit, Dynpos A07R, M&C Class 3 Position reference system, DP112, DP112C, Position 2 x 700 m, two hydro acoustic reference with Range 1500 / Transceiver Range 700 mounted in steel tracks with remote operated gate valve

**Kongsberg IAS:**  
 Radio Equipment, Satellite Navigation, Chart System, Contingency, Compass System, Autopilot, Echo Sounder Speed log, Log log, OCE Wave Direction, TV Parallel Independent, beacon, monitoring system, Air, its index and high class standard requirements

Navigation equipment according to IACS/IMO  
 Radio installation acc. to GMDSS - area A3  
 Sattelite C, Fleet 71  
 Two V-Hi communication antenna  
 Inland Communication  
 Uniform distribution of electronic telephony, data network and satellite TV reference signal to all offshore and cabins  
 Battery/telephony systems, separate PA, DECT  
 TV satellite antenna

**LOADING COMPUTER:**  
 Main, Toilet, ..... MT Ship/Land

**CONSUMPTION:**  
 Each transit - 11 kw  
 Each transit - 10 kw  
 DP operations - 5-7 kwhay  
 Post ..... -1 kwhay

Consumption at 24-4.5m, preparation only

## UPCOMING NEW BUILDS



DP3 DIVING /  
WELL INTERVENTION /  
HEAVY CONSTRUCTION VESSEL



Length: 160m  
Breadth: 32m  
Depth: 6.5m  
Accommodation: 150

400T AHC fully electric mast crane from HUISMAN

100T AHC knuckle boom crane

Powerplant: 23MW

### Diving System

The 24-man saturation diving system includes 2x6-man single lock living decompression chambers, 2x4-man single lock decompression chambers and two horizontal transfer under pressure chambers. 30,000m<sup>3</sup> of gas storage and up to six split levels of saturation storage. Two Hyperbaric Life Boats are provided (one port and one starboard). The bells have 6.5m<sup>3</sup> internal capacity and are launched through two athwartships moonpools, positioned near the minimum motion point of the vessel.

2 x 3 Men Bell of 6.5 m<sup>3</sup>

### Well Intervention System

## DP3 OFFSHORE CONSTRUCTION VESSEL



Length over all 102.84 m  
Length between perp. 92.90 m  
Breadth moulded 22.00 m  
Depth moulded 9.20 m  
Deck area ~1150 m<sup>2</sup>  
Max speed 15.0 kn  
Service speed 12.0 kn  
Fuel oil capacity ~1250 m<sup>3</sup>  
Fresh water capacity ~1150 m<sup>3</sup>  
Deck Load (MCG) in Allowable ~2400t  
Deadweight @ 7.2m

Class  
DNV + 141.51.00 - Offshore Service Vessel -  
Herman Kvitte, Service Vessel - 010000 - 00012 1  
Class Change - 0000 - 000000 - 000000 - 000000 -  
DNV ULS - 000 - 000000 - 000000 - 000000





**SUBSEA INSTALLATIONS PROJECT COMPLETED IN YEAR 2015**

**WO-16 Project - India Mumbai High**



The project was successfully delivered and completed within 2 months with excellent client satisfaction of 100% - Swiber Offshore Constructions.

This was a very rewarding and challenging project to be involved with as a team with the Client. The project involved high levels of management and commitment.

UDS are delighted with the outcome of the project and we look forward to working further with our clients.





### CPOC Project- Malaysia - SapuraKencana TLO

UDS has completed a Provision of Air/Surface and Saturation Diving Personal on board SK900 ( EPCIC of WHP & SUBSEA PL FOR JDA BLOCK B-17 Development Project Phase-3Development ) by SapuraKencana TLO Offshore Sdn Bhd, SapuraKencana TL Offshore Sdn Bhd ( "TLO" ) is a wholly-owned subsidiary of SapuraKencana Petroleum.

" This contract recognize the capabilities of Ultra Deep as a trusted business partner and further enhances our order book. UDS has made encouraging progress in expanding our foot print in South East Asia. We are confident to deliver the project effectively and efficiently, said Mr. Shel Hutton , Chief Executive Officer of UDS."



ULTRADEEP  
SOLUTIONS

in cooperation with



# "STATE-OF-THE-ART"

*K-Pos DP22 - Main Dynamic Positioning Control System*  
*K-Pos DP12 - Backup DP Control System*  
*HMS100 Helideck Monitoring System*  
*Bridge & ECR Consoles*

*K-Master Workstation*  
*K-Thrust - Integrated thruster control system*  
*K-Chief - Integrated automation System*  
*K-Bridge - Integrated Bridge System*  
*K-DMS Information Management System*

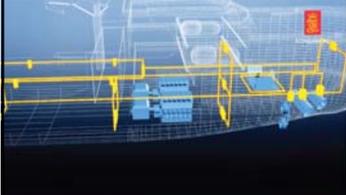


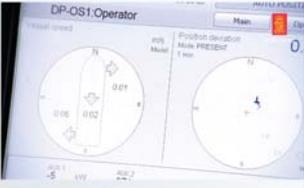
KONGSBERG

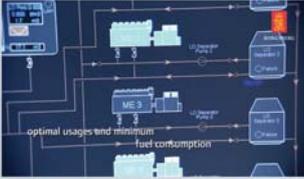
DP3 KONGSBERG



High DP capability

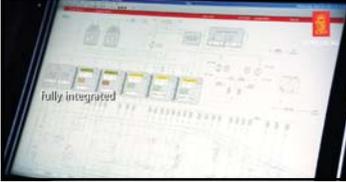






K-Chief 700

Machinery Control



fully integrated

KIMS

## ELECTRICAL PACKAGE FROM

# ABB

Complete electrical package from ABB.

WORLD'S FIRST DIVING VESSEL TO EQUIP  
OCTOPUS MONITORING AND ADVISORY SYSTEM.



**OCTOPUS-Onboard**  
Monitoring and advisory system

**OCTOPUS-Onboard is a proven solution**  
providing decision support systems for operations, safety and other key functions in marine, offshore and other high-risk environments. It provides a complete set of tools for monitoring, controlling and optimizing the vessel's performance. The system is fully integrated with the vessel's existing systems, ensuring seamless operation and easy integration.

**OCTOPUS-Onboard offers:**

- Real-time monitoring and advisory capabilities for all vessel systems, including propulsion, power, and auxiliary systems.
- Advanced diagnostic and troubleshooting tools to identify and resolve issues quickly.
- Comprehensive reporting and data logging capabilities for performance analysis and compliance.
- Scalable architecture to support a wide range of vessel types and sizes.
- High level of security and data protection to ensure sensitive information is protected.

**OCTOPUS-Onboard Benefits:**

- Increased operational efficiency and productivity.
- Enhanced safety and risk management capabilities.
- Improved compliance with regulatory requirements.
- Reduced maintenance costs and downtime.
- Streamlined operations and optimized resource utilization.
- Enhanced decision-making capabilities for crew and management.



**Key features:**

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- Enhanced decision-making capabilities for crew and management.



**Huisman**



400T ACTIVE HEAVE COMPENSATED FULLY ELECTRICAL  
MAST CRANE from **HUISMAN**, Netherlands.



COMPLETE THRUSTER PACKAGE FROM **ROLLSROYCE** for  
high DP CAPABILITY and THRUSTERS.



**WÄRTSILÄ**

Featuring 19.3 MW electrical power plant with fuel efficient  
6 X **WÄRTSILÄ** engines in two engine rooms.



## DIVING SYSTEM



FLASHTTEK

The 24-man saturation diving system includes 2x6-man Single lock living decompression chambers, 2x6-man single lock decompression chambers and two horizontal transfer under pressure chambers, 30,000m<sup>3</sup> of gas storage and up to six split levels of saturation storage. Two Hyperbaric Life Boats are provided (one port and one starboard). The bells have 6.5m<sup>3</sup> internal capacity and are launched through two athwartships moonpools, positioned near the minimum motion point of the vessel.  
2 x 3 Men Bell of 6.5 m<sup>3</sup>

