



# 2014 MTS MUV SYMPOSIUM

UNDERWATER INTERVENTION CONFERENCE

## *Global Overview of Manned Submersible Activity in 2013-2014*

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Chair, Manned Underwater Vehicles Committee  
MARINE TECHNOLOGY SOCIETY



**WELCOME to UI 2014**

HOST TO

**11<sup>th</sup> MTS MUV SYMPOSIUM**

**ROOM 230 - MUV PROGRAM**

**ROOM 228 - ADVANCED UW ENGINEERING**

# **WELCOME TO UI 2014**

## **TOTAL of 43 Presentations**

- **Manned UW Vehicles - 36 Speakers**
- **Advanced Underwater Engineering – 7 Papers**
- **ALVIN 50th Anniversary Recognition (1964 – 2014)**
- **CROSS CULTURAL Panel Discussion**
- **TUESDAY - MTS MUV Reception & ALVIN Birthday Party**
- **WEDNESDAY – MUV GROUP VISIT of DSV ALVIN**
- **THURSDAY - MTS MUV Annual Committee Meeting 1:30PM**

# DSV ALVIN 50<sup>th</sup> Anniversary

11:00 - 12:00 – ALVIN Program 50 year review

1:30 - 3:00 - INTERNATIONAL Tribute



5:30 – 7:00

## MTS MUV Group TOUR of DSV ALVIN

COME and JOIN US

### *TOUR the RV ATLANTIS and New ALVIN Submersible*

**WHERE:** R/V ATLANTIS, docked at:  
**AUDUBON Aquarium of the Americas**  
Canal Street, New Orleans LA 70130



## **In Memoriam (January 25<sup>th</sup>)**

**Dr. Natalia Sagalevich, Moscow, Russia**



# DEEP RESEARCH SUBMERSIBLES



## ALVIN

**DEPTH Rating:** 4500 m

**No. Dives:** 4400+

**No. Occupants:** 3

**CLASS:** US Navy

**YEAR:** 1964 - 2014

## ALVIN A

**Vehicle Rating:** 4500 m

**Cabin Rating:** 6500 m

**Status:** Sea Trials NOV 2013

**CERT:** NAVSEA Certification

3700 m





## NAUTILE

**DEPTH Rating:** 6000 m

**Dives to > 5000m:** 120

**Average Dive Depth:** 3500 m

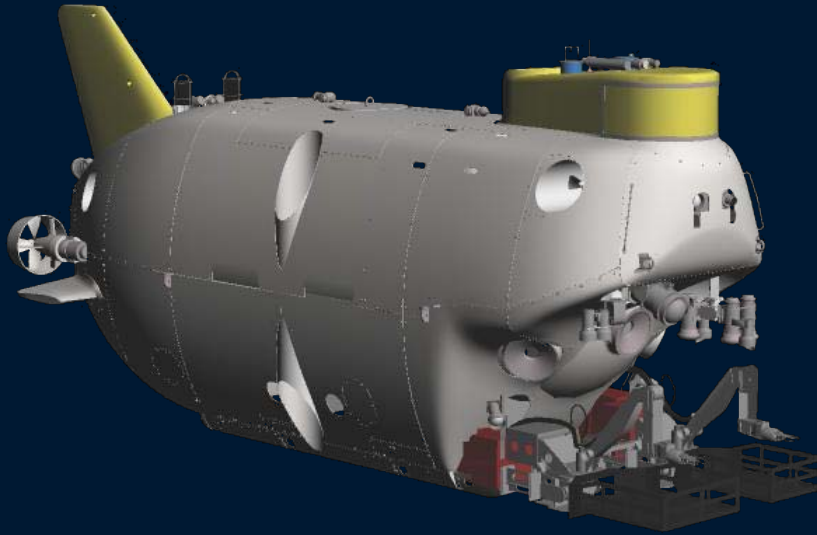
**No. Occupants:** 3

**Year of Construction:** 1985

**Class:** Bureau Veritas

**No. Dives:** 1852

**Status:** Actively Diving



## SHINKAI 6500

**DEPTH Rating:** 6500 m

**No. Dives:** 1200+

**No. Occupants:** 3

**CLASS:** NK

**Built in:** 1989

**STATUS:** Dec. 2013 Completed

**ROUND-the-WORLD**

**QUELLE Expedition**



## MIR 1 and MIR 2

**DEPTH Rating:** 6000 m

**No. Dives:**

**No. Occupants:** 3

**CLASS:** GL

**Built in:** 1989

## STATUS

**2012** Titanic Expedition (Deferred)

**2013** Layup

**2014** Uncertain



## JIAOLONG

**DEPTH Rating:** 7000 m

**No. Dives:** 20+

**No. Occupants:** 3

**Weight:** 22 T

**Start Date:** 2002

<b>STATUS</b>	<b>2013</b>	<b>NW Pacific 4 months</b>
	<b>2014</b>	<b>40 Day Dive Expedition at Mariana Trench</b>
	<b>2015</b>	<b>50 Day Expedition to SW Indian Ocean</b>
	<b>2017</b>	<b>New Mothership</b>

## NIOT 6000 m – DEEP OCEAN Submersible

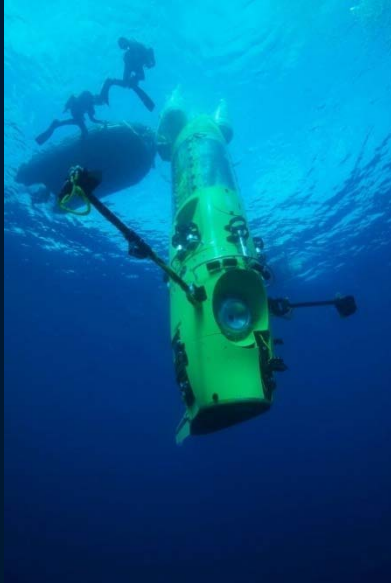
### RFP in 2013

- Procurement Process Still active
- No official word on final contract Award

### Working on:

- Deep-sea Technologies and Ocean Mining Group of NIOT
- Polymetallic nodules Mining





## DEEPSEA CHALLENGER

DEPTH Rating: 11,000 m

No Dives : 1

No. Occupants: 1

Year of Construction: 2012

### STATUS

2012 11,000m dive

2013 Cross Country Tour :

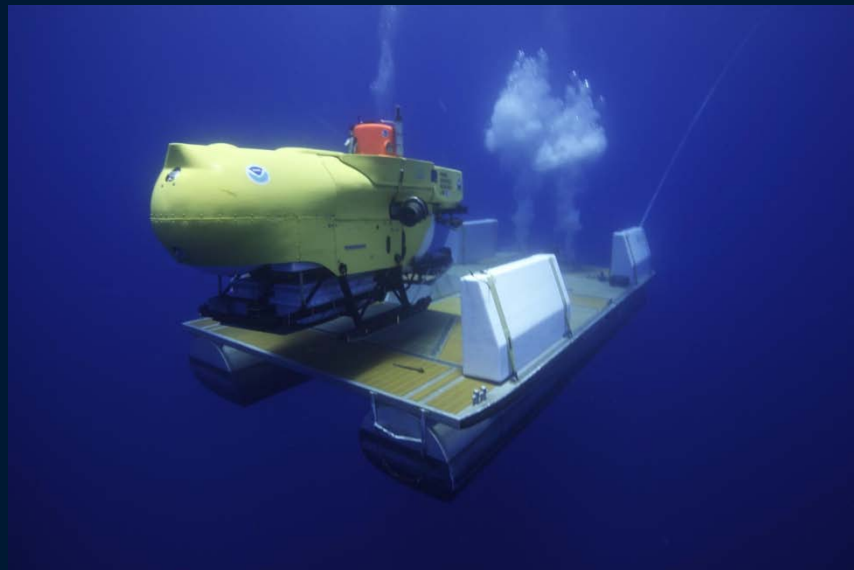
Los Angels to Cape  
Cod. Donated to Woods

Hole Oceanographic Inst

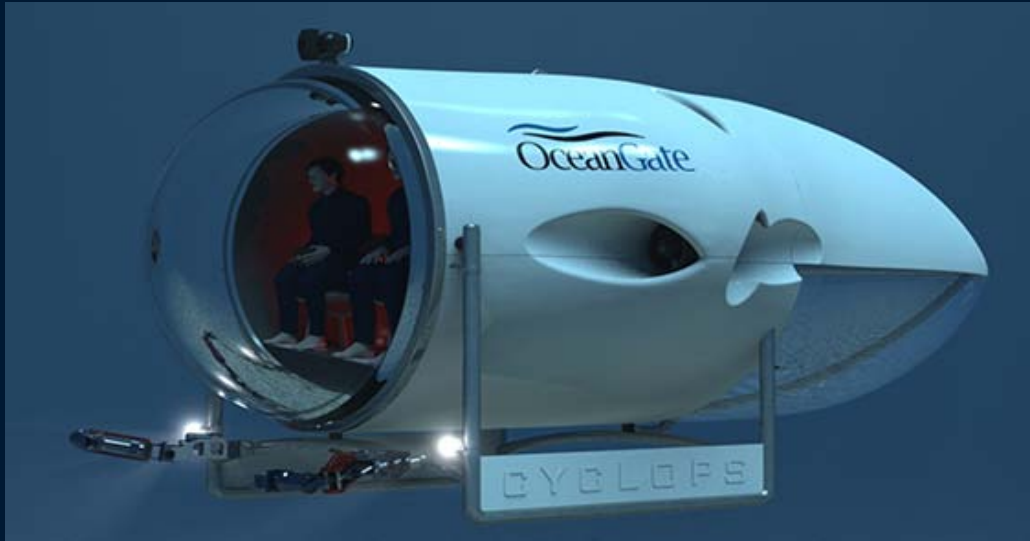
PISCES IV



PISCES V



DEPTH Rating: 2,000 m  
No. Occupants: 3  
CLASS: ABS



CYCLOPS PROJECT

DEPTH Rating: 3000 m

No. Occupants: 5

CLASS: TBD



LULA 500 (500m)



ANTIPODES (300m)





DEPTH Rating: 1,200 m

No. Occupants: 3

CLASS: GL

2013: SEA TRIALS  
Barcelona, Spain



## TRITON 3000/3

DEPTH Rating: 1000 m

No. Occupants: 3

CLASS: ABS

## DEEP VEHICLE DESIGN 5500/2

5500 ft @ 2 Persons

## TOURING VEHICLE

1000 ft @ 4 or 8 persons

3300 ft @ 3 or 6 persons





## LULA 1000 – Rebikoff-Niggeler Foundation

DEPTH Rating: 1000 m

No. Occupants: 3

CLASS: GL

### AURORA -3

DEPTH Rating: 1000 m

No. Occupants: 3

CLASS: ABS

### AURORA -5

DEPTH Rating: 1000 m

No. Occupants: 3

CLASS: ABS



### DeppWorker 1000m

DEPTH Rating: 1000 m

No. Occupants: 1

CLASS: LR

### DUAL DeepWorker

DEPTH Rating: 1000 m

No. Occupants: 2

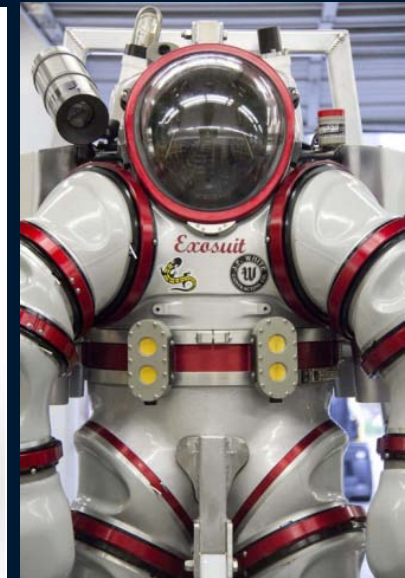
CLASS: LR

### EXOSUIT

Depth: 330 m

No Occ.: 1

CLASS: LR



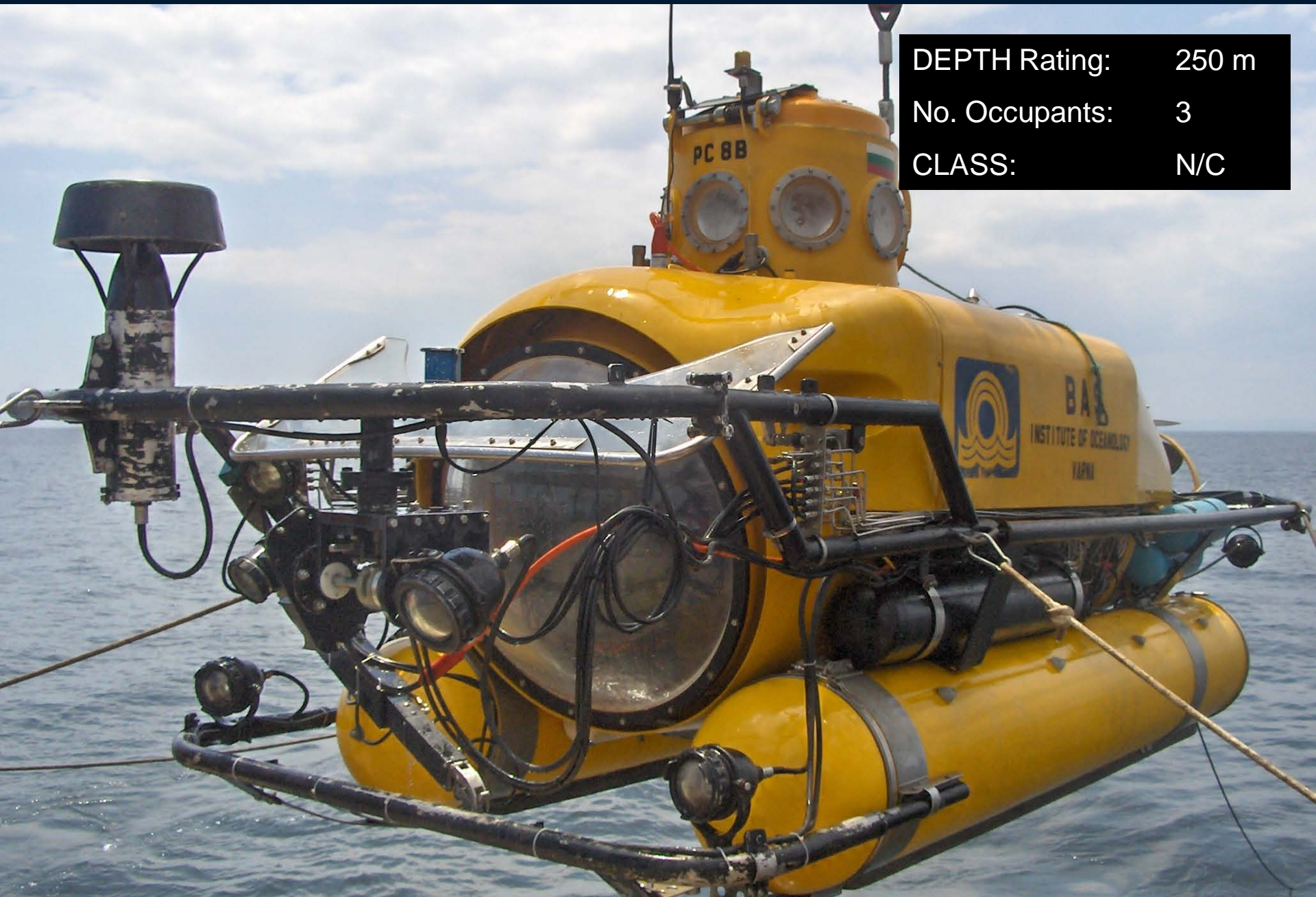


DEPTH Rating: 400 m

No. Occupants: 2

CLASS: GL





DEPTH Rating:	250 m
No. Occupants:	3
CLASS:	N/C

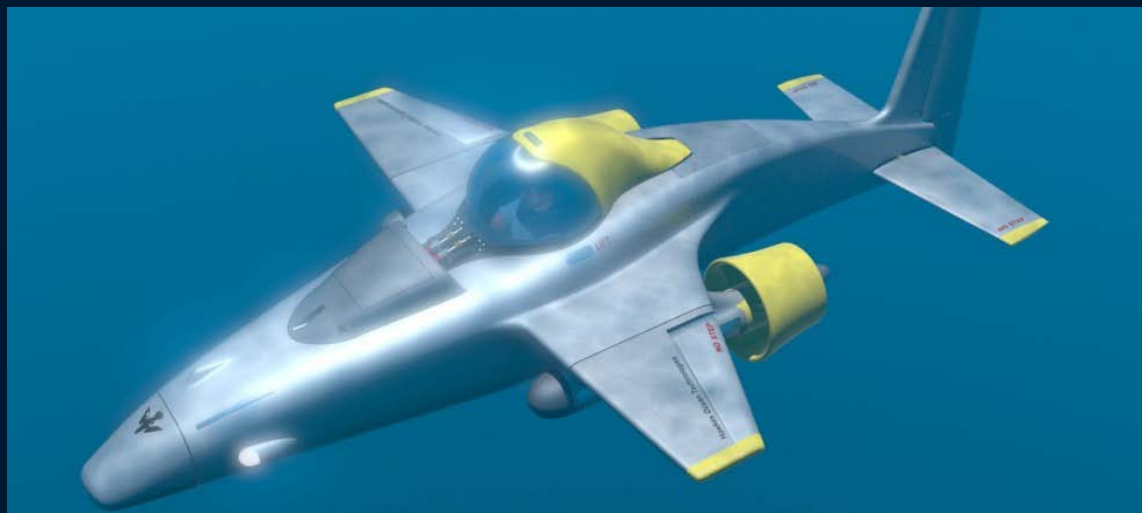


## SUPER FALCON

DEPTH Rating: 400 fsw  
No. Occupants: 2  
CLASS: N/C

## BLACKHAWK

DEPTH Rating: TBD m  
No. Occupants: 1  
CLASS: TBD







DEPTH Rating: 300 m

No. Occupants: 5

CLASS: GL





DEPTH Rating: 60 m

No. Occupants: 8

CLASS: GL





## PRMS Submarine Rescue

DEPTH Rating: 610 m

No. Occupants: 18

CLASS: Navsea P9290

Built in: 2007

Operated by US Navy Deep Submergence Unit, San Diego CA

STATUS: LARS System Fault

Drops FALCON during Exercise in May 2013



NOV. 5 , 2013  
BOGOTA – Colombian submarine  
outfitted to transport up to eight tons of  
cocaine.



OCT. 22, 2013  
ECUADOR – Drug submarine  
captured in Ecuador destined for  
Costa Rica.

SEPT. 12, 2012  
TUMACO - Colombian Navy divers  
capture cocaine from a homemade  
semi-submersible seized in the Pacific  
Ocean off the coast of Colombia.

## INS Sindhurakshak submarine fire



The Russian-built diesel-electric submarine sank in Mumbai on August 13, 2013 after two large explosions in the torpedo compartment.

The incident involved 18 sailors and was the biggest loss for the Indian navy in four decades.

Some Sensitive Items under  
**International Traffic in Arms Regulations  
(ITAR)**



**January 6, 2014.**

Final rules issued July 8, 2013, became effective with certain less sensitive items in the following USML categories being transferred to the CCL: USML Cat. VI (warships), Cat. VII (military vehicles), Cat. XIII (materials/miscellaneous) and **CATEGORY XX (submersibles).**

**Export Administration Regulations  
(EAR)**

administered by  
Department of Commerce

[www.bis.doc.gov/policiesandregulations/ear/index.htm](http://www.bis.doc.gov/policiesandregulations/ear/index.htm)

## **DNV-GL**

WED. 4:00-4:30

Review of Activity at DNV-GL Americas

## **NAVSEA**

WED. 4:00-4:30

2014 Overview of NAVSEA Activity

## **ABS**

THURSDAY 8:30-9:00

Proposed UW Vehicle Rule Changes for 2014

5:30 – 7:00

### MTS Manned Submersible RECEPTION

COME and JOIN US – Complimentary Beer & Wine

### ALVIN's 50<sup>th</sup> ANNIVERSARY CELEBRATION

WHERE: MARRIOTT HOTEL 2<sup>nd</sup> FLOOR ATRIUM

WHEN: 5:30-7:30PM

Sponsored by:





**THANK YOU !**

***[www.mtismuv.org](http://www.mtismuv.org)***