

NEXT ANNUAL MEETING: OSLO

LAST ANNUAL MEETING: COPENHAGEN

NEW FULL MEMBER IN SPAIN

**NEWS FROM THE NATIONAL
HYPERBARIC CENTRE, ABERDEEN**

**THE RECOVERY OF A DORNIER
WW2 BOMBER FROM
THE ENGLISH CHANNEL**

**KB ASSOCIATES AND
MTCS LTD FORM A NEW
TRAINING PARTNERSHIP**

INTERNATIONAL DIVING SCHOOLS ASSOCIATION

iDSEA

NEWS EDITION NO.23 JANUARY 2014



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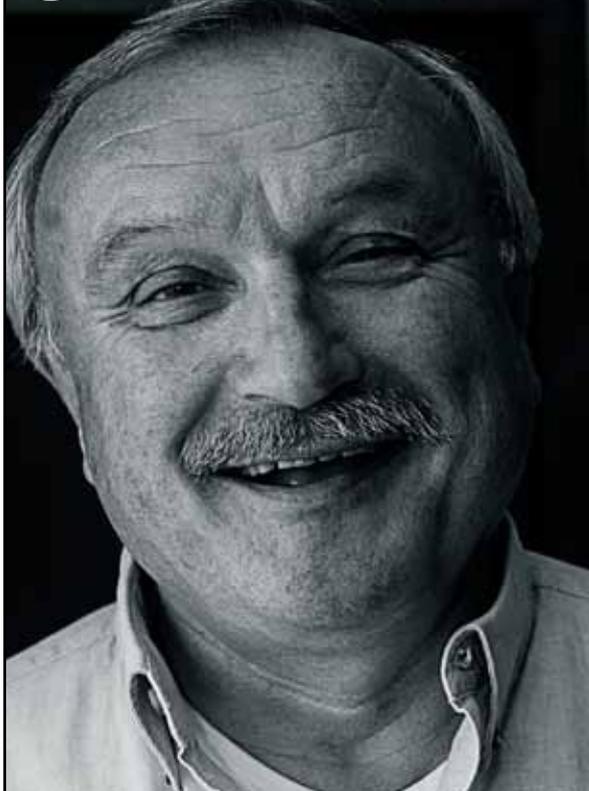
NEWS EDITION NO.23 JANUARY 2014

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FROM THE CHAIRMAN



I would like to begin by give a warm welcome to the following new members of the Association:

Full Member (Diver Training)

The Oceanos Diving School, based in the port of Barcelona to the Association

Full Member (Specialist Training)

The National Hyperbaric Centre, Aberdeen

Industrial Members

Cavit Cleaner by MAC Division Ltd
C-Tecnics, Aberdeen

Associate Members

Dolphin Diving Services, United Arab Emirates

Caribbean Diving & Marine Ltd,
Trinidad

Academy Marocaine des Science
et Technology Maritimes (ASMTM),
Morocco

Affiliate Member

Khate Daryta-Bandar Co, Iran

The main item of the Annual Meeting was the ratification of the Standards & Procedures, which I am glad to say was achieved, and the final version will be circulated to all members at the beginning of February – a little later than originally planned – by E-Mail. Members are asked to print out the E Mail and insert it in a Ring binder (as illustrated),



which will be posted to those not at the Copenhagen Meeting before the end of January. Work will then continue, laying the text out professionally, in preparation for the publication of a limited number of bound copies; these copies will be given to relevant Government and Industrial organisations, and sold to non-members, and to members at a discount.

Future changes to text in the Ring binder version will be issued by E Mail to all holders as necessary. These changes will not be circulated to holders of the bound copies, but a new edition will be circulated when required.

Plans for the move of the Administration to the NDC Offices in Delft are slowly developing. It was pleasing to note that after due discussion the meeting agreed unanimously that Membership Fees, the price of Qualification Cards and advertisements in IDSAs News, should all be increased, in order that the Association will be in a position to fund the cost of the move and the subsequent support of the facilities it will use in NDC.

Another interesting discussion was the difficulty of providing chambers on-site, as required by the IDSAs Standards, particularly in countries where the demand for training was relatively small. A working party was formed to explore the feasibility of acquiring a containerised chamber mounted on a trailer which might be shared between 3 or 4 schools, and supported by manufacturers/suppliers. If you have any comment or ideas concerning such a project, please contact the Administrator.

Finally, I am sure all members will join me in wishing Dag Wroldsen the Director of NYD a speedy recovery in 2014 from the stoke he suffered just before the Annual Meeting, and may I close by wishing all members, and others interested in the work of the Association, a successful 2014

Leo Lagarde

IDSA ANNUAL MEETING OSLO 2014

15 to 17 September 2014
Hosted by the Norwegian
School of Commercial
Diving (NYD)



The TUP system under over on the Jetty



The NYD Jetty some 200m long, covering a ground area of 2 acres, with depths available from 10 to 120m

FROM THE HOSTS

The Norwegian School of Commercial Diving (NYD) is delighted that IDSA has decided on Oslo as its location for this year's annual meeting. 2014 marks our 25th year of operation and everyone who has visited us in the last couple of years can testify that the school has come a long way since our humble beginning in 1989.

NYD is situated at Fagerstrand, approx. 30 km by road from Oslo. The school is one of the largest education institutes for professional divers in Europe. Since 1989 we have educated more than 1500 commercial divers, and in the last few years we have built a complete TUP system which has greatly increased our capacity. We can now train 48 divers on each 16 week course, and in 2013 we held our first ever saturation course in cooperation with INPP (Marseille). The school continues to develop, and hopefully we will grow and prosper alongside the rest of our IDSA friends for the next 25 years as well. We welcome you all to Oslo and look forward to celebrating our 25th anniversary with you.

Lars William Wroldsen, Managing Director

ABOUT OSLO

Oslo and Norway have a long track record of maritime operations. From the Vikings, via the arctic and antarctic explorers, to the adventures of Thor Heyerdahl, Norwegians have throughout history looked to the ocean for a better understanding of the world around them. In modern times the vast petroleum resources on the Norwegian continental shelf have further strengthened our bonds to the sea. The nation's maritime history is well preserved in the different

maritime museums in Oslo. Here you can experience genuine Viking ships, see Thor Heyerdahl's 'Kon-Tiki' raft and visit the ship – the famous 'Fram' – that was used in expeditions to the Arctic and Antarctic regions by explorers Fridtjof Nansen, Otto Sverdrup, Oscar Wisting, and Roald Amundsen between 1893 and 1912.

ABOUT THE MEETING

The meeting this year will start as usual with welcome drinks on the evening of Sunday (September 14th) and finish at lunchtime on Wednesday 17th. Full details of accommodation, the meeting venue and the Agenda will be circulated separately in mid February. Early information may be obtained from the Administrator at info@idsaworldwide.org.

EDITOR'S NOTE

We were unable to give the provenance of the photograph used for Front Cover of the the last (July) issue of IDSA news, and we are glad to have found that it was from a DrafinSub SRL, project some years ago.. Marco VACCHIERI, Technical Manager from the company based in Genoa, writes:

“The work consisted of performing non-destructive testing (NDT) on a radial structure consists of steel pipes on the platform of an oil terminal in Genoa called Island, necessary as a result of the impact of a ship with the platform. The work was carried out at 50 m depth in August 2005.

The diver outside the bell is Gianluca Passeri, who is currently the CEO of DrafinSub, and who's the man who gave impetus to the construction of our Portable SAT System "RAFFAELLA".



Carin Bot, Head of Administration, NDC Delft.

THE 31ST ANNUAL MEETING OF THE ASSOCIATION



Hosted by the
Royal Danish Navy
Diving School,
Copenhagen
28 to 30 August
2013

Just over thirty people attended the IDSA Annual Meeting in Copenhagen at the end of August, representing sixteen schools from twelve countries, held in the historic Fortress of Kastellet. With excellent facilities and support from the Royal Danish Navy Diving School, this proved to be a very successful meeting with a lot of hard work by delegates, some excellent presentations, and enjoyable social activities!

Plans for the establishment of IDSA Administration in Delft, Holland at the offices of the Netherlands Dive Centre (NDC) are progressing, and the meeting welcomed Carin Bot, Head of Administration at NDC, who will liaise with the Administrator for the gradual transfer commencing in 2014. With the costs of the move in mind, the Meeting agreed unanimously that the

price of annual membership fees and of qualification cards should be increased from 1 January 2014. These will now be: Full Members (Diver and Specialist Training) €1,000 pa; Associate Members €500 pa; Affiliate Members €350 pa; Industrial Membership fees will remain at the discretion of the member, but not less than those of an Affiliate Member

The major task for the meeting was the final discussions of the proposed Standards and Procedures. This has taken a considerable amount of time and effort but such investment was thought to be worthwhile in view of the long-term importance of setting such standards as a reference point for all future IDSA Training. It is now expected that the loose-leaf document will be available early February 2014, allowing for ease of up-dates when and where necessary.



Welcome Drinks

There were several presentations at the Meeting which were well received by members. Jorgen Dencker, Curator of the Viking Museum in Roskilde, spoke about Archaeological Diving in Denmark; Carin Bot spoke on the Future Organisation of Diving in the Netherlands; Henrik Holten Moller reported on Wind Farms and Offshore Diving in Denmark; Robert de Bie reviewed Decompression Chambers in the 21st Century; and Giuseppe Basile, from In-Out Security Services, Italy, previewed the new High Resolution Cameras and a new audio-visual system for Underwater Inspection. Mark van der Esch reported on the present situation in France. Looking to the future of training, Per Haagerup, RDNDS, reviewed methods and problems of obtaining feedback from Contractors and there was a discussion on e-learning and its possible application to diver training.

In view of the agreed requirements for Chambers during training, a new Working Party was set up to consider the joint hiring of equipment and the possible use of a mobile chamber.

2014 marks the 25th anniversary of the setting up of the Norwegian Diving School (NYD) and the Association was pleased to accept the invitation of the school to hold its 32nd Annual Meeting there in 2014.

The Meeting in progress



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Depth Capability: 75 mtrs

Design: Lloyds Register Rules for Offshore lifting

Certification: IMCA DO23 Design & IMCA DO18

Primary Basket / Cage Cylinders:
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Weight: 6500kg

HPU Electrical Requirements:
380-440 V 3PH 50/60 Hz

Oil Capacity: 3 x 150 Litre (Triple Tank)

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OUR LATEST FULL MEMBER

OCEANOS ESCUELA de BUCEO PROFESSIONAL SL BARCELONA

Leo LaGarde, Chairman of IDSA presenting the Director of Oceanos, Javier Ferran, with his Certificate of Full Membership on successful completion of the IDSA Audit in December

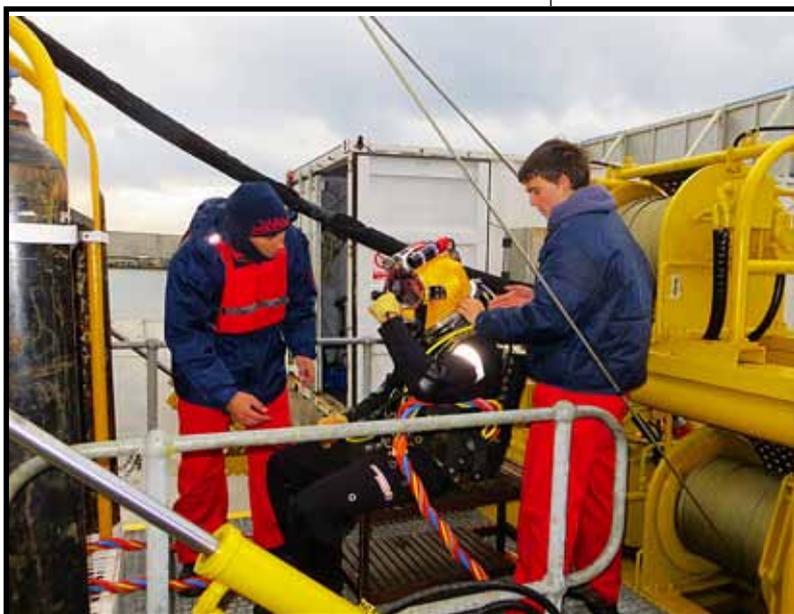
Oceanos, based in Barcelona, Spain, has recently completed its first course in surface supplied professional diving with a Wet Bell. Oceanos is the only school in Spain which has the resources needed to teach to this level; our ability to do so is the result of considerable investment by the owners to bring equipment up to the standard required by the Catalonia authorities for professional diving.

We are fortunate in Spain that our contractors are committed to high standards, not only in professional diving but also in the provision of up to date equipment and in specialities such as underwater cutting and welding,

hydraulic works, repair and refloat, and dive control systems. This means, in turn, that schools training divers must meet these standards if their students are to be readily employed, and also ensures that work is carried out efficiently and that appropriate health and safety standards are met and risks are kept to the minimum.

Our recent course included Wet Bell training with the use of hot water suits and the application of safety procedures such as loss of gas, loss of communication, and the use of bell resources.

Having had our commitment to invest in high quality equipment and training recognised by the diving authorities in Catalonia, Oceanos applied to IDSA for an audit to enable its IDSA membership to be upgraded from Associate Member to Full Member. The audit took place during the final days of our course, enabling the auditors to see training in action. We found the audit very thorough and rigorous and were very pleased that we finally met the necessary standard for recognition as a Full Member. As the only Spanish school with this recognition we feel we are in a position to help our students to gain employment not only in Spain but also in the wider field.



The LARS System for the Wet Bell



The Shallow water Diving Site

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ONE MONTH WITH CEDIFOP



5 November: Group photograph of the current course at their number diving station in Palermo Harbour where they are taking part in the basic Italian diver training course. It will be followed by an additional module which brings them up to the IDSA Level 2 standard. The course contained students from many regions of Italy, and from Cyprus and Greece.



19 November: Cedifop Students of TOP UP course 2013, accompanied by Cedifop Instructor, Marcello Vinciguerra, during 5 days training at NYD, Full Member IDSA School located in Oslo (Norway), to integrate requirements to issue Idsa Level 3 Certificate.



6 November: Mr Sergei Cherkashin – Chairman of “The Alliance of Russian Diving Schools” (a reciprocal member IDSA) and General Director of the “Diving Research Center” (Russia). Made a liaison visit to CEDIFOP. Mr Cherkashin (3rd from right), met CEDIFOP Staff Instructors and Mr Giuseppe Basile, owner of “IN-OUT Security Services”, an Associate Member of iDSA.



29 November: UNIVERSITY OF TRAPANI - UNIVERSITY CAMPUS OF PALERMO - Master's program of second level in diving and hyperbaric medicine - academic year 2012/2013 - Module 8: three days stage at Cedifop, of the participants to the Master.

During this period CEDIFOP also hosted a meeting between @Don Orione' – Professional Training High School in Palermo to discuss the procedures and techniques of professional diving, also a meeting of experts took place to discuss the problems of the “Italian Association of Coral Fisherman” of Sardinia

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NEWS FROM THE NATIONAL HYPERBARIC CENTRE ABERDEEN

DiveCert software is launched

DiveCert is a new software package which allows you to easily manage the certification of your air and saturation dive system assets

We are happy to announce that after 12 gruelling months of development, DiveCert Version 1 is finally ready for launch. The software now provides support to diving contractors and diving equipment manufacturers to control diving system equipment certification, maintenance and asset management.

Many Diving Contractors find it difficult to control maintenance and certification, often losing certificates, completing certificates incorrectly and losing track of when equipment is due to

be maintained and re-certified. This then causes problems during audits where non-conformances will be issued against the Diving Contractor, delaying diving operations and the Client project.

DiveCert has been developed to eradicate these issues while greatly helping to comply with IMCA guidelines, all from one easy to use software portal. All diving system assets, whether system specific or global, can be included within the data base and can be transferred between systems, ensuring that all certification can be transferred with the

asset. This is supported by a full asset and certification tracking system to identify where an asset currently is and where it has been. We are confident that the developments carried out to produce Version 1, will greatly improve diving operations, safety and efficiency.

The development does not stop with Version 1 however; as we will continue developing and hope to have Version 2 launched sometime in 2014. Don't worry though, all current users as per contract will be automatically updated with the latest version as part of their annual licence.

For more information, please visit www.divecert.com



DiveDoctor is a 24 hour on-call diving medical information service to support small and medium sized diving companies around the world. There is a legal and moral duty on a diving contractor to have adequate, and demonstrable, emergency procedures in place for the support of diving medical emergencies. DiveDoctor was created by NHC to provide a service which would support and give guidance to companies regarding their responsibilities

as an Employer of Divers. The services provided by DiveDoctor include 24 hour worldwide telephonic support service for diving medical emergencies, sourcing and maintenance of medical equipment, auditing systems & procedures to ensure compliance with industry standards and assisting in the establishment of successful Emergency Response Procedures.

Due to the success and demand of DiveDoctor, NHC has appointed

NEW LEAD CO-ORDINATOR APPOINTED AS DEMAND FOR DIVEDOCTOR GROWS

Angela Stephen as Lead Coordinator for DiveDoctor. Sandy Harper, NHC Associate Director, commented on the new position, saying "Angela has been a key individual in developing the Subsea Consulting Department, and I believe that her involvement with DiveDoctor will not only progress Angela as an individual but will also develop DiveDoctor into an industry recognised service".

Contact Angela Stephen at astephen@nationalhyperbariccentre.com for more information about DiveDoctor or visit: www.divedoctor.com



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 4 thrusters: One vertical; Two horizontal; One lateral.



RB 300

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 Tether length 220 m (up to 300 m).
 Color camera 600 TVL.
 5 thrusters: Two vertical; Two horizontal; One lateral.



RB 600

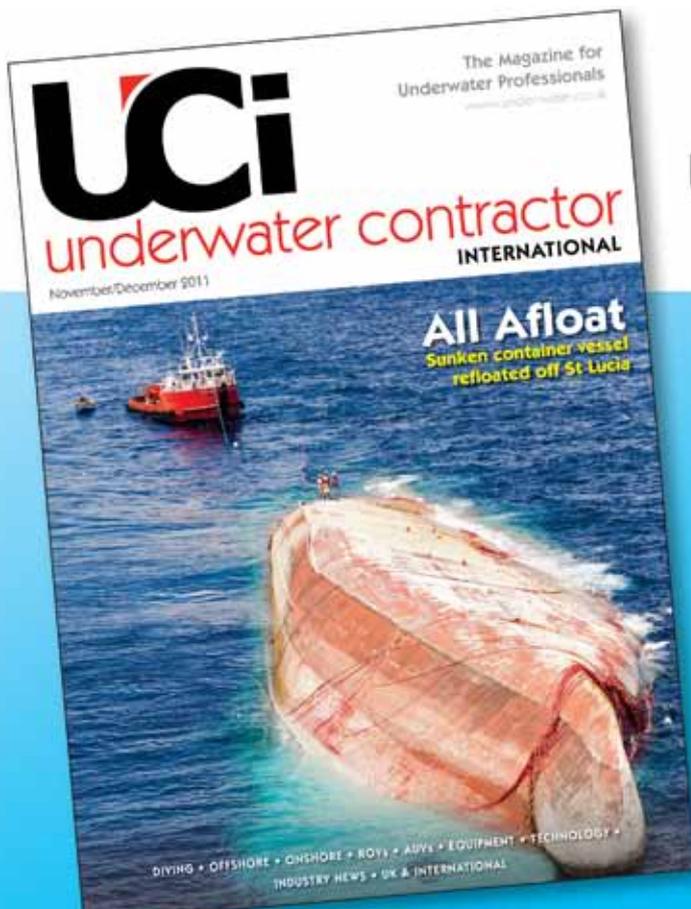
Working depth till 200 meters.
 Tether length 300 m (up to 1200 m).
 Full HD, Zoom, Autofocus color camera.
 7 Thrusters: Two vertical; Four horizontal; One lateral.



RB Mirage

Working depth till 300 meters.
 Tether length 300 m (up to 1200 m).
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 11 thrusters: Three vertical; Six horizontal; Two lateral.

COMMERCIAL DIVING SERVICES: Inland/Onshore diving • Ship Husbandry



The Magazine for Underwater Professionals

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NHC'S NEW 'IN-CHAMBER' COURSES PROVIDE THE BEST TRAINING FOR CANDIDATES

National Hyperbaric Centre in Aberdeen, is pleased to introduce its recently enhanced IMCA approved Diver Medic Training Course with improved course content and intensive practical elements.

NHC has recently appointed Mark Townsend, former medical practice manager for the MOD, as full-time Diver Medic Trainer. Mark gained 21 years of experience teaching medics within the military and also worked with Ice Divers in the Antarctic providing medical cover during a recovery mission. Mark has always considered teaching as his main passion and NHC feels he has a lot to offer based on his wide medical background: "Mark has taught medics around the world and prepared them to be capable of applying their skills in some of the most stressful and difficult situations. This kind of hands-on training

is also essential for divers who could potentially be involved in serious medical emergencies."

Mark has now re-structured the NHC Diver Medic teaching syllabus which now includes extensive practical elements at the NHC Facility.

NHC's full saturation system, capable of taking divers to simulated depths of 450m, has been used for various activities since the centre opened 25 years ago, including testing subsea equipment, hyperbaric trials and daily NHS treatments.

NHC's Training Department are very lucky to have access of this facility where advanced diver training courses can 'take the classroom inside' and carry out practical elements within realistic chamber environments. NHC's most recent DMT Course, following the newly updated syllabus, undertook part of the exam within the saturation chamber; a timed scenario was set up for them to deal with using only equipment they had readily available. The tight confines and lack of available back-up personnel proved to be challenging, but all candidates coped



well and felt they benefited from such a realistic experience which would best prepare them for a real-life situation.

DMT and DMT Refresher courses following the new structure are being run regularly throughout 2014 both at the NHC facility in Aberdeen and also at Unique Systems FZE in Dubai. The full course calendar can be found at:

www.nhctraining.com

NATIONAL HYPERBARIC CENTRE'S FACILITIES PROVIDE THE PERFECT SET FOR PINWOOD STUDIOS AS THEY FILM THEIR LATEST THRILLER, 'PRESSURE'

The award winning Pinewood Group has been involved with some of the biggest productions since the 1930's; some of their most notable blockbuster successes include the Harry Potter series, Les Miserables and the James Bond collection.

'Pressure' is Pinewood's current project, a thriller in which four deep sea divers encounter problems in the Somali Basin off the East Coast of Africa, details of which cannot yet be revealed.

Water scenes were shot in the sea at neighbouring town, Stonehaven before the team arrived at National Hyperbaric Centre, Aberdeen.

The film crew and three trailers descended on the National Hyperbaric Centre alongside actors Danny Houston, Matthew Goode, Joe Cole and Gemita Samarra. The team were given access to the Centre's state-of-the-art saturation system, workshop and control room where they had an intensive two full days shooting.

The facilities at NHC are part of the centre's successful training, testing and emergency services departments; able to simulate deep underwater pressures within a controlled environment. The full set-up includes living chambers for up to 16 divers and a 'diving bell' which connects to the main work chamber. NHC has worked hard to provide the most competitive simulation systems ideal for testing the suitability of deep water equipment, machinery and technology as well as the competency of hyperbaric welders.

The system is designed to be as close to the systems on board vessels as possible, providing a safe and organised environment for trials before the 'real thing'. This safety and accessibility made NHC the perfect location for filming, Producer Jason Newmark explains "... the unique facility provided us with everything we needed for the scenes and the NHC team were close at hand with their expert knowledge of the system."

'Pressure' is due to be released during 2014.

For more information of the NHC's services visit:

www.nationalhyperbariccentre.com





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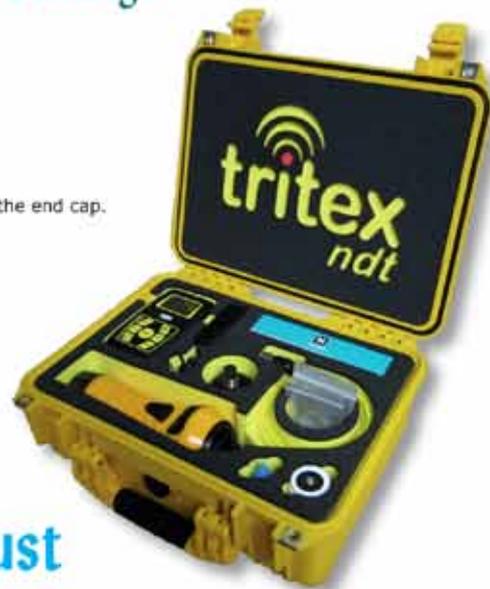
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Red Sea Diving - Egypt

"We are very happy with the underwater gauge. Its display is very easy to see in all situations."
Shetland Islands Council - United Kingdom

"As a diver and engineer, I am very satisfied with the Tritex gauge...especially because the Tritex is easy to use...easy maintenance...robust and has a large and easy to read display"
Niras - Denmark





Personal Diving equipment inspection, repair & maintenance (IRM) is probably one of the most important jobs in commercial diving. The equipment is part of a divers "Life support" system and without proper care, use & maintenance, can at worst put the diver at risk, and at least, cost the employer money in breakdown time.

To complete successful underwater operations divers need to have confidence in their equipment reliability & function. They also need to be properly trained in how it works, how it is used and how to inspect it both before and after a dive.

Interdive has been training personnel for the commercial diving industry since 1985 including "Diving System Technicians". These guys have a responsible job in ensuring the dive gear is always operational and likely to stay that way throughout a contract.

Our Helmet & Mask maintenance courses bring this knowledge & insight to the divers, supervisors & technicians and specialises in the following manufacturers recommended procedures;

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- How to properly log maintenance and repairs
- Cleaning and sanitizing
- Face Port Insert inspection and testing
- Monthly helmet inspection procedure
- Daily pre/post dive procedures
- Supervisor pre-dive inspections
- Supervisor in water checks
- EGS interface procedures and configurations
- Calculation of proper supply pressure and volume requirements

INTERDIVE SERVICES LTD.

Vietnamese divers attend maintenance course

The courses includes both theoretical training using modern facilities with equipment exploded diagrams displayed on screen via data projector; comprehensive printed course notes & manufacturers updates; maintenance manuals provided on CDs.

The course content given by knowledgeable & friendly instructors includes a majority time spent "hand-on" actually stripping, inspecting & rebuilding to the manufacturers recommendations various models of band-mask and helmet. We also include practical instruction on First-Stage regulator servicing so the whole course is pretty comprehensive. Cylinder inspection and pressure gauge calibration training can be provided as competent person "add-ons" upon request at the time of booking.

As you can see from the photo the guys had an enjoyable course with excellent facilities and returned to Vietnam with their newfound knowledge, competent & confident in the IRM of this type of equipment.

John Rabone, Managing Director Interdive Services Ltd (UK) & Interdive Spain SL

For further information on these or many other training courses & services we offer, please see our website at:

<http://www.interdive.co.uk>

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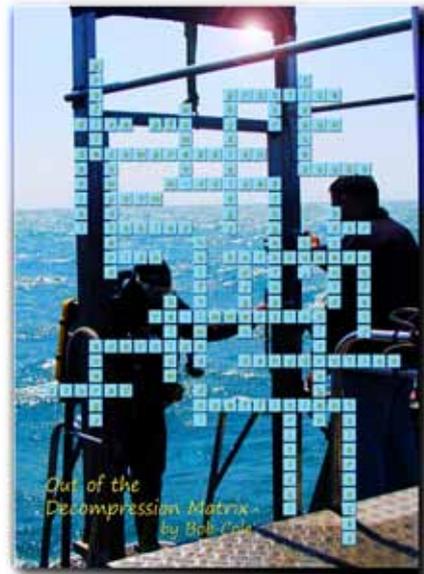


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Look out for the latest book on Decompression written by Bob Cole, to be published in A5 format early in 2014. It may be obtained from :

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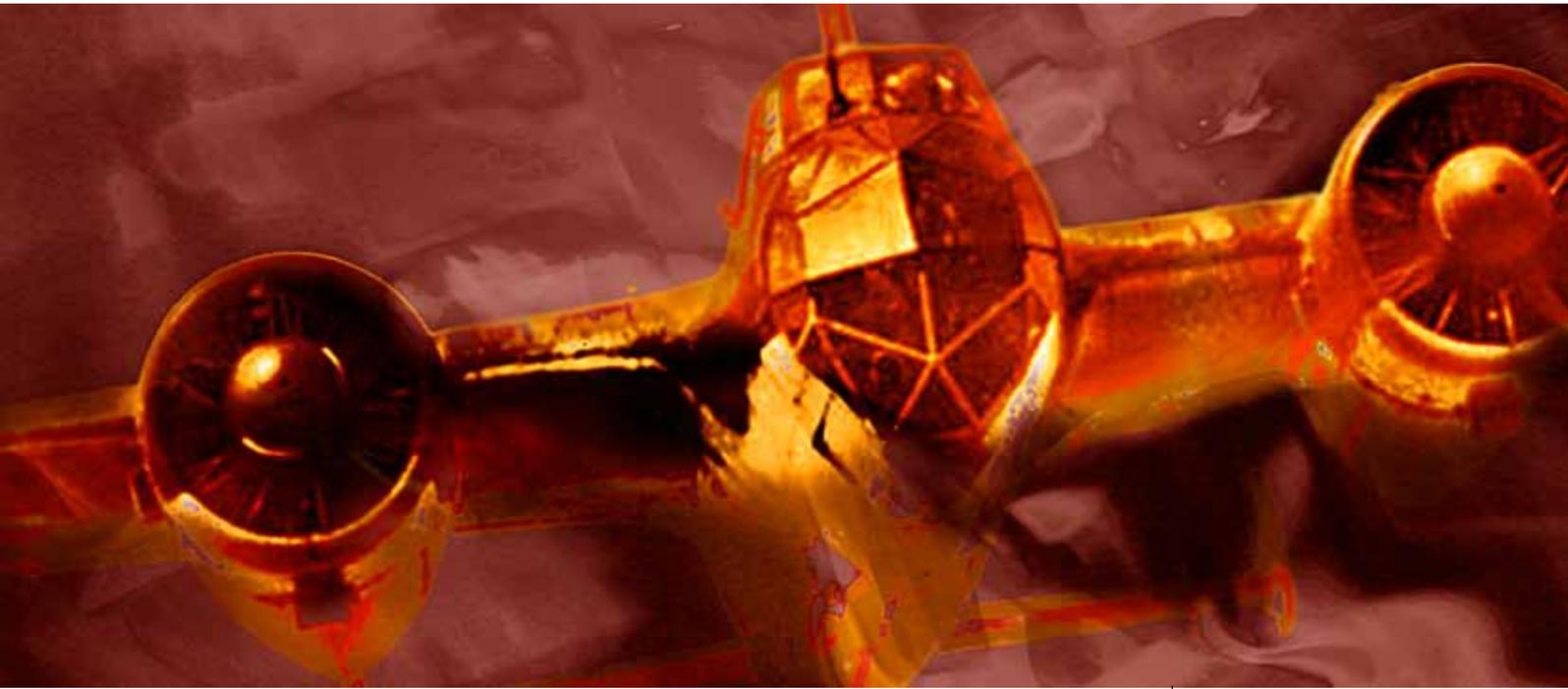
Leading manufacturer and supplier of commercial diving equipment



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WW2 DORNIER 17 BOMBER RECOVERED FROM THE ENGLISH CHANNEL

PROJECT PROFILE

Client: Royal Air Force Museum
Contract Value: £850,000
Programme: 7 Weeks
Location: English Channel
Completion: June 2013

SEATECH CIVIL AND MARINE LTD, based in Southampton, has successfully recovered a rare WW2 German bomber from the English Channel, 5 miles off the coast of Deal in Kent. The Dornier 17z aircraft, believed to be the only example of its kind in the world, had lain in 20 metres of water for more than 70 years, after being shot down by RAF fighters during the Battle of Britain in 1940.

Specialist salvage divers from SEATECH CIVIL AND MARINE's sister company, SEATECH COMMERCIAL DIVING SERVICES LTD, had to work around the clock for 7 weeks, contending with strong currents, large sea swells and strong winds.

The divers were only able to work the slack waters, when the tide changes direction and currents drop, which happens 4 times per day, with a dive time of approximately 1 hour per slack water.

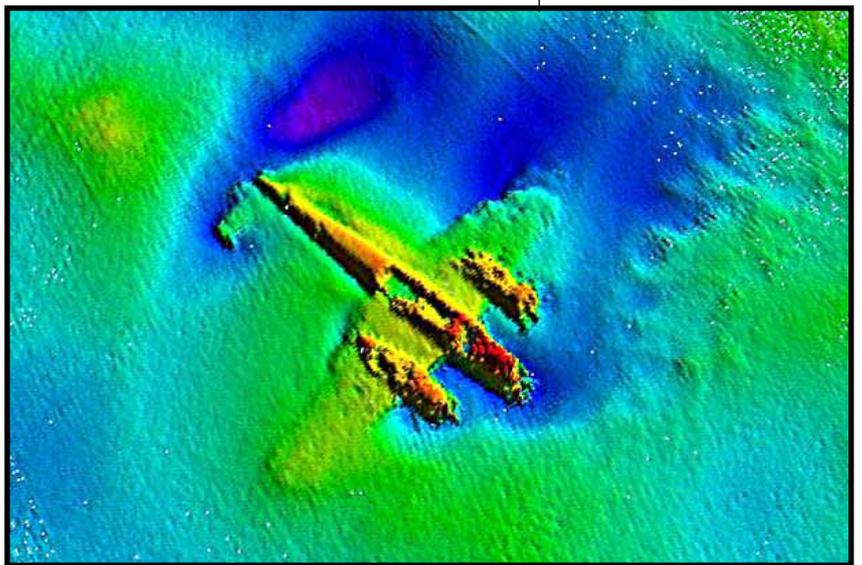
The original intention had been to assemble a modular frame around the aircraft where it lay on the sandy seabed, to act as a lifting cradle to cushion the fragile airframe as far as possible.

The lifting frame was designed by Seatech and manufactured at their workshops in Southampton. Assembly trials and lift tests were then carried out on the frame at RAF Museum Cosford at the beginning of April 2013. The frame successfully lifted 10 tonnes of sand-ballast (more than twice the reported weight of the aircraft).

With the trials and tests completed successfully, the operation to commence recovery of the aircraft commenced with mobilisation of heavy lift barges from Chatham on

29th April 2013.

Following the closure of Gravesend Hyperbaric facility, the nearest decompression facilities to the dive location were at London, which, after ship to shore transfer, was approximately two hours travelling time away. A Dive Decompression chamber was therefore stationed on board the recovery barge.



With divers, barge crew and supervisory staff, the recovery team numbered 30 personnel, all of who had to eat and sleep on board the recovery vessel. A dedicated chef ensured that the crew were well fed 3 times a day throughout the operation. (... CONT)

**Sonar Image of the
Wreck of the Aircraft**



The Dornier Emerges from the Sea

In order to be able to handle the heavy aluminium sections of the lifting frame, two divers were required to be in the water at once. Seatech's salvage team included 10 divers in 5 "buddy pairs" which allowed up to 5 dives in a 24 hour period, so planned recompression and repetitive diving were not required.

Seatech utilised their containerised dive station with 4-diver panel equipped with "round-robin" communications, which meant that in addition to divers being in communication with the Dive Supervisor, the divers were also able to talk to one another, which was a considerable advantage when manipulating lengthy and heavy frame sections.

Both working divers were equipped with helmet-mounted low-light high definition cameras, with continuous feeds to monitors and recording equipment in the dive container. This state-of-the-art video equipment meant that the Dive Supervisor often had a clearer view of the operation than the diver himself, and the clarity of the equipment was ably demonstrated when the BBC broadcast a live feed from the divers video and communications to 52 countries worldwide.

SEATECH had estimated that

approximately 120 dives would be required to assemble the lifting cradle around the aircraft. However, despite a favourable long-range weather forecast at the commencement of the operation, after just 3 days "at sea" the recovery barge was forced to seek shelter in Ramsgate harbour where it remained "weather-bound" for the following week.

Despite going to some lengths, and expense, to obtain accurate weather forecasts, updated 3 or 4 times per day, the UK weather forecasting proved to be even more unreliable than usual, leading one weather forecaster to say "as a weather forecaster, there are times when you just have to throw your hands up in the air and say 'I give up'".

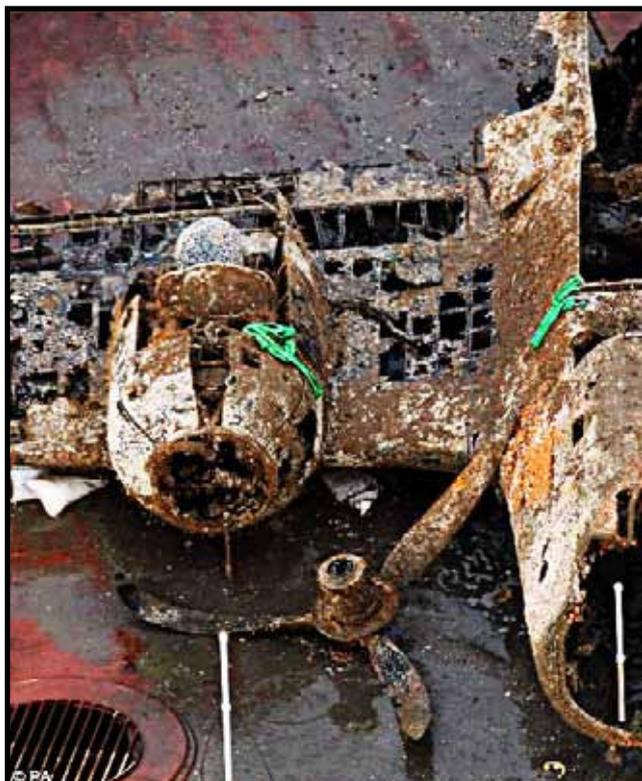
As a result of this, and further weather delays, the client instructed Seatech to accelerate the works to recover the aircraft in just 20 dives instead of the planned 100 dives remaining at that time.

During another shorter period of weather delay, Seatech re-engineered the lifting equipment so that a long aluminium beam could be installed inside the aircraft to strengthen the fuselage section.

The beam weighed almost 40kg on the surface, and it had to be fed into the narrow fuselage via the bomb bay. Seatech utilised pressure containers carefully sized to fit within the hollow frame section and pre-pressurised to 3 atmospheres so that the net weight of the beam at 20m water depth was less than 1kg, allowing it to be easily manipulated by the divers.

Seatech's divers then installed additional rigging to the strongest remaining parts of the aircraft with advice and close scrutiny from RAFM airframe engineers.

The first attempt to raise the aircraft with this revised rigging arrangement was made on June 3rd 2013. However, in the midst of another worldwide live TV broadcast the decision had to be made to abort the recovery on health and



The Dornier in the Lifting Frame



Client Reference
 Ian Thirsk
 Head of Collections
 Royal Air Force Museum
 Grahame Parke Way
 London
 NW9 5LL
 Tel: 020 8205 2266
 Email: ian.thirsk@rafmuseum.org

**Seatech's Recovery Team
 at RAFM Cosford during
 the Frame Trials.**

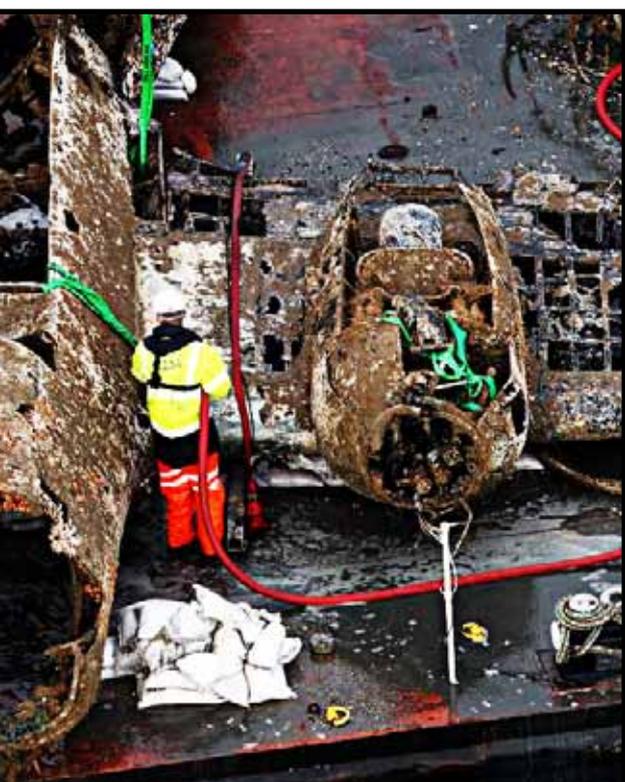
safety grounds due to un-predicted heavy sea swells.

After another week of weather delay the sea unexpectedly became flat calm on 10th June and Seatech grasped their one and only opportunity to raise the aircraft.

Once the aircraft was safely aboard the salvage barge, the lifting frame was assembled around the aircraft to allow the wings to be separated from the fuselage and loaded onto trailers. The separated parts of the aircraft were then road-transported to the Royal Air Force Museum where the aircraft is now undergoing a conservation process that could take up to 2 years before this unique aircraft is finally put on public display.

Ian Thirsk, Head of Collections at the RAF Museum said "We are delighted to have worked with Seatech. We have been particularly impressed with their enthusiasm for this project and their innovative solutions to the unique challenges of the recovery operation".

Darren Priday, Deputy Manager of the Michael Beetham Conservation Centre at RAF Museum Cosford said "It has been great working with the Seatech team – you all are consummate professionals and a credit to the diving industry".



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**The
 Inshore Diving
 Supervisors Manual**
 (Second Edition - Issue 1)



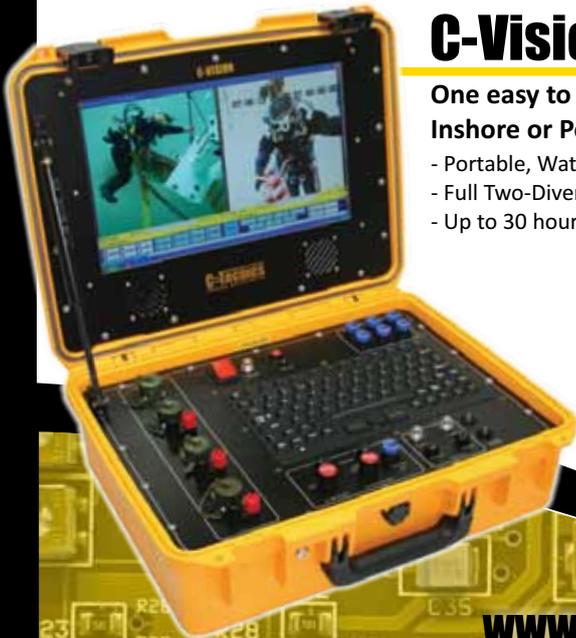
TRITEX NDT OPEN US OFFICE

Tritex NDT Ltd, manufacturers of multiple echo ultrasonic thickness gauges that measure metal thickness whilst ignoring coatings, have opened an office in the United States as part of an ongoing strategy of expansion. Due to steady growth and an increasing global demand for their product range, Tritex NDT opened the new office, based in Newark, New Jersey to better serve their customers in North and Central America, including Canada. Tritex NDT have taken this initiative to offer their multiple echo ultrasonic thickness gauges into these regions while providing better customer service. The new office will provide local product support as well as sales and marketing operations.

Tritex NDT Ltd is now also a certified ISO 9001:2008 company as part of their on-going commitment to their customers. Jon Sharland, Sales Manager, says, "This certification means that we now operate an ISO 9001:2008 certified, quality management system. All areas of the business that impact on our customers have been assessed and approved for a consistent high standard. From the early stages of manufacture of our products right through to the after sales care that we provide; we've reviewed our business so that customers can be sure of the best levels of customer satisfaction when purchasing a Multigauge ultrasonic thickness gauge."

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Pulmonary oxygen toxicity in professional diving: Scire est mensurare?



Pieter-Jan van Ooij

SUMMARY THESIS

When breathing oxygen with a partial pressure of oxygen (PO₂) of between 50 kPa and 300 kPa pathological pulmonary changes develop depending on the length of exposure. This kind of injury, known as pulmonary oxygen toxicity, is not only observed in mechanically ventilated patients but is also considered to be an occupational hazard in oxygen divers and/or mixed gas divers. To prevent these groups from developing irreparable lung lesions, adequate prevention is mandatory. From a historical perspective it is common practice in diving medicine to use changes in lung function as a marker for the early development and onset of pulmonary oxygen toxicity. Especially changes in forced vital capacity (FVC) are considered to be the 'gold standard' marker.

In a review article we summarise the history and background of pulmonary oxygen toxicity and explaining how changes in FVC became the gold standard. Furthermore, the role of submersion as a possible confounder in submerged hyperoxia exposure is discussed. Furthermore, the use of other lung function parameters as alternative monitoring tools are proposed and weighed.

The objectives of this thesis were as follows:

1. What is the effect of submerged hyperoxia on changes in spirometry and diffusing capacity for carbon monoxide compared to a non-submerged hyperoxic situation?
2. Can changes in spirometry or diffusing capacity for carbon monoxide be used as possible markers of the early onset and development of pulmonary oxygen toxicity in divers?
3. How do these parameters perform as compared with the 'gold standard' (percentage of decrease in FVC) in monitoring pulmonary oxygen toxicity in submerged divers?
4. What are the outcomes of the novel non-invasive techniques after submerged hyperoxia exposures? Can they provide molecular biomarkers for the early onset and development of pulmonary oxygen toxicity in divers?
5. Finally, how do the results of these novel techniques compare with the 'gold standard' and other classic lung function parameters in monitoring pulmonary oxygen toxicity in submerged divers?

We studied the effect of submerged hyperoxia on lung function parameters in a group of 13 oxygen divers who made a submerged as well as a non-submerged oxygen dive to 150 kPa while they were breathing 100% oxygen for 3 hours. After the submerged dive significant changes were found in diffusing capacity for carbon monoxide, which were not present after the non-submerged dives. Furthermore, vital capacity showed no significant change, which is in contrast to what we expected based on the studies of Clark and Lambertsen. These results indicate that the development of early pulmonary oxygen toxicity in submerged oxygen divers is not comparable to that in non-submerged divers.

In addition to spirometry and diffusing capacity for carbon monoxide, we used diffusing capacity for nitric oxide as a novel measurement technique. In a group of 11 oxygen divers we studied the changes in spirometry and both diffusing capacity methods after a non-exercise dive to 150 kPa for 3 hours where the divers breathed 100% oxygen and air in randomized order. In contrast to the previous study no significant differences were found between any of the three techniques. This suggests that an oxygen dive to 150 kPa without exertion appears to be tolerated as well as an air dive of the same dive depth and of the same duration.

Because a dive to 150 kPa did not lead to a change in any of the lung function parameters, we repeated the study but now using a dive to 190 kPa breathing 100% oxygen for 1 hour. After this oxygen load we found a significant decrease in alveolar volumes and diffusing capacity for carbon monoxide and nitric oxide. In contrast, decreases in FVC were more pronounced after air dives compared to oxygen dives. This indicates that diffusing capacity is superior to FVC in monitoring the early development of pulmonary oxygen toxicity. Furthermore, impairment of diffusing capacity in combination with a reduction in alveolar volumes may indicate interstitial edema as an early sign of pulmonary oxygen toxicity. Finally, these data warrant further investigation to validate the superiority of the diffusing capacity over FVC in the practical monitoring of divers.

(... CONT)

(... CONT)

- studies are needed to support this hypothesis, preferably using different

During the last decade, measurement of the exhaled fraction of nitric oxide (FENO) has frequently been used in treatment for asthma. To see if FENO can also be used in monitoring the onset of pulmonary oxygen toxicity we performed a study in which FENO was measured after oxygen and mixed gas dives with different partial oxygen pressures (PO₂ between 130 kPa and 180 kPa). Although we found a significant decrease in FENO after these oxygen loads, the biological importance remains unknown because these decreases fell within the biological variance. A possible explanation for these limited results could be the advised exhalation flow rate, which restricts measurement to only the conductive compartments and not to the alveolar ones. To overcome this limitation, in future studies we recommend to use the multiple exhalation flow technique.

Beside FENO, changes in exhaled volatile organic compounds (VOCs) are increasingly used with respiratory medicine to detect diseases like lung cancer, asthma and tuberculosis. Theoretically, also after oxygen diving a specific change in VOC could be found. To test this hypothesis we measured exhaled VOC after an oxygen dive to 190 kPa for 1 hour with the use of 100% oxygen.

A distinguishable VOC breath print was found, which mainly exists on methyl alkanes. We hypothesized that the early onset of pulmonary oxygen toxicity could either be represented by lipid peroxidation induced pathways, or inflammatory pathways, or both. However, more PO₂ levels and dives of differing periods of time. Furthermore, multiple post-exposure sample times are necessary.

Based on the results of the presented studies we came to the following conclusions:

- The onset of pulmonary oxygen toxicity in submerged oxygen diving develops earlier than in an identical dry hyperbaric oxygen dive.

- FVC should not be used as a gold standard for monitoring the early onset of pulmonary oxygen toxicity in submerged oxygen diving.

- Interstitial edema could be one of the earliest signs of pulmonary oxygen toxicity in submerged oxygen diving.

- DL_NO and DL_CO are better able to detect early onset of pulmonary oxygen toxicity after submerged oxygen diving than FVC. However, their superiority needs to be confirmed in further studies.

- Although changes in FENO and/or VOC seem very promising to identify pulmonary oxygen toxicity at an early stage, more research is needed to determine their usefulness in monitoring the development of pulmonary oxygen toxicity after submerged oxygen exposure.



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During the show there will be various attracting on-site activities to be confirmed. Visitors will be fully engaged during their visit and exhibitors will be able to maximize the facility to have meaningful interactions with potential clients, build strong relationships with other exhibitors and network with Chinese and other Asian travel and dive-related operators.

Want to join in Dive China 2014 in Guangzhou? Feel free to send us an enquiry.

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INNOVATIVE UNDERWATER CAVITATION CLEANING TECHNOLOGY

by Marco Montanari,
R&D test Diver

Developed
BY divers,
FOR divers

Safety of the cavitation stream



There is a huge and growing demand for cleaning and maintenance of underwater structures, such as marinas, docks, pontoons, offshore installations (oil rigs, wind farms, fish farms), commercial vessels, military and coast guard vessels, cruise ships, motor yachts, sailboats, etc. The prohibitive and rising costs of lift-outs and dry-docking will continue to fuel this trend. The challenge is finding the right tool to perform underwater cleaning effectively and safely.

As a professional diver with over 35 thousand minutes in surface supply under my belt, I have faced firsthand the challenges of serving the underwater cleaning market. I was very frustrated that I could not find the right machine to get the job done. Available systems were either unreliable, under performing, damaging to the underlying surface, too expensive or downright dangerous for the diver.

So when I set out to develop a new line of underwater cleaning systems, I immediately focused on cavitation technology, for its obvious advantages in terms of high efficiency and diver safety. The result of years of development work is the Cavitchleaner system.

With Cavitchleaner, the cleaning action is performed by a cavitation stream. In cavitation, microscopic air bubbles are formed, which implode to create an intense shock wave, which dislodges fouling or biological material. This is highly effective, works rapidly, at relatively low pressures and does not harm the surface being cleaned.

Safety First

Unlike high-pressure water jets, Cavitchleaner poses no risk to the diver. It functions at optimum levels at a lower pressure range (80 to 120 bar) vs high-pressure washers, leading to a distinct advantage in terms of diver safety. In fact, the cavitation stream can come in contact with bare skin without injury. In addition, Cavitchleaner's unique patented design does not require a retro-jet, which eliminates the risks to a diver's ears and face.

Performance

Cavitchleaner is extremely effective at removing any type of growth or fouling from any underwater surface (risers, columns, hulls, sterngear, propellers, shafts, rudders, thrusters, sea chests, pontoons, chains, ropes, pipes), regardless of the material type (steel, fiberglass, aluminum, wood, concrete, rope) or the structure's shape.

In addition, contrary to high-pressure washers and mechanical cleaners (brush tools, blades), Cavitchleaner will NOT damage the underlying surface material and leaves sensitive and fragile paints and coatings intact. This also means an important environmental benefit, as cleaning with Cavitchleaner will not release chemicals (paint, anti-fouling coating, heavy metals) into the water.

Certifications

Cavitchleaner is CE-marked. In addition, TUV has certified that the method used by NOS DiveServices with support of a cavitation cleaning system meets the ISO14000 series environmental standards.

To date, numerous Port Authorities in the Med have acknowledged the validity of cavitation cleaning systems to be used in their area of responsibility, based on their ability to preserve paints and coatings, and respect for the environment.

The Italian coastguard has authorized and requested cleaning of their vessels using the cavitation system.



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DIVER SAFETY IS PARAMOUNT

says new partnership
KB Associates & MTCS Ltd

Managing safety risk at sea is a challenge! Commercial divers work at depths of up to 300 meters and spend weeks living in enclosed hyperbaric chambers and often face tough working conditions requiring a high level of training and competence.

With training and competence playing a key role in today's industry, the joint partnership of Maritime Training & Competence Solutions (MTCS Ltd) and KB Associates Group of Companies (KBA) is a leading initiative that will establish new benchmarks within the commercial diving and ROV industries. Both organisations have a keen passion for safety, training and competence and will be collaborating to deliver their range of services to the industry.

The joint partnership will see multiple benefits where both organisations will be sharing the knowledge to enhance the training courses offered, while both groups of clientele are also able to enjoy broader diver / ROV competency development training at more training locations to fit their plans.

KBA Group provide an integrated professional specialist solution for consultancy and training that fosters safety excellence and quality in the Offshore Oil & Gas industry and onshore terminals construction industries.

Darren Brunton (CFIOSH), the Managing Director of KBA, brings a wide range of diving and safety management expertise to the courses planned by both companies. He has worked in the Offshore Oil & Gas Diving industry since 1990 as a diver, diving supervisor, client representative, diving system / company auditor, safety management and diving trainer with experience globally such as in the Asia Pacific, China, United Kingdom, Middle East and South American regions. Darren possesses the hands-on experience of offshore operations, safety management, compliance and training deliverables in all the courses developed.

Darren commented: "We're thrilled to forge this partnership with MTCS Ltd on the various training courses and other projects within the work scope. Strategically located in Singapore and Aberdeen KBA offers MTCS a platform to bring its brands and training to the Asia Pacific region and we gladly welcome MTCS instructors and trainees to our facility in both Singapore and Aberdeen, UK for the series of competency training courses conducted. We strongly believe that this synergy will set us apart and offers a more comprehensive solution to our clientele."

Some of the available KBA training courses include: Diving System Assurance Awareness - 1 Day course; Diving System Assurance - 4 Day course; OGP Client Worksite Representatives Training - 5 Day course; IMCA Air/Bell Diving Supervisor and Assistant Life Support Technician Training; Diving

Technician competence courses such as DSI KBM Helmet Technician and a range of internationally accredited safety training such as NEBOSH Training from WSH Qualification to International Diploma levels.

MTCS Ltd are to deliver training alongside KBA at their new facility in Aberdeen as well as in Singapore, where they plan to run Diver Competency schemes and also a Skills Assessor course.

MTCS Ltd is a fully accredited assessment and training centre, whose head office is based in the Lake District and currently manage the largest independent assessment and certification programme for people involved in Subsea Operations such as ROV, Diving and Hydrographic Survey. Providing a full IMCA-aligned Competence



Scheme Management service, MTCS Ltd ensure personnel are demonstrating competence in the offshore workplace.

Richard Warburton, Managing Director for MTCS Ltd said: "Working with KB Associates can only be beneficial for both companies, as many of our courses complement one another and the sharing of expertise will result in improved safety to divers and a better service to our clients. MTCS Ltd has extensive experience in competence working. There is an on going requirement for offshore personnel to demonstrate competence in the work place and one of these areas is in diving. The main driver for this comes from the oil companies who insist personnel are registered in some form of competence management system. This system must prove that personnel are competent, or working towards competence, in safety critical, operational and technical activities. Many of the contracting companies have had successful competence management systems in place for many years. There has, however, always been an issue regarding agency personnel or 'freelancers', in particular how do they demonstrate competence when they often work for a number of different companies."

For further information on course opportunities, please contact Richard Warburton, MTCS LTD, Tel: 015394 48233 or email enquiries@mtcs.info. www.mtcs.info; KBA - enquiries@kbassociates.org or +65 6546 0939



ABOUT IDSA

The Association is concerned with all divers - Offshore, Inshore and Inland - and has established International Diver Training Standards based on the consensus view of its many members. The Standards provide both a yardstick for those responsible for either administering existing National or creating new ones, and a guide for Clients, Diving Contractors and Divers themselves. It is considered that the introduction of these internationally agreed diver training standards will have the effect of:

- Improving Safety
- Providing Contractors with a direct input to the Diver Training Syllabus
- Enabling Contractors to bid across National Borders on a more even playing field
- Improving Diver competence
- Providing Divers with greater Job

Opportunities

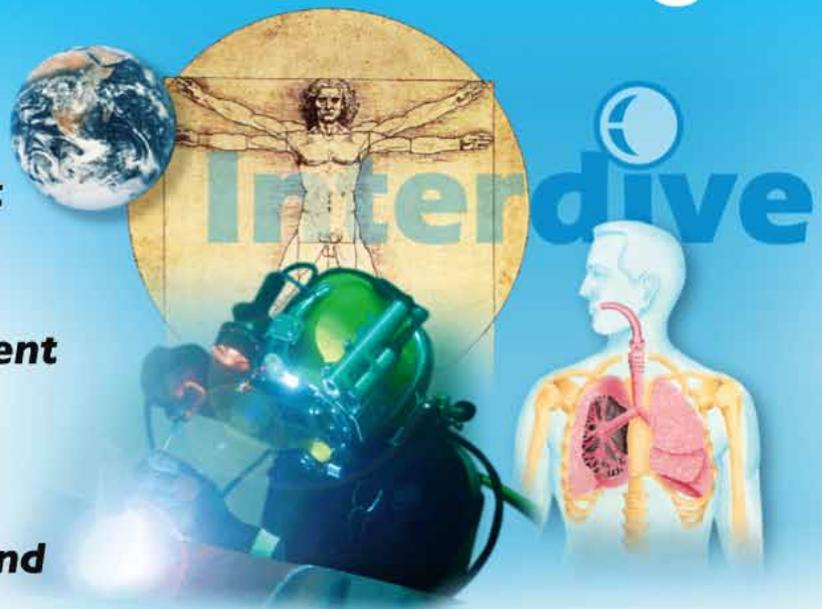
Some governments have and will, set their own National diver training requirements. The IDSA programme provides a means of equating National Standards by maintaining a Table of Equivalence.

One of the main thrusts is towards International Diver Certification in order to bring together the various National Schemes which are currently in existence. However, the Association is not just concerned with standards; it also serves as a valuable forum for the interchange of News & Views between members, many of whom are the only Commercial School in their Country. Current routes for this interchange are the Newsletter - published in January and July, the IDSA Website www.idsaworld.org the Annual meeting in September/October, and various and many forms of contact between members and the Executive Board.

For Membership and all other information contact the Administrator at info@idsaworldwide.org

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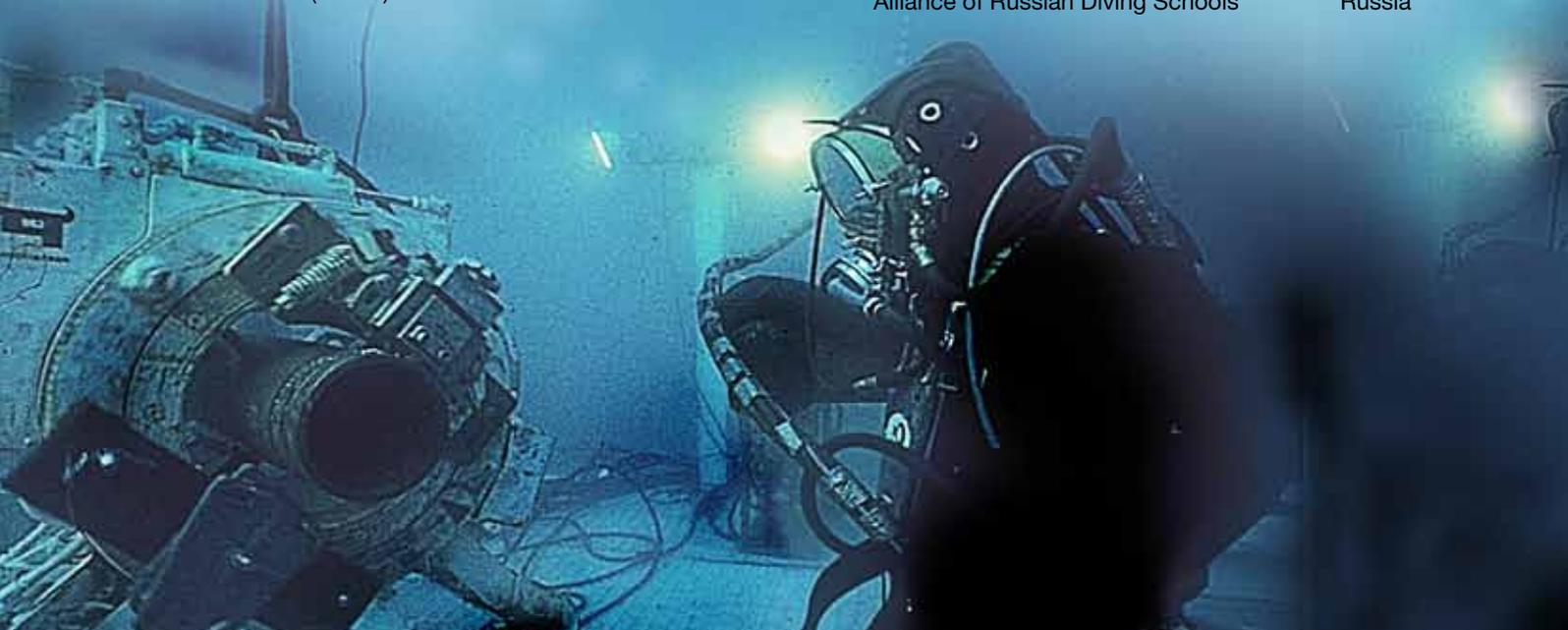
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