
MINUTES of EDTC 2024 ANNUAL MEETING

Lucerne, Switzerland



Place: Suva, Fluhmattstrasse 1, Lucerne
Date: 3-5 October 2024

AGENDA

3rd October 2024, Thursday, Suva, Fluhmattstrasse 1, Lucerne

17:00 - 17:30	EDTC Executive Board Meeting	EDTC Board
17:30 - 18:00	Arrive, Suva, Fluhmattstrasse 1, Lucerne Lucerne, Entrance	Members and Guests
18:00 – 22:00	Apéro riche at Lucerne, Suva, Fluhmatt, Suvalino (internal restaurant)	Members and Guests

4th October 2024, Friday, Suva, Fluhmattstrasse 1, Lucerne

09.00–09.30	Registration	
09:30-09:35	Welcome	Chairman, Jörn Ryberg
09:35-10:00	Introductory Presentations by Host Country and Safety and Security Information	Host
10:00-10:15	EDTC Admin Matters, Apologies EDTC Membership Summary Treasurer Report	Secretary, Akin S. Toklu Treasurer, Phil Crombie
10:15-10:45	Chairman's Report Summary of Actions from 2023/2024	

10:45-11:15	COFFEE BREAK	
11:15-12:30	Workshop on Employer Subcom. Document	All
12:30-13:30	LUNCH	
13:30-13:50	Reports from the Med. Subcommittee	Jurg Wendling
13:50-16:30	National Reports	Members
16:30-17:00	COFFEE BREAK	
17:00-17:20	Elections	All
17:20-17:50	Any Other Business, Next Meeting	All
17:50-18:00	Closing remarks	Chairman Jörn Ryberg

5th October 2024, Saturday

10:45	Visit to Mount Rigi Meeting point & boarding Lucerne, Landungssteg / pier 1	Members and Guests (indicated during registrations)
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THOSE PRESENT

HOST

MEMBERS	COUNTRY	
Andreas Achermann	SWITZERLAND	
Jurg Wendling		

EXECUTIVE BOARD

NAME	REPRESENTING	TASK
Jörn Ryberg	SWEDEN	Chairman
Akin Savas Toklu	TURKEY	Secretary
Phil Crombie	UK	Treasurer
Jean Lelievre	FRANCE	Member Executive Board
Jurg Wendling	SWITZERLAND	Member Executive Board

PARTICIPANTS

MEMBERS	COUNTRY	PARTICIPANTS	COUNTRY
Adriaen Winkers	THE NETHERLANDS	Jim Cullen	IMCA
Akın Savaş Toklu	TURKEY	Jörn Ryberg	SWEDEN
Ali Macleod	UNITED KINGDOM	Jurg Wendling	SWITZERLAND
Allan Schütt	DENMARK	Kirwan Conor	EDA REPRESENTATIVE
Amanda Sordes	AUSTRALIA	Leif Morten Rasch	NORWAY
Andreas Achermann	SWITZERLAND	Mario van Mierlo	THE NETHERLANDS
Blandine Aublin	FRANCE	Martin Heer	NORWAY
Aurelian Ivascu	ROMANIA	Mats Hagberg	SWEDEN
Bard Humborstad	NORWAY	Maurice Schlauri	SWITZERLAND
Carmen Schleiss	SWITZERLAND	Murat Egi	TURKEY
Christian Wölfel	SWITZERLAND	Øyvind Loennechen	NORWAY
Dominik Schwarb	SWITZERLAND	Pasquale Longobardi	ITALY
Fievez, Marcel	NETHERLANDS	Philip Crombie	UK
Giovanni Esentato	ITALIA	Pieter-Jan van Ooij	THE NETHERLANDS
Hans Cuyllits	BELGIUM	Rienk Rienks	THE NETHERLANDS
Helene Szulc	FRANCE	Ueli Stampfli	SWITZERLAND
Jean Lelievre	FRANCE	Ulrik Jünge	NORWAY
Jennifer Mayer	GERMANY		

APOLOGIES FOR ABSENCE			
MEMBERS	COUNTRY	MEMBERS	COUNTRY
Ali Uzunoglu	TURKIYE	Margo Purru	ESTONIA
Andrejs Cernavskis	LATVIA	Mark Caney	EUF
Bogdan Cristian Ion	ROMANIA	Massimo Becherucci	ITALIA
Carla Espiney Amaro	PORTUGAL	Nicolae Visan	ROMÂNIA
Damir Podnar	SLOVENIA	Peter Sieniewicz	UK
Eric Saint-Sulpice	FRANCE	Rolf Roessland	NORWAY
Frank Werner	GERMANY	Roswitha PROHASKA	AUSTRIA
Frank Werner	GERMANY	Steve Forman	UK
Jaroslav Šot	CZECH REPUBLIC	Thomas Gaisberger	AUSTRIA
Joar Gangenes	NORWAY	Veronika Rybarova	SLOVAKIA
Laval Arnaud	FRANCE	Vitalijs Cernavskis	LATVIA
Leo Lagarde	IDSA	Wilhelm WELSLAU	GERMANY

WELCOME ADDRESS

The Chairman Jörn Ryberg opened the EDTC 2024 meeting welcoming members. He thanked the host and other people contributed organizing the Annual Meeting in Lucerne and invited Andreas Achermann to give an introduction along with safety and security information. Andreas Achermann welcomed all members and guest to the meeting and gave safety information about the venue.

PRESENTATIONS BY HOST COUNTRY

Andreas Achermann

Andreas Achermann reported that in Switzerland, Suva is the statutory accident insurance for industries with increased risks. In addition to rehabilitation, it also conducts prevention and is the authority for occupational health and safety and product safety for the insured industries.

As authority for H&S and Product Safety Suva is advising companies, supervises construction sites and ceases work in case of immediate, serious danger. Companies have to involve occupational doctors/physicians and other occupational safety specialists, when the needed knowledge internally is not present. Named ASA, the ASA-Safety System is structured according to 10 points and correlates to ISO 45001 Occupational health and safety management systems.

Typical hyperbaric work in Switzerland are Archaeological Diving, Industrial Diving, diving on construction sites, in dam-lakes and also in waste-water-facilities and nuclear plants. Please see Annex-1 for detail.

Jürg Wendling

Jürg Wendling gave information about the medical support for occupational divers in Switzerland and Swiss Underwater and Hyperbaric Medicine Society. He detailed the level of training in diving and hyperbaric medicine and pointed out the localization of the physician on the map. Jürg Wendling described how Swiss occupational divers are medically supported. He gave examples of medical support of Swiss diving/hyperbaric operations. See the detail in Annex-2.

Dominik Schwarb

Dominik Schwarb reported that employees must have medical check before starting professional diving action. He added employer can work only start after decision of Suva (Swiss National Accident Insurance Fund). There are two types of medical examinations by physicians; Big and Small Medical Examinations. The examinations are done every 5 years up to an age of 45, then every year. Unsuitability orders were given 18 times in the last 10 years. Diagnoses were epilepsy, coronary heart disease, asthma, cancer, musculoskeletal system, psychiatric illness and small vessel disease. Please see Annex-1 for detail

Maurice Schlauri

Maurice Schlauri informed the members about the history of Commercial Diving in Switzerland. He gave information about Willy Stäubli Ing AG by listing the technical capabilities, type of underwater works, and the applications areas of equipment by showing some photos from the operations. See Annex-3 for detail.

EDTC ADMIN MATTERS

The Secretary, Akin S. Toklu informed members about the previous meetings noting the date and place of EDTC annual meetings. He added that the host for EDTC 2025 Meeting will be announced during the closing remarks. Secretary noted that 25 countries and 6 organization are represented in EDTC and stated that there are 10 correspondent members. He pointed out the “members area” in the EDTC website and shared the password for entering. He asked all members to check their contact details and let him know if a revision needed. He showed the list of members who sent apologies for not being able to participate to the meeting and listed the name and countries of the participants. He listed new EDTC members. Then secretary gave information about the number of the country represented in EDTC, the number of the members and their categories, the vacant positions for each category. He showed the occupancy rates for four categories stating that the most occupied categories were Industry and Medicine with 80 % occupancy. He finished his report after listing the names of the members nominated for EDTC Board member election. See detail in Annex-4. He invited treasurer Phil Crombie to give a report.

Phil Crombie stated that the EDTC balance is approximately 23.600 Euros. He noted that he could accept membership fees as cash during the meeting. He explained the purpose of balance is to contribute towards host costs and to cover some strategic expenses such as inviting important guests. He reminded members to make clear their country and representative when making any bank transfers. He also reminded that additional 50 Euros should be paid if there is a guest for dinner. See Annex-5.

CHAIRMAN'S REPORT

The Chairman, started his report by detailing the profile of the European Diving Technology Committee. He explained the purpose of EDTC, membership categories and the ways to reach the aim. He introduced the board members and the activities and achievements of the Board during 2023 / 2024.

The Chairman has given some figures regarding fatal diving accidents and added the statistics of fatal diving accidents in diving industry and governmental information are poor. He noted the data for fatal diving accidents was collected by voluntary individuals. He regarded the fatality rate is not acceptable. He has given some unsafe diving examples performed by SCUBA.

Chairman gave detail about the two inventory works done by EDTC and DIVEX on differences in regulations among EU countries, together with the results.

Chairman gave the news of new EDTC membership of European Defense Agency, closure of INPP, reaction of IOGP to ship husbandry, EDTC workgroup to work on norms or regulation on recompression chambers. He mentioned about the distribution of responsibilities among employers and employees. Chairman informed the members regarding past EDTC workgroup activities and the mentioned about the topics that will be discussed in workgroup session in the program. He summarized the relation between EDTC and EU commission and informed the members regarding discussion had been held in the context of creating a new directive specific for Commercial diving.

The detail about chairman report can be seen in Annex-6

WORK GROUPS ACTIVITY

Participating members were divided into five workgroups to review the document of “Guidance on Safe Working Practices In Commercial Diving” prepared by EDTC Employers Subcommittee, with participations from France, Germany, The Netherlands, Spain, Sweden and UK. Ulrik Jünge from Norway, Allan Schütt from Denmark, Ali Macleod from UK, Andreas Achermann from Switzerland and Helene Szulc from France were the representative of the workgroups and they made brief reports regarding their workgroup activities.

REPORT FROM THE MEDICAL SUBCOMMITTEE

Jürg Wendling, the chairman of EDTC Medical Subcommittee stated that subcommittee members came together and made a meeting during the EUBS Meeting in Brest, France on 17.09.2024 with the participations of twelve members and eight corresponding members. He reported that 2000 copies of Fitness to Dive Manual (Medical assessment for work under pressure) were printed and shipped to UK and to be stored at IMCA's office in London. He added information about DMAC, diving doctors databank (divemedreg.org), revision of EDTC-ECHM training standards for diving and hyperbaric medicine 2011. He also noted that he steps back from chairmanship and the subcommittee welcomes Pieter van Ooij as new chairman for the next years. The more detail regarding Medical Subcommittee Report can be seen in Annex-7

EDA AND DIVING RELATED PROJECTS & PROGRAMMES

Conor Kirwan, Project Officer for the Capability Development Plan in the European Defence Agency delivered a briefing on the EDA, its roles and functions. Conor delivered an overview of the organization of the EDA, its mandate and core tasks. He described the [EU Capability Development Priorities](#), their role as the central reference for all EU defence planning and the baseline for all EU defence initiatives. He focused on the priority “Underwater & Seabed Warfare” before elaborating on the specific projects, programs and initiatives currently on going within this area which may be of interest to the EDTC.

EDA has a number of diving related initiatives ongoing working in close coordination with the militaries of the EU Member States. One of the key initiatives is the EU Community of Diving Experts (EU CODE), chaired by Cdr Marcel Fievez who was also in attendance. EU CODE aims to:

- To initiate collaborative projects based on identified collaborative opportunities.
- To support the implementation of the EU capability Development Priority Underwater Control & Seabed Warfare with regard to diving capabilities.
- To improve diving interoperability (operational, equipment and medical) in Europe, by sharing
 - of best practices, development of common procedures, and synchronisation of capability development in the field of diving operations, and diving equipment.
- Establish minimum safety standards and minimum interoperability standards for EU (military) diving
- To collect the common view of the diving experts of Europe and be able to present it to other international fora.
- To support European projects related to diving.
- The work of EDTC in relation to diving & hyperbaric medicine, diving equipment standards, and training and education, is of particular interest to the EU CODE.

Conor went on to deliver a brief overview of other diving related projects supported by EDA under the PESCO framework including [DIVEPACK](#) & [EU Network of Diving Centres](#).

He thanked the Chairman and EDTC for the opportunity to attend the meeting and brief the audience. See Annex-8 for detail.

NATIONAL REPORTS

FRANCE (Hélène SZULC)

Hélène SZULC started his report giving information fatalities and serious accidents in commercial diving between 2018 and 2024 detailing the typology of diving. She continued giving numbers about the hyperbaric work certification in 2024. She gave information about the activities of SNETI (Union of Specialties of the National Federation of Public Works), analysis of underwater works and diving accidents, test of diving helmet in pool. She mentioned about three diving training centers and the closure of INPP in June 2024. She finished her report mentioning about the composition of commercial diving team and approval of EDTC guidelines at SNETI. See the detail in Annex-9.

ITALY (Giovanni Esentato, Pasquale Longobardi)

Giovanni Esentato reported that Italy has established the Underwater Safety Agency to introduce a law for the professional diving sector and recreational-tourist sector, including regulations for safety in national and territorial waters, and protection of underwater infrastructures like oil gas plants, energy pipelines, and submarine cables. He added Italian Government aimed to be a representative to the European Community to standardize operating procedures and guidelines for underwater safety at the EU level, as the EU lacked specific regulations in this area. The detail about his report can be seen in Annex-10.

Pasquale Longobardi shared the statistics about the activities of Diving Doctors Italy for 15 years healthcare service for divers in 20 countries. He analyzed the medical issues encountered during these activities. He added that Diving Doctors Italy developed a decompression procedure and collaborated with underwater firefighters in 2024. He shared a schedule to show shorter decompression time. He explained the goal, method and limitation of the work they have done. The detail can be seen in Annex-11

NORWAY (Ulrik Jünge)

Ulrik Jünge started his report explaining what the Havtil is. He reported that PSA change the name to Havtil effective from new year 2024. Havtil has expanded responsibilities and is now covering petroleum operations, renewable energy offshore, CO2 transportation and storage and mineral operations offshore. He stated there is a low level of incidents and accidents in the Norwegian offshore diving industry. Havtil registers all offshore diving incidents and have presented statistics for the past four decades. However, Havtil is currently investigating the occurrence of some DCS cases during offshore surface-oriented diving. He stated there are two Norwegian diving schools and the level of educated divers are consistent through the last 5 years with approx. 190 surface supplied divers and 50 inshore dive supervisors each year. The Norwegian offshore diving activity level has been increasing the past two years, and it was expected high activity level in the next year. Please see Annex-12

ROMANIA (Aurelian IVAȘCU)

Aurelian IVAȘCU presented his national report with the titles; “Diving accidents in Romania 2010 – 2024”, “Romanian inshore & offshore diving legislation” and “Hyperbaric medicine in Romania”. He analyzed two commercial diving fatality occurred in 2010 and 2020. He concluded non-respecting of legislation and safe diving procedures were the underlying reason for the accidents. He continued his report giving detailed information about Romanian legislation and current situation regarding hyperbaric medicine in Romania. See the detail of the report in Annex-13.

SWEDEN (Mats Hagberg)

Mats Hagberg shared some information from the official report by the Swedish Accident Investigation Authority about a commercial diving fatality occurred on 2nd January 2024 in

Gothenburg as detailed in Annex-14. He also reported that according to the Swedish Work Environment Authority (Law), the fitness to dive examination for working divers should be done according to EDTC standard. Please see the detail in Annex-14.

THE NETHERLANDS (Mario van Mierlo)

Mario van Mierlo reported that in July 2024, the two certifying and examination bodies were reorganized into one certification body (NDC-CI) and an examination body Hobeon SKO. This is done in advance of the change from a certification system to a registration system that is due to be affected by the 1st of January 2025.

Early 2025 HSE, EDTC and IMCA will be informed about the transition to registration. Publication in Government Gazette at the end of 2024 to amend laws and regulations. At the same time, the requirements for inspections will be included in the regulations.

SCUBA with air supply from the surface: SCUBA with (HP) air supply will be included in the A scope. Police and the Fire Brigades have indicated that they will make more use of SCUBA equipment with (HP)air supply from the surface where possible. In the annual plan of SWOD the use of this technology will be approached in a generic way.

Project volunteers and diving: In the Netherlands voluntary activities organized for sport divers are quickly falling under the Dutch Diving Legislation. This diving legislation was never developed with these kinds of activities in mind, and as result, volunteer divers are in most circumstances in direct violation of the law.

After a first report with a recommended way forward was issued end 2023, this year the workgroup continued its work to detail the modifications to the diving legislation for allowing volunteer diving activities under specific conditions. At the same time the workgroup also will be addressing the frameworks of European Scientific Diving into the current A-scope for SCUBA diving.

It is expected that the work of the workgroup is ready at the beginning of 2025, after which the recommendations will be handed over to the Ministry of Social Affairs and Employment for consultation and implementation.

Inshore diving safety: After a fatal accident occurred with a diver last year, the NADO initiated a workgroup to look at diver safety in the inshore environment. This workgroup issued its recommendation to the industry. These recommendations were presented at the annual knowledge exchange day where also the Dutch Labor Inspectors were present. The workgroup will start a second phase where these recommendations will be prepared for implementation.

In the meantime EDTC formed a similar workgroup and the NADO chairman presented the workgroup presentations, similar to the one held at the knowledge exchange day.

Hyperbaric medicine: An update of the Dutch Hyperbaric Medicine Directive will be published in early 2025.

EU Medical Devices Regulation: The industry is facing complications with current decompression tanks as result of the latest changes to the EU Medical Devices Regulation. These were shared with the Ministry of Health, Welfare and Sport. The industry is referred to European platforms (EDTC) to raise this issue within the European Commission.

This topic was raised with the board of the EDTC in June, and a working group under EDTC would be addressing this topic.

SLIC : The Netherlands has provided input to the EU Senior Labor Inspectors Committee (SLIC) for an inventory on various national diving laws and regulations within Europe. See Annex-15

TURKEY (Murat Egi)

Murat Egi presented a project founded by European Union. He reported that Blue Economy has rapidly evolved over the years, creating 5.4 million jobs and generating almost €500 billion gross added value annually. This sector is characterized mainly by a great rise in underwater scientific activities, creating a promising new sub-market of BlueTech and Scientific Diving. Manned and

unmanned diving appears in different forms all over the Blue Economy with the diving sector emerging, creating opportunities for growth and jobs. Scientific divers are qualified scientists, who use diving equipment and techniques to perform underwater tasks for their fieldwork. Thanks to the recent advances in robotics, scientist also uses tethered and autonomous robots for underwater explorations. SCIENCEinBLUE aims to meet the citizens, in particular children and young minds with researchers working in the area of underwater science and technology by addressing the question When scientist go under the oceans? One hundred forty visits are planned over two years in primary and secondary schools as well as maritime vocational schools in seven different regions of Turkey including French, English and Italian speaking international schools. During these visits and the researcher night, the project members will be using mainly the results obtained in eight different EU projects related to marine citizen science, underwater cultural heritage, sustainable tourism, underwater physiology, marine protected areas, informatics, robotics, IoT and educational aspects of scientific diving in order to demonstrate that scientific career is accessible regardless of gender and ethnicity; Oceans and its conservation is critical to human existence; oceans are still waiting to be explored; underwater environment is an important playground for STEM activities; innovation and economic potential of underwater technologies are important for Europe; underwater research is exciting and highly interdisciplinary; European Union has a leading role in promoting science and science education. See Annex-16

UK (Philip Crombie, Ali Macload)

The HSE report was presented by Philip Crombie that covered incidents reported for the financial year 2023 to 2024. There was one fatality, involving a recreational diver collecting scrap metal to sell. The presentation also looked at the enforcement notices HSE had taken during the year (Improvement and Prohibition notices). The detail about the presentation can be seen in Annex-17

Ali Macleod Diving Technical Adviser gave the IMCA update. IMCA has published new guidance on underwater ship husbandry. This is in response to the unacceptable number of diving deaths when operations are carried out on ships hulls. Almost all deaths have been while using scuba with incorrect team sizes and little planning. The workgroup formed to write the document consisted of IMCA member diving contractor representatives and industry experts in the field of ship husbandry. IMCA and other stakeholders have launched a campaign to highlight the dangers of ship husbandry when not conducted properly. A safety seminar will take place in October in Singapore, a part of the world where ship husbandry is common. A previous seminar had taken place in Dubai and Panama will likely be the next venue. IMCA D082, Guidance on diving operations in support of underwater ship husbandry is free to download from the IMCA website.

IMCA has taken part in a recent trial at The Professional Diving Academy diver training school in Dunoon, Scotland. The trial was aimed at creating an algorithm for the resuscitation of a diver in a diving bell. Twelve divers from Boskalis took part in the trial, testing the methods available to perform external cardiac massage in the confined space of a diving bell. The trial included manual CPR and Nui gas powered Chest Compression Device. A clinical paper has been published which details the findings. Here is the link:

<https://www.sciencedirect.com/science/article/pii/S2666520424001759...>

A workgroup has been formed to investigate the duration of emergency lung powered scrubbers found in a bell survival pack. It is suggested that the duration is not as long as previously thought. Once this work is complete, IMCA D077 Guidance on Prevention and Mitigation of Lost Bell Emergencies will be updated.

IMCA membership for diver training schools who offer in-water diver training is no longer available. IMCA has made a system available where diver training schools can register with the Association and for a small fee, get access to IMCA's suite of documents to assist them with their training. IMCA will continue to influence in-water diver training through participation in the International Diving Regulators and Certifiers Forum.

The popular IMCA supervisor CPD App is to be made available to anyone who has an interest in being kept up to date with IMCA's work.

A recent review of a diving contractor who was applying for IMCA membership, discovered a significant number of forgeries. These included offshore diving qualifications, underwater inspection qualifications and Diver Medic Technician qualifications.

IMCA sometimes receives complaints from individuals regarding the conduct of IMCA members. IMCA will only act if there is reliable and verifiable evidence. IMCA has regulatory or enforcement powers but will act if evidence is provided. Details can be found in the newly published IMCA document D083 Audits with Cause.

In response to requests from industry, IMCA are writing a document on guidance for the use of deck decompression chambers used in air diving operations. This will be published in early 2025.

Applications to sit the IMCA supervisor exam are at an all-time high. Mid 2024 saw the same number of applications as the whole of 2023. See the detail in Annex 18.

ELECTIONS

The Secretary announced that there are three nominations for the positions of Akin Savas Toklu from Turkey and Pasquale Longobardi from Italy, in EDTC Board. The nominations were Akin Savas Toklu from Turkey, Pasquale Longobardi from Italy and Rolf Roessland Norway. They introduced themselves to the participants. Akin Savas Toklu and Pasquale Longobardi were re-elected to the EDTC Board.

ANY OTHER BUSINESS, NEXT MEETING, VENUE AND DATE

Chairman announced UK as the host country for EDTC 2025 and stated detail will be shared with the members when clarified.

ACKNOWLEDGEMENTS & CLOSING REMARKS

The Chairman thanked the host for organizing and all EDTC members and guests for participating at the EDTC 2025 Annual Meeting.



EDTC Annual Meeting 2024

Professional hyberbaric work Switzerland

Suva, Bereich Bau (Construction work): Andreas Achermann
Suva, Arbeitsmedizin (Occupational medicine): Dr. med. Dominik Schwarb
4. Oktober 2024, Luzern, Fluhmattmatt

suva

EDTC Annual Meeting, Lucerne, 4. Oktober 2024

Agenda & Kontakte

1. Welcome to Suva - Checklist
2. Suva – About US
3. Hyperbaric Work in Switzerland
Occupational Health and Safety
4. Hyperbaric Work in Switzerland
Occupational Medicine
5. ...

Kontakte

Suva, Arbeitssicherheit Luzern & Arbeitsmedizin Luzern
Fluhmattstrasse 1
6002 Luzern
Switzerland

Andreas Achermann, Occupational Health and Safety Expert, andreas.achermann@suva.ch, +41 41 419 59 88

Dr. med. Dominik Schwarb, Occupational Medicine, dominik.schwarb@suva.ch, +41 41 419 53 37

Suva – Checklist

Hyperbaric Work in Switzerland - Occupational Health and Safety

Suva – Checklist

1. **Safety: Emergency exits, rendez-vous place: lefthand side > parking**
2. **Leaving and re-entering: Batch**
3. **Toilets: Outside the rooms doors**
4. **Place to smoke: Outside the lobby, righthand**
5. **Coffee and lunch**

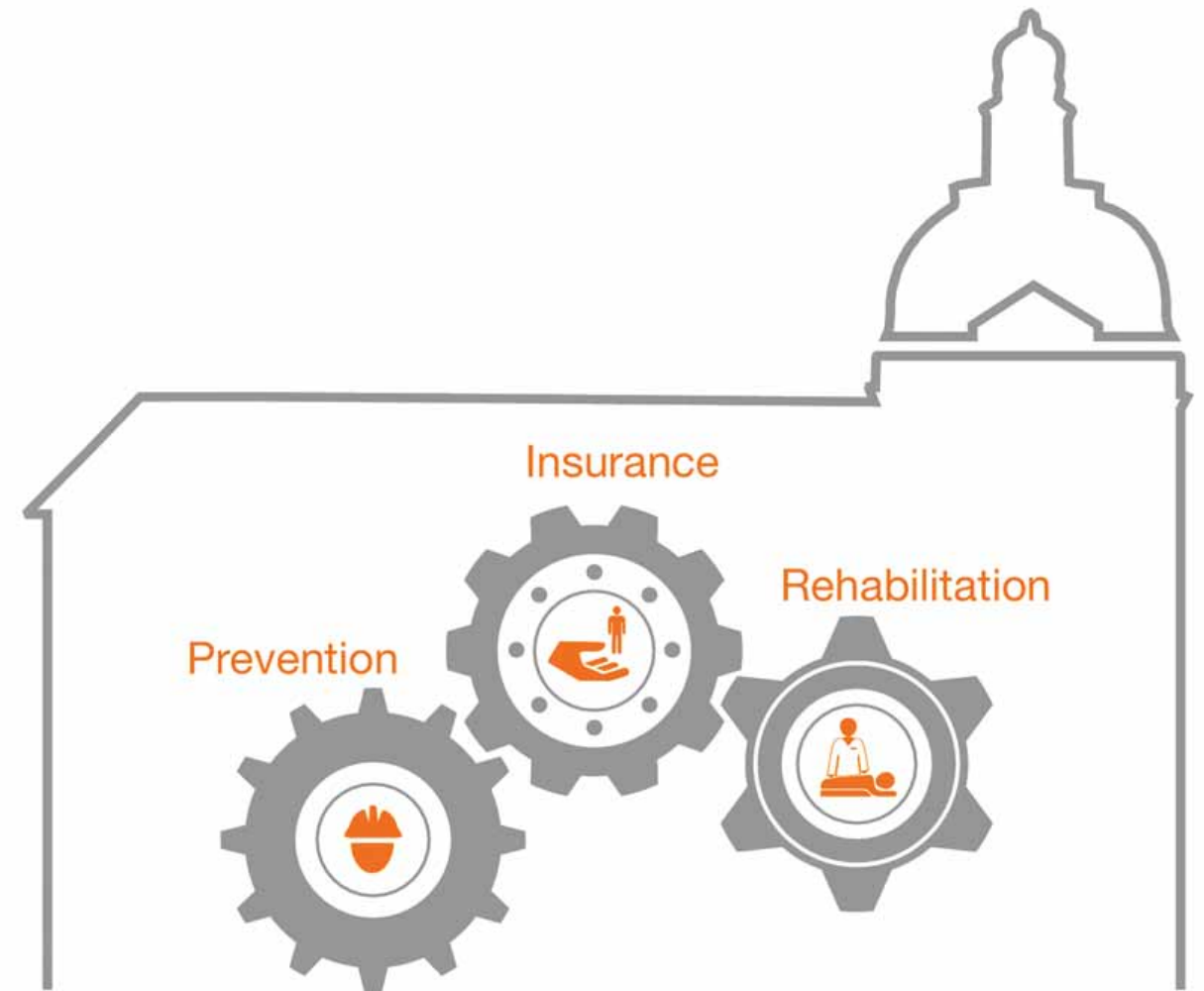


Suva – About Us

Hyperbaric Work in Switzerland - Occupational Health and Safety

Suva – About us

1. Suva, the Swiss National Accident Insurance Fund (Schweizerische Unfallversicherung, (1913), is an important part of Switzerland's social security system. As an independent company under public law, Suva insures people at work and at leisure.
2. The Suva model combines prevention, insurance and rehabilitation.
3. Suva is the statutory accident insurance for industries with increased risks. In addition to rehabilitation, it also conducts prevention and is the authority for occupational health and safety and product safety for the insured industries.



Hyperbaric Work in Switzerland Occupational Health and Safety

**Andreas Achermann
Suva, Bereich Bau (Section Construction)**

Hyperbaric Work in Switzerland - Occupational Health and Safety

Occ. H&S / Medicine– Authorities, Organisation CH

Industries with increased risks as construction and hyperbaric work:

- **Occupational Health and Safety: Suva, Bereich Bau (Section Construction)**
 - Advising companies
 - Supervision of construction sites
 - Cessation of work in case of immediate serious danger
- **Occupational Medicine: Suva, Arbeitsmedizin (Occupational Medicine).**
Dominic Schwarb will explain you the responsibilities of occupational medicine

Hyperbaric Work in Switzerland

Occupational Health and Safety

ASA

Hyperbaric Work in Switzerland - Occupational Health and Safety

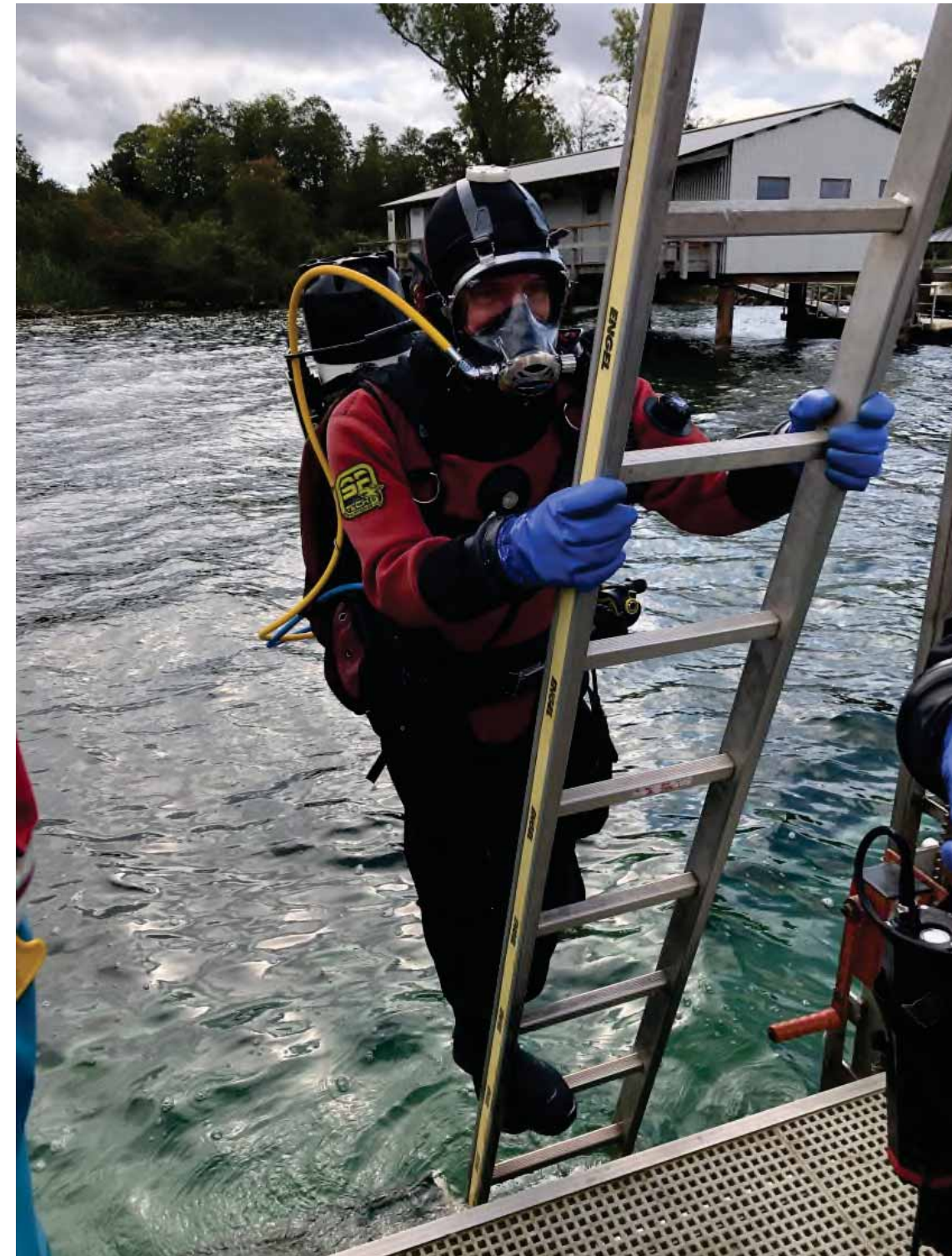
ASA

- **ASA** is the abbreviation for "**Beizug von Arbeitsärzten und anderen Spezialisten der Arbeitssicherheit**«
which translates to
Involvement of occupational doctors/physicians and other occupational safety specialists, when/where the knowledge internally is not present
- **ASA** is a **safety system** and **mandatory for companies**
- The **ASA-Safety System** is structured according to **10 points** and correlates to **ISO 45001 Occupational health and safety management systems**
- For hyperbaric work in Switzerland for example the physicians Jürg Wendling and Christian Wölfel.

Hyperbaric Work in Switzerland Occupational Health and Safety

Examples of activities in Switzerland

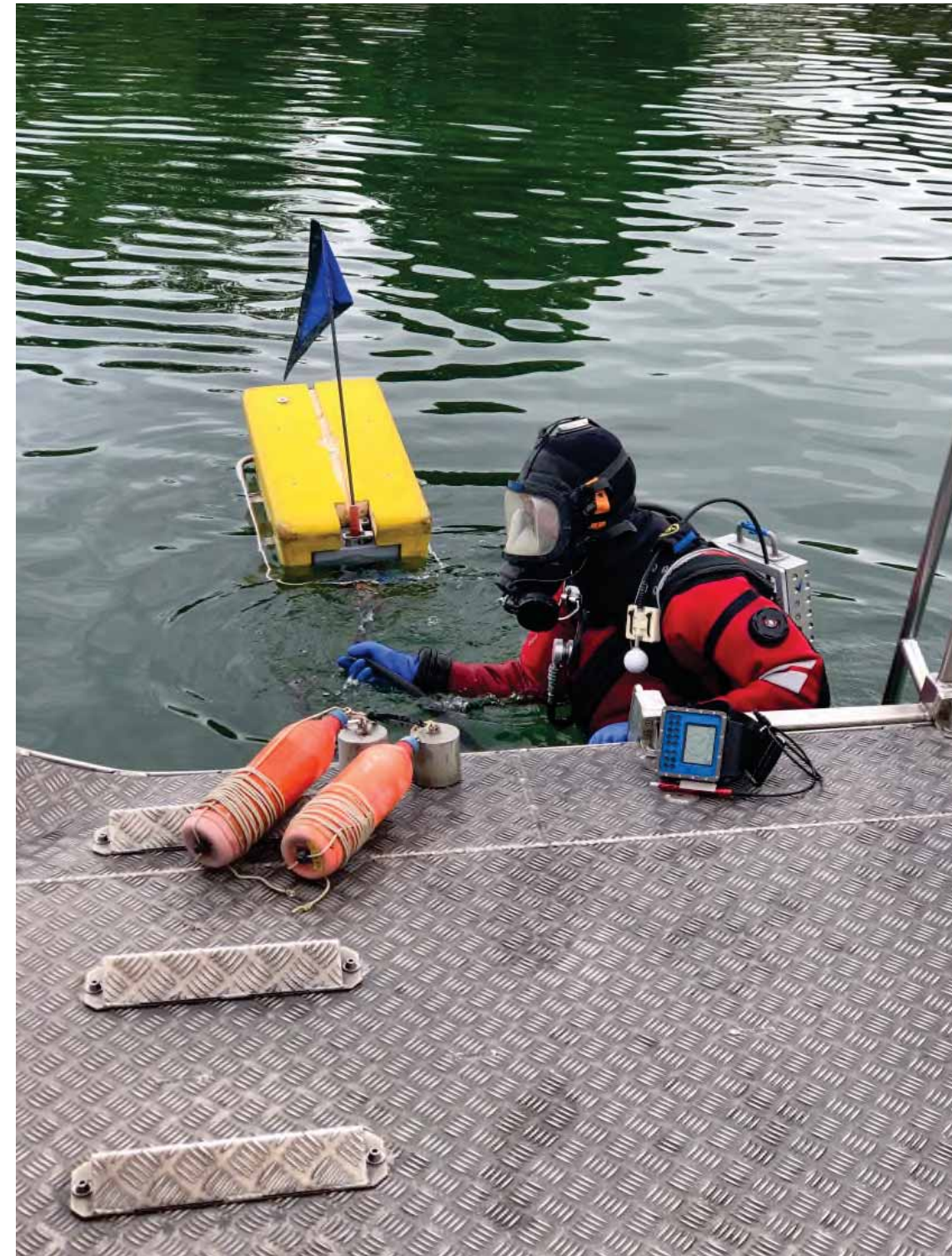
- **Archaeological diving**
- Bielersee 2024
- Mapping and securing remnants of pile-building settlements
- Depths of 2 to 5 meters, seldom down to 10 m



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- Zürichsee 2024
- Mapping and securing remnants of pile-building settlements
- Depths of 2 to 5 meters, seldom down to 10 m
- Self-developed buoy-system



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- **Industrial diving Ticino**
- Port installation 2022



- **Industrial diving dam-projects**
- Ground drainage
- San Bernardino 2021



- **Industrial diving dam-projects**
- Lago Livigno 2016
- Ground drainage
- Saturation diving
- foreign diving company



Hyperbaric Work in Switzerland Occupational Medicine

**Dr. med. Dominik Schwarb
Suva, Bereich Facharztleistungen
(Section Specialised Physicians)**

Professional Diving in Switzerland- Legal Basis

Dominik Schwarb

Occupational Medicine, Suva Luzern

suva

Law to Prevent Accidents and Occupational Diseases

- Medical check has to take place before starting professional diving action
- Work can only start after decision of Suva (Swiss National Accident Insurance Fund)

Big and Small Medical Examinations

- **Big check :**
 - Initially,
 - After 5 years till the age of 45,
 - After 45 of age: every year
- **Small check:**
 - In between the big checks till 45
- 300-600 examinations per year (payed by Suva)

Unsuitability order

- 18 in the last 10 years
- To prevent death, invalidity or severe diving accident
- Two signatures of physicians are necessary

Unsuitability Order - Diagnoses

- Epilepsy
- Coronary heart disease
- Asthma
- Cancer
- Musculoskeletal system
- Psychiatric illness
- Small vessel disease

Big Check



Ergometry

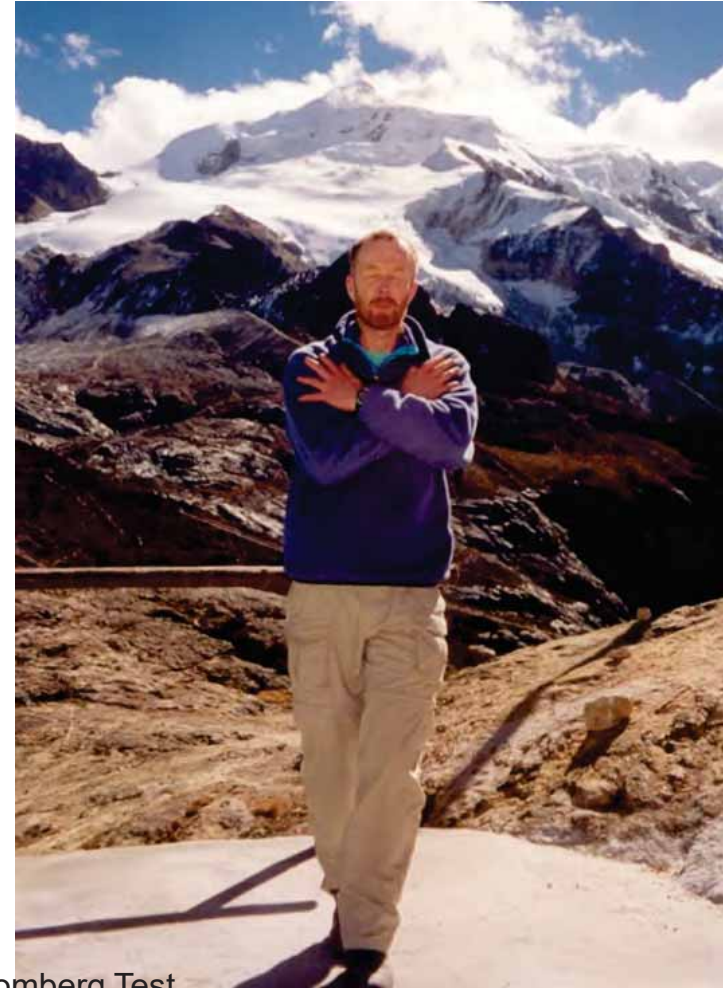


Lung Function

Big Check



Blood Tests



Sharpened Romberg Test

Small Check

- Anamnesis (Interview)
- Short clinical examination (ear, throat,heart,lungs)



Swiss national report for EDTC meeting 2024 Lucerne

Medical support for occupational divers in Switzerland

Jürg Wendling - mail@wendling.ch

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Doctors with training in diving and hyperbaric medicine

Swiss Underwater and Hyperbaric Medicine Society
SUHMS offers online registry:

- Level 1 MED (Medical Examiner of Divers) 98
- Level 2D DMP (Diving Medicine Physician) 50
- Level 2H Hyperbaric Medicine Physician 20
- Level 3light FMH accredited capacity
("Diplôme Formation Postgradé") 17

National Report EDTCmed Switzerland, J Wendling Oct 2024

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SWISS UNDERWATER AND HYPERBARIC MEDICINE SOCIETY www.suhms.org



National Report EDTCmed Switzerland, J Wendling Oct 2024

3

3

Level 1 MEDs



National Report EDTCmed Switzerland, J Wendling Oct 2024

4

4

Level 2D DMPs



National Report EDTCmed Switzerland, J Wendling Oct 2024

5

5

Level 3 doctors



National Report EDTCmed Switzerland, J Wendling Oct 2024

6

6

How are Swiss occupational divers medically supported?

- **Fitness to dive** assessments
- **DMA** as contract medical advisor (Health&Safety concepts...including instructions, trainings and rescue drills)
- On-call emergency advice (DANsuisse **Hotline**)
- **On-duty DMPs** for diving ops
- HMPs for clinical **HBO** treatments

National Report EDTCmed Switzerland, J Wendling Oct 2024

7

7

Diving Medical Hotline

call 1414 – www.daneuropesuisse.ch



National Report EDTCmed Switzerland, J Wendling Oct 2024

8

8

Examples of medical support of Swiss diving/hyperbaric ops

- **Scientific** university dive team
- **Open-bell** mixed gas diving (Kesswil, Lake Constance)
- **Sur-D** operation TX (Mapragg, alpine dammed lake)
- **Sat Heliox** 65m (Hongrin, dammed mountain lake)
- Sat Heliox 115m (Punt dal Gall, mountain lake)
- **Tunnelling CAW** 14.5m Ø TBM (Biel, twin highway)
- Micro-tunnel 1.8m Ø TBM (Oerlikon, cable conduit)

National Report EDTCmed Switzerland, J Wendling Oct 2024

9

9



National Report EDTCmed Switzerland, J Wendling Oct 2024

10

10



11

11



National Report EDTCmed Switzerland, J Wendling Oct 2024

12

12



13



14



15



16



17



18

Commercial diving in Switzerland



Presentation by Maurice Schlauri, October 4th 2024 Lucerne

History

(2017)



(1930)

Founded in 1865 as a pure timber construction company in Zurich

Since 1930 the company Willy Stäubli AG has employed professional divers



Voraussetzungen



Vom Hobby zum Beruf, steigert die Bereitschaft um optimale Ziele zu erreichen!

HSE- Zertifizierung

CMAS*** Ausbildung oder Äquivalent

Ausbildungen im technischen Tauchen

Bootsprüfung etc.





Shallow water zone

Area of application:
Shore walls, boathouses, bathing facilities, etc.





Autonome Ausrüstung

Einsatzbereich
Kontrollen, Foto- und Videoaufnahmen
Vermessungen, Erstellen von Skizzen,
Reinigungen, etc.



Autonome Ausrüstung mit Kommunikation



Einsatzbereich
Suchen, Bergen, Kontrollen/Inspektionen,
Montagearbeiten, geringe Platzverhältnisse



Surface supplied diving operations

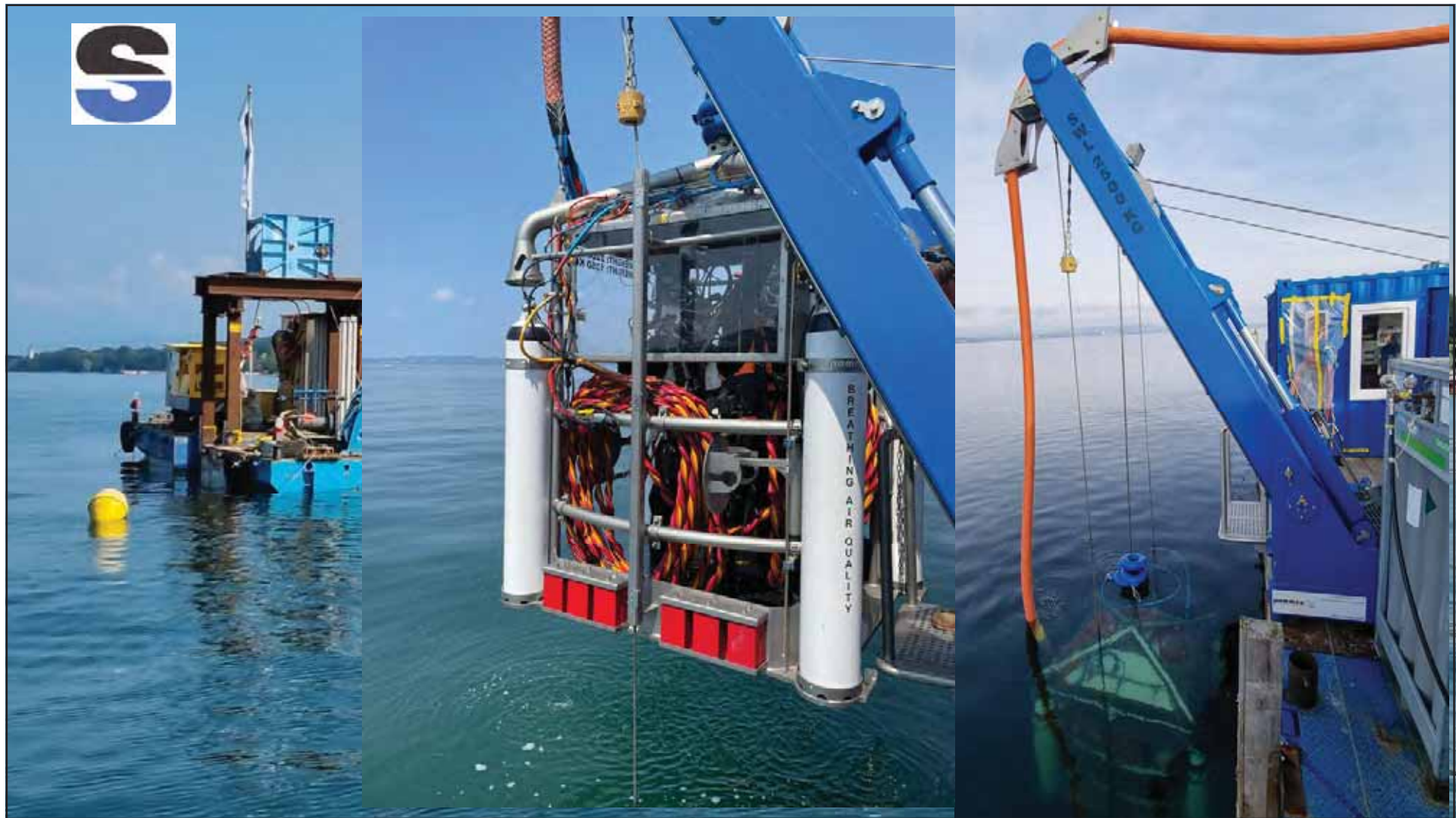




Surface supplied diving operations in contaminated water

Sewage treatment plants, sewage pipes, etc.







Safety awareness

Monitoring



PPE and safety equipment



Controls

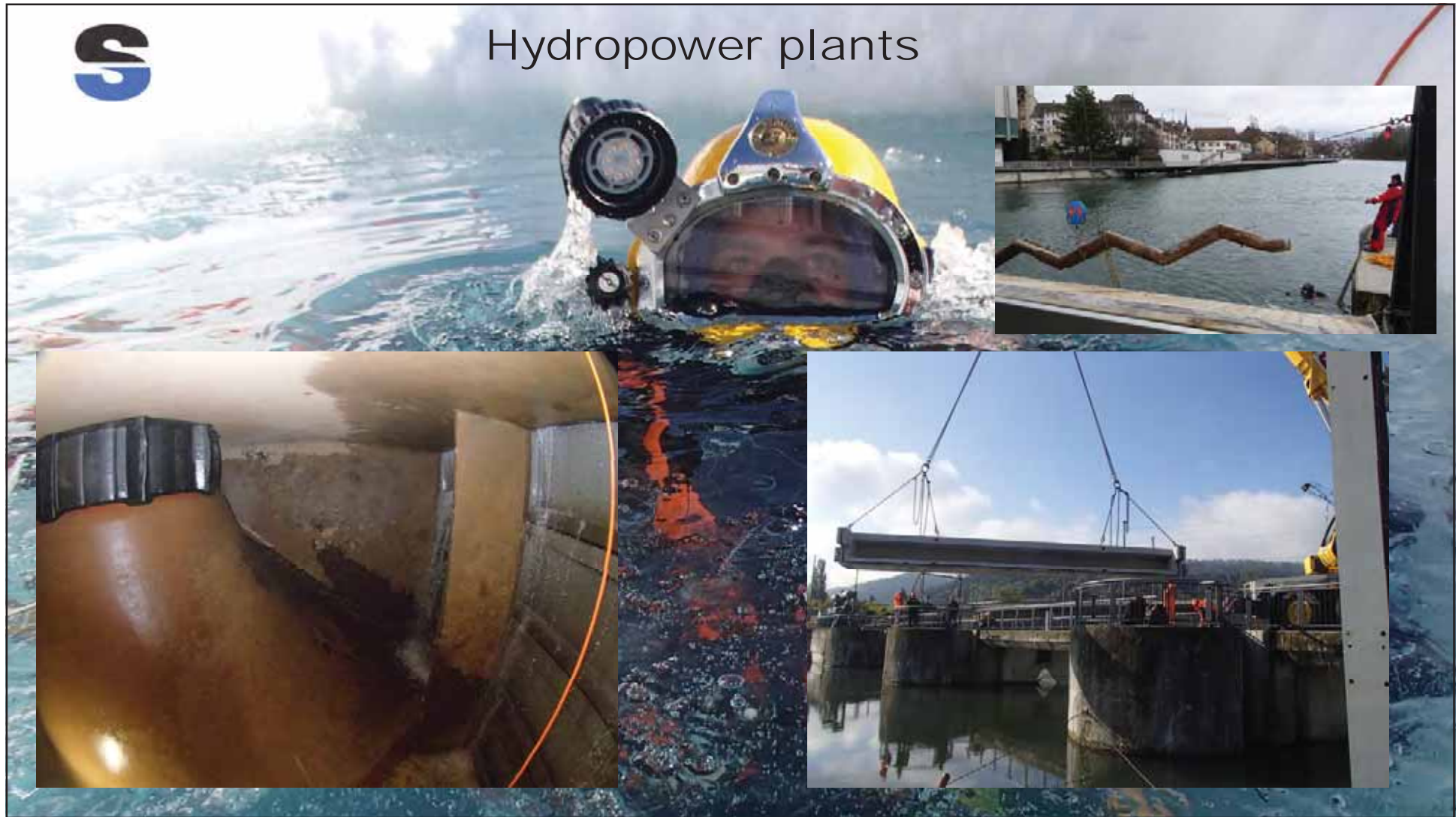


Instructions & drills



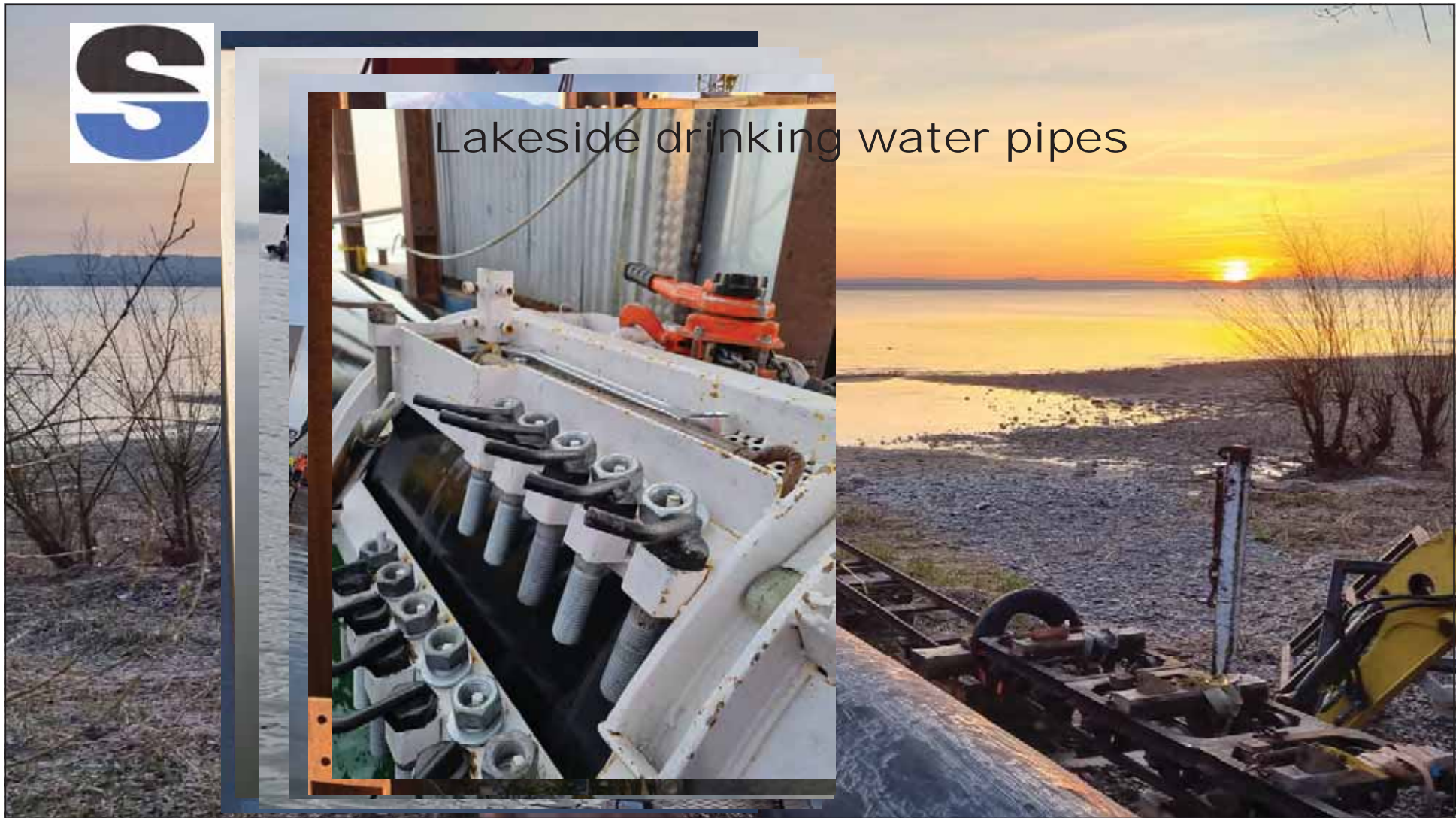


Hydropower plants





Lakeside drinking water pipes





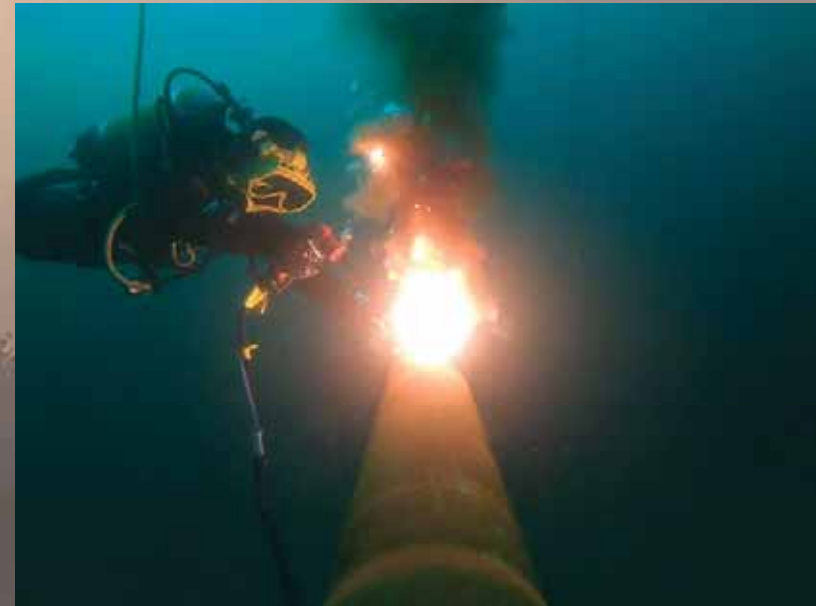


Hafenanlagen





Spezialeinsätze







 Willy Stäubli Ing. AG
Wasserbau Stahlbau





EDTC Secretary Report

Akın Savaş Toklu



HOSTS of ANNUAL MEETINGS

YEAR	HOST	YEAR	HOST
2000	UK	2012	NORWAY
2001	BELGIUM	2013	TURKEY
2002	FRANCE	2014	SPAIN
2003	SWITZERLAND	2015	POLAND
2003	AUSTRIA	2016	ESTONIA
2004	TURKEY	2017	AUSTRIA
2005	BELGIUM	2018	ROMANIA
2007	PORTUGAL	2019	SWEDEN
2008	ITALY	2020	ONLINE
2009	DENMARK	2021	ITALY
2010	CZECH R.	2022	FRANCE
2011	FRANCE	2023	THE NETHERLAND



HOSTS of ANNUAL MEETINGS

YEAR	HOST	YEAR	HOST
2000	UK	2012	NORWAY
2001	BELGIUM	2013	TURKEY
2002	FRANCE	2014	SPAIN
<u>2003-2024</u>	<u>SWITZERLAND</u>	2015	POLAND
2003	AUSTRIA	2016	ESTONIA
2004	TURKEY	2017	AUSTRIA
2005	BELGIUM	2018	ROMANIA
2007	PORTUGAL	2019	SWEDEN
2008	ITALY	2020	ONLINE
2009	DENMARK	2021	ITALY
2010	CZECH R.	2022	FRANCE
2011	FRANCE	2023	THE NETHERLAND



History





EDTC 2025 ANNUAL MEETING in ?





25 Countries, 6 Organization, 10 Correspondents



[HOME](#)[ORGANISATION](#)[BY LAW](#)[DOCUMENTS](#)[MEETINGS](#)[NEWSLETTERS](#)[MEMBERS AREA](#)

THE EUROPEAN DIVING
TECHNOLOGY COMMITTEE

<http://edtc.org/>



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EDTCpass2020



APOLOGIES FOR ABSENCE



NAME	REPRESENTING
Ali Uzunoglu	TURKIYE
Andrejs Cernavskis	LATVIA
Bogdan Cristian Ion	ROMANIA
Carla Espiney Amaro	PORTUGAL
Damir Podnar	SLOVENIA
Eric Saint-Sulpice	FRANCE
Arnaud LAVAL	FRANCE
Frank Werner	GERMANY
Frank Werner	GERMANY
Jaroslav Šot	ČESKÁ REPUBLIKA
Joar Gangenes	NORWAY
Leo Lagarde	IDSA

NAME	REPRESENTING
Margo Purru	ESTONIA
Mark Caney	EUF
Nicolae Visan	ROMANIA
Peter Sieniewicz	UK
Rolf Roessland	NORWAY
Roswitha PROHASKA	AUSTRIA
Steve Forman	UK
Thomas Gaisberger	AUSTRIA
Veronika Rybarova	SLOVAKIA
Vitalijs Cernavskis	LATVIA
Wilhelm WELSLAU	GERMANY



LIST OF PARTICIPANTS



NAME	REPRESENTING
Adriaen Winckers	THE NETHERLANDS
Akın Savaş Toklu	TURKEY
Ali Macleod	UNITED KINGDOM
Allan Schütt	DENMARK
Amanda Sordes	AUSTRALIA
Andreas Achermann	SWITZERLAND
Aublin Blandine	FRANCE
Aurelian IVAȘCU	ROMANIA
Bard Humborstad	NORWAY
Carmen Schleiss	SWITZERLAND
Christian Wölfel	SWITZERLAND
Dominik Schwarb	SWITZERLAND
Fievez, Marcel	NETHERLANDS
Giovanni Esentato	ITALIA
Hans Cuylits	BELGIUM
Helene Szulc	FRANCE
Jean Lelievre	FRANCE
Jennifer Mayer	GERMANY
Jim Cullen	IMCA

NAME	REPRESENTING
Jörn Ryberg	SWEDEN
Jurg Wendling	SWISS
Kirwan Conor	EDA REPRESENTATIVE
Laval Arnaud	FRANCE
Leif Morten Rasch	NORWAY
Mario van Mierlo	THE NETHERLANDS
Martin Heer	NORWAY
Massimo Becherucci	ITALIA
Mats Hagberg	SWEDEN
Maurice Schlauri	SWITZERLAND
Øyvind Loennechen	NORWAY
Pasquale Longobardi	ITALY
Philip Crombie	GREAT BRITAIN
Pieter-Jan van Ooij	THE NETHERLANDS
prof Dr S Murat Egi	TURKEY
Rienk Rienks	NETHERLANDS
Ueli Stampfli	SWISS
Ulrik Jünge	NORWAY

NEW MEMBERS

NAME	REPRESENTING	CATEGORY
Ali Macleod (Peter Sieniewicz)	IMCA	IMCA
Aurelian Ivascu	ROMANIA	Medical
Blandine Aublin (Marc Borgnetta)	FRANCE	Medical
Nicolae Visan	ROMANIA	Industry



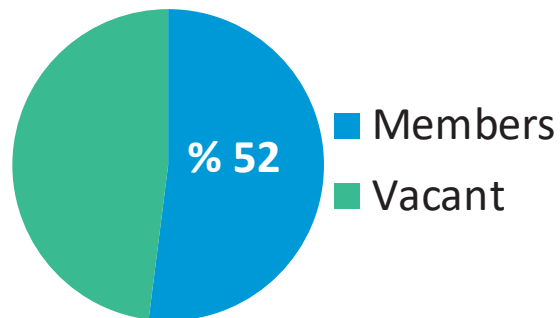
Membership facts in numbers

- The # of member countries 25
- Expected # of members 100
- Current # of members 61
- # of vacant positions 39
 - Government 13
 - Industry 5
 - Medicine 5
 - Union 16

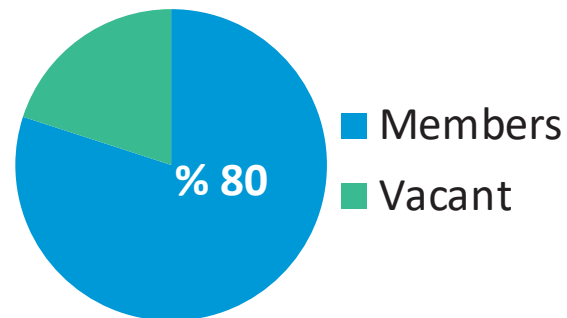




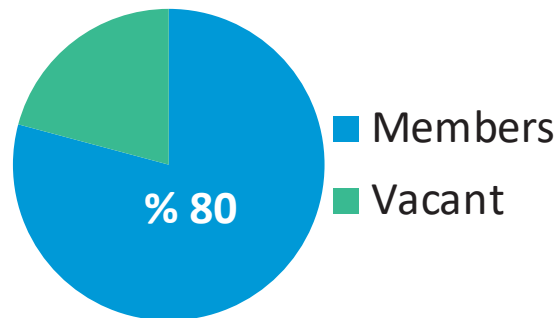
GOVERNMENT



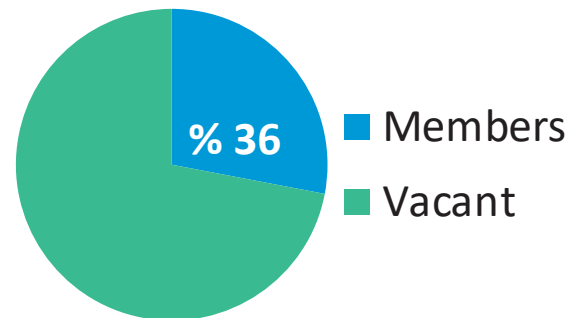
INDUSTRY



MEDICINE



UNION





TWO BOARD MEMBERS COMPLETED 3rd YEARS in EDTC BOARD

Akin Savas TOKLU, TR
Pasquale Longobardi, IT





MEMBERS NOMINATED FOR EDTC BORAD MEMBER ELECTION

Akin Savas TOKLU, TR. 15 votes
Pasquale Longobardi, IT. 17 votes
Rolf Roessland, NO. 4 votes





PROGRAM

2024 EDTC Annual Meeting

4th September 2024, Friday

09:30-09:35	Welcome	Chairman, Jörn Ryberg
09:35-10:30	Introductory Presentations by Host Country and Safety and Security Information	Host
10:30-10:45	EDTC Admin Matters, Apologies EDTC Membership Summary Treasurer Report	Secretary, Akin S. Toklu <u>Treasurer, Phil Crombie</u>
10:45-11:05	Chairman's Report Summary of Actions from 2024	<u>Chairman, Jörn Ryberg</u>
11:05-11:25	COFFEE BREAK	
11:25-12:30	Workshop on Employer Subcommittee Document	<u>All</u>
12:30-13:30	LUNCH	





PROGRAM

2024 EDTC Annual Meeting

4th September 2023, Friday

13:30-13:50	Reports from the Med. Subcommittee	<u>Jurg Wendling</u>
13:50-14:10	EDA and diving related projects & programmes	<u>Conor KIRWAN</u>
14:10-17:00	Reports (Nationals, Organisations) NORWAY THE NETHERLANDS TURKEY FRANCE ITALIA ITALIA ROMANIA SWEDEN UNITED KINGDOM IMCA	Members <u>Ulrik Jünge</u> Mario van Mierlo <u>S Murat Egi</u> <u>Hélène SZULC</u> Giovanni Esentato <u>Pasquale Longobardi</u> <u>Aurelian IVASCU</u> <u>Mats Hagberg</u> <u>Philip Crombie</u> <u>Ali Macleod</u>
When needed	COFFEE BREAK	
17:00-17:20	Elections	<u>All</u>
17:20-17:50	Any Other Business, Next Meeting	<u>All</u>
17:50-18:00	Closing remarks	Chairman Jörn Ryberg





EDTC – Treasurer's report 2024



Balance approx €23,600

Purpose of balance –

- Contribute towards host costs
- Strategic expenses – such as inviting important guests



Payments for 2024

- €50 per member per year
- Please make clear country and representative when making bank transfer.
- See me for a receipt!
- Mount Rigi trip....

EDTC Annual Meeting

4 October 2024

“Change through guidance”

Content

- 1. EDTC Profile - Aims & Objectives – executive board**
- 2. A reminder**
- 3. News during 2023/2024**
- 4. Who is responsible ?**
- 5. The way forward**
- 6. Proactive & the Principle**





1. European Diving Technology Committee (EDTC) Profile

EDTC is a not-for-profit organization - formed 1973. Today EDTC has representation within 25 European (geographical) countries. This year we are greeting new members from several countries.

Purpose

Safer Commercial Diving,

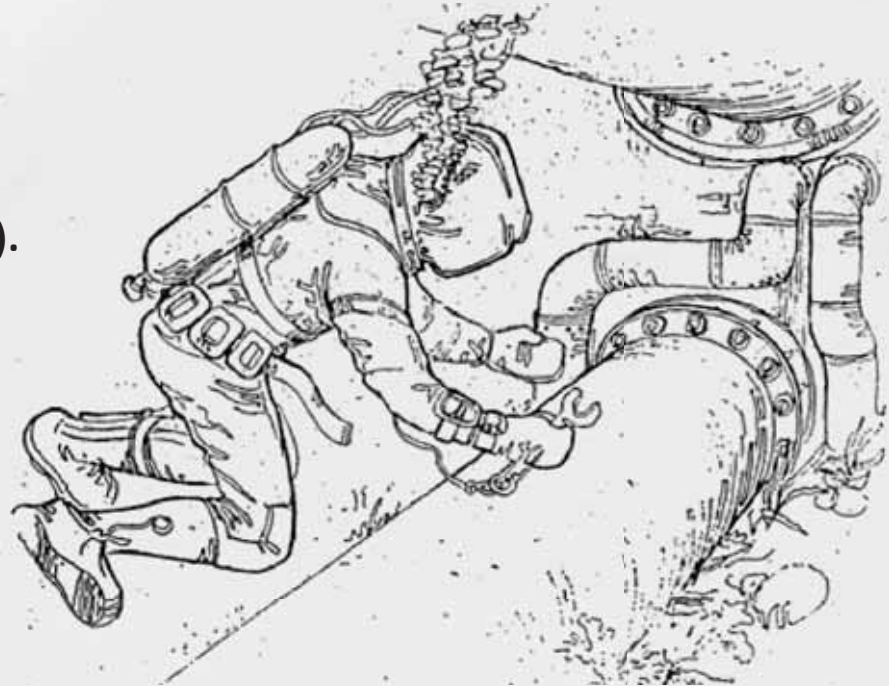
- Through **Unity**, Strength (Securitas per unitatem).

Representation

- Membership - entire geographical Europe,
- Medical,
- Government,
- Industry (employers),
- Labour Unions (employees).

EDTC reach its aims by

- Independent European forum,
- Discussions,
- Standards,
- Guidance.



1. The executive board of 2023/2024



Akin Toklu



Jean Lelievre



Jürg Wendling



Jörn Ryberg



Pasquale
Longobardi



Philip Crombie

Efficient quarterly board meetings using MS Teams.

Fixed agenda:

1. Welcome and opening comments by Chairman,
2. Review and approval of previous Board meeting minutes,
3. Actions and matters outstanding since last meeting,
4. Economic reports,
5. Discussion on EDTC annual activities,
6. Discussion about preparing the annual meeting,
7. Any other business,
8. Next meeting.

Other board achievements during 2023 / 2024

- Digital meetings with board members,
- Meeting with EU Commission unit C2 – HSE at work
- Initiating Employers Subcommittee
- Initiating Employees Subcommittee
- Reviewing different regulation interference re. DDC,
- Providing information to all members.

2. European Commercial Diving –

A reminder why we all are doing this work



The diving industry – Expensive knowledge

Terrible annual message!

Diving Industry – poor statistics of fatal accidents

Little Governmental information

Collected by voluntary individuals

- 1960 – 1999 – 815 fatal accidents occurred,
- 2000 – 2023 - 1076 fatal accidents occurred.
- **2024 – 3 of 7 fatal accidents registered in Europe**

The clear answer is that there is a lack of consistency over Europe. The fact that people are doing things like they are “at home” and are not aware of the common basic safety manners, is probably one of the most common reasons for the fatalities.

Behind each figure is a tragedy!

2000	37
2001	36
2002	31
2003	21
2004	41
2005	41
2006	40
2007	48
2008	53
2009	52
2010	75
2011	78
2012	73
2013	50
2014	55
2015	54
2016	50
2017	31
2018	47
2019	38
2020	31
2021	31
2022	35
2023	28
2024	7

2. Safety at work in Europe 2024 ?



Implementation of modern diving regulations ? – or why tragedies occur...

Still this work is conducted in Europe.

No options for better standards?



What syllabus teaches these methods?

2. Not only Europe

a **REMINDER** why we all are doing this work



Commercial Scuba Diving Accidents & Deaths

According to published data, approximately 80 divers lose their lives in the United States and Canada every year due to scuba diving accidents. This represents a rate of approximately 3.4 to 4.2 deaths per 100,000 divers according to the scuba diver organization DAN America. While the causes of these commercial scuba diving deaths vary, most occur due to multiple root causes, including gas-supply problems (41%), entrapment/entanglement (19%), and equipment troubles (16%). Countless more divers sustain serious injuries that can lead to permanent disabilities. Other common causes of scuba diving accidents include: emergency ascent, insufficient breathing gas, and buoyancy problems. In the Puget Sound area, commercial diving includes harvesting of commercial seafood, diving to support construction operations on piers and docks, diving to support repair of vessels, and other commercial underwater activities. Many of these accidents could be prevented by employers followed the safety regulations set forth in Chapter 296-37 of the Washington Administrative Code. The WAC provides specific rules to limit the risk of injuries and deaths to commercial divers. Planning



USA and Canada

Several divers have died working as commercial divers in 2024.

Some statements say more than 80 individuals on Scuba this year.

Overwhelming part of these were “commercial SCUBA”

Occupational Safety Code For Diving Operations defines what is required for safe commercial diving activity.

SCUBA diver dies while trying to recover sunken machinery in St. Louis County

By FOX 9 Staff | Published June 30, 2024 6:22pm CDT
| St. Louis County | FOX 9 |



Scuba Diver Dies During Salvage Operation on Crane Lake in Northern Minnesota

Authorities are investigating the death of a scuba diver during a salvage operation on Crane Lake in northern Minnesota.

By Associated Press | July 1, 2024, at 11:08 a.m.

Has the time come to ban SCUBA as a method for commercial activities ?!

3. News 2024 – SLIC – DIVEX workgroup

The background and aim of the workgroup, has been as follows;

“Diving is a high-risk work activity. Divers may work in multiple EU Member States with different regulations of diving”

The SLIC/Divex has been conducting a inventory similar to what the EDTC done in 2018-2020.

The result is stunning:

Topic	EDTC 2018	Divex 2024
No regulations	8 of 22	8 of 24
No minimum dive crew	7 of 22	9 of 24
No medical fitness	7 of 22	7 of 24
No mandatory training	6 of 22	5 of 24

Since 2018 nothing or very little has happened and there are still huge differences within Europe with little or no co-ordination at EU level.

The Divex workgroup will during the end this year/beginning of next year present a guidance document that will be useful for Senior Labour Inspectors.



QUESTIONNAIRE DOCUMENT. RESULTS. PROPOSAL OF DOCUMENT.

1. Regulations (16 answered YES).
2. Code of practice or guides (11 answered YES).
3. Risk assesment required. (16 answered YES).
4. Aspects be considered in the risk assesment. (a lot of aspects)
5. Restrictions on diving methods (14 answered YES)

3. News 2024 – EDU – new EDTC member



Military Diving

“Diving as a military for obvious reasons is far different from other parts of commercial diving”

European Defence Agency - *“we share the same safety issues”*

Although the EDA objective is strict military/EU/NATO related, there are many similarities within the diving related topics. Further EDA have been doing more or less the same inventory like EDTC. The result of their inventory is very much the same as EDTC; there is inconsistency.

EDA have divided their findings into 4 different “failure” categories:

Failure of personnel:	relates to education/training
Failure of equipment:	relates to norms/standards and manufactories
Failure of the individual:	relates to medical issues
Failure of operations:	relates to planning/risk analysis

3. News 2024 – INPP – Closed



INPP has closed.

This is of course not beneficial for the industry and now there are not many schools left for deeper diving.

Due to the closing of INPP there are outstanding issues related to documents and divers certificates.

The dive school in Dunoon (The Professional Diving Academy) has formally announced that it has purchased a new closed bell system, which should be ready by December 2024. They plan on starting to run closed bell training in June 2025.

3. News 2024 – IOGP – Ship Husbandry

- IOGP reacts on the Ship Husbandry situation and starts Expert Group to Improve Diving Safety



Examples of Incidents

(Source, Bill Chilton, Diving Manager, IMCA www.imca-int.com)

Malaysian diver, 22, dies after getting entangled with boat propeller while cleaning ship's hull

Diver dead in Got Archipelago – cri investigated

SINGAPORE

Published 5 Jan 2024 at
Updated at 15:08

A diver in his 50s died at a ship in the Götter. The incident is not a violation. "This is by far the Jönsson, CEO of the assignment.

Commercial diver dies after failing to surface while cleaning ship's hull off East Coast

¹ Initial C:N ratio. Number of days covered the first 100 days.

Asia Marine, owned by a Malaysian businessman, to clean the bottom of the ship.

A CONTRIBUIÇÃO DA EDUCAÇÃO PARA O DESENVOLVIMENTO DA CIDADANIA

The Manila Times said the yard submitted a report to the department of labour's bureau of working conditions stating that disaster victim No. 63, died last month.



ROPELLER OF DSV

3. News 2024 – Pressure Chamber – work group



Collision of rules/regulations

Due to the collision of rules/regulations, Chamber operators within many categories faces severe problems

In order to achieve and to better define specific recommendations, relevant norms or regulation re. the Emergency Recompression Chamber an EDTC work group has come in place. The work groups aim is to develop a suitable and specific recommendation / draft regulation in 12 months time.

Pasquale Longobardi (IT) to Chair this work group

4. Who is responsible ?

- Responsibilities according to legislation**

The principles are the same all over geographical Europe





4. Who is responsible ?

Offshore - Reactive to the situation

- The offshore Oil & Gas industry has safety and best practice remaining as the focus of everything that is done. Its a very safe and mature undertaking.

IMCA has and still is, providing guidance and good standards for this sector.

In-shore / near-shore, little improvement since 2018

- By contrast, we have the near-shore/in-shore sector, which has a much larger number of Companies and Employees engaged in Diving activities.

Unfortunately, almost all fatalities within the industry comes from this sector.

Who is responsible then?

Much of the responsibilities are brought to the employers but also employees has the responsibility to stop working at unsafe conditions.



5. Subcommittees within EDTC



Decided 2023 - Results 2024

Guidance for inshore - nearshore

Facts presents the huge responsibilities that are brought to not at least the employers shoulders. Facts also shows the inconsistency within Europe.

After making consensus in between EDTC employers and employees, the cross references to existing directives can be made and create basis for the new directive.

“the fast way to implement guidance and a common basis within Europe is to make cross references and align them with EU Commission, says Directorate-General for Employment, Social Affairs and Inclusion Unit C2 – Health and safety at work”

EMPLOYERS SUBCOMMITTEE

EDTC

GUIDANCE ON SAFE WORKING PRACTICES IN COMMERCIAL DIVING



The Professional Qualifications Directive (2005/36/EC) applies to all countries within Europe. This directive was updated in 2014 and underlines the fact that the education of divers should be the same or equal all over Europe and that evaluation has to be performed by authorities.

The aim of the EDTC Employers Subcommittee is to make European professional diving safer. The need to establish an umbrella document has been highlighted within the community of European Employers to enable equality re. employers' responsibilities.

This draft has been processed by participation from France, Germany, The Netherlands, Spain, Sweden and UK.

Document nr: 24-0101-WP-01

01_140818	BOSSON	BY	ZMHS		
01_140818	BOSSON	BY	ZMHS		
01_140214	DRAFT	BY	ZMHS		
PO	Date	Note	Prepared by	Checked by	Approved by



5. The way forward -Subcommittees

The EMPLOYERS & EMPLOYEES within EDTC created subcommittees 2023

Some main items where deeper guidance is needed has been identified during the work 2024

- Education for divers – certificates and occupational proof,
- Team size – 4 or 5 people,
- Standby diver – readiness.
- **Clients' responsibility.**

This is acknowledged by SLIC/Divex, European Workers Unions, as well as European Employers associations.



These topics will be discussed during the workgroup session

5. EDTC Subcommittee – EU Commission



Discussion has been held in the context of creating a new directive specific for Commercial diving.

“Creating a new directive can very well be done but will take several years to accomplish – guidance is much faster”

A faster way to establish EDTC guidance documents will be to create cross-references between the existing Directives that are non specific.

- **"Workplaces Directive", Council Directive of 30 November 1989**
concerning the minimum safety and health requirements for the workplace is another individual Directive under the Framework Directive, commercial diving falls in principle under the scope of this Directive as an "outdoor workplace" (see e.g. paragraph 21 of Annex I). This Directive is currently under revision.
- **"Work equipment" Directive 2009/104/EC of the European Parliament and of the Council of 16 September 2009**
concerning the minimum safety and health requirements for the use of work equipment by workers at work
<https://eur-lex.europa.eu/eli/dir/2009/104/oj>.
- **"PPE Directive", Council Directive of 30 November 1989**
on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace, <https://eur-lex.europa.eu/eli/dir/1989/656/>; this Directive includes, on a few occasions, references to diving.





5. The way forward – clear path

The elements of responsibility

1. European - political within Europe (free movement / regulated Profession)
2. Industrial (employers & employees)
3. Agenda 2030 – “Decent work” – applies to clients

Through **Unity**, Strength (Securitas per unitatem).

- **EDTC subcommittees will enable change**



The broaden participation has already made change!

1. Employers

Create clarity within rules/ regulations instead of inconsistency

2. Employees

Create Decent work conditions instead of inconsistency

3. Cross-reference

Create guidance with cross reference to existing Directive on the basis given from Subcommittees = Fast track

4. Political

Create new Directive = Time consuming process

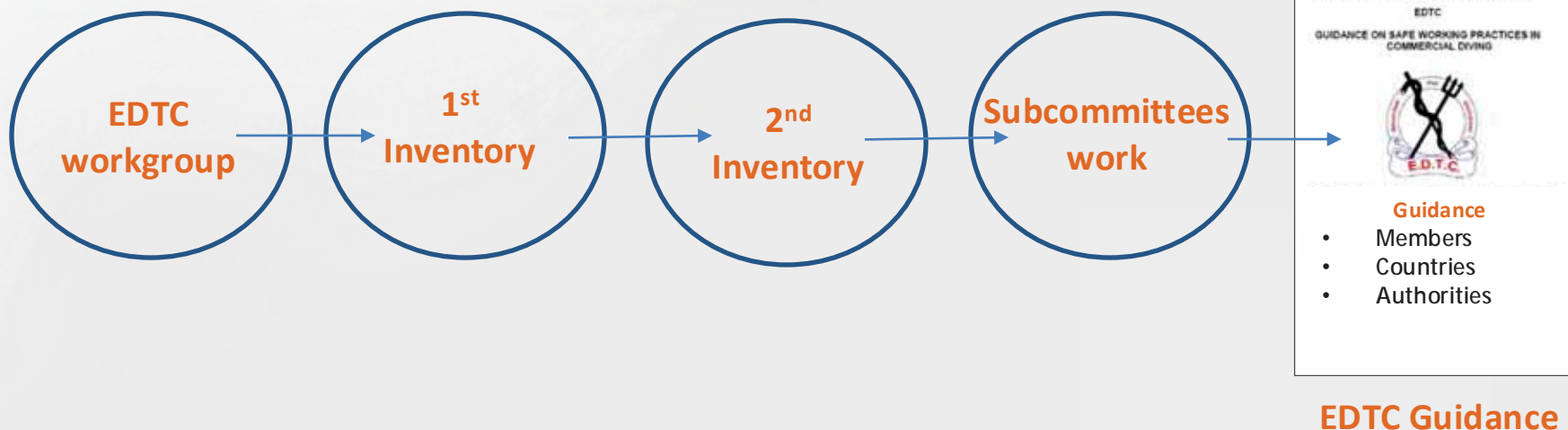


6. EDTC - Proactive instead of Reactive

- **Helping the politicians to understand the industry.**

The free movement of workers means that nationals of any member state of the European Union can take up an employment in another member state on the same conditions as the nationals of that particular member state.

EDTC process and well defined milestones



The “FREE MOVEMENT” creates some challenges due to the mobility and small fast moving parties within the industry.

6. The principle



Common principle of commercial diving

3. Implementation
into national law

2. Directive
2005/36/EC =
vocational
training
implement
within
adapted COP

1. New
Directive =
common
platform

National law & regulations

COP

COP

COP

COP

COP

COP

Scientists

Civil
Engineering
Divers

Energy
Sector

Coast
Guard

Police/
Rescue
Divers

Military

Basic certificates for diving (OSH) - *already in place*

EDTC guidance with cross reference - EU – directive

Clear signal

A new EU directive can be prepared. Meanwhile the EDTC guidance can be implemented through cross references from existing directives.

The principle of “the house” fulfils the demands:

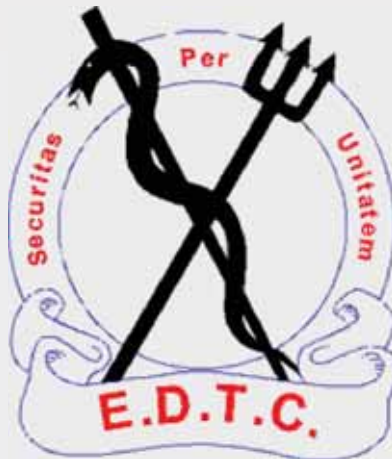
- 1) to dive in a safe manner and
- 2) to be educated and trained to perform and conduct the actual works, in a competent and safe manner

Summary

- EDTC provides an independent non-for-profit forum,
- EDTC inventories - confirmed by SLIC/Divex – states the facts,
- The existing EU directives gives cross reference for functional guidance,
- **Changes are now on their way through guidance.**

Any questions ?

EDTC Chairman - Jörn Ryberg E: jorn.ryberg@ms-invest.se



European Diving Technology Committee

Chairman Medical Subcommittee
Dr. med. Jürg Wendling
Seevorstadt 67, CH - 2502 BIEL/BIENNE
Tel. +41 32 322 38 38
e-mail: mail@wendling.ch



REPORT FROM THE MEDICAL SUBCOMMITTEE TO THE EDTC MAIN MEETING OF Lucerne, October 4th, 2024 (by Jürg Wendling)

The medical subcommittee met 2 weeks ago during the scientific meeting of the European Underwater and Baromedical Society EUBS in Brest 17.09.2024. 12 EDTC member countries and 8 corresponding members were present:

Medical Subcommittee: Bo Bech (DK), Anne Räisänen-Sokolowski (FI), Blandine Aublin (for Marc Borgnetta FR), Pasquale Longobardi (IT), Peter van Ooij (NL), Jacek Kot (PL), Veronika Rybárovà (SK), Jordi Desola (ES), Mats Hagberg (SE), Jürg Wendling (CH), Phil Bryson (UK), Bengusu Mirasoglu (for Akin Toklu TR).

Corresponding members and guests: Alessandro Marroni (ECHM), Barbara Karin Vela (Dubai), Ian Millar (AUS), Rienk Rienks (NL), Sébastien DeMestre (for Jean-Eric Blatteau FR), Christian Wölfel (CH), Mohamed Rehab Eldir (EG), Bruno Parente (Brazil)

1) Fitness to dive manual ("Medical assessment for work under pressure")

2000 copies have been printed, shipped to UK and are now stored at IMCA's office in London. We would like to express our deep thanks for IMCA for taking over the printing costs and organising the publishing. A sample copy has been brought here by our IMCA representative.

There will be a PDF version which will be available as soon as we have a platform for the downloads. We will communicate the technical access and prices as soon as possible.

2) Informations from DMAC (EDTCmed is permanently represented at the DMAC as well as vice-versa):

- As reported last year a guidance note "DMAC35" was published June 2023. It is actually under revision to make it easier to read and giving more graphical support. After a literature review Jan Risberg and Pieter van Ooij came to a proposal that the UPTD (or OUT) units for pulmonary oxygen toxicity (POT) are outdated and should be replaced. Recent literature suggests that the model proposed by Arieli using K as a score is more physiological and, furthermore, allows calculating the reduction of toxicity after exposures. In order to make it more practical, they published a paper proposing a simplified calculation method resulting in determination of the so-called ESOT (Equivalent Surface Oxygen Time, 1 ESOT = 1 min 100% O₂ exposure at surface as toxicity units). DMAC strongly supports this change, knowing that it will last several years until the diving industry takes note.
- As reported last year, DMAC proposed to introduce a "Diving Medical Knowledge Test DMKT". A workgroup of DMAC and EDTCmed members has started a cooperation with the IDMEB (International Diving Medical Expert Board) of the SSSA University of Pisa, which hosts our diving doctors registry DIVEMEDREG.ORG. So, the assessment will be authorised by the University.

Detailed training objectives will be defined for Level 1 and Level 2 doctors assessments. A first draft is in the debate and next year we will hopefully present the result.

3) Diving doctors databank: DIVEMEDREG.ORG

This databank is appreciated by the diving industry and professional divers seeking doctors outside of their own country. However, there are big white areas where no doctors are registered up to know. This may be missing interest of the national coordinators, however in some cases it is a misunderstanding that when a national list of accredited diving medical assessors already exists, that this should be globally endorsed by the DIVEMEDREG registry. This is especially the case in UK, South Africa, The Netherlands and Norway. As the criteria in each country are very different and the competence level of MEDs is not always really equivalent to that suggested by the EDTC-ECHM standards, the DIVEMEDREG prefers to wait for applications of doctors who are interested

to be recognised by diving companies or professional divers abroad. The aim of this registry is to enhance mutual recognition and free movement of people. Who only acts within his own country does not need to be registered. We agree however that DIVEMEDREG should publish the possibility to get to these nationally available lists (without approval of competence by DIVEMEDREG).

To achieve the goal of free movement and mutual recognition, MEDs need to hand out the full medical record (including result of technical examinations) to the diver in digital form, mentioning that this is for personal use only or for another MED in another country. Only the certificate which states fit or unfit or fit with conditions should be handed over to the employer. The Diving Medical Advisor or occupational medical doctors of the diving company abroad will then check the candidates medical record and decide whether this is sufficient or, according to national laws, supplementary exams will be necessary.

4) Revision of EDTC-ECHM training standards for diving and hyperbaric medicine 2011.

The subcommittee agreed to participate in a consensus process, which is managed by a joint medical subcommittee as last time. Peter Germonpré leads the group of the ECHM and together we will look through the whole document. Only minor changes will be needed. From our side, the DMKT and assessment by the Pisa IDMEB will be described and the training objectives for the Level 1 and Level 2 added as appendix. They are the basis of a proper testing and guidance for course providers.

5) Any other business:

- JW steps back from chairmanship and the subcommittee welcomes Pieter van Ooij as new chairman for the next years.
- The subcommittee is concerned about accidents due to insufficient size of diving teams. We propose to take note of this while producing the next standards when revising the old ones.
- We are also aware that there is a lack of standards for diving chambers that occasionally be used for recompression of accidented divers. The EN norm for pressure methods for human occupancy is clearly edited for the use in clinical hyperbaric treatment chambers, treating sick patients. The occasional use of a surface decompression chamber onsite at a diving platform will always be the first choice in a diving emergency with decompression sickness as any delay may deteriorate the chance of good outcome. This is ethically acceptable, even if not foreseen so in the legislation. As there is no intention recognisable to form a new norm for such use, we should all be aware that we must not mention “treatment or recompression chambers” in written safety concepts or official documents. These chambers remain “diving chambers” and the emergency response plan may foresee an exceptional use of such chambers in an emergency situation when the risk assessment cannot offer a better solution.
- Phil Bryson informs that a recent article published in “Resuscitation-+” describes an algorithm to guide management of cardio-respiratory arrest in a diving bell (Johnson D, Tabner A, Tilbury N, Wesson A, Hughes GD, Eleder R, Bryson P. doi:10.1016/j.resplu. 2024. 100724).

Biel/Bienne, 30.09.2024

Jürg Wendling
Chairman medical subcommittee EDTC

BRIEFING TO EDTC

Conor KIRWAN,
Project Officer, Capability Development Plan
Capability, Armament & Planning Directorate
4 OCTOBER 2024



The European Defence Agency

- Intergovernmental
- Under authority of the European Council
- Decisions made by Steering Board
- Ministerial level, chaired by HoA/HRVP.



+250 staff
Connected with 3,000
experts in Member States

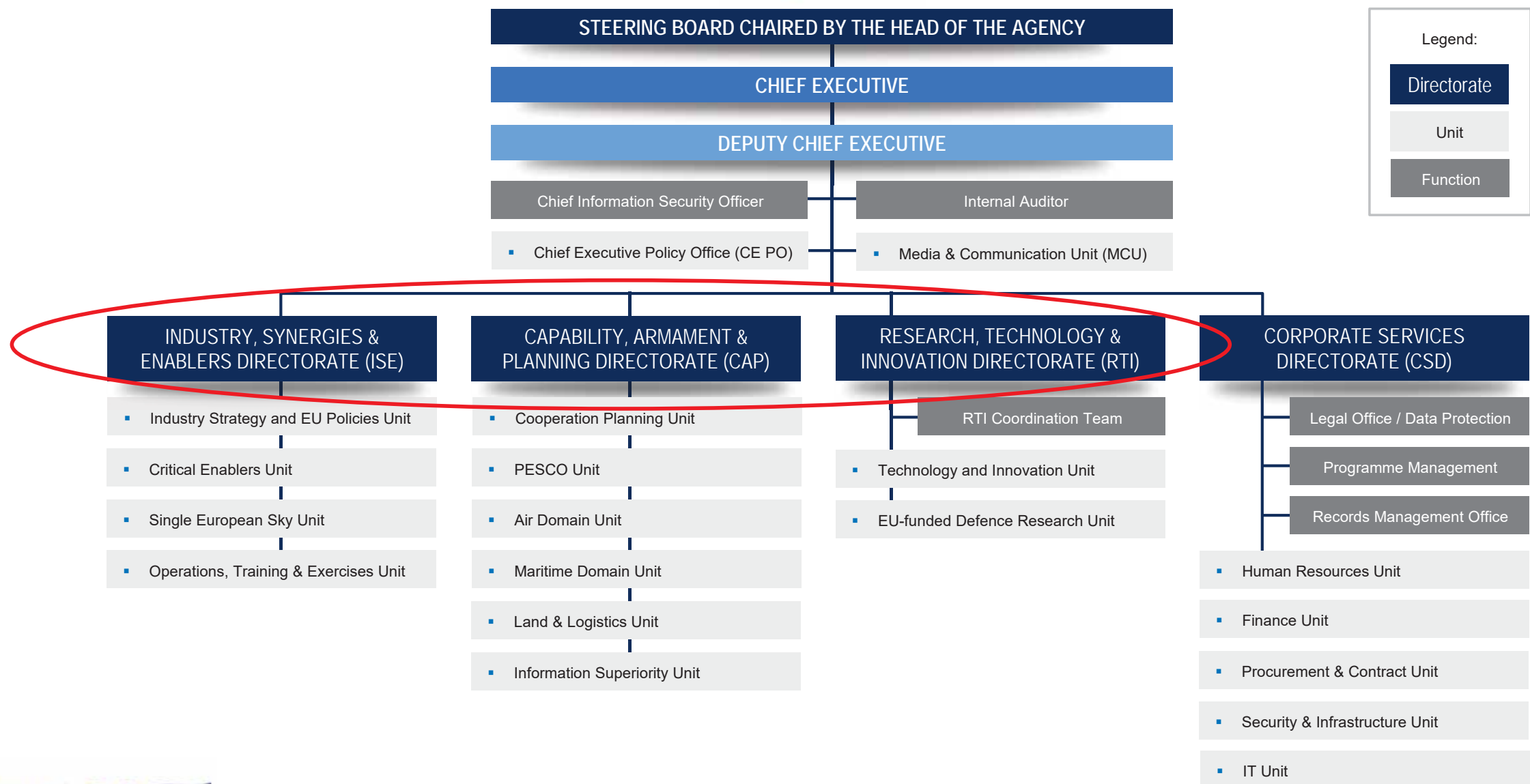


27 Member States

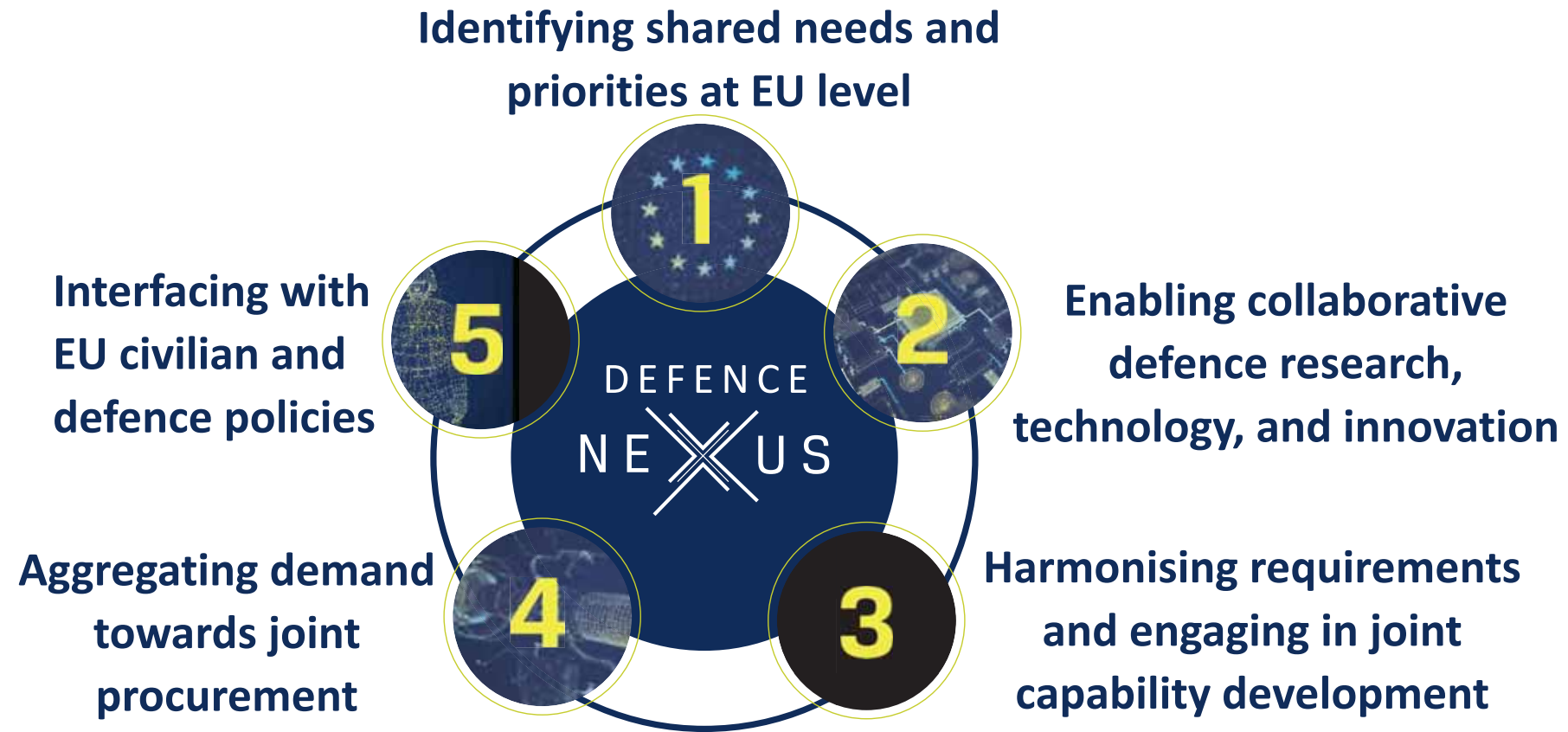


**Administrative
Arrangements**
with Norway, Switzerland,
Serbia, Ukraine, and USA

Organisation



EDA's mandate and Core Tasks



**LEVERAGING SYNERGIES WITH
EU STAKEHOLDERS**



**DEVELOPING COOPERATION
WITH THIRD PARTIES & NATO**

2023 EU Capability Development Priorities



LAND

- › Ground Combat Capabilities
- › Land Based Precision Engagement
- › Future Soldier Systems



AIR

- › Air Combat Platforms & Weapons
- › Airborne Command & Inform Capabilities
- › Integrated Air & Missile Defence
- › Air Transport



MARITIME

- › Naval Combat & Maritime Interdiction
- › Underwater & Seabed Warfare
- › Maritime Domain Awareness



SPACE

- › Space Operations
- › Space Services



CYBER

- › Full Spectrum Cyber Defence Operations Capabilities
- › Cyber Warfare Advantage & Readiness



STRATEGIC ENABLERS & FORCE MULTIPLIERS

- › Electro Magnetic Spectrum Operations (EMSO) Dominance
- › Persistent & Resilient C4ISTAR
- › Military Mobility
- › Critical Infrastructure Protection & Energy Security
- › Sustainable and Agile Logistics
- › Medical Support
- › Chemical, Biological, Radiological & Nuclear (CBRN) Defence
- › Cohesive & Well-Trained Militaries





EUROPEAN
DEFENCE
AGENCY

- EU COMMUNITY OF DIVING EXPERTS
- EU CODE

A G E N D A

Terms of Reference

- Initiate collaborative projects
- Support implementation of the CDP
- Improve Diving Interoperability by sharing best practice, development of common procedures, and synchronisation of capability development
- Support European Projects related to diving
- Collect a common view of EU diving experts to steer international fora





EUROPEAN
DEFENCE
AGENCY

- Selection of Diving Related Projects

A G E N D A

TEXMAR



Objective

Development and trial standard TTP to execute Technical Exploitation Level 1 in the Maritime Environment.

Work Packages:

- ▶ WP1.2: Technical Exploitation Training Workshop
- ▶ WP2.1: Evidence Collection on Vessels and Sabotaged Facilities Workshop
- ▶ WP2.2: Evidence Collection of Dead Bodies and Small Items
- ▶ WP2.3: Best Practices Seminar and Final Conference

DIVEPACK



Deliver a full spectrum defensive (non-SOF) underwater intervention capability in support of EU/NATO missions, both at sea and in inland bodies of water.

The final product should be a high readiness strategically deployable asset, delivering comprehensive response to a broad range of underwater scenarios within or outside of the EU, by developing of a standard size specialized land/air/sea transportable containerized mission modules operated by qualified personnel.

EU NETWORK OF DIVING CENTRES




Scope: The project aims to enhance the interoperability, flexibility and deployability of MS defence diving and rescue forces, in particular by facilitating common education, training and certification for divers. EUNDC will support the joint use of existing capabilities in order to optimize the available resources and improve their overall effectiveness.

Questions?

Thank you for your attention

Website: www.eda.europa.eu

Follow us on:    



SYNDICAT
NATIONAL des
ENTREPRENEURS de
TRAVAUX
IMMERGÉS



EDTC 2024 Meeting

Luzern, Switzerland, 04th october 2024

National Report Industry

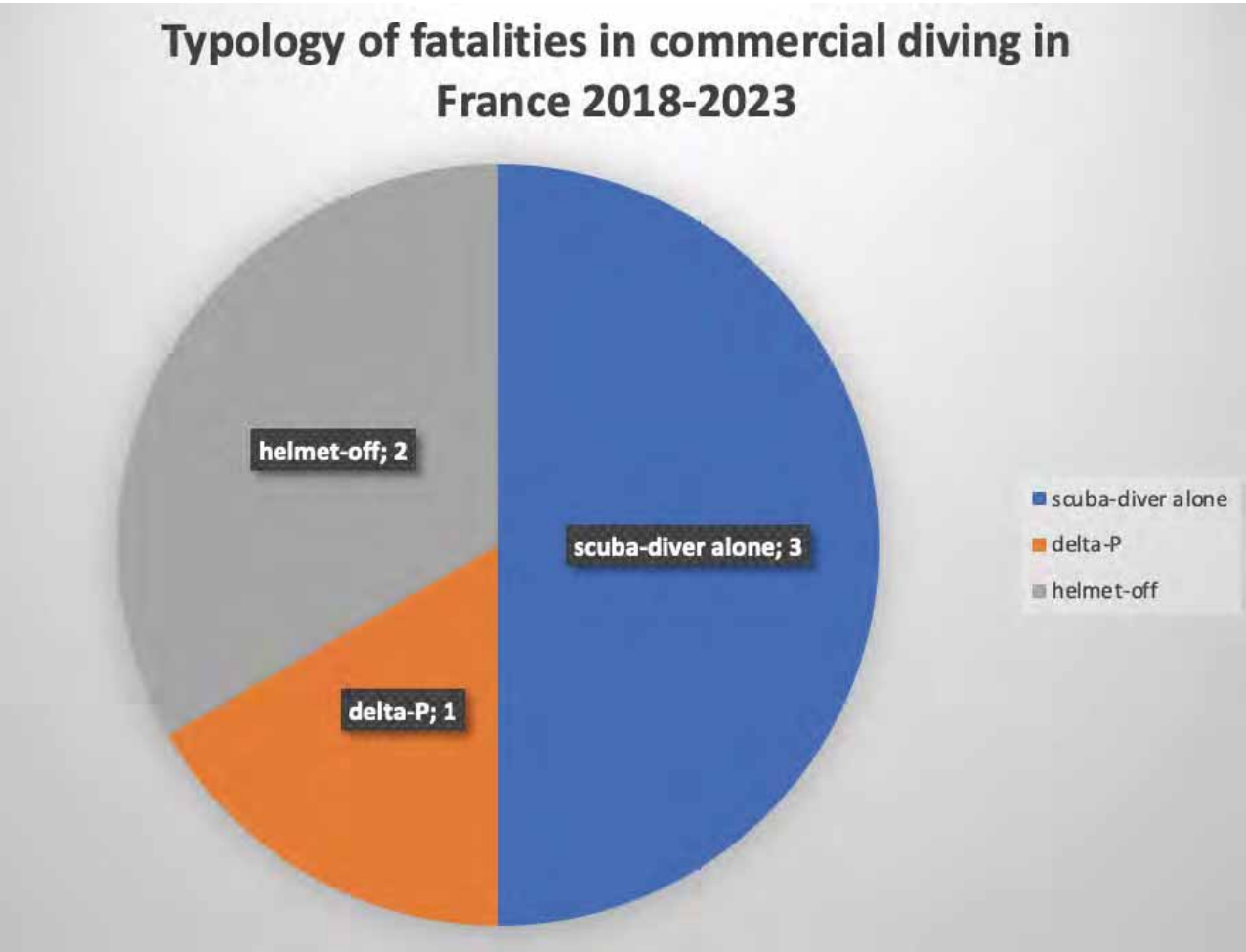


SYNDICAT
NATIONAL des
ENTREPRENEURS de
TRAVAUX
IMMERGÉS

Arnaud LAVAL- Chairman
Commercial divers CI II-A
Company : SATIF-SA

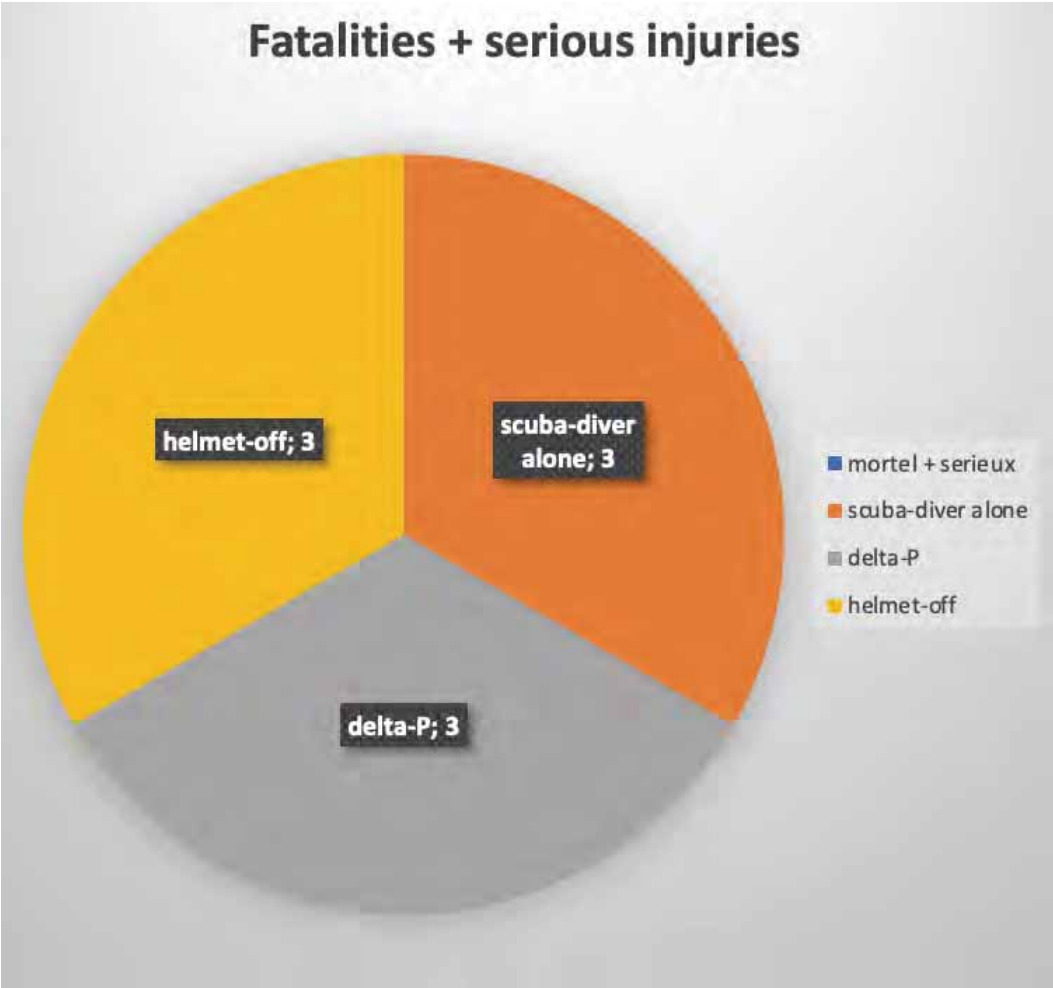


Fatalities commercial diving France 2018-2024



Year	Fatalities
2018	4
2019	0
2020	1
2021	0
2022	1
2023	0
2024	0

Fatalities + serious accidents commercial diving France 2018-2024



Year	Fatalities	Serious accidents*	Total
2018	4	1	5
2019	0	0	0
2020	1	0	0
2021	0	0	0
2022	1	2	3
2023	0	1	1
2024	0	0	0

*serious accidents : data non available ...

Hyperbaric works certification 2024

- 215 certified organisms : A, D, temporary works
 - 160 companies in « Mention A » (commercial diving) all sizes
 - 14 companies from foreign countries are or have been certified
-
- Confusion with cancellation of certificated within the 4 years cycle
 - False certificated
 - Difficulty to check the informations on the websites



Assises des Travaux Sous Marins

<https://www.youtube.com/@SNETI-dr6og/videos>



Assises des Travaux Sous Marins

<https://www.youtube.com/@SNETI-dr6og/videos>



Diving accident analysis

A presentation slide titled 'Cas n°2 – Découpage à l'Oxy-Arc Ultrathermique' (Case n°2 – Cutting with Ultrathermic Oxy-Arc). The slide is divided into two main sections: 'Les Conséquences' (Consequences) and 'Les Hypothèses et la Cause' (Hypotheses and Cause). The 'Conséquences' section lists two bullet points: 'Brûlure au deuxième degré au niveau de la main gauche.' (Second-degree burn on the left hand) and 'Le scaphandrier sera en arrêt de travail pendant 1 mois' (The diver will be off work for 1 month). The 'Hypothèses et la Cause' section lists two bullet points: 'Hypothèse 1 – Le ressenti et les explications du scaphandrier ?' (Hypothesis 1 – The feeling and explanations of the diver?) and 'Hypothèse 2 – Une brûlure électrique ? La masse est mal positionnée' (Hypothesis 2 – An electrical burn? The mass is poorly positioned). Two photographs of a hand with a severe burn are included. The slide also features the 'ASSISES DES TRAVAUX SOUS-MARINS' logo in the bottom right corner. A man in a blue suit and lanyard is speaking into a microphone in the background.

Assises des Travaux Sous Marins

<https://www.youtube.com/@SNETI-dr6og/videos>



Accueil

Vidéos

Playlists

Les plus récentes

Populaires

Les plus anciennes

Test n°5 Casque DeepSea Lightweight modèle DSL B 2 CNF en cours de...

73 vues • il y a 9 mois

Interview - Test n°4 du casque KIRBY MORGAN Surface Supplied MOD-1

95 vues • il y a 9 mois

Test n°4 du casque KIRBY MORGAN - Surface Supplied MOD-1

27 vues • il y a 9 mois

Interview - Test n°3 du casque KIRBY MORGAN Surface Supplied MOD-1

48 vues • il y a 9 mois

Test n°3 du casque KIRBY MORGAN - Surface Supplied MOD-1

34 vues • il y a 9 mois

Interview - Test n°2 du casque D-ONE de DRASS

93 vues • il y a 9 mois

Test n°2 du casque DRASS D-ONE

31 vues • il y a 9 mois

Interview - Test n°1 du casque D-ONE de DRASS

250 vues • il y a 9 mois

Helmets test in diving pool

Commercial divers training

- **3 diving training centers for commercial divers :**
ENS, CAP TREBEURDEN, AFPA
- INPP closure in June 2024 : IDRCF decided to suspend the international CAH recognition
- INPP certified divers file has been saved, but the structure that will manage information is not ready yet (CNEH)



Composition of commercial diving team :

- 4 or more divers in most inshore works : drill emergency

Video comparing a rescue with a 3 divers team and a 4 divers team



Composition of commercial diving team :

- 4 or more divers in most inshore works : letter to Ministry of labour



Ministère du travail, de la Santé et de la Solidarité
Direction générale du travail
Tour Mirabeau
39-43 Quai André Citroën
75902 PARIS Cedex 15

N. Réf. : PCD/HWO n° 24/057

Boulogne-Billancourt, le 24 juin 2024

A l'attention de Monsieur Pierre Romain, Directeur Général du Travail
A l'attention de Monsieur Jean Galvé, chef du Bureau CT2

Objet : proposition d'évolution de la réglementation concernant la composition des équipes de travailleurs réalisant des travaux hyperbares relevant de la mention A.

Monsieur le Directeur général,
Monsieur le Chef de bureau,

Les travaux réalisés en milieu hyperbare exposent les travailleurs à des risques spécifiques, notamment pour les travaux immergés relevant de la mention A.

En effet, comme détaillé dans la note que nous vous adressons en pièce jointe à ce courrier, de nombreuses activités réalisées en milieu hyperbare, et relevant de la mention A, ne peuvent pas être réalisées en sécurité avec une équipe composée uniquement de 3 personnes pour assurer les 5 missions nécessaires à la bonne réalisation de l'activité.

Une équipe composée de 4 scaphandriers minimum devrait selon nous être la règle, afin de garantir, dans la grande majorité des travaux hyperbares de la mention A, d'être réalisés en sécurité.

Cette composition minimum est un standard professionnel de plus en plus partagé dans le secteur des travaux hyperbares immergés de la mention A, notamment à l'international, mais pas uniquement.

OPPBTP

25, avenue du Général Leclerc
92080 Boulogne Billancourt Cedex
Tél. : 01 46 08 27 00
cmsg@oppbtp.fr

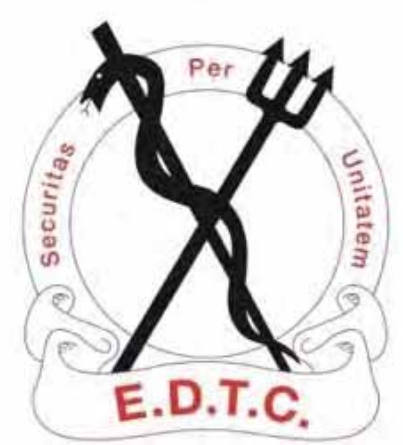
N° Siret 775 725 914 00433 • APE 9412Z • N° TVA intracommunautaire : FR 23 775 725 914



OPPBTP

EDTC GUIDELINES V3 PROCESS IN FRANCE

- Approval at the SNETI 27th June 2024 annual assembly
- Submitted to officials : OPPBTP, DREETS and CARSAT
- Translated in french



Dr Blandine AUBLIN



- Hyperbaric medecine
- Nuclear medecine
- Occupational doctor



Meeting EDTC 2024 Lucerna

Dear Ladies and Gentlemen,

In this annual session of the EDTC I have the pleasure and honor to inform you that, finally, after decades, Italy is equipping itself with a law for the professional diving sector but also for the recreational-tourist sector.

In fact, the Underwater Safety Agency has just been established by the Council of Ministers of the Italian Government.

This body anticipates the broader and more complex Ministerial Decree that will establish a law for the control and safety of National and territorial waters. The project includes aspects of protection of the safety of emerged and underwater infrastructures with particular reference to strategic ones such as oil gas plants, energy pipelines, submarine cables for telecommunications and internet connections.

In the same legislative system, important reference is given to underwater work, its organization of companies, the requirements of technical underwater operators, and regulatory references.

Another very relevant factor that involves the EDTC itself is the desire of the Italian Government to be the spokesperson, to the European Community Authorities, of a contact person for the unification of operating procedures and guidelines at EU level.

As you will remember, the European Community was and is somewhat absent on the subject of underwater safety, referring the whole issue to the general regulations in force in Europe and in the Member States.


AISI will work to ensure that the Italian Government supports EDTC for the creation of a European standard shared in all EU countries.

In the meantime, the Italian Parliament has presented the Bill 1161 for "Safety in Underwater and Hyperbaric Activities". This project sees the Honorable Gimmi Cangiano and 17 other Parliamentarians, all from the area of the Government Majority, as the first trainer. The project concerns both the professional and the sporting fields. In addition, another Ministry, that of Tourism, intends to promote a law that concerns exclusively underwater activities in the tourism sector. In short, after decades of activity for the promotion of laws to protect and develop Italian diving, in its various aspects, without there being any tangible results apart from the UNI 11366 Standard, a true milestone in the field of underwater and hyperbaric safety, the Italian Government has "discovered" that Italy extends into the Mediterranean like a gigantic aircraft carrier anchored aft to the rest of Europe and has 8,000 km of coastline and thousands of diving and hyperbaric companies and operators that boast a glorious military and civil history but orphans of state laws.

As a great Italian actor, Nino Manfredi, said, "If it were... that it was the right time".

Thank you for your attention and I hope that at the next EDTC meeting we will be able to report on the effective establishment of these Italian laws.

Associazione Imprese Subacquee Italiane


Segretario



Medical assistance for underwater work.



Pasquale Longobardi MD

- *AA Fondazione Mistral - President*
- *Italian Diving and Hyperbaric Medicine Society (SIMSI) - Vice President*
- *Scuola Superiore Sant'Anna (SSSA) Pisa (I) - Affiliate Researcher*
- *Centro iperbarico Ravenna (I) - Medical Director*

direzione@iperbaricoravenna.it



Statistics Diving Doctors Italy

2009-2024 (15y)

Healthcare for divers in
20 countries.





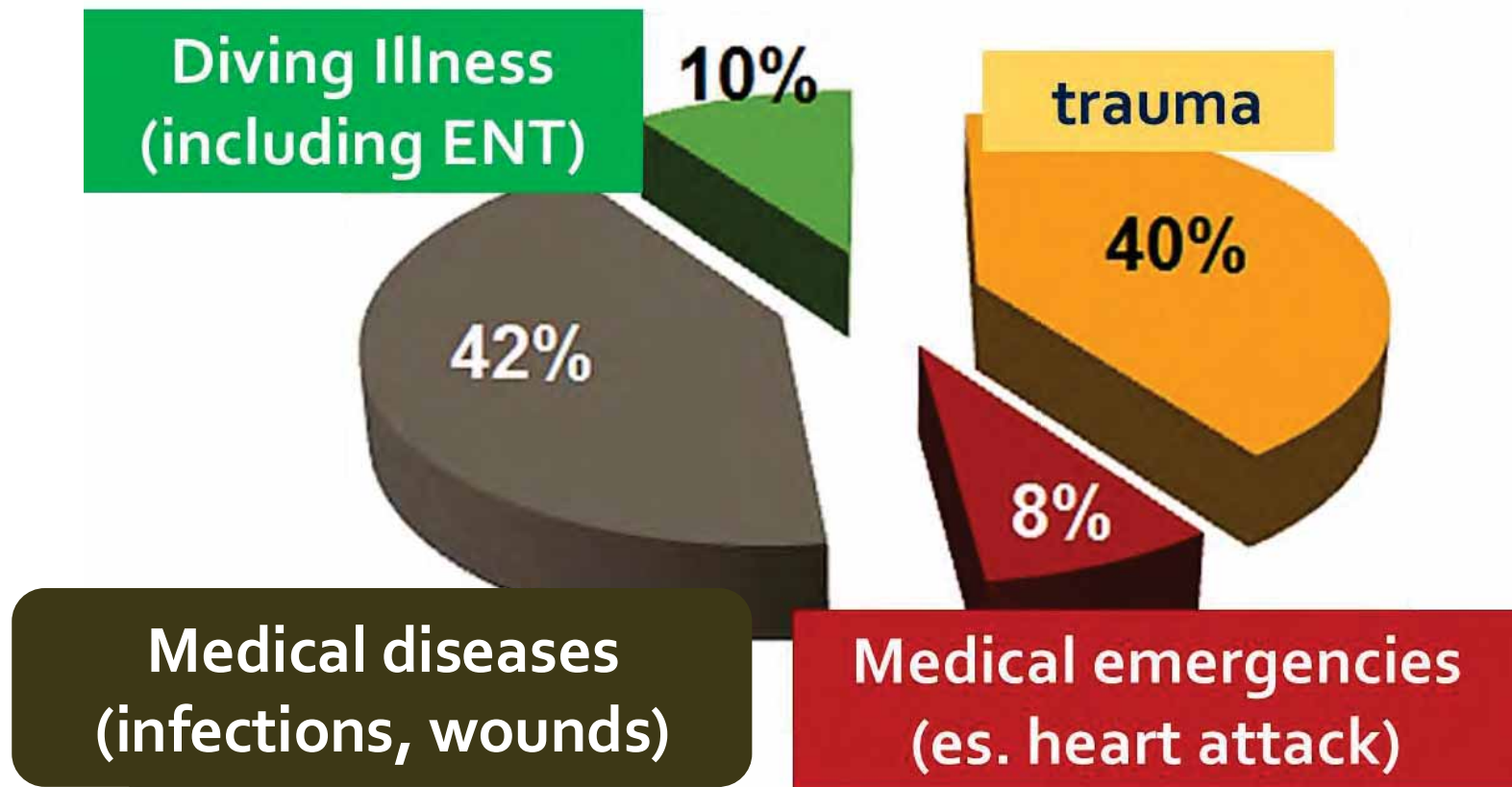
7,642 days with doctors
2,092 days with a nurse.
2,448 days with remote assistance.
€3.6 million paid by companies for the service



Diving Contractor	Diving worksites
Aalea	Lybia
Adriatic Shipping	Italy (Otranto, Apulia)
CNS International	Congo
Micoperi - SNAM	Italy (Ravenna)
RANA Diving Contractor Ltd	Congo, Trinidad and Tobago



Statistics Diving Doctors Italy





D.N.O.

**Deep dive breathing air (30-50 msw / 98-164 fsw)
and decompressing with Oxygen Enriched Air (OEA 50% oxygen).**

The new **D.N.O. procedure**,
approved in April 2024, will be **used**
by all 415 Italian underwater
firefighters.



**Pasquale Longobardi MD¹, Giuseppe Petrone DV², Massimo Becherucci SDCS²,
Riccardo Malatesta SCS²**

¹Hyperbaric Center of Ravenna (Italy), Italian Diving and Hyperbaric Medical Society (SIMSI); ²Underwater and Water Rescue Units (NSSA) Italian Ministry of the Interior.



August 19, 2024



Over **four days**, **57 government divers** (27 underwater firefighters) worked **80 hours** (**133 dives**).
The new **D.N.O.** procedure was used by **eight underwater firefighters** for **14 hours** (**18%**) and **18 dives** (**14%**).



The goal

We recommend against excess decompression

To let
underwater firefighters
work longer at the
bottom time with less
total decompression
time compared to air
diving.

Depth = 50 msw (164 fsw). BT = 20 min

Air tables BT = 30 min (*)

D.N.O. BT = 20 min

Prof.	T	RT	T	RT
50	20	20	20	20
21	1	24	4	24
18	1	25	-	-
15	1	26	1	25
12	1	27	2	27
9	4	31	3	30
6	13	44	16	46
3	26	70	-	-
0	1	71	1	47

≠24 min.

(*) Underwater firefighters' air table includes the ascent time to the first decompression stop in the bottom time. All time is considered to be spent at maximum depth, to improve safety.



Method

- It took **14 directives**, between 2017 and 2022, to approve the new procedure .

09.03.2017 DCEMER no. 4766: **Implementation of the synthetic gas mixtures project** by the SAPACRASS Office.

05.01.2022 DCEMER decree no. 3 and note 40839 of 09.12.21: **Draw up appropriate decompression tables with 'Nitrox' / oxygen mixtures.**

Advanced settings

☐ Let V-Planner manage my advanced settings. (Recommended)

☒ Allow me to control the advanced configuration settings.

For details of these settings, see (click the link)

[Erik Baker's papers the on web](#) [VPM decompression home page](#)

Model ☒ VPM ☐ VPM-B ☐ VPM-B/E Conservatism

Critical Volume Algorithm ☒ Off ☐ On %

Critical radius nitrogen 0.2 to 1.35 microns (0.8, B=0.55)

Critical radius helium 0.2 to 1.35 microns (0.7, B=0.45)

Critical volume Lambda 6500 to 8300 fsw/min (7500, B=6500)

Gradient onset of imperm. 5.0 to 10 atm. (8.2)

Surface tension Gamma 0.015 to 0.065 N/m (0.0179)

Skin comp. GammaC 0.160 to 0.290 N/m (0.257)

Regeneration time const 10080 to 51840 mins. (20160)

Pressure other gases mmHg (102)

Reset to nominal values:

The **D.N.O. decompression procedure** was **calculated with** two validated, commercial softwares:

V-Planner (adapted) and **Deco Planner** (GFs 60/90).



V-Planner v3,108

Copyright©1997-2024 HHS Software Corp.

All rights reserved

<https://www.v-planner.com>



Deco Planner

Version 3.1.4

Copyright © 1997-1999 Simon D. Tranmer

Copyright © 2000-2006 Global Underwater Explorers



Limitations

Depth Msw (fsw)	BT	Total dive time	Exceptional exposure (BT, NO repetitive)
30 (98)	30	42	-
33 (108)	30	48	-
36 (118)	25	41	30
39 (128)	20	34	25 -30
42 (138)	20	38	25-30
45 (148)	15	28	20-25-30
48 (158)	15	31	20-25-30
51 (168)	10	22	15-20-25



Table 51 meters

Vigili del Fuoco Sommozzatori



Air / OEA50	51 meters	10 minutes		15 minutes		20 minutes		25 minutes	
		T	RT	T	RT	T	RT	T	RT
OEA 50	21	4	14	4	19	4	24	4	29
OEA 50	15	-	-	-	-	1	25	2	31
OEA 50	12	-	-	1	21	2	27	3	34
OEA 50	9	1	16	2	23	3	30	5	39
OEA 50	6	5	21	8	31	16	46	20	59
OEA 50	0	22	-	32	-	47	-	60	-



Oxygen toxicity

D.N.O. decompression schedule 50 m / 25 minutes.

Pulmonary toxicity assessment.

Depth msw (fsw)	Time [min.]	Time [h]	ppO ₂ [bar]	%VC Vital capacity loss.	POT index	Incidence (%)	OTU
				$0,0082 \times t^2 \times$ $ppO_2^{4,57}$	$t^2 \times ppO_2^{4,57}$	$1,85 + 0,171 \times$ POT index	$0,83 \times t(ppO_2 - 5)/5$
50 (164)	25	0,47	1,26	0,00513	0,626	1,96	35,3
21 (69)	1	0,02	1,60	0,00002	0,002	1,85	1,8
15 (50)	2	0,03	1,25	0,00003	0,003	1,85	2,5
12 (40)	3	0,05	1,10	0,00003	0,004	1,85	3,0
9 (30)	5	0,08	0,95	0,00005	0,005	1,85	3,7
6 (20)	20	0,33	0,80	0,00033	0,040	1,86	10,0
	59				0,68		56,32



Results

TDT	
DNO	22
G2	22
SOL	20
PERDIX	20
PETREL 3	22
Air table USN	30



- Underwater firefighters perform better with **D.N.O. procedure** compared to air diving (longer bottom time, less decompression time).
- **Total Decompression Times (TDT)**, between DNO tables and the computers, **are pretty much the same length.**
- More gas supply (air + OEA5o) makes it **safer in an emergency.**
- **Divers felt less tired and better with D.N.O. procedures** than on similar air dives.
- There were **no accidents**



Sensor platform for health status monitoring

Software collect data and upload to the cloud platform

HR raw sensor
Light sensor
Microphone

Accelerom
Gyroscope
GPS



Sensor	Data output
Air flow	PEF, FEV1
Optical sensor	SpO2, HR

Accelerometer
Matrix Pressure Sensor
Air Quality
Environmental Sound
Environmental Light



The **prototype platform** is now being used in a **clinical study** as part of the **EU TOLIFE project**.

(<https://www.tolife-project.eu/>)

Developed by:

- University of Pisa (Prof. Tognetti)
- Institute of Clinical Physiology, CNR (Ing. Laurino)



I have taken part in the **EDTC Board** and **hope to be reappointed.**



Good EDTC Assembly 2024



EDTC National Report Norway

4th of October 2024

EDTC meeting 04.10.24 – Luzern, Switzerland

List of representatives – Norway:

- Øyvind Loennechen– IDRCF
 - Leif Morten Rasch – Workers Union (IE)
 - Martin Heer – Medical
 - Ulrik Jünge – Government
-
- Joar Gangenes – Industry (offshore) – Not present
 - Rolf Røssland – Industry (inshore) – Not present

What is Havtil?

- Government supervisory agency subordinate to the Ministry of Energy (ED)
- Regulatory authority for safety, the working environment, emergency preparedness and security
- Areas of responsibility
 - petroleum operations offshore and at land plants
 - renewable energy production offshore (offshore wind power)
 - CO₂ transport and storage
 - mineral operations on the seabed
- About 180 employees

Why Havtil?

Expanded responsibilities

The government resolved in 2023 to change the agency's name from Petroleum Safety Authority Norway (PSA) to the Norwegian Ocean Industry Authority (Havtil)

- **Ptil/PSA → Havtil**
- This follows the steady expansion in the agency's responsibilities during recent years.



Areas of responsibility

Petroleum operations – offshore and on land

- 92 fields on stream
- 62 fixed facilities
- 40 mobile facilities with an AoC
- 371 subsea facilities
- 25 000 employees offshore
- 18 080 km of pipelines
- 7 land plants

Updated 1 January 2024

Mineral operations

- Regulatory responsibility for safety and emergency preparedness related to future mineral operations on the NCS has been delegated to Havtil

Renewable energy production offshore

- Two areas of the NCS have been opened for offshore wind development: Utsira North and Southern North Sea II

Transport and storage of CO2

- Value chain for transport and storage under development.
- Land plant at Øygarden in Vestland county.
- Pipeline transport to permanent storage in formations beneath the North Sea.

Key duties

Regulations

- Develop and adopt regulations

Supervision

- Supervise the companies

Build knowledge

- Acquire, administer and communicate knowledge which contributes to improvements in the sectors – and be the specialist agency for our area in relation to the industry, other state agencies and the general public

Advice

- Provide specialist advice to the ministry

Regulations

Development and adoption

- Havtil is responsible for developing and adopting regulations in its areas of responsibility
- This work is pursued in dialogue with the parties in the industry (the Regulatory Forum)
 - **This is also relevant for any changes in the diver training program**

Petroleum operations

- Framework regulations
- Management regulations
- Activities regulations
- Facilities regulations
- Technical and operational regulations
- Regulations pursuant to the Working Environment Act (adopted by the Ministry of Labour and Social Inclusion – AID)

Transport and injection of CO₂

- CO₂ safety regulations

Renewable energy production at sea

- Regulations on safety and the working environment for offshore renewable energy

Mineral operations *(awaiting activity)*

Societal safety and security

Societal safety

- Havtil is responsible for societal safety in its sector, particularly through contributing to situational awareness and the risk picture.

Security

- Havtil supervises that the companies conduct their operations in accordance with section 9-3 of the Petroleum Act, which requires licensees to implement and maintain security measures to help prevent deliberate attacks on facilities and to have emergency response plans at all times for dealing with such assaults. That covers both physical and cyber security.

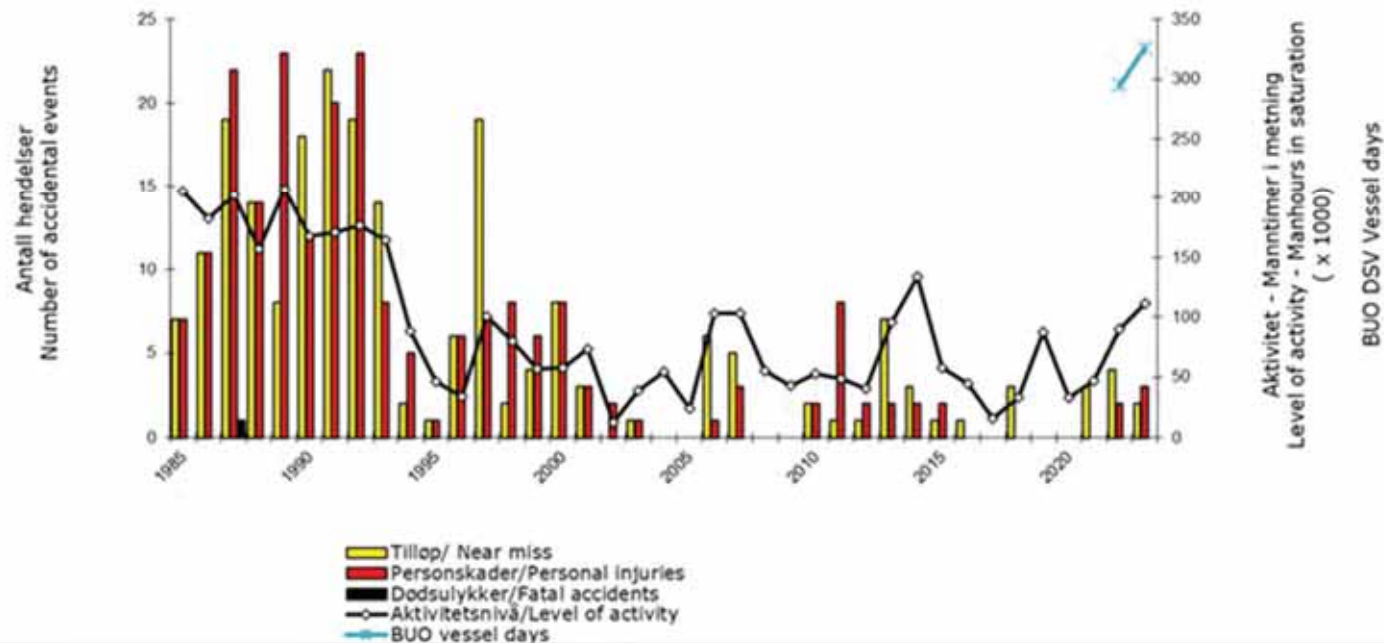
Security Act

- Havtil supervises the petroleum sector pursuant to the Norwegian Security Act.

DSYS report for 2023

Saturation Diving

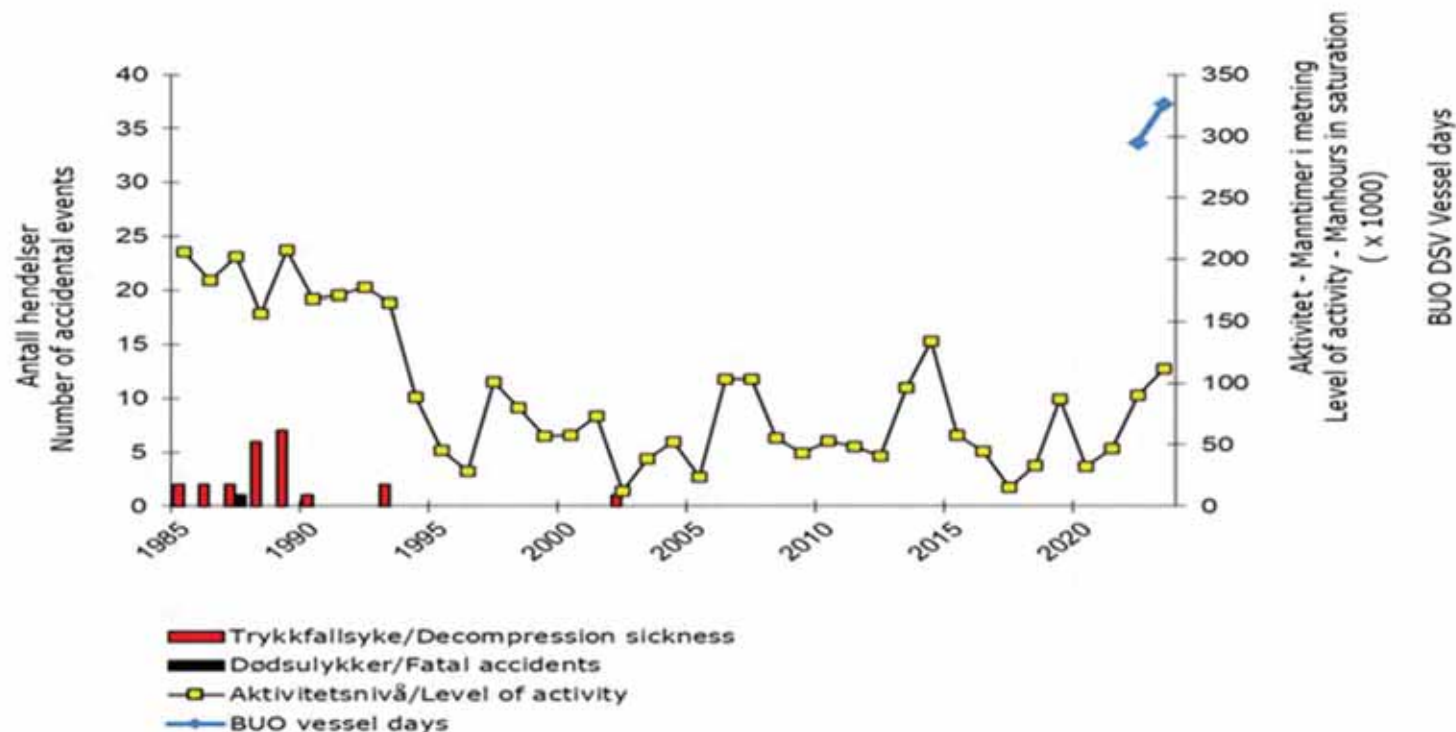
UØNSKEDE HENDELSER VED METNINGSDYKKING UNDESIED EVENTS IN SATURATION DIVING



DSYS report for 2023

Saturation Diving – Fatalities & DCS

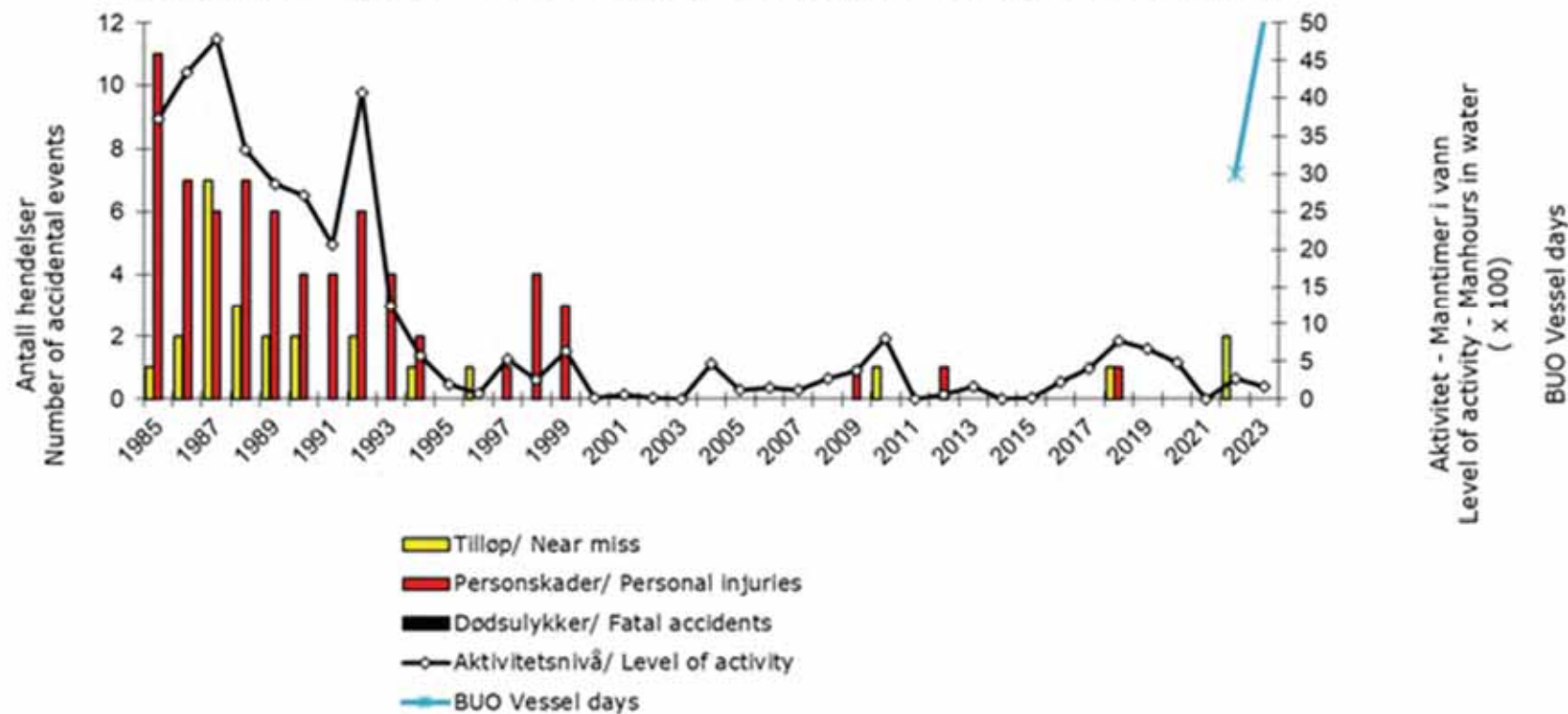
DØDSULYKKER OG TRYKKFALLSYKE VED METNINGSDYKKING FATAL ACCIDENTS AND DECOMP. SICKNESS IN SATURATION DIVING



DSYS report for 2023

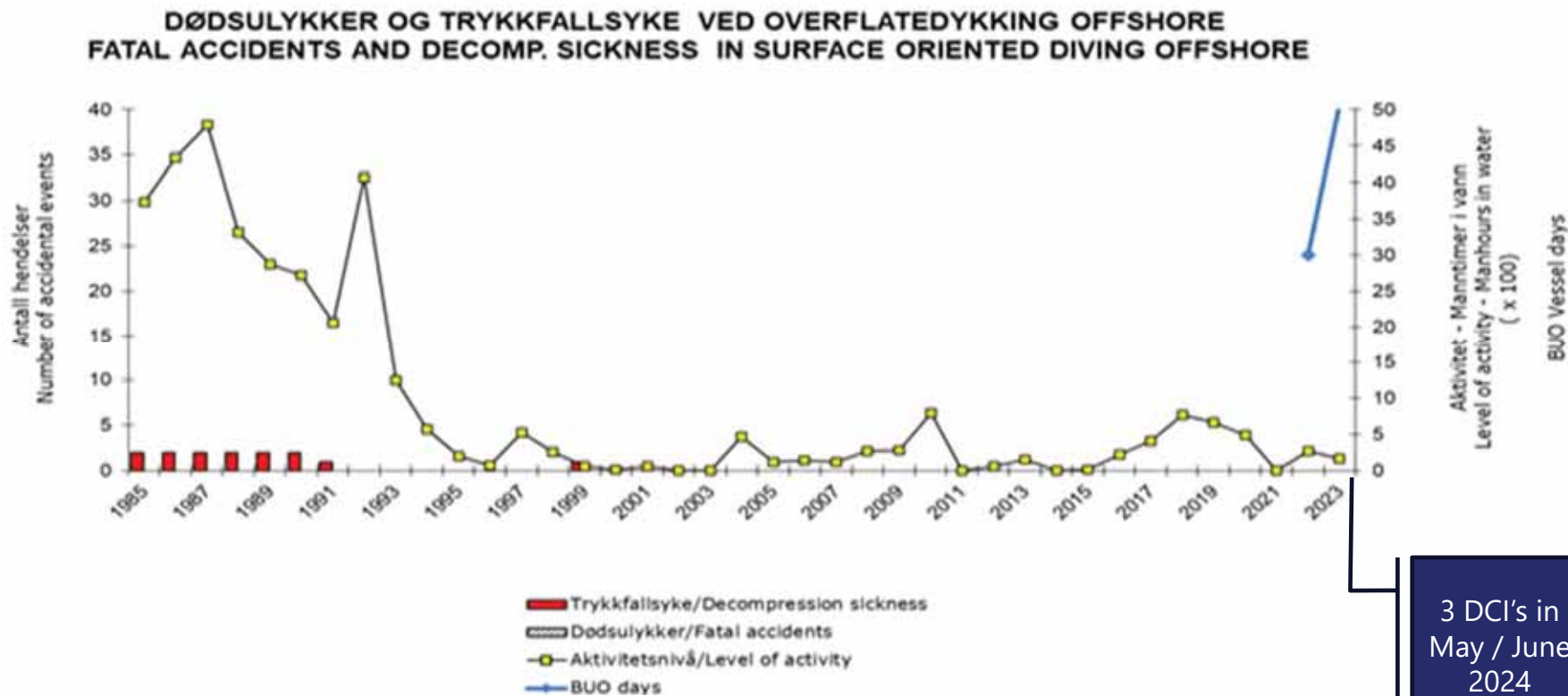
Surface oriented diving offshore

UØNSKEDE HENDELSER VED OVERFLATEORIENTERT DYKKING OFFSHORE UNDESIED EVENTS IN SURFACE ORIENTED DIVING OFFSHORE



DSYS report for 2023

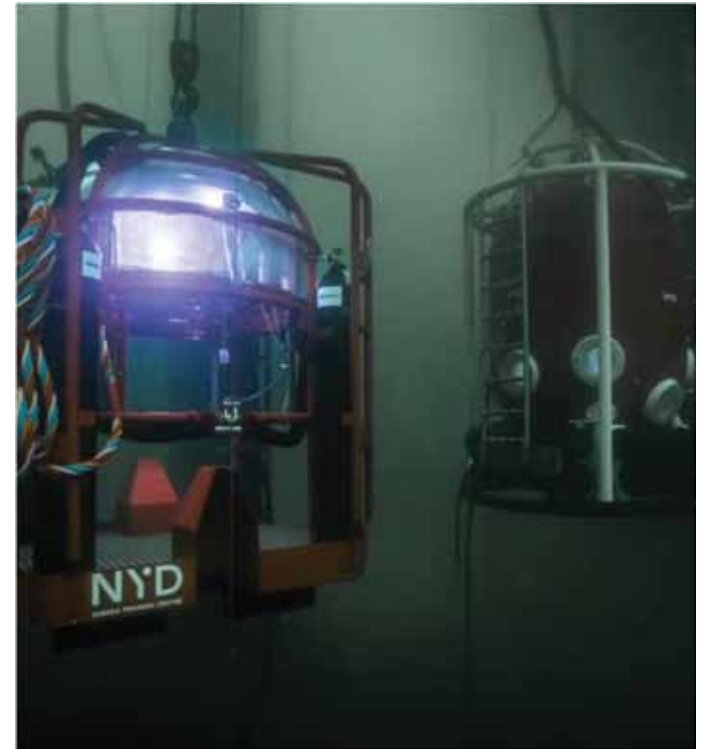
Surface oriented diving – Fatalities & DCS



Norwegian diver training – NYD

NYD statistics 2023 – 2024

- 168 Class 1 air divers
- 25 Inshore Dive Supervisors, 4 refresher
- 36 coded underwater welders
- 16 Rescue divers
- 40 divers on other courses
- 10.135 dives conducted



Norwegian diver training – HVL

HVL Statistics 2023 - 2024

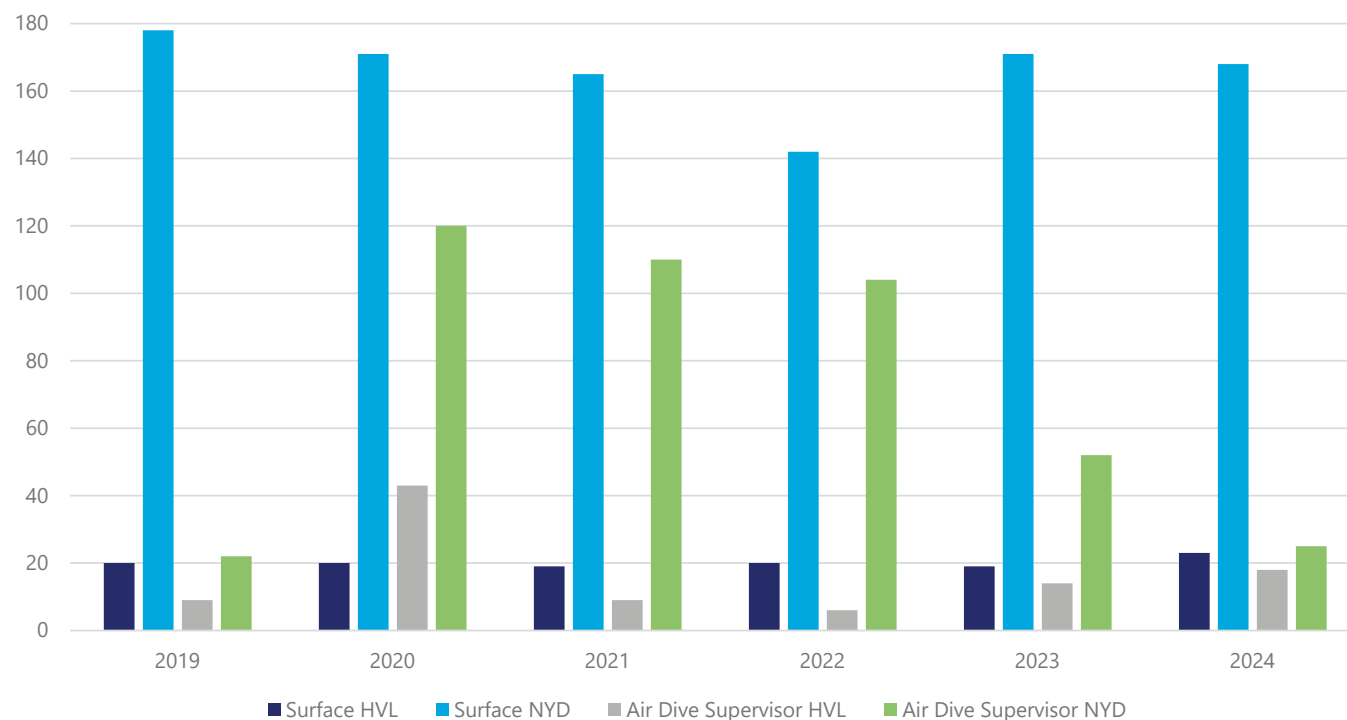
- 23 Class 1 divers
- 20 Inshore Dive Supervisors (Refresher)
- 18 Inshore Dive Supervisors
- 49 DLR Supervisor Rescue Diving (Refresher)
- 29 DLR Supervisors Rescue Diving
- 44 Rescue Divers



No. of Divers & Supervisors certs issued 2019 – 2024

	2019	2020	2021	2022	2023	2024
Surface HVL	20	20	19	20	19	23
Surface NYD	178	171	165	142	171	168
Air Dive Supervisor HVL	9	43	9	6	14	18
Air Dive Supervisor NYD	22	120	110	104	52	25

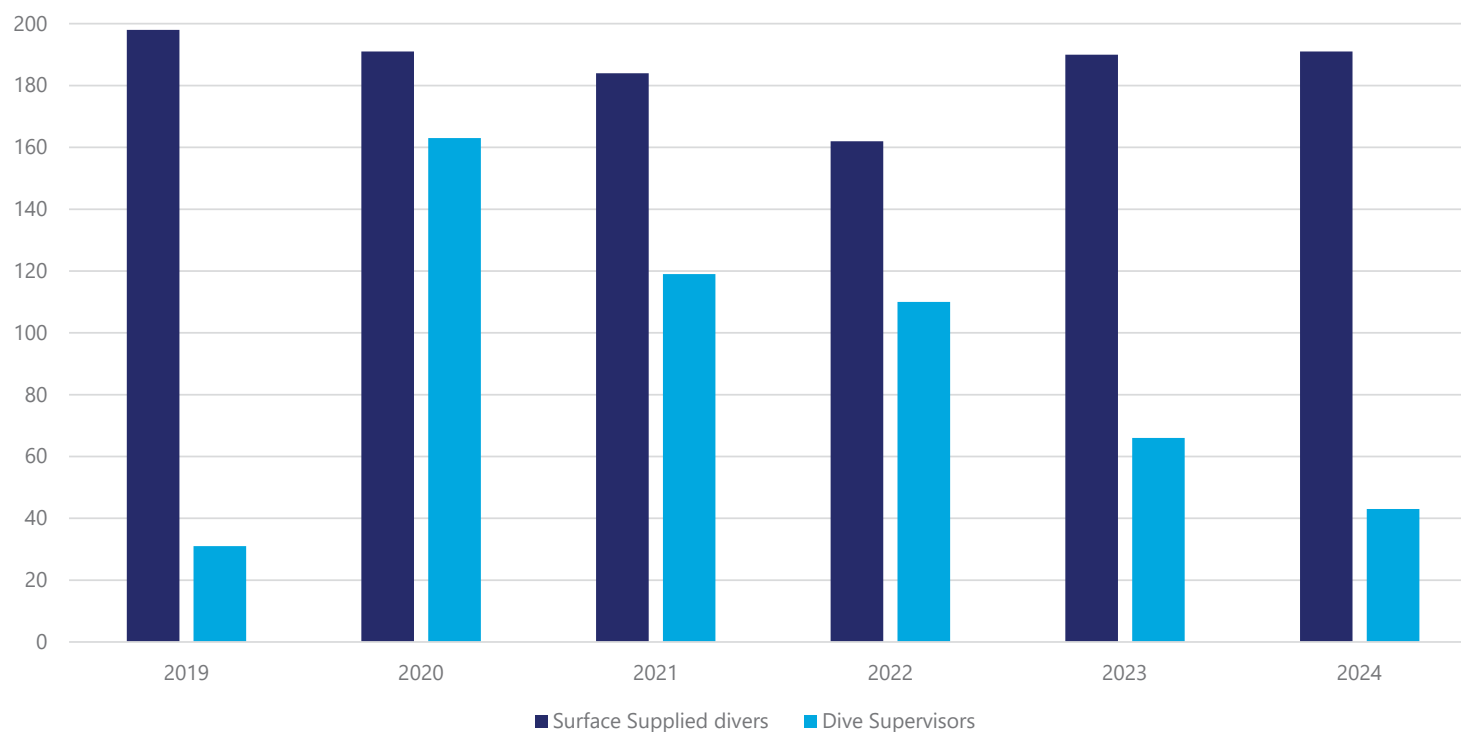
Divers & Supervisors 2019 - 2024



Total Divers & Supervisors 2019 – 2024

	2019	2020	2021	2022	2023	2024
Surface Supplied divers (Total)	198	191	184	162	190	191
Dive Supervisors (Total)	31	163	119	110	66	43

Total Dives & Supervisors 2019 - 2024



Norway Havtil Update

Incidents & Accidents under Havtil jurisdiction

3 Accidents during offshore diving operations in 2024

- 3 cases of DCS during surface supplied diving offshore – Investigation by Havtil ongoing

13 Minor incidents / medical treatments since last EDTC meeting

- 2 near miss
- 6 ear infections
- 1 Barotrauma in ear
- 1 minor injury
- 1 first aid treatment
- 2 Illness (flu)



Norway Havtil Update

Diving Activity 2023 – under Havtil jurisdiction

The total for 2023:

- 326 DSV days saturation
- 51 Diving days surface oriented diving
- 39 Diving days surface oriented land based facilities

Total of 416 diving days in 2023



Norway Havtil Update

Diving Activity 2024 under Havtil jurisdiction

For the reporting period jan – june 2024:

- 89 DSV days saturation diving
- 24 days surface oriented diving

Total of 113 diving days in the first half of 2024

Estimated total for 2024:

Approx. 200 – 250 diving days



Havtil focus areas

Activity 2023 – 2024

- RNNP Diver survey questionnaire
- Dive Supervisor certification – mutual recognition
- National diving activity- and exposure register
- NORSOK U-100 minor updates

Audits since last IDRCF/EDTC meeting:

- 2023 Equinor PRSI hyperbaric pipeline repair emergency preparedness
- 2024 Vår Energi audit and investigation
- 2024 HVL Class 1 / Dive Supervisor
- 2024 NYD Class 1 / Dive Supervisor

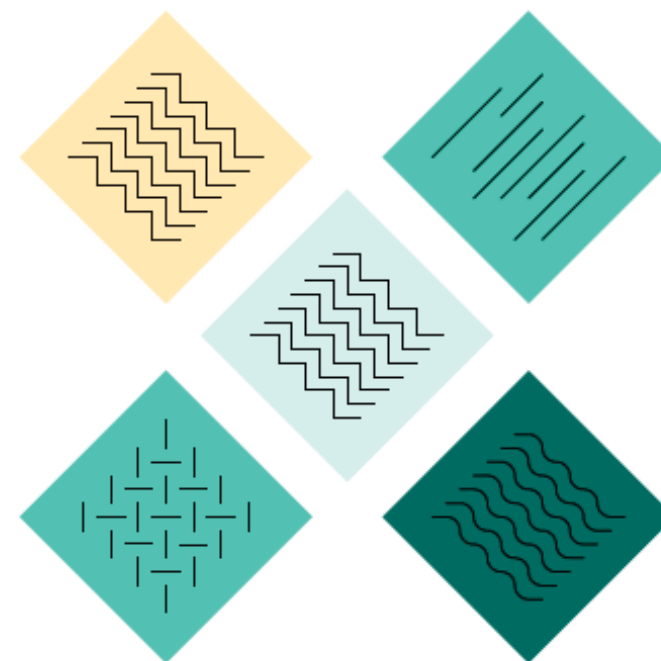




Arbeidstilsynet

Commercial diving

[Labour inspection authority Norway](#)



Supervision and guidance

The LIA diving supervising group

- 5 inspectors, 2 specialized legal advisors
- **Guidance and cooperation** with safety representatives, trade unions, industry organisations, diving schools, authorities and professional diving organisations.
- **Supervision and inspection**
 - Oversees that diving companies, freelancers and diving contractors comply with the requirements of the working environment act and appropriate regulations, incl. the diving regulations
 - Internal control audits - reviews of enterprises' internal control systems
 - Inspections – check whether diving companies and contractors meet legal requirements and the enterprises' internal control systems function satisfactory

Foreign dive certificates

- Diving is a regulated profession in Norway
- Divers with foreign dive certificates planning to work in Norway need to apply to the LIA for permission to work
- The diver might need to pass an aptitude test if there are significant differences in the qualifications compared to Norwegian requirements, i.e. Norwegian regulations
- Different regulations apply to EEA citizens and citizens from outside EEA
- Certificates issued in accordance with recognized standards of competence; i.e. IDSA, EDTC
- Application process: <https://www.arbeidstilsynet.no/tema/dykking/dykkerbevis/>

For further information

- [Our internet pages](#)
- [Diving regulations](#)
- [Contact details](#)



REPORT REGARDING DIVE ACCIDENTS, LEGISLATION & HYPERBARIC MEDICINE LUCERNE 2024

Aurelian IVAȘCU, MD, ROMANIA

Atestate of complementary Studies in Hyperbaric Medicine 2009 RO

Dive Medicine 2024 R.C.S.Ed. , UK

2 Offshore Projects

Executive Vice-president Romanian Society of Hyperbaric medicine



CONTENT

- Diving accidents in Romania 2010 – 2024
- Romanian inshore & offshore diving legislation
- Hyperbaric medicine in Romania



DIVING ACCIDENTS

- In Romania, were recorded 2 commercial diving accidents in 2010 and 2022, each with 2 fatalities.
- As usually, a combination of non respecting the legislation and diving procedures is leading to severe accidents !!!
- No SCUBA DIVING accidents were recorded by DAN Europe (few divers and 1 hyperbaric medical center on the Romanian coast).
- In the folowing slides I will analyze the causes and will resume the conclusions.



FIRST ACCIDENT – 2 FATALITIES

- The First major dive accident was registered in **09.09.2010** when two industrial divers drowned inside a wreck – team of four divers - , 4 miles near Constantza Harbour, 40 m depth, trapped in the engine room. The bodies were recovered 3 months after the accident 10 / 23 december.



Combined factors of non respecting of legislation and dive procedures leading to fatal outcome – 1.

- The first factor was the non respecting of the dive authorization. The dive was authorized **ONLY for exterior** filming of the wreck,
- The second factor was the contract of the divers regarding this dive who was **not a work contract** , with specific demands to be respected and was a collaboration contract.
- The third factor was that for that kind of dive and for that day 09.09.2010, the diving firm – who had a **general diving authorization** issued in 22.12.2009 and – **should have a work permit** , a special dive authorization. Muchmore, in the day of accident, the dive firm **did not announced the Port Authority that they have divers onboard** of their tiny boat and they will make a dive, which is a very severe overpass from diving regulations.



Combined factors of non respecting of legislation and dive procedures leading to fatal outcome – 2.

- **The fourth factor** was that **the dive firm did not had a real dive plan**, to be respected, no work permit and from the dive team was incomplete - was missing a doctor or a medical assistant. Muchmore, **the weather was not proper for a dive** the sea had degree 3-4 to shore and 7 to 8 (60 – 70 km/h)at large, with waves of 3 – 4 m, with strong current.
- **The fifth factor** was that they used a **tiny boat, SCUBA dive type** and not air dive with umbilical suply, communications, dive controller and a hyperbaric chamber onboard for emergencies.
- **The sixth factor and not to the last, a suspicious port – side banding of the ship, after few hours of leaving Constantza harbour** plus an insurance policy at a level too high from normal value of ship and cargo are pushing deeper the mystery of divers presence in the engine room – to close some opened valves???



CONCLUSION AFTER FIRST ACCIDENT:

- **What happened is unclear**, what is certain is that a diver had the gas tank empty, torches without power in batteries. Nitrogen toxicity, lost divers with no visibility with only a tank with gas, panic, maybe all or a little by each . But for sure, they had no authorization to enter in the wreck.
- It is **strictly to be forbidden SCUBA dive type with no communications in the commercial dives.**
- In justice – owner of company – conviction in court 3 years with suspension !



SECOND ACCIDENT – 2 FATALITIES

- **The Second major dive accident** also with 2 fatalities was recorded in 9 of April 2021, in North Eforie, a touristic resort 20 km south of Constantza , the city where I live in Romania. **The task of the diving was the monitorization of biodiversity of flora and fauna in the designated area and quality of water in a Project of extension of the sand beach of the North Eforie.**
- **The difference** from the case above was that the accident was **near the shore, around 500 meters** from the shore at a **depth of 3 – 4 meters, in open waters, with a perfect weather for dive.** This is a paradoxical accident, with all parameters in good condition.





Combined factors of non respecting of legislation and dive procedures leading to fatal outcome – 1.

- **The first factor** who leaded to the death of the divers was that **none of the divers were professional diver – they were SCUBA divers** without professional diving licence.
- **The second factor** was that **the accompanying boat was anchored to the shore at the moment of the accident** and not active above the working area. Practically, **the two divers were alone in the open sea**, around 500 m from the shore line.
- **The third factor** which emerged from the investigation was that the **equipment used was not respecting the safety requirements** : it was missing the pression manometer and the octopus . Muchmore, the lead weights were not fixed on a belt, they were put in some pockets of the compensating inflating vest, without possibility of fast relieving of them in case of emergency for regaining the buoyancy.



Combined factors of non respecting of legislation and dive procedures leading to fatal outcome – 2.

- **The fourth factor** was that **the general contractor firm had not a proper diving plan, with a minimal crew of 5 persons** in realizing in good conditions of a dive in open water with open circuit : dive boss, 2 certified professional divers , safety diver and one medic or medical assistant, plus the boat driver. The investigation showed that **one diver who died had 3 functions: boat driver, dive boss and diver.**
- **The sixth factor: LIES** : the general contractor, in it's correspondence with the Water Administration Dobrogea Litoral, the beneficiary of the enlargement of the sand beaches who asked clarifications regarding the number of the members of the diving crew, mentioned that „ **there is never existing the possibility that the diving team to be less than 5 persons, and in their practice, the majority of the diving teams are bigger** ”!!!



CONCLUSION:

Practically, combining the factors from above, led to disaster:

- After an initial dive of 55 – 60 minutes they did a second dive followed. After around 15 minutes, the youngest diver surfaced in panic, breathing with difficulty and with noise. Suddenly, surfaced also the second diver, older and with more experience, trying to calm the first diver .
- Witnesses from the shore testified that after that, both divers entered underwater, without being seen afterwards. Lead weights were not removed and both divers were without air in their bottles. Forensic investigation showed that **the death occurred by mechanical asphyxiation and drowning.**



CONCLUSION: NON RESPECTING OF LEGISLATION
AND DIVE PROCEDURES = STORM AND DISASTER



ROMANIAN DIVING LEGISLATION – 1

- **In Romanian teritorial waters** – Black Sea and interior waters, the diving activity is regulated by The Defense Ministry according The Order nr. M 63 / 2021, modified and completed by **The Order 157 / 23 July 2024**.
- The Naval Military Center is the specialized structure through which The Ministry of National Defense exercise its powers in the field of training, patenting and perfecting the training of divers, as well as in the field of authorization and inspection of underwater activities.
- For the Black Sea, the teritorial waters are at a distance of 12 maritime miles = 22,224 km from the shore.
- **The Order M 63 / 2021 includes dive procedures.**



ROMANIAN DIVING LEGISLATION – 2

- **The offshore oil & gas Law nr. 157 / 25.05.2022 for modification and completing of the Law 256 / 2018**, brings the long – awaited predictability to the holders of oil agreements in the Black Sea
- **The Law 121 / 17.04.2024 on offshore wind energy:** For the operationalization of the investments in offshore wind energy, the Ministry of Energy will start in 3 months after the entrance in application of the law , a specialized study on the basis of which the concession procedure , exploration activities, construction of offshore wind power plants and their exploration will be prepared.
- Regarding Offshore activity, in Romania it is a special Agency – **The Competent Authority for Offshore Operations** incharged with authorization and monitoring of offshore contractors in Black Sea.
- **The offshore laws does not include diving procedures at those facilities.**



ROMANIA PROPOSALS

- Unified dive procedures to be recommended in Europe.
- Continuous Education Hours Recommendation for Dive Contractors (managers) regarding legislation – Reason : lot of non respecting of dive procedures with fatal accinents IMPOSED by MANAGERS / COMPANY OWNERS using personal influence on personnel!
- Severe penalties for owners / managers who do not use personnel as in legislation !



INFORMATION REGARDING HYPERBARIC MEDICINE IN ROMANIA

Practice of hyperbaric medicine in Romania:

- 1 year post graduate program – Atestate of Complementary Studies in Hyperbaric Medicine – A.C.S.H.M.
- Equivalation of a similar professional title TITLE (not course) made in E.U. countries made by Health Ministry.
- There is no specialty with rezidential program (4 – 5 years)

In Romania:

- 1 Public Hospital is using a monoplace hyperbaric chamber.
- There are around 10 hyperbaric chambers in different private medical centers.
- **Zero indications of HBOT supported by Public National Health Insurance House.**



INFORMATION REGARDING HYPERBARIC MEDICINE IN ROMANIA

Unfortunately, the hyperbaric medicine is not regulated from the point of view of:

- Authorization of hyperbaric medical centers.
- Technical characteristics of hyperbaric chambers.
- Continuous medical education.
- Protocols to be respected.



INFORMATION REGARDING HYPERBARIC MEDICINE IN ROMANIA

Therefore, there are a lot of private medical centers with:

- Doctors without A.C.S.H.M.
- Use of oxygen without quality certificate – Oxygen for medical use.
- No specific written protocols.
- Practice below 2 ATA.
- And some more...



We have a HOPE:



- Doctors with Attestate of Complementary Studies in Hyperbaric Medicine are organised in a Professional Association – Romanian Society of Hyperbaric Medicine since 2016.
- 2023 – 15-17 September - First National Conference of RSHM (HBOMED 2023) with international participation: Romania + 3 / 76 Participants.
- 2024 – 6-8 September – Second Edition of National Conference of RSHM (HBOMED 2024) with international participation Romania + 5 countries (1 pardon letter – Croatia) / 115 Participants.



HBOMED 2024

- HBOMED – Special event – Honoring The Dive Team Of Navy Divers With Third World Record – 500 M Saturation Dive Between 25 September 1984 – 9 October 1984 In Hyperbaric Chamber



HBOMED 2024

Divers:

- MUNTEANU Daniel – cpt.
 - **OANCEA Gheorghe**
 - NICOLA Valentin
 - FÂNTÂNĂ Constantin
-
- DIVE BOSS – **ARON Petru**
 - Deputy Dive Boss – PAȚA Dan



THANK YOU

&

**HOPE TO HAVE A FRUITFUL
COOPERATION!**



Swedish report 4 Oct 2024 Lucerne

1 Working diver dead

**2 Sweden to start annual FTD for
working divers**



Swedish diver dead Jan 2nd 2024 Gothenburg

From the official report by the Swedish Accident Investigation Authority

FROG CYGNUS was used to carry out work on the tanker NORE. The work involved removing a cable stuck in the bow thruster of NORE, anchored in the Rivöfjorden. The ships were moored side by side while a diver (1) worked in the water.

The work had been going on throughout the day, and the two divers replaced each other. They decided themselves when they needed to be replaced. At the end of the day, divers (1) needed to come ashore, so a third diver was driven out to FROG CYGNUS. Diver (3) arrived in the afternoon and was briefed on what to do by the other two divers.



Very soon after Diver (3) reaches the bow thruster, Diver (3) expresses a lack of air and calls the crew's attention.

The crew immediately began to pull the diver up, but the diver got stuck on the way up. The assisting diver (2) put on extra diving equipment and dived to diver (3). Divers (3) were found to be entangled in an equipment cable. The assisting diver managed to free the diver (3) and brought the distressed person to the surface. The crew then observed that the suit was filled with air.



Then, using the ship's man-overboard equipment, the crew tried to lift the person in distress on board. After an unsuccessful attempt, divers (3) could be taken aboard using the ship's crane. Emergency CPR was administered to the distressed diver while the Joint Rescue Coordination Centre (JRCC) was contacted. After about 15 minutes, an ambulance boat arrived with medical personnel who continued the resuscitation attempts.



Finding any technical deficiencies or other operational explanations for the incident has not been possible. In light of the medical report and the lack of other reasonable causes, the Swedish Accident Investigation Authority assesses that the death was caused by an illness.



Sweden to start annual FTD for working divers

According to the Swedish Work Environment Authority (Law), the FTD of working divers should be done according to EDTC. So far, annual examinations have not been enforced. There is an initiative to make annual examinations mandatory, as proposed by EDTC Fitness, to dive with in-depth assessment at 5-2 year intervals and heart score determination from the age of 45.



Presentation of the National Report

EDTC Luzern 4 October 2024

Transition from certification to registration

In July 2024 the two certifying and examination bodies were reorganized into one certification body (NDC-CI) and an examination body Hobeon SKO. This is done in advance of the change from a certification system to a registration system that is due to be effected by the 1st of January 2025.

Early 2025 HSE, EDTC and IMCA will be informed about the transition to registration. Publication in Government Gazette at the end of 2024 to amend laws and regulations. At the same time, the requirements for inspections will be included in the regulations.

SCUBA with air supply from the surface

SCUBA with (HP) air supply will be included in the A scope. Police and the Fire Brigades have indicated that they will make more use of SCUBA equipment with (HP) air supply from the surface where possible. In the annual plan of SWOD the use of this technology will be approached in a generic way.

Project volunteers and diving

In the Netherlands voluntary activities organized for sport divers are quickly falling under the Dutch Diving Legislation. This diving legislation was never developed with these kind of activities in mind, and as result, volunteer divers are in most circumstances in direct violation of the law.

After a first report with a recommended way forward was issued end 2023, this year the workgroup continued its work to detail the modifications to the diving legislation for allowing volunteer diving activities under specific conditions. At the same time the workgroup also will be addressing the frameworks of European Scientific Diving into the current A-scope for SCUBA diving.

It is expected that the work of the workgroup is ready at the beginning of 2025, after which the recommendations will be handed over to the Ministry of Social Affairs and Employment for consultation and implementation.

Inshore diving safety

After a fatal accident occurred with a diver last year, the NADO initiated a workgroup to look at diver safety in the inshore environment. This workgroup issued its recommendation to the industry. These recommendations were presented at the annual knowledge exchange day were also the Dutch Labor Inspectors were present. The workgroup will start a second phase where these recommendations will be prepared for implementation.

In the meantime EDTC formed a similar workgroup and the NADO chairman presented the workgroup presentations, similar to the one held at the knowledge exchange day.

Hyperbaric medicine

An update of the Dutch Hyperbaric Medicine Directive will be published in early 2025.

EU Medical Devices Regulation

The industry is facing complications with current decompression tanks as result of the latest changes to the EU Medical Devices Regulation are these were shared with the Ministry of Health, Welfare and Sport. The industry is referred to European platforms (EDTC) to raise this issue within the European Commission.

This topic was raised with the board of the EDTC in June, and a working group under EDTC would be addressing this topic.

SLIC

The Netherlands has provided input to the EU Senior Labor Inspectors Committee (SLIC) for an inventory on various national diving laws and regulations within Europe.

A question for EDTC, is the EDTC board in contact with this committee, and do we know what the status is of the work of this committee?



When Scientists go Under the water ?



Funded by
the European Union



Summary: A Question



By addressing the question, it aims to bring together citizens, especially children and young minds, with researchers working in the field of underwater science and technology.

Science in Blue aims to raise awareness among young generations about scientific research opportunities in lakes, seas and oceans.



Funded by
the European Union

Researchers' Night



Funded by
the European Union



MAVİ HACKATHON

Denizin derinliklerinde teknoloji macerası başlıyor!

Mavi Hackathon, lise öğrencilerini İstanbul Boğazı'nı keşfetmeye ve kodlama becerilerini geliştirmeye çağırıyor. Galatasaray Üniversitesi'ndeki etkinlikte öğrenciler, boğazın verilerini toplayacak bir cihaz geliştirecek. Tasarlanan ürün bir ROV'a monte edilecek ve öğrenciler, kendi kodladıkları cihazın dalışını kampüsten izleyebilecekler.

27 Eylül 2024
09:00 - 18:00

Denizcilige yelken açmaya hazır mısınız?

Bu heyecan dolu yoklukta gerçek bir gemi köprüsünde kendini test etme şansı yakala. Geminin beyni olan köprüsünde, kaptanlara gemiyi nasıl yönettiğini ve seyir planlamasını öğreneceğin. Uzman bir eğitmen eşliğinde yeni kullandığın simülasyonu denizcilik için kullanırsan keşif, kaptan koltuğuna otur, dumanın başına geç ve unutulmaz bir deneyim yaşa.

www.scienceinblue.eu

KÖPRÜÜSSÜ SİMÜLATÖRÜ

27 Eylül 2024
09:00 - 18:00

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www.scienceinblue.eu

THE SCIENCE OF DIVING

27 Eylül 2024
AYDIN DOĞAN SALONU
16:00 - 17:00 Çay/Kahve İkramı
17:00 - 19:00 Sunumlar

- ★ Recreational diving today: decompression habits, DAN Europe database insights
- ★ Recreational technical diving
- ★ Commercial diving
- ★ Decompression theory
- ★ Diving and the blood vessels
- ★ Bubble measurement techniques
- ★ Preconditioning as a tool to improve diving safety
- ★ Bubble arteriaisation: PFO and pulmonary shunts
- ★ Nitrogen narcosis
- ★ DCS Evaluation - Cluster Analysis of DCS
- ★ Decompression Sickness - Controversies and Remote Management

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BOĞAZDA GECE DALIŞI

27 Eylül Cuma
17:00 - 23:00

www.scienceinblue.eu

ARAŞTIRMA VE DALIŞ ARAÇLARI

27 Eylül 2024
10:00 - 18:00
Cuma
SARAY BİNASI
SERGİ SALONU

www.scienceinblue.eu

BOĞAZDA SATIŞ DESTEKLİ BİLİMSEL DALIŞ

28 Eylül Cumartesi
10:00 - 12:00

www.scienceinblue.eu

DENİZLERİN MİRASI

Okyanuslar ve sualtı kültür mirası hakkında ne kadar bilgiye sahibiz?

Denizlerin Mirası Atölye Çalışması, 8 ile 13 yaş arasındaki ilköğretim ve ortaokul öğrencilerini okyanuslar ve sualtı kültür mirası konusunda farkındalık kazanmaya çağırıyor.

Galatasaray Üniversitesi'ndeki etkinlikte katılımcıların farkındalık test edilecek, ardından okyanuslar ve sualtı kültür mirası konularında sunum ve gösteriler eşliğinde farkındalık oluşturma etkinliği yapılacaktır.

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ROBOTLAR SENİ ÇAĞIRIYOR!

28 Eylül Cumartesi
13:30 - 18:00

Bu etkinlik, Boğaziçi Sualtı Araştırma Merkezi (BURC) tarafından sağlanan üç sualtı robotunun desteğiyle düzenlenecektir. Etkinlikte, bir mikro sualtı robotu bir havuza yerleştirilecek ve öğrencilerin kullanımına sunulacaktır. Öğrenciler, bu robotu kontrol ederek belirlenen görevleri yerine getirmeye çalışacaklardır.

www.scienceinblue.eu

Researchers at School



7 Regions
140 Schools



Funded by
the European Union

20 School Activities

- E1- How deep are the oceans?
- E2- How deep we can dive?
- E3- Underwater Cultural Heritage in inland waters
- E4- Robots helping archaeologists
- E5- Underwater Cultural Heritage in of Med. Sea
- E6- Going fast working safe under the ocean
- E7- Treasures of the sea
- E8- How to find treasures underwater?
- E9- Life of the lakes
- E10- Do it yourself kits to protect the oceans



20 School Activities

E11- How many fishes can I count

E12- How can we help scientists to protect the life in the oceans and lakes

E13- Invaders of the sea

E14- Marine Citizen Science

E15- Is it getting warmer?

E16- How to make a PAPERFISH robot

E17- Oceans don't mix up

E18- Writing and communicating under water

E19- How I started diving

E20- Career paths for Scientific Diving



THANK YOU



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**Funded by
the European Union**

Horizon Europe Framework Programme (HORIZON)
MSCA and Citizens 2023 (HORIZON-MSCA-2023-CITIZENS-01)
European Researchers' Night and Researchers at Schools 2024-2025



www.scienceinblue.eu

EDTC

HSE Update

Lucerne 2024

- - Accidents and Incidents
- - Enforcement
- - Changes in legislation, practices etc.
- - Statistics regarding certification numbers

Reported Accidents and Incidents (01.04.23 to 01.04.24)

- **Offshore:** 14 dangerous occurrences
- Faulty valve actuator – exceeded storage depth
- Cobra scrubber flooded – leaky hose
- Cobra breathing hose detached during dive
- Servo motor failed during deco – depth change
- Malfunctioning valve allowing more gas to pass and vent than expected
- Failure of chain hoist being used underwater
- ECU sensor failure resulting in pressure loss due to drain valve remaining open
- Failure of crane during mobilisation – dropped an 8 tonne container
- 3 x failures of HP bailout hoses
- Dropped object (4.5kg) with divers below
- Leaking medical lock flange
- Power supply tripping during bell launch/recovery trials (unmanned)

Reported Accidents and Incidents (01.04.23 to 01.04.24)

Offshore “over 7 day” injuries

- Diver groggy and fainted on return to the bell. Made a full recovery
- Studs from an engine (not specified) lacerated right leg
- Slip/fall
- Loss of tip of finger during subsea rigging

Inland Inshore

- Loss of finger during lifting operations of a small boat

Reported Accidents and Incidents (01.04.23 to 01.04.24)

- **Police** 1 dangerous occurrence
(failure of SCUBA at depth due to incorrect interstage pressure)
- **Scientific/Arch** No incidents reported
- **Shellfish** No incidents reported
- **Recreational at work** 1 dangerous occurrence
(uncontrolled ascent)
- **Incidents to members of public at recreational dive site x4**
(heart attack, IPO, chest pains, unconscious – O2 switched off on rebreather)
- **Media** No incidents
- **Military** No incidents

Changes in Legislation/procedures



- Started talks with Policy Section and Industry regarding reviewing the diving ACOPS
- Issue with inconsistencies in requirement for a formal supervisor qualification
- Concerns over time to treatment and emergency procedures for recompression

Inland/Inshore

Improvement Notices

- No management of risk
- Competence of supervisor x2 (one where supervisors were calculating bottom time incorrectly)
- No emergency plan
- No secondary means of deploying the standby or recovering divers
- No planning of lifting operations
- No training or qualification of lifting machinery operator

Prohibition Notices

- Safety management system doesn't provide suitable instructions and guidance for supervisors
- Team size, no planned maintenance system (PMS), no risk assessment – using recreational divers for scrap metal recovery
- No risk assessment or dive project plan, no PMS and no qualifications or medicals for divers (Co. wrote to us to inform that they had ceased trading)

Shellfish



Improvement Notices

- Team size (no supervisor on the surface)
- No emergency plan x2
- No risk assessment
- No PMS

Prohibition Notice

- Standby diver not dressed (at immediate readiness)

Enforcement – Recreational Instruction (at work)



Improvement Notices

- Diving equipment not maintained
- Team size
- No medical for staff divers x4
- Rescue diver not qualified
- No written scheme of examination for HP compressed air system

Prohibition Notices

- No project plan or risk assessment

Questions?



IMCA EDTC Update

Ali Macleod – Technical Adviser Diving

October 2024



Global Summit 2024

Delivering a new offshore energy mix.

 **Utrecht, NL**

 **3 - 4 December**



Don't miss out on Early Bird tickets.

IMCA Global Summit 2024

Delivering a new offshore energy mix

Finding safe and sustainable solutions to meet global ambitions for marine energy.



Two-day global conference for IMCA Members & industry.



Aimed at business leaders and technical decision-makers.



Three cross-discipline thematic streams (TBC) – workshops.



Keynotes, panel discussions, fire-side chats, workshops and audience Q&As.



Diver dead in Go Archipelago – c investigated

Malaysian diver, 22, dies after getting entangled with boat propeller while cleaning ship's hull

Published 5 Jan 2024 at 12:08
Updated at 15:08

SINGAPORE

A diver in his 50s was killed at a ship in the

The incident is a violation.

"This is by far the worst," Jönsson, CEO of the assignment.

Commercial diver dies after failing to surface while cleaning ship's hull off East Coast



The di

experience in the field and is ranked one of the best in India. On Sunday, Anil entered the hull of Aeris Marine, owned by a Malayali businessman, to clean the bottom of the ship.

A contractual worker has lost his life at Keppel Shipyard in the Philippines.

The Manila Times said the yard submitted a report to the department of labour's bureau of working conditions stating that diver Eleazar Viernes, 63, died last month.

PROPELLER OF DSV

IMCA Guidance on UWSH: IMCA D082

Not core IMCA diving contractor Member business. However, IMCA has prepared detailed guidance on conducting UWSH diving operations safely.

IMCA has done this because:

- The incredibly high number of diving fatalities in this particular sector persists;
- Some of our Marine Members contract in the services of UWSH diving contractors;
- IMCA's global influence on commercial diving as a whole may prove beneficial;
- Some of our diving contractor Members do have invaluable specialist expertise in UWSH that they can share.





Underwater Ship Husbandry Seminar

Singapore 

10 October 

Registration now open. 
Free to IMCA, ADCI, CDAS & IOGP Members.



DMAC Meeting 02 May 2024

- Ali Macleod appointed as DMAC Secretary:
info@dmac-diving.org
- DMAC to investigate Mental Health guidance
- DMAC 26 *Saturation diving chamber hygiene* to be reviewed to include water quality
- Priority list of DMAC documents for revision created
- DMAC will celebrate 50 years in November 2025



DMAC – Guidance Documents for Review

DMAC Guidance	Guidance name	Version	Date	Change necessary/coordinator
01	Aide-mémoire for recording and transmission of medical data to shore	Rev 1	Jul 2015	Y*
02	In-water diver monitoring		Feb 1979	Y/Massimelli
03	Accidents with high-pressure water jets		Jan 1981	Y
04	Oxygen content in open circuit bail-out bottles for heliox saturation diving	Rev 2	May 2016	Y*
05	Recommendation on minimum level of O2 in helium supplied offshore		Jan 1981	Y
06	The effects of sonar transmission on commercial diving activities	Rev 1	Jun 2010	Y
07	Flying after diving: Recommendations	Rev 2	Nov 2017	Y*
08	Thermal stress in relation to diving (Report of a workshop held in March 1981)		Mar 1981	Should we need a separate section of workshop reports?
11	Provision of first aid and the training of divers, supervisors and members of dive teams in first aid	Rev 1	Nov 2001	Y, DMAC 15, and DMAC 28 are strongly related to it
12	Safe diving distance from seismic surveying operations	Rev 2.1	Jun 2020	N
13	Fitness to return to diving after decompression illness	Rev 3	Dec 2022	N
15	Medical equipment to be held at the site of an offshore diving operation	Rev 5	Dec 2021	N
18	Human Immunodeficiency Virus (HIV) Infection and Acquired Immune Deficiency Syndrome (AIDS) in Commercial Diving	Rev 1	Dec 2010	Y, include latest evidence
19	The effects of water vapour on diver physiology	Rev 1	Nov 1990	Y, still relevant?
20	Duration of bell lockouts	Rev 1	Nov 1997	Y,
21	Guidance on the duration of saturation exposures and surface intervals between saturations	Rev 2	Jun 2006	Y*
22	Proximity to a recompression chamber after surfacing		Oct 1992	Y
23	The use of heliox in treating decompression sickness	Rev 1	Jun 2014	N, Checked (van Hulst)
26	Saturation diving chamber hygiene	Rev 1	Jan 2016	Y, lessons learned COVID
28	The provision of emergency medical care for divers in saturation	Rev 2	Dec 2014	Y/Bryson
29	Approval of diving medicine courses	Rev 3	Mar 2019	Depends on development of DMKT
30	Management in divers of osteonecrosis at Ficat stage 1		Jan 2007	Y, include latest evidence
31	Accelerated emergency decompression (AED) from saturation		Mar 2013	Y*
32	Guidance on dealing with the body of a deceased diver in saturation		Jan 2014	Y*
34	Guidance for medical examiners of divers conducting face-to-face medicals during the COVID-19 pandemic	Rev 1	Dec 2021	N
35	Exposure index for pulmonary oxygen toxicity in surface-oriented diving		Jun 2023	N
NEW	Return to diving after an infectious disease			

DMAC 28 Rev. 3

The Diving Medical Advisory Committee

DMAC, 66 Buckingham Gate, London SW1E 6AU, UK
Tel: +44 (0) 20 7824 5520

www.dmac-diving.org
info@dmac-diving.org

The Provision of Emergency Medical Care for Divers in Saturation

DMAC 28 Rev. 3 – Jan 2024

*Supersedes DMAC 28 and DMAC 28 Rev. 1 and Rev. 2, which are now withdrawn.
DMAC 28 also superseded DMAC 25 and DMAC 27*

- Published January 2024
- Section 10 of Rev. 2 revised
- Encourages the use of medical training aids to be held on vessels to help prevent skill fade



Resuscitation in a bell project, PDA, Dunoon, May 2024



Resuscitation in a bell project



The “Dunoon” method of resuscitation



Hi-lo alarm...



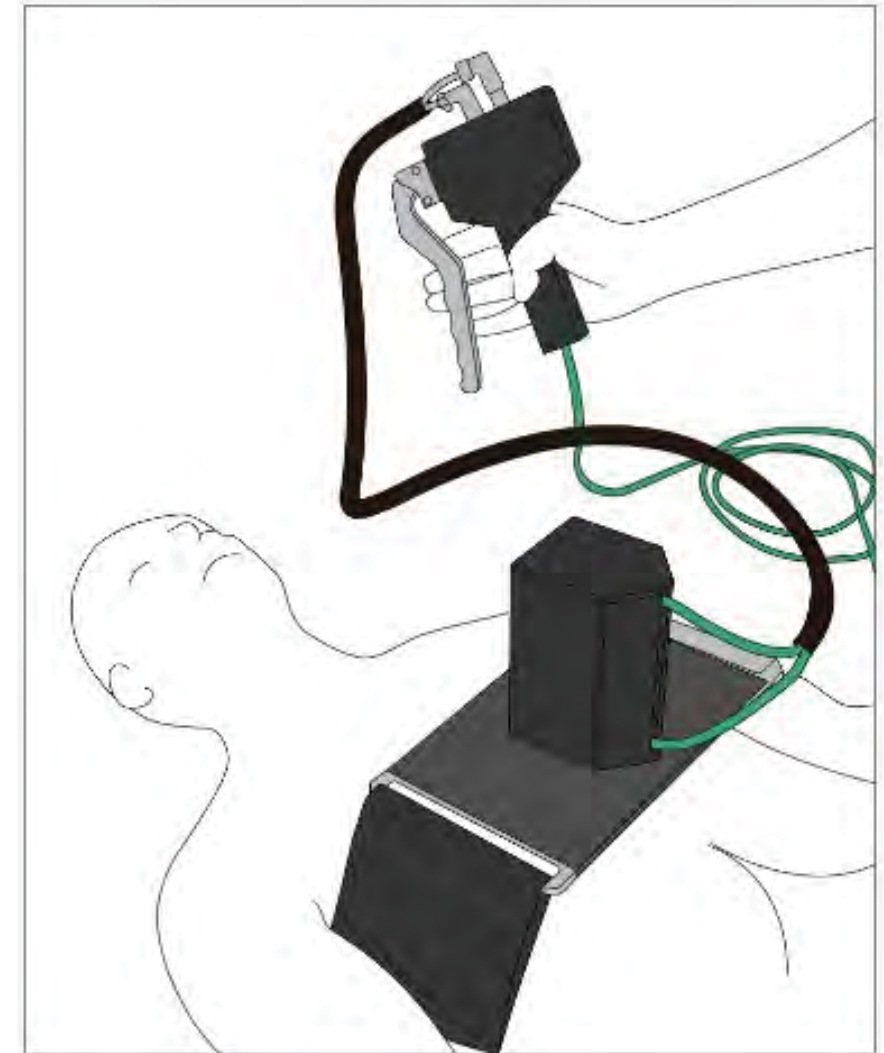
Resuscitation in a Bell Project

- Clinical paper published - *Development of an algorithm to guide management of cardiorespiratory arrest in a diving bell*
- This paper includes findings from the research trials conducted in Dunoon in April
- Available here
<https://www.sciencedirect.com/science/article/pii/S2666520424001759>



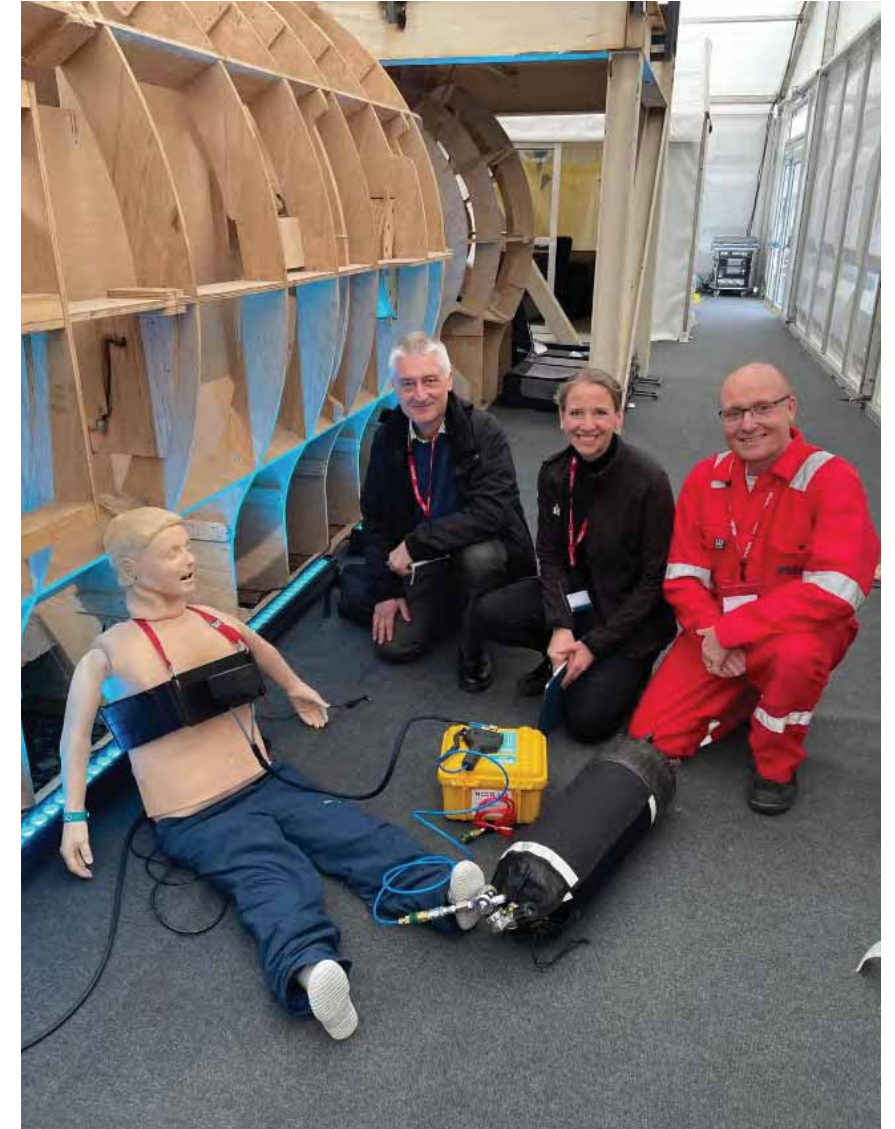
Resuscitation in a bell project findings #1

- Mechanical CPR is the preferred method of delivering chest compressions (NCCD Nui Chest Compression Device)
- NCCD extensively used by divers and medical experts. Device received good feedback



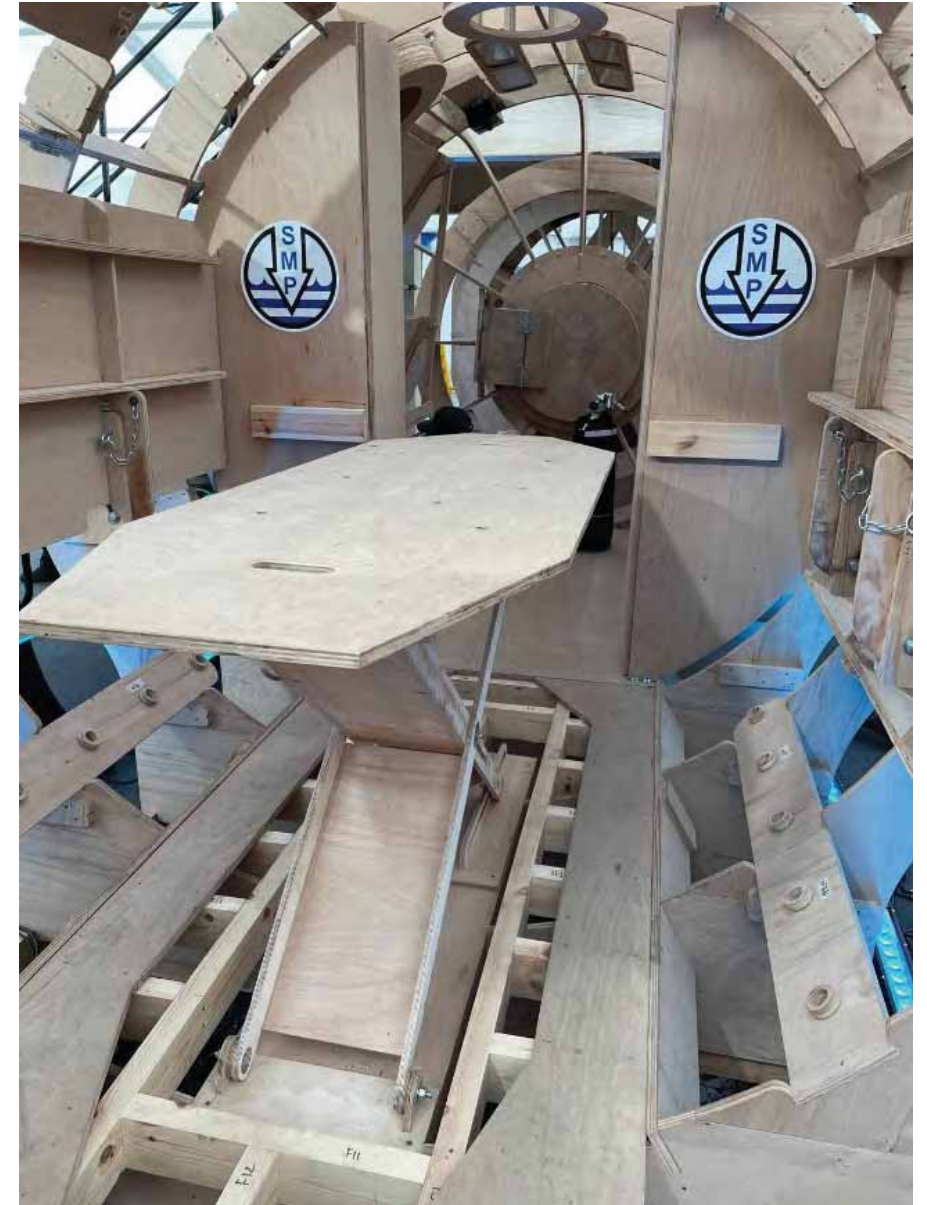
Resuscitation in a bell project findings #2

- Head to chest CPR is not effective and should not be taught
- Knee-to-chest CPR is a suitable manual alternative if mechanical CPR is not available
- The diver's suit should be removed from the torso before any CPR method is delivered



Resuscitation in a bell project findings #3

- The NCCD should be removed before defibrillator pads are applied because leaving it in place encouraged poor pad placement. It can be replaced once the pads are in situ if required
- The “Dunoon” method will need to go through a peer review
- Hacksaw trials of cutting umbilicals



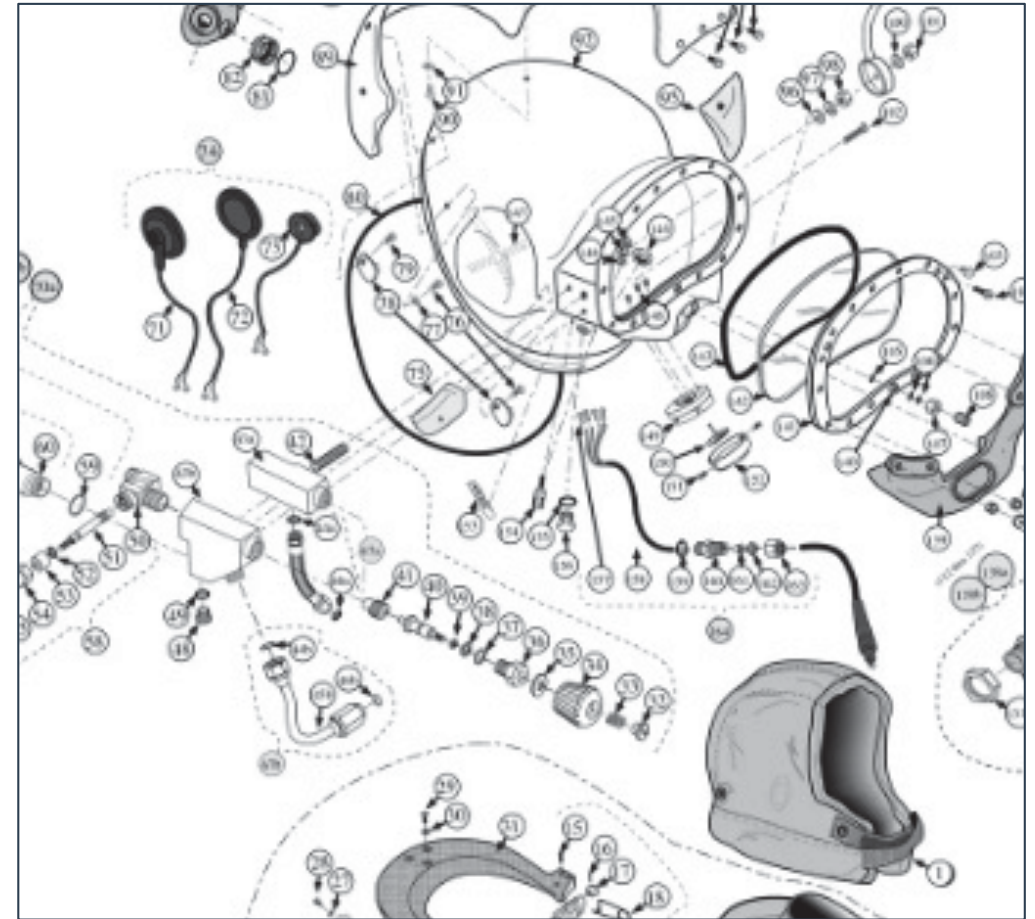
Resuscitation in a bell project findings #4

- Next steps include peer review of methods and footage by European Resuscitation Council
- Likely to take 6-12 months



IMCA Diving Equipment Sub-Committee

- Dedicated sub-committee addressing equipment queries
- Integrated action tracker which facilitates:
 - A systematic approach to issue tracking
 - The ability to evaluate multiple solutions for each defined issue
 - A mechanism for reporting feedback to party that raised them



IMCA Diving Equipment Sub-Committee



- New IMCA website will utilise QR code to enable members to populate action tracker*



- *may not be actual QR code

A screenshot of a web form titled "Diving Technical Feedback" on a blue background. The form includes the IMCA logo at the top, followed by the title and a subtitle: "Submit an issue for consideration by IMCA Diving Technical Authorities." Below this, there is a section for "Your Details" with four numbered fields: "1. Full Name *", "2. Company", "3. Job Title", and "4. Date *". Each field has a corresponding text input box with the placeholder text "Enter your answer". The asterisk indicates required fields. A small menu icon (three dots) is visible in the top right corner of the form area.

D077 workgroup: Lung powered scrubbers (bell survival packs)

- No real data regarding the performance standards for Emergency Lung Powered Scrubbers
- Project / workgroup has been set up to review and update the relevant section in D077 Guidance on Prevention and Mitigation of Lost Bell Emergencies.



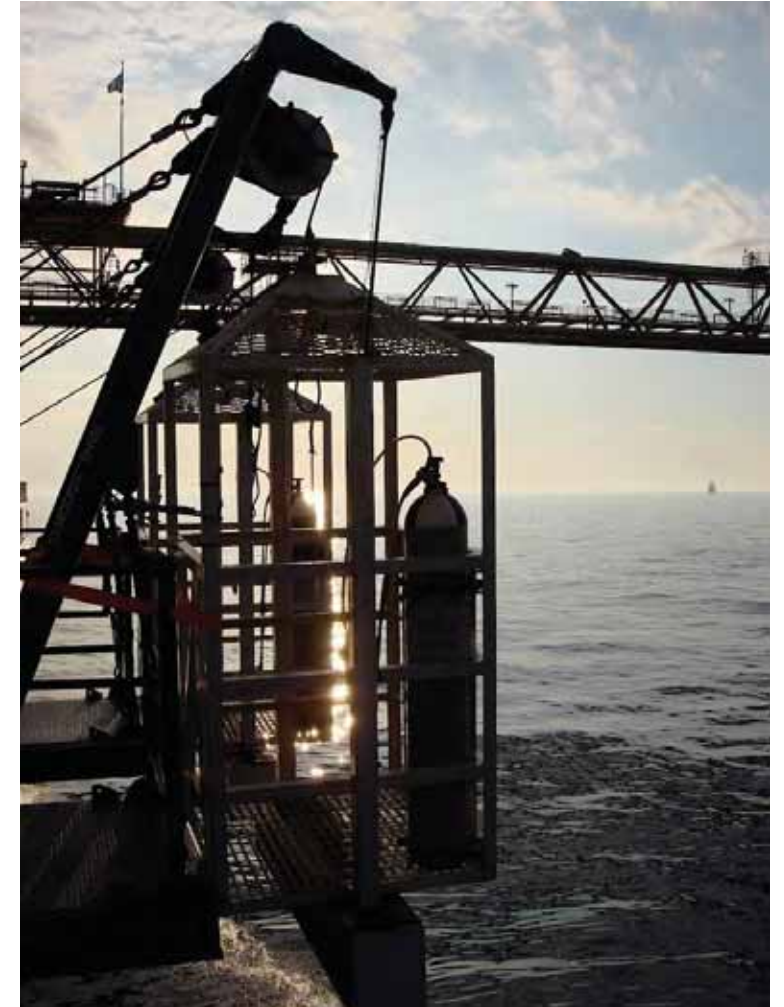
D077 workgroup: Lung powered scrubbers (bell survival packs)

- Working group has met three times. Consists of medical professional, diving personnel and suppliers
- Reviewing diving standards and breathing limits
- Determine the endurance of the lung-powered scrubber. To achieve this, the group discussed the production of a test protocol and procedure for ELPS soda lime testing
- Data available for 500mtrs. Limited to the duration of the ELPS at present



Lifting and Lifted Equipment Terminology: Appropriate Marking on Diving Equipment

- Move away from SWL
- The 'new' terms are: NET weight; TARE weight; and GROSS weight
- Revisions to IMCA documents have commenced:



Lifting and Lifted Terminology: Appropriate Marking on Diving Equipment

- Man riding basket empty weight = TARE weight
- Man-riding basket maximum carrying capacity, which includes the weight of diver(s) and equipment = NET weight (for the purpose of this calculation the weight of a fully kitted diver is considered to be 150 kg)
- GROSS weight = TARE weight + NET weight
- All lifting points on the man riding basket should be tested to 1.25 times the GROSS weight.



Removal of T1 Membership Category

- IMCA's bye-laws updated and the T1 category for in-water diver training removed
- IMCA will continue to influence in-water diver training through participation in the International Diving Regulators and Certifiers Forum (IDRCF)
- Registration system to allow IDRCF recognised dive schools have access to IMCA diving guidance thus ensuring they operate to best industry practices

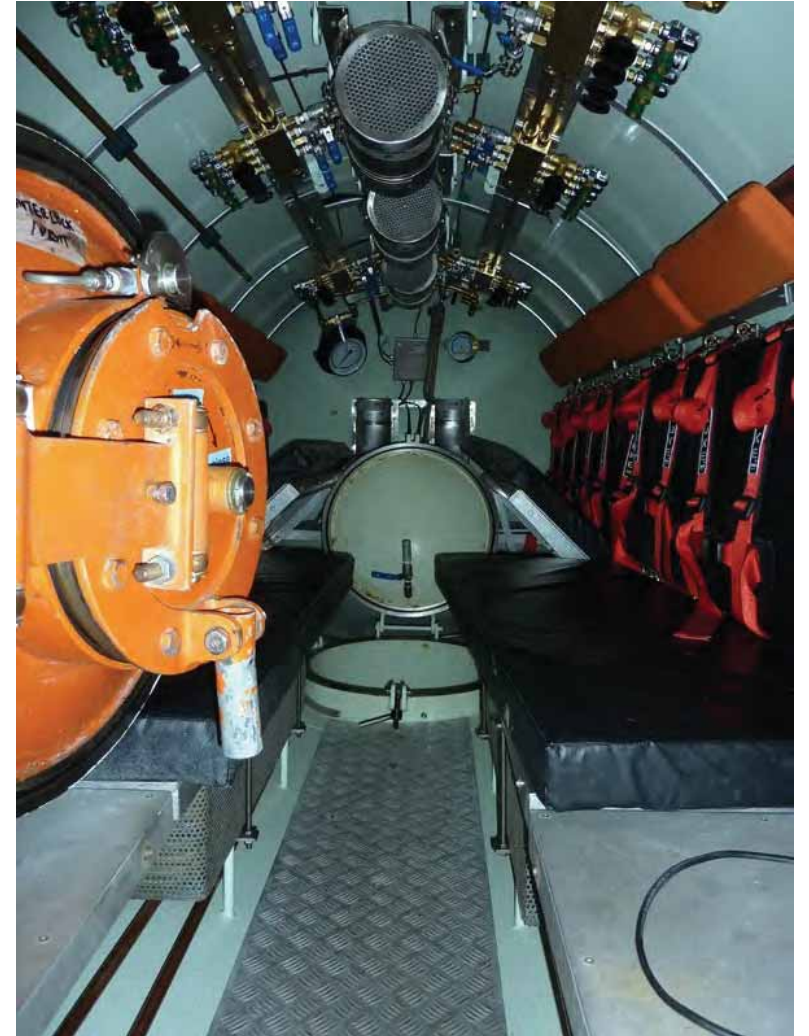


Future Proposals to Assist Diver Training Schools



- IMCA will continue to influence in-water diver training through participation in the International Diving Regulators and Certifiers Forum
- System to allow dive schools to have access to contemporary IMCA guidance will be set up later in the year

S7, MCA, SPHL Launch & Recovery Exercise



IDRCF Closed Bell Diver Training Review

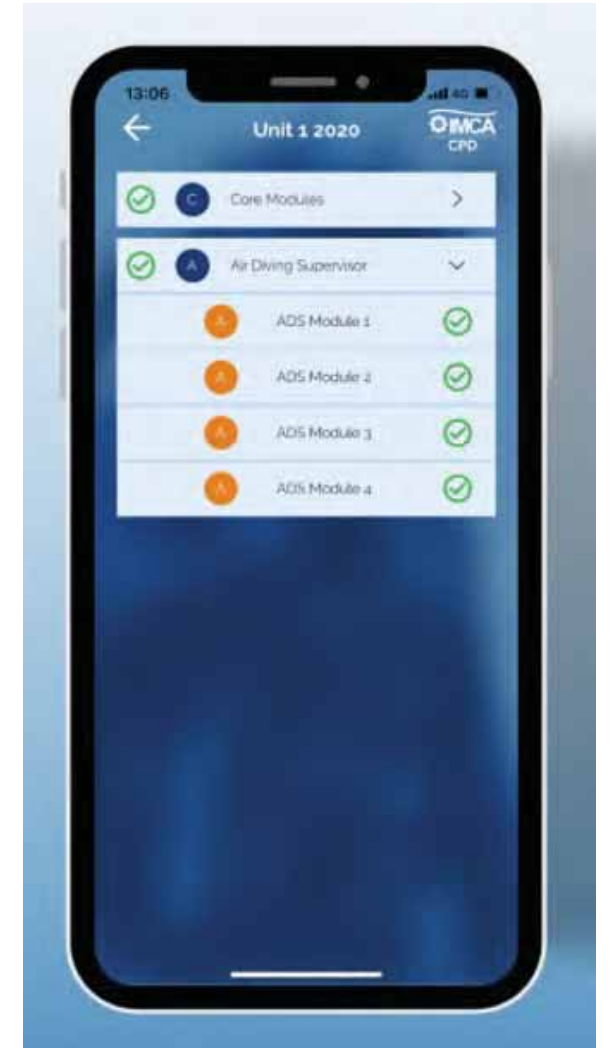
- Dive plans for closed bell training have been agreed
- Course duration being reviewed
- Equipment requirement and compliance
- Staffing and qualifications of staff



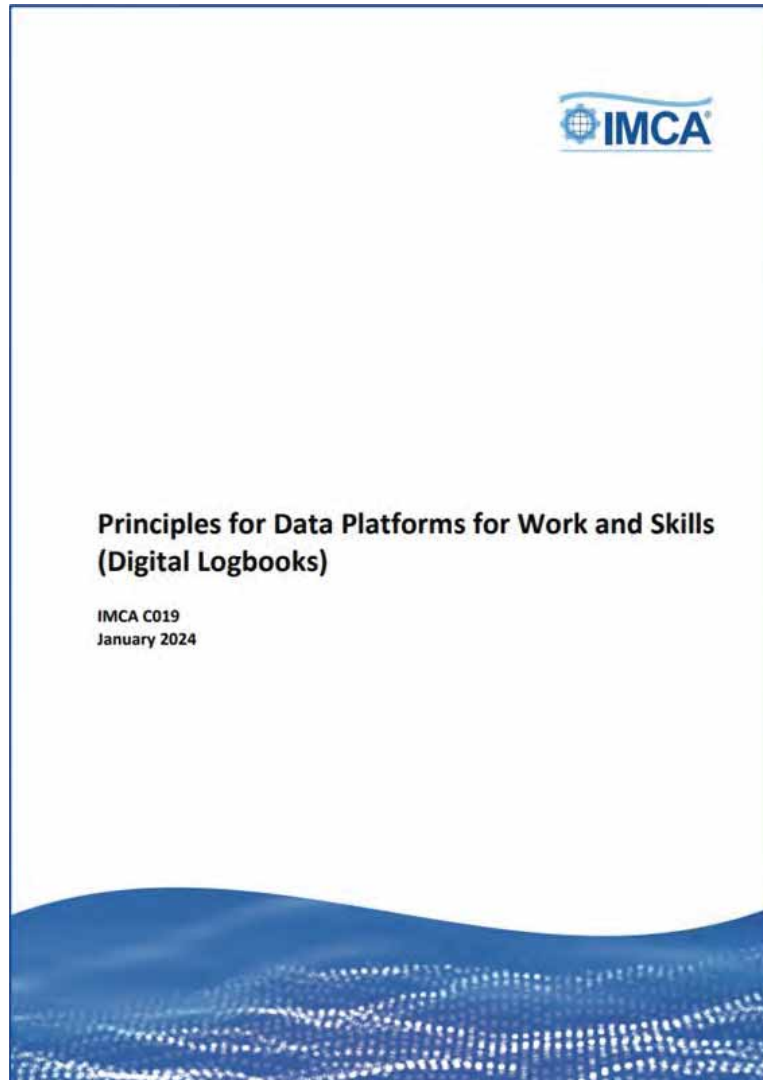
Extension of the Supervisor CPD Scheme



- IMCA is expanding the availability to everyone
- Option to skip modules
- Delay of three months from material accessed by premium users (working diving supervisors) to standard users (everyone else)
- Cost tbc



Digital logbooks and competence records

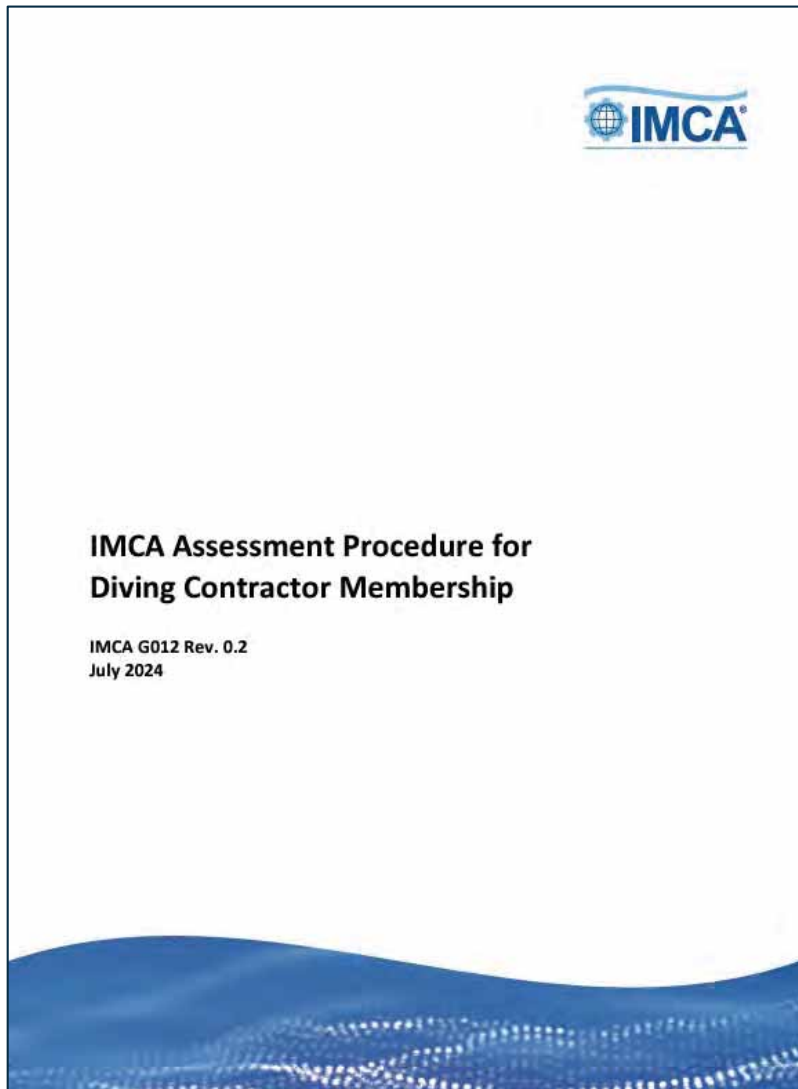


- Digital platforms offer the opportunity for a significant expansion in data collected – not limited by the size of a physical page and offering a broad range of input controls to aid completion, standardise recorded data and enable in-depth analysis of offshore work.
- It is envisaged that further guidance will be developed by IMCA on standard taxonomies for such options and categorisation.

IMCA recently received membership applications with forged UK HSE diving certificates, IMCA DMT certificates, and CSWIP 3.1U certificates



Diving Documents: IMCA G012 Assessment Procedure for Diving Contractor Membership



- Process for potential applicants to follow if wanting to join IMCA's diving division
- Brings together several dated Information Notes
- 'One stop shop' for prospective members



IMCA Information Note 1686: Audits with Cause



Information Note

No. 1686 – July 2024

Audits with Cause

Members' attention is drawn to the Association's Bye-Laws.

IMCA Bye-Laws reference 3.3 states:

Members are expected to adopt as a minimum standard IMCA's Codes of Practice, Recommended Practice, Informative Guidance, and associated Information Notes, produced by the Association and, as appropriate, to the technical division(s) and region(s) to which the relevant Member belongs.



IMCA D083: Audits with Cause

- Outlines process to be followed when undertaking an audit with cause on an IMCA member
- Currently in final stages of production
- IMCA has no regulatory or enforcement powers
- Relies on verifiable evidence



IMCA D0XX Guidance on therapeutic recompression/compression chambers

- Ali and David working on a D Document – Focus on Deck Decompression Chamber operation, Familiarisation and Induction Guidance.
- In draft will focus on roles and responsibilities, planning, etc.
- Requested the Introduction of CPD for 2024 DDC operation and familiarisation – In draft





International Marine Contractors Association

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