# DIVENWS

# 092021

## A PROFESSIONAL DIVER IN 2021 EXPLAINS

## DIVING STORIES OF THE PAST

## THE BADGE: JÉRÔME VINCENT DAN HEDBERG

## MECD: CONNECTING PEOPLE

INTERNATIONAL DIVING SCHOOLS ASSOCIATION

iDSA

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COLOPHON

# FROM THE CHAIRMAN

**Despite all the challenges we are still facing we do trust that our business is slowly picking up and more and more borders are getting open again.**

The Holiday season is over and we do trust that you have had some time to relax and enjoy. We do hope that we can welcome you all in our annual meeting in Ireland with the Irish Sea Fisheries Board (BIM) that will host the meeting.

We still would like to challenge you all to sent in articles for the next IDSA news, please let us know if you would like to help in a working group for IDSA news. If you have a good story about you school with pictures please sent this so we can print in IDSA news edition to help you to promote your school. Also, adverts are more than welcome for IDSA news

We would also install a technical committee for the IDSA standards so people can take part of this, if you have comments or questions, ideas for the standard please sent your email to our IDSA office.

We still want to ask you to fill in your member page on the website. If you have any problems please contact our Dutch office for help. This is important for your school to promote yourselves in the best way.

We would like to encourage all our members to raise your hands and help out to make the IDSA more and more worldwide spread out. For the members by the members.

As board we would like to be more in contact with you as members and we do invite you to step forward and give us feedback. We have already our regular on-line meeting with our Full members which give us good ideas and help out each other. If members would like to discuss with the board please do not hesitate to sent an email to the IDSA office in order to set-up an on-line meeting.

Lastly, I want to encourage all of you to identify needs for you and your school, where we as IDSA organisation can be of any help.

I look forward to meet you all in person in Ireland on the 13th September 2021.

Stay healthy. Stay safe.

Your Chairman,
**Leo Lagarde**

# FROM THE EDITOR

**In this second edition of the new version of IDSA news, our goal of having a magazine for the members by the members is becoming more of a reality , and this is exactly what we want.**

Being the editor of IDSA news is a very challenging and satisfying responsibility. After all, our readers rely on IDSA news to fulfil their needs regarding topics which they bring to the table. AS editor I will take my responsibility to improve the quality of the articles and make future plans for the journal to make sure it is recognized as an outstanding publication. To achieve this we need good articles from yourselves regarding your schooling and other topics to bring IDSA news closer to its members , their students and future employers of the Students.

As editor I am ready, and await your input to together improve the topics and publications of the IDSA magazine and achieve the above goals.

We have some standard items, topics in our magazine, such as;

**Medical issues**
**The Badge**
**Historical Diving**
**The Student**

Finely we trust that you can identify yourselves in these topics and that this will encourage you to take part in the next edition of the magazine, therefore we ask you to send us articles regarding your schools, education and from the divers who followed the trainings.

Any other input comments are welcome as only in this way we will achieve the goal of making IDSA for the members by the members

**Enjoy reading the IDSA News and Safe Diving Training!**

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# IDSA ANNUAL MEETING 2021

~~13 - 16 SEPTEMBER~~

**POSTPONED**
**NEW DATE COMING SOON**

**This year the IDSA Annual meeting will be hosted by Bord Iascaigh Mhara (BIM), the Irish Sea Food Development Agency, at the National Fisheries and Diving College in Castletownbere Co. Cork Ireland. BIM is an associate member of IDSA and has recently resumed commercial diver training activities. In support of the fishing and aquaculture industry BIM offer a range of training programmes including Skipper, Engineer, Deck Hand, Fire Fighting, Sea Survival, Occupational First Aid, Passenger Boat Certificate of Proficiency, Aquaculture and Commercial Diver training.**

## Conference Dates

The conference will run on the 14th - 16th September with delegates arriving in Bantry on the 13th September. Accommodation is based in Bantry and delegates will travel to the BIM Diving college in Castletownbere daily.

## Location

Bantry is approximately 1.5 hours drive from Cork airport situated at the head of the Beara Peninsula. Direct flights to Cork airport are available from a number of hubs throughout Europe. A minibus can collect delegates from the airport and transfer to Bantry by arrangement or delegates may wish to Rent A Car at the airport and drive independently or avail of public transport from Cork city on Bus Eireann. It is a very picturesque journey as West Cork and the Beara peninsular are well known as an areas of outstanding natural beauty Cork Airport to Bantry route.

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## Accommodation

The Maritime Hotel and Spa is situated in the town of Bantry approximately 45 minutes from the BIM National Fisheries and Diving College in Castletownbere. A minibus will bring delegates to and from the college each day for the IDSA meeting. A special Bed & Breakfast rate has been agreed with the hotel as follows; twin/double room €60 per person sharing, single room €90. B&B plus Dinner twin/double €85 p/p sharing, single €115.

The conference will be held in the BIM National Fisheries and Diving College with lunch and refreshments provided. The conference room is equipped with 80" Touch screen monitor, internet access and full IT facilities. Printing and copying facilities are available.

## Visits

A tour of the college and facilities will be provided and subject to time and weather a coach tour or boat tour will be arranged to allow delegates enjoy some of the wild Atlantic coastline and stunning Irish scenery. A brief stop in a local hostelry may be incorporated.

## Conference fee

The conference fee is €350 per person includes the following;

- Minibus transfer from Cork Airport to Bantry return, departing 15:00 13th Sept.
- Welcome drinks at the Maritime Hotel 13th Sept 17:30
- Minibus transfer to the college each day.
- Lunch and refreshments 14th & 15th
- Association dinner 15th
- Guided Tour of Beara Ring 16th

## Non Delegates

Cost for Annual Dinner/ Drinks reception / Airport transfer / guided tour for non delegates €90

## Registration

Register by sending an email to **post@idsaworldwide.org** (= email address of Secretariat in Pijnacker, The Netherlands).

**Stating:**

- **Name of school / company**
- **Name of participant(s) meeting**
- **Name of extra participant(s) only social program**
- **Contact details of delegates and Invoicing address**

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A reference was made above to the changing requirements of the offshore inspection industry and advances in knowledge and training; when the DIVE was introduced, Cygnus ensured that this new unit would be an instrument that was as useful to divers in as many situations and applications as possible.

To that end, an Ascan display is standard on all DIVE models. The Ascan will allow a diver to verify that the reading is being taken from the true back wall – particularly useful in difficult measuring applications with very heavy corrosion such as sea defences and pilings. Other options available are single and echo-echo measuring modes; data logging (up to 5000 readings accompanied by their Ascans can be saved on the DIVE); a choice of twin crystal probes for extreme corrosion and also HelmetView® - a clever remote display that sits flush on the outside of the diver's helmet and allows the diver to see the measurement being taken without needing to look down. This last option is also especially useful in ultra-low visibility or "black water".

The feature-rich nature of the DIVE unit has had enormously positive feedback. Just recently, UK-based divers Commercial & Specialised Diving Ltd **(http://www.specialised-diving.co.uk)** chose the Cygnus DIVE for a job where they were expecting high levels of corrosion. George Goodman, Operations Manager for Specialised Diving, reported that:

*"The Cygnus DIVE was simple to use and, like all Cygnus kit, it was good and rugged. The large display was excellent - and clearly visible even in darker water. Readings were easy to take and snapped up on the screen quickly -which makes our job as divers so much easier. The twin crystal probes were particularly useful on areas of very heavy corrosion".*

Please visit **www.cygnus-instruments.com** to learn more and get in touch with us today to discuss if the Cygnus DIVE can assist you.

# THE BADGE

**How did you get involved with diving? What are your ambitions? What annoys you the most? In The Badge we talk to people from the Professional diving world and find out who they really are and what drives them. In this month's issue we meet Jérôme Vincent from France who is a General Manager at Ecole Nationale des Scaphandriers in Fréjus.**


## 01

**How did you get involved with the Professional diving world?**

As most French kids of my generation, I first came across the underwater world through the adventures of French Naval Officer, Explorer and Filmmaker Jacques Cousteau. I consequently started scuba-diving from an early age, and quickly wanted to make it my job. Later, when I left the French Navy, I began commercial diving in the South Pacific and then in Africa, working in the oil industry. This experience allowed me to then establish the "Ecole Nationale des Scaphandriers" (National School of Commercial Divers) that I have been managing since 2013, as well as an underwater works company in 2018.

## 02

**Who did you learn the most from?**

More than a single man, the different organizations I have worked at taught me the most. The Navy, the Fire and Rescue Department, the French National Sea Rescue Department instilled me with discipline, rigor, a sense of responsibility, order and seriousness. These qualities have enabled me to perform in professional commercial diving roles, a hazardous profession where rigor and professionalism are key to safety. My university studies taught me the rest, including how to lead and manage companies.

## 03

**What are your drives and ambitions?**

Developing and turning our various projects into successes.

First of all, to keep accompanying our students in their search for a first job following their training. I believe that a training center must not only deliver certificates but must develop a true placement policy as well. Currently, the school finds work for 80 to 100% of its students after each promotion.

In addition, my ambition is to develop a course for saturation diving using equipment that truly follows the highest standards, which is not yet the case in France.

I also strive to export our know-how and expertise close to our clients, which the ENS has already done by opening branches in Monaco, in the Indian Ocean and the Caribbean. In the following, we will expand this development in Corsica, the South Pacific and Africa.

Finally, the wellbeing of our employees is vital for me. We have created, for our 20 employees, a relaxing lounge, a gym, a sauna, a spa and a solarium. I believe the wellbeing in the workplace is crucial to create a united and motivated team.

## 04

**What annoys you the most?**

The feeling young divers have that they can be professional divers after two to four months of training. Who can pretend being a professional after such a short time? The French authorities are not acting to institute a true training. Which is why we develop a multitude of interrelated modules (underwater explosives, international qualifications of underwater welding, BOSIET, HUET, etc.) in order to increase the divers' skillset. I consider that it is vital in a job as dangerous as ours to permanently progress through continuous training.

In 2022, we will be launching a new professional course, which will last at least a year and up to two, as in most civil engineering jobs.

**I AM A MAN OF CHALLENGES. ONCE FIXED, MY ONLY OBJECTIVE IS TO ACHIEVE THEM**

## 05

**What is your life moto?**

The desire to continually improve the service quality. I am a man of challenges. Once fixed, my only objective is to achieve them. The next ones are to develop the school on other continents (South Pacific and Africa) and to provide it with the necessary infrastructure for saturation diving.

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# MEDICAL ISSUE FOR SAFE DIVING

*By Dr Hossam A. El-Masry - CEO Middle East for Commercial Diving MECD*

## BLEEDING

**Bleeding is one of most serious conditions that can be fatal, control of bleeding is one of the most important issues that should be well known during diving operations.**

Normally human body contains about 4.5 to 5.5 liter of blood. Human body can tolerate losing a pint (1/2 liter) as in blood donation. However, the loss of a quart/liter causes shock and the loss of 2.5 quarts/liters usually results in death.
Bleeding can be internal or external.

**A) External bleeding:**

- Capillary bleeding usually comes with superficial wounds, blood oozes slowly from the wound, the body usually can control the bleeding through clotting.
- Venous bleeding usually occurs with deep wounds, dark red or maroon and blood flows in a steady stream.
- Arterial bleeding usually occurs with deep wounds, bright red and spurts from the wound, can be life threatening and difficult to control.
- In a bleeding emergency you must:
- Place a barrier between you and someone else's blood, examples: latex gloves, protective eye wear, plastic bags, or plastic wrap.
- Cover any open sores, cuts, or scrapes you might have on your hands or exposed skin.
- Minimize the splashing of blood.
- Handle any sharp objects with great care.
- Not handle any food or drinks when providing first aid.
- Clean and disinfect any area where blood has been spilled.
- Wash your hands and any exposed areas thoroughly, immediately after you have provided first aid or cleaned up a spill.

**How to stop the external bleeding**

Direct Pressure is the best choice. Apply with a gloved hand to control bleeding. Use clean or sterile gauze to aid. Continue to hold firm pressure until bleeding is controlled. Use additional gauze as necessary. Do not remove any gauze already in place over wound. If you see blood soaking through, add more dressings on top of the original. Place bandage only after bleeding stops. Seek medical assistance if indicated and monitor for signs of infection.

**If you still cannot control the bleeding:**

Elevate the injured area. If pressure directly on the wound does not stop the bleeding, apply pressure to the pressure point above the wound (Arm – brachial artery, Leg – femoral artery).

- Tourniquets: *Should be:*
- Utilized only when direct pressure is not effective
- Wide (at least 2" wide if an improvised tourniquet is used)
- Well-padded (6-8 layers of a bandaging material)
- Placed 1-2" proximal to the wound
- Better to be done using crepe bandage and tube (tape tourniquet)
- Mark the injured person's forehead with a ***T*** - time of placement

**DO NOT REMOVE TOURNIQUET**

- Tourniquet *Should NOT be:*
- Placed directly over knees, elbows or other joints. Place the tourniquet 1-2" proximal to the joint.
- Made of wire or rope, narrow, excessively tight or insufficiently padded band as it may cause local damage to tissues in minutes.
- Removed until advanced medical care is available

**After control of bleeding**

Check the fingers or toes beyond the bandage for evidence of circulation, by pressing gently on the nail observing rapid color return. Blue or grey **digits** indicate too tight a bandage.

**B) Internal Bleeding Signs and symptoms**

- Blood loss from the mouth, nose, ear, rectum, vagina,or urinary tract.
- A painful, tender, or hard area on the chest or abdomen.
- Rapid and weak pulse, Low blood pressure.
- Cool or moist skin.
- Purplish bruising and swelling of the damaged area.
- Person has feeling of dread or something being wrong.

**If you suspect internal bleeding:**

- Treat for shock
- Be alert for vomiting
- Apply an ice pack to the damaged area, with a cloth between the ice and the victim's skin
- Rapid transfer for hospital or activation of EMS

DIVING STORIES OF THE PAST

# A HELIUM INVOLVED EPISODE

**By Peter Dick, HDS**

**Introduction**

Diving took a new direction with the results of the work of the 1906 (British) Admiralty Deep Diving Committee, which led to the adoption of the Haldane stage system for decompression. This effectively codified diving, leading to safer diving practice, and its recommendations were to be adopted and adapted worldwide. The end of the nineteenth century had seen improved manufacturing techniques which, for the first time, enabled the production of one-piece cylinders of the type we know today. Working at much higher pressures than anything previously available - in the order of 100 atmospheres or more - they focussed attention on self-contained / re-breather diving, by offering the possibility of longer bottom times [1].

Henry Fleuss's rebreather oxygen equipment was repackaged by Siebe, Gorman and Co. (1905), with cylinders slung across the lower back [2]. Paul Bert had, however, previously discovered that above a certain pressure oxygen became toxic [3] and ideas were already turning to using variable mixtures of oxygen and nitrogen according to depth. As typified by the 1908 patent of Robert H. Davis and Leonard Hill, whose apparatus used 'oxygen or air or both mixed in certain proportions'[4], or the German Westfalia Maschinenfabrik (1912), who proposed a number of artificial mixtures of oxygen and nitrogen, the proportion of oxygen in the mix varied according to depth [5].

In 1907 Hermann Schrötter, who had already worked on decompression theory, moved away from oxygen-nitrogen mixes when he enrolled a patent specification advocating that divers breathe a mixture of oxygen with some 'neutral' gas other than nitrogen during the ascent to avoid decompression sickness. His suggestion was to use either the potentially explosive hydrogen, or methane, a different proportion with oxygen being required for each depth [6].
This was picked up again after World War 1, when Charles J. Cooke was granted a US patent in 1923 which recommended a number of different inert 'diluent' gases, mixed as four parts to one part of oxygen. His prime choice was helium, followed by argon and the more reactive hydrogen [7]. On the more practical side, in 1924, experiments using oxygen-helium mixtures were carried out, at the US Bureau of Mines facility in Pittsburgh, which demonstrated that a significant reduction in the normal decompression time could be achieved, compared to air or oxygen-nitrogen mixes [8].

It was against this general background that, in 1937, Max Eugene Nohl was to make a world record descent to 420-ft/~130m in Lake Michigan, which made use of an oxy-helium mixture [9]. In 1945, using an oxy-hydrogen mixture, the Swede Arne Zetterström set a world record at 160m/~520-ft, although he accidentally died during the ascent [10]. It was however, to be oxy-helium that became the mixed gas of choice for deep diving work in the latter part of the twentieth century.

Helium had finally been isolated in 1895 and in 1903 large deposits were discovered in the United States of America, while drilling for oil in Kansas. Initially, little use could be found for the gas and only three small experimental production plants existed during World War 1, for filling barrage balloons with a non-inflammable gas. It was both expensive and difficult to obtain, even in small quantities for experimental purposes.

**Elihu Thomson complains**

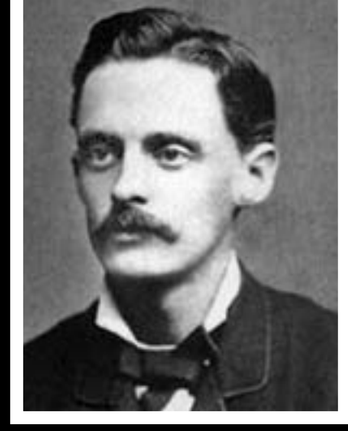
The American businessman and prolific inventor Dr. Elihu Thomson (1853-1937) is generally credited as being the first to suggest the use of helium in diving mixtures, in a letter dated 19 August 1919, addressed to Dr. W.R. Whitney of the GEC Research Laboratory, Schenectady, NY. He said that he first got the idea when it was reported that helium was being used in large quantities to inflate balloons, as part of the war effort [11].

As noted, in 1924 the US Bureau of Mines facility in Pittsburgh carried out experiments using oxygen-helium mixtures. The reason, it seems, was that the Bureau had an interest in caisson disease resulting from work on tunnels, while the US Navy's Bureau of Construction and Repair had an interest in extending their diving and salvage capability. Although inconclusive, experiments on human subjects indicated that helium gave a saving of between one quarter and one eighth of the normal decompression time when using air [12]. These experiments were to pay off almost immediately.

On the night of 25 September 1925, the US submarine S-51 was rammed and sunk by the passenger cargo vessel City of Rome off Block Island, sinking in 132-ft/~40-m of water. During the subsequent salvage work the divers breathed air, but were supplied a helium mixture in the chamber on board the submarine rescue vessel USS Falcon, to treat an existing 'bend'. The apparatus used had been developed during the work carried out at Pittsburgh [13].

Other inert gases had been put forward, so what had originally prompted the Bureau of Mines to carry out their study using helium in 1924? This was the question Thomson posed in a letter to the magazine Science in 1927 [14]. He explained that at the time he had originally written to Dr. Whitney (1919), he had not only contacted the Bureau of Mines, unsuccessfully, to try and get some helium to experiment with, but laid out his idea in a letter to Prof. J.C. McLennon of Toronto University who, in an article in Chemical News in 1919, had said that he wanted to find uses for helium other than for balloon inflation [15].

When the Bureau of Mines report appeared in 1925, Thompson said that he had again written to Prof. McLennon, complaining that it made no reference to where the idea of using helium had originated and questioned whether he (Lennon) had forwarded Thomson's letter of 1919 to the Bureau of Mines? Prof. McLennon replied simply, that he had called attention to Thomson's suggestion in an article in Nature some years previously (1920) [16]. It seems that, at the same time as contacting Prof. McLennon, Thomson had also contacted the Bureau of Mines on the subject (13 July 1925) and had, eighteen months later, still not received a reply, even though helium had been used during the S-51 salvage work. Thomson followed up with a second letter to Science, in March 1927, putting forward ideas on 'scrubbing' the carbon dioxide content from helium mixtures and re-breathing it, due to its cost [17].



*Elihu Thomson as a young man, ca.1880*

Then, in April 1927, a letter appeared in Science from J.H. Hildebrand, one of the authors of the original Bureau of Mines report. He pointed out that, based on his work on gas solubility over a number of years, it had been a natural conclusion to substitute helium for nitrogen. This, he said, he had mentioned to Dr. R. B. Moore, in charge of helium work, when he visited Berkeley in 1922 and obtained a small quantity of the gas in 1923, after making a formal request. He made no experiments but, due to the number of submarine disasters, had written to Dr. S.C. Lind of the Bureau of Mines on 29 January 1924, which led on to the formal experiments and report by the Bureau in 1925 [18].

It was obviously the only answer Thomson was going to get and he had already provided a suitable moral to the episode, in his first letter to Science,

*'... if you have a good idea publish it at once, or patent it, or both, in which case it is not so easy for the other fellow to come along years later to adopt it, without giving credit where it was due.'*

**Epilogue**

Although he established his reputation in America, Thomson had been born in England. Similarly Charles J. Cooke was still a British citizen, having only applied for American naturalisation at the time he first filed his US patent specification on 15 August 1919, naming helium as his prime choice of inert gas. That was just four days before Thomson's original letter to Dr. Whiting, on 19 August 1919. If he had ever realised this, Dr. Elihu Thomson would surely have laughed.

IF YOU HAVE A GOOD IDEA PUBLISH OR PATENT IT AT ONCE, OR BOTH

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11. '... while men could only really go to 200ft breathing air, deeper dives might be possible using oxygen-helium'. See Selections from the Scientific Corr. of Elihu Thomson, ed. Harold J. Abrahams & Marion B. Savin, Camb.,Mass./Lond., 1971 pp.541-542. An article written by Thomson as a young man indicates that he had an early interest in breathing gas mixtures. See, Elihu Thomson, Inhalation of Nitrous Oxide, Nitrogen, Hydrogen and other Gases and Gas Mixtures, in Medical Times (Philadelphia), 15 November 1873.
12. Op.cit. 8. Also see, Helium-oxygen mixtures for divers, in Engineering, London, 26 November, 1926, p.678.
13. Ernest J. King, Salving the USS S-51, in Procs. U.S. Naval Instit., 53 (February 1927), p.143.

    *'During the latter part of the Spring operation (April-June) [i.e. 1926] a portable helium apparatus was used in the Falcon decompression chamber for treatment of some cases of 'bends'. This apparatus was developed at Pittsburgh as part of the research work to discover means of overcoming the dangers of 'bends'. Helium, like nitrogen, is so inert it may be mixed with oxygen to form a synthetic atmosphere. As helium is particularly free of nitrogen's tendency to cause bubbles in the blood system, the breathing of it as a substitute for nitrogen is intended. The apparatus used on board the Falcon was intended only for the treatment of existing bends cases.'*

14. *Helium in Deep Sea Diving, letter in Science (Camb. Mass., 1895-), 14 January 1927 65: vol. LXV, No.1672, pp.36-38.*
15. *J.C. McLennon, Chemical News, 19 December 1919.*
16. *J.C. McLennon FRS, Nature and Uses of Helium, in Nature, August 12 and 19,1920.*
17. *Discussion & Correspondence - Helium, in Science, No.1682, March 25, 1927, pp.299-300.*
18. *J.H. Hildebrand, Science, 1 April 1927 (No.1683), pp.324-325.*

**Acknowledgments**
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# FAILURE TO ACT MEANS FAILURE OF THE SYSTEM?

**"The Failure Modes Effect Analysis (FMEA) is a system designed to identify areas of potential failure known as 'failure modes'. A Failure Modes Effect Criticality Analysis (FMECA) goes a step further by performing a Risk Assessment before and after mitigations and assessing the resultant risk factor is within or out of tolerance As Low As Reasonably Practicable (ALARP).**

What makes an FMEA/FMECA different to other risk assessments is that mitigations identified during the analysis are tested to ensure the system / component has redundancy, and if it fails will fail to a safe status. The process covers the system by analysing, risk assessing and testing each of sub-systems that make up the system.

During the design phase, the FMECA provides a logical test albeit a theoretical review. Changes can then be made where failures modes are uncovered, and the system again theoretically tested.

During the assembly and commissioning phase, the systems are checked for their primary function. Where safety functions are built in, these are also checked. The working of the designed safety and redundancy functions, during the system commissioning phase, may well amount to some of the "failure mode" testing required by the FMECA.

Once the system is in service, the 'live' stage of the FMECA follows the system. Changes will happen in the working life of a diving system. Changes occur through wear and tear, replacement parts, wear variables (i.e. some components last longer than others), designed life obsolescence, changes and modifications to the systems capability. Due to these variables, the live stage of the FMECA process is maintained by revisiting the Analysis and Risk Assessment, then testing/re-testing the failure modes at set periods and when changes affecting the status of the system and the FMECA are made.

A diving system includes many sub-systems such as the chambers, the launch and recovery, the control rooms etc. In turn, each sub-system has a number of components from mechanical, electrical, electronic to paint coat or cathodic protection. The smaller components, working together form the larger system.

Testing in a FMECA seeks to prove the redundancy so that if a component fails, the direct and indirect effects are forecasted, and the failure will be to a safe status. This allows the operator to look at preventing the cause and if the failure still happens, then to reduce the effects of the failure.

As diving systems are based on combinations of components, some may be more capable than others so as with the weak link chain analogy, prevention of the failure seeks to take note of the weakest link. As an example, where an engineered and designed two-tonne Launch and Recovery System (LARS) is fitted with a five-tonne winch, the ability of the winch is limited and given it is possible to over-ride the control limits, further controls may be necessary and therefore added. The ultimate effect is then analysed and mitigations placed to reduce that effect, and then tested. The five-tonne winch in the scenario described should be restricted from lifting more than two-tonne and tested as if a two-tonne winch, with safe working load (SWL) markings placed accordingly.

Commercial Diving is by its nature potentially high risk and therefore equipment used for commercial diving is often safety critical i.e. Life Support. A potential failure may have as its control, a qualified and competent person. This means that the equipment is only safe while the management of the system is highly controlled.

It would be incorrect to suggest that any assessment would capture every failure mode. Where failure modes are not directly or indirectly identified during the initial FMECA but later are, then these need to be added to the "live" FMECA document.

During the FMECA assessment the component team will identify all the core failure modes, whilst others will become apparent during operational use and industry lesson learned. Having the FMECA as a 'Live' document acknowledges that not every failure point will be identified or addressed; to suggest otherwise would be at the very least naive.

KB Associates has performed over 2000 diving system audits and / or FMECAs. Established in 2002 by Brendan Kearns and Darren Brunton, KBA is the leading commercial diving, ROV and safety management system auditing and FMECA service provider in the world with full time specialist staff from auditors to technical authorities and subject matter experts. With offices in Singapore and the United Kingdom, KB Associates serves all major oil and gas companies, contractors, and renewable sector clients. KB Associates is the 'go to' service provider.

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# THE BADGE

**How did you get involved with diving? What are your ambitions? What annoys you the most? In The Badge we talk to people from the Professional diving world and find out who they really are and what drives them. In this month's issue we meet Dan Hedberg from Sweden who is a Training Leader at Yrgo in Gothenburg and Svanesund.**

**"ALWAYS DO YOUR BEST AND A LITTLE MORE!"**


**01**

**How did you get involved with the Professional diving world?**

It all started in 1976 when I started working for a diving company up in Luleå as a divers tender, only 18 years old. In 1979, I did my military service as a mine clearence diver. After this, I worked as a salvage diver for 5 years, for a salvage company before joining the fire service, where I worked with training and education of rescue divers and pressure chamber operators/alst. My career there as a fire chief and fire inspector ended with 8 years as head of the diving school. In 2013 we left the Fire department and the business was transferred to Yrgo in 2013.

**02**

**Who did you learn the most from?**

In my professional life, there are so many people I have been inspired by and learned from, difficult to name anyone, without mentioning them all! But someone will be mentioned and then it will be my father!

**03**

**What are your drives and ambitions?**

To create and develop our business, together with my colleagues and the industry.

**04**

**What annoys you the most?**

Greed and jealousy, there are 2 properties that are even harmful!

**05**

**What is your life moto?**

Always do your best and a little more!



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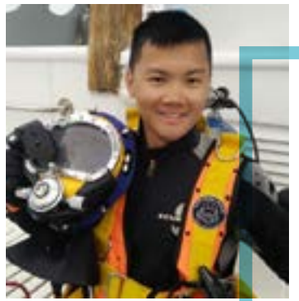
# MECD: CONNECTING PEOPLE

**Connecting people is one of our values since MECD started in August 2014 and became IDSA full member in 2018. We have more than 500 graduates from all over the world with a passion to help our students in the acquisition of commercial diving skills to build a career in the commercial diving industry. MECD is located in Alexandria city in Egypt by the Mediterranean which is known for its historic Roman and Greek sites. Not only do trainees benefit from our excellent training expertise but also get to enjoy sightseeing in Alexandria, Cairo and Hurghada cities. We were honored with trainees from: Algeria, Bahrain, Cameroon, China, Egypt, Germany, Greece, India, Iraq, Ivory Coast, Jordan, Kuwait, Lebanon, Libya, Malaysia, Malta, Morocco, New Zealand, Nigeria, Oman, Palestine, Philippines, Poland, Qatar, Saudi Arabia, Singapore, Siri Lanka, Sudan, The Netherlands, Tunisia, Turkey, UAE and Yemen.**

## Here is what some of our graduates said about their training experience at MECD:

"MECD is an excellent place to start up commercial diving as the instructors are patient with the students Diver. Here they tough us from open water to certified Commercial diver. Here we also trained to use underwater hydraulic tools and the best things is underwater welding and cutting that will be useful in our future career. I would strongly recommend future diver who are interested to be Commercial Diver with MECD."

**Hamdeno Bin Jais** – Singapore



"HIGHLY RECOMMENDED!
I am from Malaysia, MECD is a good school for commercial diving. The coaches here teaches the students patiently. Here, the students have many opportunities to make mistakes and we can learn from the mistakes, so that in the future student will make fewer mistakes. Making mistakes in school is just a trivial, but making mistakes in workplace is deadly, it will bring irreversible consequences for ourselves and the company. MECD not only teach us how to work underwater, but most important is work SAFELY underwater."

**Joel Wong** – Malaysia

"Middle East for Commercial Diving is the Best Commercial Diving training in the Middle East. I have done training with them. I got excellent commercial diving training from them. If anybody wants to be a commercial diver that is a good way."

**Suresh Kumar** – Siri Lanka



# PROFESSIONAL TRAINING FOR EVERYONE

"I am Youssef from Tunisia. I got my commercial diving training at Middle East for Commercial Diving – MECD. It was a great experience. All the training team was very professional which enables students to benefit the utmost. I would like to thank everyone in MECD and also my colleagues and best wishes to future trainees at MECD."

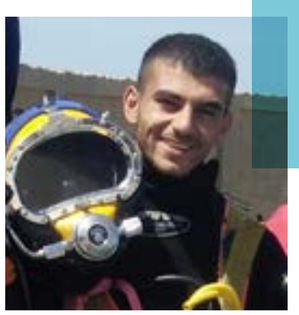
**Youssef Zebdi** – Tunisia

"We came to MECD to take Surface Supply Air Diver 30 meters course – IDSA level 2. It was a very good opportunity to learn. It was very nice training. We got training in Alexandria and Hurghada cities. The instructors had a lot of knowledge and were able to communicate in the English language and found a way to learn about commercial diving. I came with a colleague of mine and we met another Greek trainee when we arrived."

**Nikolaos Maitos** – Greece

"It was a lifetime experience which we learnt a lot from. The instructors were very helpful and supportive and were teaching from their hearts. They added to the syllabus from their experience in welding and other aspects. I give MECD 10/10."

**Ali Al Najjar** – Bahrain



"I took my commercial diving training at Middle East for Commercial Diving. It was a great experience. I learnt a lot from their instructors. And now I started work at DCN diving in the Netherlands."

**Furkan** – The Netherlands

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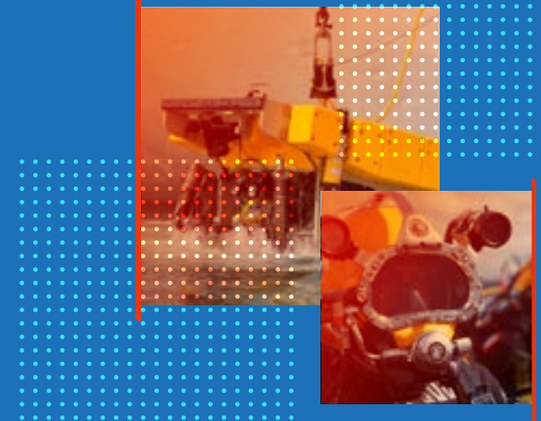

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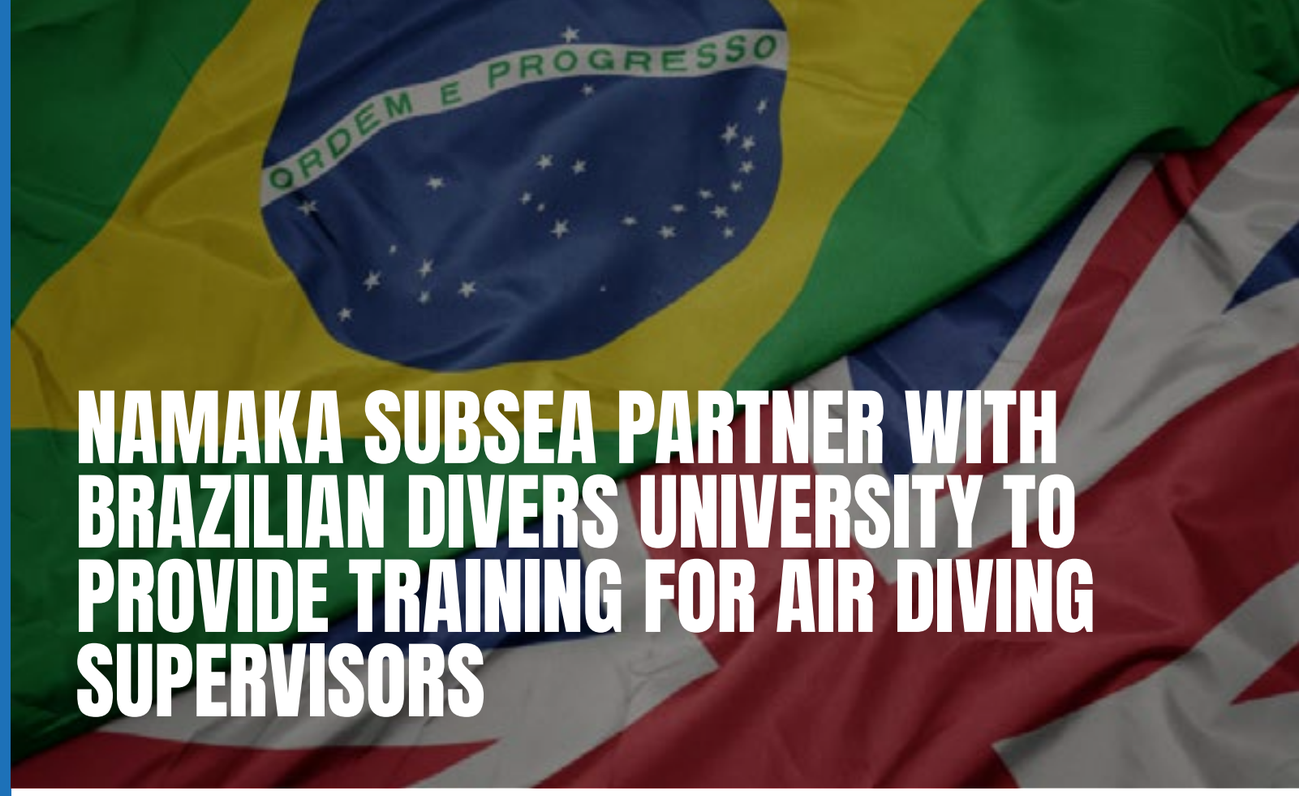



# NAMAKA SUBSEA PARTNER WITH BRAZILIAN DIVERS UNIVERSITY TO PROVIDE TRAINING FOR AIR DIVING SUPERVISORS

**In December 2019, the IMCA Diving Division Management Committee (DDMC) decided to launch a temporary scheme for Portuguese speaking diving supervisors to help improve the competency of supervision in offshore operations. The scheme was set up as it had come to IMCA's attention that diving contractors in Brazil wishing to join the diving division were struggling to meet the requirements for diving supervisors to gain IMCA certification.**

As a result of this new IMCA Scheme, Namaka Subsea began talks with the Brazilian Divers University to see if there was an opportunity to assist and aid their candidates to progress their careers and gain the required qualifications. After discussions back and forth, we were delighted when they advised that they would like to enter into a formal partnership. The partnership will see Namaka Trainings current course catalogue translated into Portuguese, including our IMCA, approved Trainee Offshore Air Diving Supervisor course.

The courses will be presented in English or Portuguese with a translator through our Online Learning Management System or via a virtual classroom.

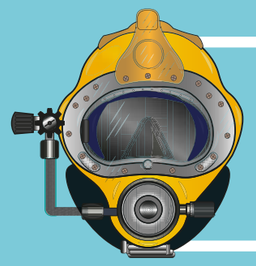
Divers University has been operating in the commercial diving market since 2000 and is the only training centre for divers in Latin America holding the two most significant international certifications for professional diving: ADCI and IMCA.

Located within the Faculty of Physical Education of Santos (FEFIS), São Paulo, the School has an excellent infrastructure for the training of professionals working in the national and international diving market: semi-Olympic swimming pool and five-metre deep tank, both covered and heated, classrooms with slate and projector, an auditorium for 300 people equipped with air conditioning and projector, gym, hyperbaric chamber fully equipped for treatments and simulations, seals, recharging station for gaseous mixtures, in addition to all the necessary equipment to practice diving, whether technical, recreational or professional.

Sandy Harper, CEO of Namaka Group, said: "As we extend our services into the Latin American market, we are extremely happy to have the opportunity to collaborate with Divers University. We are confident a quality synergy will be realized as we are committed to distinguishing ourselves by adding value to the Divers University portfolio of training, to assist with the continued professional development of diving personnel in the region".

NAMAKASUBSEA
GLOBAL SUBJECT MATTER EXPERT

# A PROFESSIONAL DIVER IN 2021 EXPLAINS



Name: **Basile Lacave**
Age: **30**
From: **France**
Current home: **Norway**
Trained at: **NYD Subsea Training Centre**
Graduation year: **2017**

### Why did you decide to become a diver?

During my career on nuclear submarines in the French Navy I had the chance to join a NATO exercise. Combined with the Norwegian, British, and Italian forces, the exercise was organized by the NSRS (NATO Submarine Rescue System) in order to test new equipments onboard their TUP (Transfer Under Pressure). Long (and boring) story short: after simulating an emergency evacuation, we were placed for 48 hours in the TUP and used as guinea pigs. It was during these hours of confinement that I came in touch with a group of saturation divers. Being in their natural environment, they were with us to ensure that the situation inside the TUP was under control. We had a good chat about their experience and life in general. That simply sparked my interest in the profession.

### What were your background before you became a diver?

I came out of school with a general highschool diploma and started a bachelor in physics and chemistry. At the same time I worked for a total of 3 years in my father's company, in the building industry. Being interested in my studies but tired of attending to seemingly non-relevant subjects and not making a peany, I decided to join the navy as petty officer to become a mechanic specialized in nuclear powerplants onboard submarines. The reality of a job being often very different from the deceptive picture you are being described by the recruitment personnel, I never ended up in charge of the reactor. After a little bit more than 6 years of service I decided it was time for me to set new goals and experience life outside the navy. I then moved to norway and took the commercial diving education at NYD and became a commercial diver.

### How did you experience your training at NYD?

NYD has a state of the art facility and I have no difficulty believing that they have the best equipped diving school in the world. I have never been in other schools but from what my colleagues said, the other institutions are far behind. In fact the equipment is so good, you might be shocked by what you will be asked to dive with when you go out in the real world. The staff is very helpful as well, they will help solving most of your issues to make your time at school as pleasant as possible plus they are very enjoyable. They make their goal very clear: "we not here to teach you how to work, but how to get to the work place", and in that regard the instructors are more than capable of taking you through out the education. Due to my background I felt at the time that the theory on some subjects was a bit light but with experience today I must admit that it is far enough to get you started safely. One does not need to be a PHD in diving physics to understand that you have to stop for decompression on your way up. To finish with I hear often that you don't get enough experience with welding, burins or jackhammering. It is true that they don't spend much time on this, but let's face it: it doesn't make any difference if you have spent hours welding underwater with new steel, the best type of rods, standing in front of a bench and no current all if when you come to work you are asked to swim upside down under a thruster welding 20kg anodes on old metal with shitty rods. This kind of skills will come with real life experiences, and you will earn some money for it. I only wish they had a small touch on how to start a business, because that is what many of us will do.

### How did you find work?

I got my first job 2 weeks after school. During the last month of training I sendt job applications and phoned all the diving company I could google in Norway. Some never answered and some showed mild interest, but at least one gave me a chance, and that is all I needed.

### What are you working on right now, and what jobs have you had previously?

Until recently I was involved in the maintenance project of a major gas pipe on the west coast of Norway. I usually work on various projects related to the oil and gas industry but this year has been very dominated by the construction of a peer in the region of Stavanger and I am pleased to say that I really enjoyed it.

### How does a normal work day look for you?

Normal days start at 7:00 and finish at 19:00, mainly 7 days a week. You usually get a little briefing at the beginning and then get cracking as soon as possible, the goal here is to "make bobbles" as early as possible. After the rush of getting the diver to work you might get asked to assist the diver or simply "stand-by" until further instructions, it really depends on the tasks at hands. You might also be stand-by diver and then your only job is to be ready to jump in if needed. Depending on the depth of the work the rotations during the day happen at different intervals but ultimately a diver has to come up and the the goal is to get new roles assigned and a new diver in the water as soon as possible. The tasks are various but the rhythm of the day is practically always the same: dive - tend - stand-by... and repeat.

### Are you self-employed, or do you have a permanent employer?

I am employed in my own company. One might say that it is the same than self-employed but there is a noticeable difference between the two when it comes to accountancy and social rights, at least in Norway.
On the client side it makes no difference: I am freelance diver. Being an employee in a diving firm or being a freelancer have both their pros and cons. As an employee you have the safety of getting payed every month and knowing when you need to work or don't, but you don't really decide of anything. Whereas freelancer you kind of decide with who you want to work and when you want to work but you never know when the next job will be and you have to sell yourself a bit to get more jobs, plus the accountancy that is related to any businesses. I say "kind of decide" because let's face it, even if you don't have any "boss" over you, your bank will always remind you that you need to get back to work at one point.

### What is your specialty, or what do you do well?

I cannot say I have any speciality, there are things I like doing more than others but there aren't really anything I am excellent at. Unless you are in a very niche market, like some saturation divers for example, being specialised is most likely a disadvantage in this industry. Over the surface you have plenty of specialised people but under the water line there are only divers, it is therefore very important to be flexible and polyvalent. If you are good at everything and VERY good at one thing in particular it's obviously an advantage, but I don't think someone should focus only on one thing at the beginning.

### What personal traits do you value in your colleagues?

I like a mix of efficiency and enjoyability. A team full of funny useless people will never get things done and that will inevitably

ruin the job but a team of performers without any considerations for their team members will not work well either. I like my colleagues to be reliable enough so no one has to constantly fix what has been done and with enough social skills to get great synergy. I would rather work with a decent diver that isn't great but very sociable than with a douche bag with superb diving abilities.

### Have you taken any further courses after the initial training at NYD?

Yes, I took first my basic offshore safety traning and then the inshore diving supervisor course. I am still thinking about the DMT and CSWIP courses but haven't landed yet. Otherwise if you work on ships and construction sites courses like truck drivers, crane operator and trailer / light truck driving licences can be a very good investments.

### Are you happy with the decision to become a diver?

Overall yes, I learned a lot about myself and the others in an environment than is different from the navy, and worthing underwater is very enjoyable. In addition I discovered a passion for entrepreneurship that I wouldn't have if I had stayed in the military.

### What is the best thing about your job?

I think the best thing about this job is also it's downfall: diverse. I'm always happy to learn and try new things, but I'll always be frustrated knowing that I'll never be excellent at it.
In addition the diving industry is full of peculiar characters with personalities that goes far beyond "the reckless, nice watches and fancy cars" type of people the public associate us with. I met some people I would have never had the chance to meet in a regular 9 to 5 job and I am very glad for it.

### What advise would you give to those who are thinking about starting training as a commercial diver?

Think well this profession is aligned with your goals in life and dig deeper to really understand the profession. Remember that diving schools are in reality businesses, and as businesses their main goal is to sell products. In order to get you to buy these products they will sell you a dream and even-though most of it is true, the reality has many more nuances and you'd better know them. So get in contact with as many real divers as possible and get a realistic picture of the job because the diving industry isn't for everyone and you might just end up wasting your time and money. There is a rumour that says that less than 10% of the trainees are still in the industry 5 years after they've completed their course, I don't know if the numbers are exact but I wouldn't be surprised if it's even less.

### What advise would you give to those who have just finished training and are about to launch their careers?

There many things that could be said on the subject and I am still young as a diver but there are four things I've been told or I wished I got told when I started:

- Learn how to sell yourself. No one wants to buy the most delicious food if it looks like dog crap, but everyone rushes at McDonalds because they know how to make something passable look desirable. It doesn't matter if you are the best at what you do, if you cannot sell yourself you will never land and keep your jobs. If you are not really good at it, be at least a pleasant guy to have around, it will bring you more jobs than you would have ever thought. Even though I am working on it, I don't consider myself good at selling myself, but I do try to be enjoyable and it surely helps to keep me busy all year long.
- Be stupid: ask about anything to anyone, even if you know the answer. It's better to give the impression that you are an idiot than not to and later prove it. It's also that in a world full of alphas with oversized egos, it's rarely good to be the new guy that outsmarts everyone. If you have issues keeping your mouth shot, ask yourself that question: "Do you want to be right, or do you want to be happy?".
- Have a laugh. Money will come and go but time is the only thing that will never get back. So be sure that you wake up wanting to go to work and ready to rock. You'll spend a lot of time there and it won't always be easy, but if you enjoy it you'll never regret it. In addition you'll have an endless list of unbelievable stories that the common folks will love, it's particularly useful when you want to get laid at parties.

Stay safe and have fun.



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