



ScienceDIVER Newsletter 2, October 2020

What we do

ScienceDIVER is a project aimed at the support of the development of blue and smart cross-sectoral skills to meet increasing needs in the Blue Economy sector.

The Earth is a blue planet, whose surface is covered approximately three quarters by oceans. Humanity still needs to learn more about the seascape and be able to reap the benefits of marine resources through sustainable practices. The role of Scientific Diving is both a vital and precarious sector in the direction of growth within the Blue Economy.

Ocean research requires scientists who possess a plethora of acquired cognitions and appropriate skills which can be applied in innovative measures, in-depth knowledge and emerging technologies in maritime environment.

Moreover, a strong collaboration between scientific organizations, diving organizations, professional associations, relevant industry and national authorities which are all necessary for enhanced understanding to study the ocean. It is expected for the ScienceDiver project to cover these needs and overcome the difficulties that highly skilled scientists face in performing valuable underwater searches.

The ScienceDIVER team is focused on the conditions that create working environment for scientific diving in terms of common EU rules concerning legislation, indispensable training and relevant certifications, as well as opportunities for professional realization, recognition of skills and smooth mobility within all EU countries.

Studies

For a better understanding to highlight the existing predicaments which the European Scientific Diving community needs to fight, the team undertook a series of three studies. These studies have been elaborated upon in order to investigate into the current status of the legislative framework, the existing training programs and the professional acknowledgment of Scientific Divers. Finally, the relationship between these criteria were also analyzed in these studies.

All three studies have been coordinated following numerous virtual meetings of the consortium and established working groups. All of the aforementioned topics have been widely discussed by the involved experts.

Training programs

Following the surveys' outcomes, numerous discussions/interviews among stakeholders and leading experts in the field of scientific diving were conducted to consult findings and conclusions, to receive valuable feedback with the aim to define clear pathway for SD careers, to point essential topics that training programs should include.

Collaboration

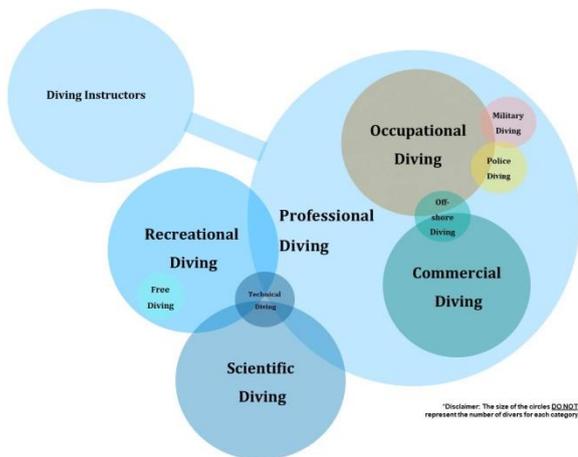
Through involvement of all defined stakeholders groups in the discussion and their joint efforts towards elaboration of common framework. it is expected to establish a strong network of universities, research organizations, diving training providers and associations, business, ministries and authorities that will continue cooperating for promotion, support and professional acknowledgment of scientific divers.

Legislative framework

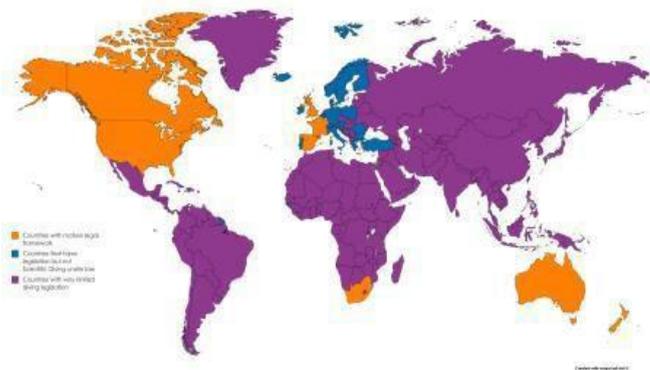
All activities, commercial and scientific, including scientific diving (SD) should be performed on the ground of legislation, rules, or standards. The legal framework concerning SD is a very complex matter as there are not unified standards that are accepted internationally. The goal of the survey is to examine the legal framework for SD in the elected focus countries (Croatia, France, Germany, Greece and Italy), other EU countries and internationally, in order to define legal gaps, as well as to identify good practices.

The most important matter is to have a clear view on existing definitions of Scientific Diving and use a "common language". The findings demonstrate significant variations of definitions around the world. Existing definitions present SD as part of Professional Diving.

In order to better present the current status of SD, numerous experts were interviewed and expressed their view over the course of these studies. Our data reveals that leading specialists recommend that **SD should be measured and dealt with as a different category** and not to be under the nomenclature of professional diving.



The analysis of the collected information reveals three distinctive groups of countries in terms of diving legislation, depicted on the map below:



Countries with mature legal framework (orange color); such following national rules and codes of practice (blue color) and countries that have no laws or regulations on SD (purple color).

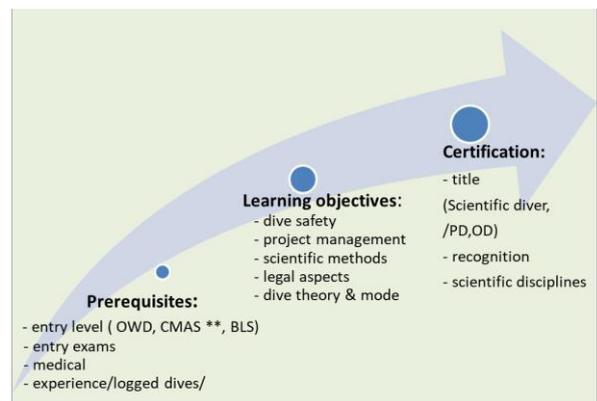
It should be noted that although the countries with mature legislation form only 6% of the examined, they obtain powerful economy, advanced industry and science. Another group, composed predominantly of EU countries with partially developed or developing rules and a share of 17% are with traditions in underwater archaeology and marine science. Most countries – 41,5% are such with existing legislation concerning diving, but SD is not included or is included on unclear terms. The percentage of countries without any regulation concerning SD encompasses 35,5% of examined.

Training programs

Dive-based research is considered as a valuable tool in scientific progress and maritime growth, so Blue Science and Blue Growth need Scientific Divers.

In order to attract young students to choose a career within the field of SD, a clear career path should be evident and appropriate universities' curricula offered. Usually the marine content is not well presented in the courses and thus SD career opportunities remain unknown to students. Moreover, related curricula are not adapted so as to provide information about necessary skills, kind of training, relevant providers, etc. to students who would be interested in following a career in scientific diving. Although the maritime industry needs scientific divers, universities haven't been providing so far adequate guidance to students in how to pursue a career in scientific diving and so young people lose the opportunity of high quality and well-paid employment.

In practice, each country has different standards and definitions for Scientific Diving, creating asymmetries and prohibiting, in reality, the job position mobility of scientific divers. To mitigate these irregularities, the European Marine Board points out that there is a **need for an established standardized methodology to define scientific diving qualifications in all European countries.**



The search of the existing training courses was done on the basis of four selected criteria: prerequisites, technicalities, learning objectives and certifications. A comparative analysis of 6 recognizable qualification systems, which are directly related to SD has been performed: American Academy of Underwater Science (AAUS) / Canadian Association of Underwater Science (CAUS); Australian Diver Accreditation Scheme (ADAS); Confédération Mondiale des Activités Subaquatiques (CMAS); European Scientific Diving (ESDP); Global Underwater Explorers (GUE) and Health and Safety Executive (HSE)

Matrix representation of the characteristics of the major SD training systems

Characteristics		AAUS/CAUS	ADAS	CMAS	ESDP	GUE	HSE	
PREREQUISITES	ENTRY LEVEL (CERTIFICATION)	✓	✓					
	ENTRY EXAMS	✓	✓					
	ADMINISTRATIVE					✓		
	MEDICAL	✓	✓		✓	✓	✓	
	SWIMMING/ WATERMANSHIP	✓	✓			✓	✓	
LEARNING OBJECTIVES	EXPERIENCE	✓	✓	✓	✓	✓	✓	
	DIVE SAFETY	✓	✓	✓	✓	✓	✓	
	PROJECT MANAGEMENT	✓	✓	✓	✓	✓	✓	
	SCIENTIFIC METHOD	✓		✓	✓	✓	✓	
	DATA RECORDING & HANDLING			✓	✓	✓	✓	
	LEGAL ASPECTS	✓	✓	✓	✓	✓	✓	
	DIVE THEORY	✓	✓	✓	✓	✓	✓	
	DIVE MODES	✓	✓	✓		✓	✓	
	SEAMANSHIP	✓		✓		✓	✓	
	SPECIAL CONDITIONS	✓					✓	
	SPECIALIZED EQUIPMENT	✓		✓	✓	✓	✓	
	OTHER TOPICS	✓			✓	✓	✓	
	CERTIFICATION	TITLE	Scientific Diver	✓		✓	✓	✓
Professional Diver							✓	
Occupational Diver				✓				
RECOGNITION		Europe			✓	✓	✓	✓
		Americas	✓				✓	✓
		Asia					✓	✓
		Africa					✓	✓
		Australia		✓			✓	✓
RECIPROCIITY		✓	✓				✓	
DISCIPLINES		Oceanography	✓	✓	✓	✓	✓	✓
	Archaeology	✓	✓	✓	✓	✓	✓	
	Biology	✓	✓	✓	✓	✓	✓	
	Ecology	✓	✓	✓	✓	✓	✓	
	Geology	✓	✓	✓	✓	✓	✓	
	Engineering	✓	✓	✓	✓	✓	✓	
Media	✓					✓		

some of them recognize ESD/AESD, others require commercial diving certificates, as well as some others - recreational diving certificates. Requirements could depend also on the sea conditions and specifics - low visibility, currents or diving below sea ice, i.e. in North Sea. Those variations affect the absence of internationally recognized standards for SD, which is considered neither recreational nor commercial.

Safety and respective insurance play an important role in diving, including SD. A lot of countries recognize DAN insurance, as well as some others, do accept national occupational accident insurance. Usually companies pay the insurance for the divers employed, otherwise diver has personal insurance.

Concerning the remuneration, this topic seems sensitive and the information obtained is scarce. The salaries vary (in EU) from additional payment to the basic salary of the scientist for diving activities - amount per diving day, or to be based on the time spent underwater and the depth of performed work. Other countries define monthly salaries, the information about UK and USA is on yearly basis. The salaries depend on the organizations hiring the scientific divers, the place, the research site, etc. Additionally, there are scientists practicing diving supporting their researches, without any additional payment.

The professional recognition is essential to divers involved in scientific researches. It is important to understand that SD is a particular underwater activity and restricting it within the frame of commercial diving is an obstacle to proper implementation of the tasks and may lead to withdrawal of skilled specialists.

All findings demonstrate that on a EU level, joint efforts are necessary towards elaboration of a common framework, harmonization and standardization of SD within all European countries.



Professional recognition

The matter concerning the professional acknowledgment of scientific divers is close related to the legal framework. On the basis of all materials gathered using various sources such as free available information, interviews and questionnaires, as well as personal conversations, obviously the lack of a common professional recognition of SD is observed. Predominantly, there are not available official documents concerning the professional acknowledgment at national level. SD is not regulated in a clear manner, even in countries where it has been considered as well developed. The recognition of divers varies according national rules, but often companies employing divers for scientific research have own rules (at organizational level). The variations between EU countries are significant -

Promotion of ScienceDIVER to stakeholders

Project partners explore all opportunities to raise awareness about the project among all stakeholders groups. ScienceDIVER was presented and promoted at various national and international events.

On December 20th 2019 the project has been introduced within BLUEMED workshop in Volos, Greece.

On March 7th 2020, a workshop “SCUBA diving and citizen science” was held in Hellenic Maritime Museum, where the project was presented by ScienceDIVER team and the audience had the opportunity to participate in a questionnaire based research on “Scuba diving and citizen science”, developed within the project framework.

On March 10th 2020 an international conference on Blue Growth in the Black Sea Region: „Ecosystem Services on River-Sea Macro-ecosystems” took place in Constanta, Romania, where ScienceDIVER project was presented.



Majority of planned promotional activities have been suspended or postponed due to COVID-19 restrictions.

Current project's outcomes are communicated using online and social media channels. Press releases and newsletters are available on ScienceDIVER and partners websites.

Partners



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What is coming soon

The project partners go ahead making all the best to overcome difficulties caused by COVID-19 restrictions

- **A Stakeholders mapping** – universities, research institutions and SMEs, performing diving with scientific purposes are identified within partners' countries.
- **Establishment of Advisory Board** - involvement of distinguished experts in the field of Scientific diving to support project activities, mainly by giving advices about training programs, participation in meetings and dissemination activities.
- **Series of online Workshops** are planned for the second half of November and first days of December 2020, to present the studies' outcomes and discuss raised issues and propose possible further actions at national and EU level regarding establishment of common framework for scientific diving.
- **Development and setting up of the Blue Career Platform**, which will allow young people to learn more about scientific diving and career opportunities in Blue Growth sectors, and to find appropriate training courses. The Platform will be a matching place where students with acquired skills seeking for a job could meet the business offers and requirements.

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