

THE HELLENIC ARCHAEOLOGICAL EXPLORATION SOCIETY
AN AHEPA NATIONAL PROJECT



Established 2022 as a 501(c)3 in Washington state and a non-profit AMKE in Greece.

Executive Summary



The Hellenic Archaeological Exploration Society will bring underwater research of several disciplines: maritime archaeology, marine sciences, and more; into a new age with the introduction of cutting edge technology that will change how underwater research is conducted forever.

This international organization will collaborate with universities and institutions to launch their research into a new age of discovery. These efforts in the United States, Greece, and Cyprus will be funded by grants, university alumnae, the Greek diaspora, and Philhellenes. As advancing education is a key component of the AHEPA, new educational programs will be explored to introduce students to science and technology as opportunities arise. This organization will also collaborate with environmental groups for the monitoring the health of ecosystems such as coral reefs, that will provide invaluable data to scientists.



The Mission



Underwater archaeology today is a time intensive, and diver intensive endeavor. The use of divers introduces risk that increases dramatically as depth increases. There is a practical limit as to the maximum depth of a shipwreck that can be studied by divers. There are also deep water camera systems, such as the one that created a model of the Titanic (erroneously reported by the media as a scan) through 700,000 images.

The answer, and the future, is laser scanners mounted to Remotely Operated Vehicles (ROVs) that are controlled by computer software on the surface, providing scientists image data in real time. The technology now exists and our early initiative is to reveal this to the world.



The Market



The maritime archaeology efforts worldwide center around the use of photogrammetry, feeding pictures and video into a computer to create 3D models; and side scanning sonar. Side scanning sonar is an excellent tool for locating shipwrecks or targets of interest (like geological formations) and complements laser scanning that provides far greater detail and accuracy than photogrammetry.

We do not see other players in this space as competition, but rather future partners working together to advance scientific study underwater through the adoption of cutting edge technology.



Proposed Solution



Our program consists of providing laser scanning services to underwater researchers: maritime archaeologists, marine biologists, marine geologists, conservationists, and surveyors. During an expedition, high-detail 3D point clouds will be provided to scientists to accelerate the time it takes to study a target and improving the quality of data acquired.

Technology is required to conduct deep sea research in a cost effective way. Submersibles are expensive and logistically complicated, requiring large research vessels. Medium sized ROVs with laser scanners simply require a boat that is seaworthy for the conditions. For research in the Aegean Sea, this can be a RIB (rubber inflated boat) or even a Greek fishing boat.

Success is measured entirely by our partners success after the expedition is finished. We exist to help research institutions elevate and accelerate their success. The equipment we will bring to expeditions with our researcher partners will fulfill our goals. This equipment also reduces, possibly even eliminating, the need for divers to conduct research underwater. Research moves entirely to the desktop environment after data is acquired.



One success metric



“An archaeologist is lucky to study one shipwreck in his or her career.”

Dr. George Koutsouflakis, former senior archaeologist of the Ephorate of Underwater Antiquities, professor of History, Archeology and Social Anthropology at the University of Thessaly.

The Ephorate of Underwater Antiquities has over 10,000 historical sites in its database. Our success metric in Greece is this: all maritime archaeology PhD candidates at the University of Thessaly in Volos, Greece have their own unique shipwreck as part of their dissertation.



Who we are



This organization is founded by three members of the AHEPA as part of an AHEPA national project approved in 2019. These include Mr. Marshall Monsell, AHEPA Supreme Governor of Region 7; Mr. Andreas Zapounidis, Marshal District 28, Europe; and Mr. Kosta Koeman, Seattle Chapter 177 District 22 member.

The AHEPA is a Greek fraternal organization dedicated to promoting Hellenism, education, and charities. This AHEPA national project, the Hellenic Archaeological Exploration Society, is dedicated to promoting Hellenism, education, and science.

The combination of our core members provides the critical mass to succeed in our mission, from addressing complex NGO legal issues to coordinating resources and equipment from the equipment manufacturers and collaborating with scientists.



Our story



Our story began in Kalymnos, in 2018, when one of the members met the oldest surviving sponge diver in Greece who reported many shipwrecks he discovered during his career. Three years prior, this sponge diver had been one of the guides for the successful 2015 Fourni Expedition where 22 shipwrecks were discovered in 13 days, an unprecedented historical expedition.

Upon returning to the United States, inspired by the stories of the sponge diver, he looked at how he could be involved in supporting underwater archaeology in Greece. While Covid set back his efforts, he joined an organization dedicated to Hellenism and education, the AHEPA. In his research, he discovered the untapped potential of laser scanning that recently became capable of being mounted to medium sized ROVs, and immediately began procuring the equipment needed to bring underwater research into a new age. The organization has since forged strong relationships with underwater technology leaders like Newton Labs and VideoRay.



Short term goals



Our first expedition will be September 2023 on the island of Kythera, supporting the Mentor Shipwreck Excavation Programme in which this famous ship and three others from different periods of history will be laser scanned, the first time where close-up high-detail LiDAR is used in maritime archaeology.

Next year, after the release of our short film fundraising documentary is released to the Internet for free distribution, we will approach universities in the United States for an expedition in the spring. Prior to the next AHEPA Family Supreme Convention to be held in Cyprus in 2024, we hope to have a second expedition on Cyprus. A stretch goal would be a third expedition in Greece in September.

In the following years, we plan to have at least two expeditions per year, one in the United States and another in Europe for years to come.

Operation Requirements



The NGO already owns the Newton Labs PL3200UW-LW laser scanner, capable of reaching depths of 3200 meters. The other components required are currently being rented: the VideoRay Mission Specialist Defender ROV, the Sonardyne SPRINT-Nav Mini navigation unit, a marine GPS, and EIVA Navisuite Mobula Pro software.

As new technology develops that could benefit underwater research, the HAES will evaluate those technologies with pilot programs in partnership with researchers.

Beyond the volunteers, no additional staff is required.



Budget and Revenue Plan



Our first project is September 2023 where we support the Mentor Shipwreck Excavation Programme run by the Deputy Director of the Ephorate of Underwater Antiquities in Greece, Dr. Dimitris Kourkoulis. A short film documentary will showcase the value of this technology and will serve as a major fundraising mechanism for this organization.

In most future expeditions, we plan to partner with universities with active maritime archaeology departments in the United States. Reaching out to the alumnae, we are confident that universities will easily raise the \$400,000 required to purchase the equipment configuration that we use. We will act as facilitators and enablers to ensure a smooth adoption of this technology.

In some expeditions in Greece, we will continue to provide the equipment for the first expedition, relying on grants and donations from the Greek diaspora and Philhellenes.



The Vision



As previously stated, our immediate goal is to bring a new age in underwater research through the adoption of close-up, high-detail laser scanning technology. But we are not stopping there.

Imagine a new maritime archaeological museum with a glass floor with a life-size model of the wreck site generated by the laser scan. Imagine in the center of the hall, a replica of the shipwreck based upon the most accurate data available. Imagine multimedia displays, like holograms, bringing the past alive, as well as displays of the artifacts recovered and presentations on the history of the period of the shipwreck.

All of this in person and virtually on the Internet.

Imagine. And join us in fulfilling this mission.

