

SENEDIA and UTIC TECH TALK:
An Overview of Undersea Technologies
by George McNamara, NUWC Chief Development Officer
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George McNamara, NUWC Division Newport Chief Development Officer, welcomed a full room of interested undersea and maritime professionals to discuss science, technology, and engineering topics that are relevant to the undersea domain. He provided a broad overview of applications for defense, commercial, and academic sectors. The discussion began with a discussion around the complexities and yet unexplored potential of the undersea environment.

George covered the current state of technologies and the sciences that are contributing to state-of-the-art solutions and capabilities. The discussion included recent developments in the field that are contributing to new systems and solutions, as well as enablers to potential emerging threats. Today's technologies and advances are creating a pressing need for additional and new skill sets and expertise in the government, well beyond the traditional STEM-based disciplines, including areas such as chemical engineering, robotics, information technology and cybersecurity, and the bio-sciences.

The discussion also addressed the abundance of information, research and expertise that is readily available through the internet and other publicly accessible sources of information. In an era of changing and evolving science, capabilities and technologies, it is important that we remember there are new opportunities arising every day to partner and share existing technologies, and avoid the mistake of reinventing and reinvesting in what has already been developed and likely in, or entering the market. George also pointed out the importance of exploring technologies and capabilities that are in play in markets outside of defense. These markets could have experienced challenges and developed solutions that are relevant to defense-related missions.

In addition to numerous technology applications and areas of study, George talked about the growing field of satellite and sensor technology that allows more data than ever to be captured and transmitted, leading to a need for more processing and intelligence. He discussed the challenges of energy and power with the growing field of robotics and unmanned technologies.

The discussion around future technologies in not only the maritime and undersea space, but also land and space arenas, had implications for solving current and future challenges in the undersea environment. With so many new technologies in play and being developed and introduced, the ability to be, and remain "ahead of the curve" means staying aware and engaged with new technologies and capabilities across many markets.

The creation and introduction of new technologies should be prompt different thinking about how to solve problems, achieve mission success, and do business. Discoveries involving silicon and biology, DNA editing, information technology, communications, etc. all have implications for undersea superiority. With the public availability of new discoveries and abundant information, DoD and the defense industry needs to think about the ways to architect and build systems and products in the future.