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1. STEM Research Area

When the Wright brothers were building the first working airplanes, they ran into much difficulty. After one such failure, Wilbur Wright told his brother, “Not within a thousand years would man ever fly”.

60 years later, humans set foot on the moon.

Humans were built with many limitations, but science and technology have enabled us to overcome these restraints and reach places no one thought possible. In the Navy and Marine Corps, some of this new technology comes in the form of autonomous ships and unmanned maritime systems. These are vital in preserving the lives of sailors and furthering our knowledge and abilities in the marine world.

At sea, unmanned ships can perform scouting and reconnaissance missions without putting sailors and marines in danger, while also being able to support larger, manned ships in combat. These ships can also be used to explore deep-sea regions too dangerous for a human to enter. Rather than putting someone at risk of pressure sickness, drowning, or anything else that may go wrong, we can send in a robot unaffected by these dangers to do much more than within a normal human’s ability.

Arguably the most important function of unmanned submarines is in removing dangerous underwater mines. Using sensors and sonar, these vehicles can locate and remove mines left over from previous wars, without risking human life. The concept that something can keep all of us safe, without putting frontline soldiers in danger, is amazing. With more funding, unmanned maritime systems will likely become a widespread thing across the Navy, serving a larger variety of functions and becoming an essential part of our nation’s military.

2. People

Every one of these scientists and engineers are inspirations in their own way. They do so much work to advance our military technology and keep more people safe, even more effectively.

One scientist that was particularly striking was Amir Qaiyumi. Mr. Qaiyumi works as a technology lead for unmanned systems; These systems perform tasks that a human could not do without a lot of self-risk. For example, the robots can map the seafloor and find certain objects important to scientific studies, surveillance, or rescue operations. Mr. Qaiyumi's job is to engineer and program robot submarines that can complete these important tasks. The work he does with this technology could also pioneer other significant technological advances, such as vehicles capable of going to space.

Aside from his work on these systems, Mr. Qaiyumi is very involved with the next generation of engineers, working to inspire the future of our country's STEM program. My own career goals are quite similar to his; The computer engineering behind the robots is a field I have always been passionate in. Keeping people safe with new technology is more than just a profession- it has the potential to impact an entire nation.

3. Future

20 years ago, people had to carry around an atlas to get around. Now, all they need is a smartphone. Two decades can make quite the difference in terms of technological advancements. Another two could mean a whole new world compared to ours today.

By 2040, humanity will likely achieve a lot of things that seem very far-fetched right now. Maybe we could put a man on mars, or discover alien life-forms. Perhaps we will build an underwater civilization. Intelligent robots will be widely available in various fields. A space hotel could become a popular vacation destination in the future. As soon as we can develop the tech to make our dreams come true, our lives will change, hopefully for the better.

In the military, autonomy will predictably become a much bigger thing than it is now. It is quite possible that the men and women who risk their lives on the frontlines will be a thing of the past, while there will be an increased demand for engineers who can operate the technology of the future. America will continue to be a dominant military force, keeping both citizens and sailors safer than they are now.

As for the unmanned maritime systems, the Navy and the Marine Corps will likely benefit them a lot more in the future once they are produced on a larger scale. Engineers such as Mr. Qaiyumi will be paramount, as the need for people capable of building, programming, and running these robots will increase significantly. Technological advances will most definitely have an enormous, wide-spread impact- just as they did in the decades past.

It took us only 60 years to go from being stuck on the ground to planting our flag on the moon. The future beholds unlimited possibilities; it is up to us, the next generation, to design and implement it!