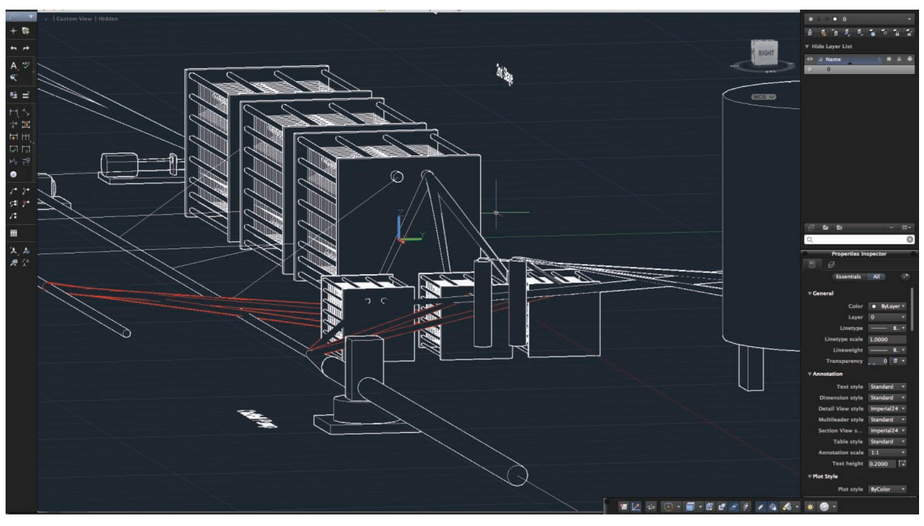
MEMBRANE AND RESIN DESALINATION SYSTEM

Construct And Test A System That Reduces The Power Consumption Required To Desalinate Ocean Water

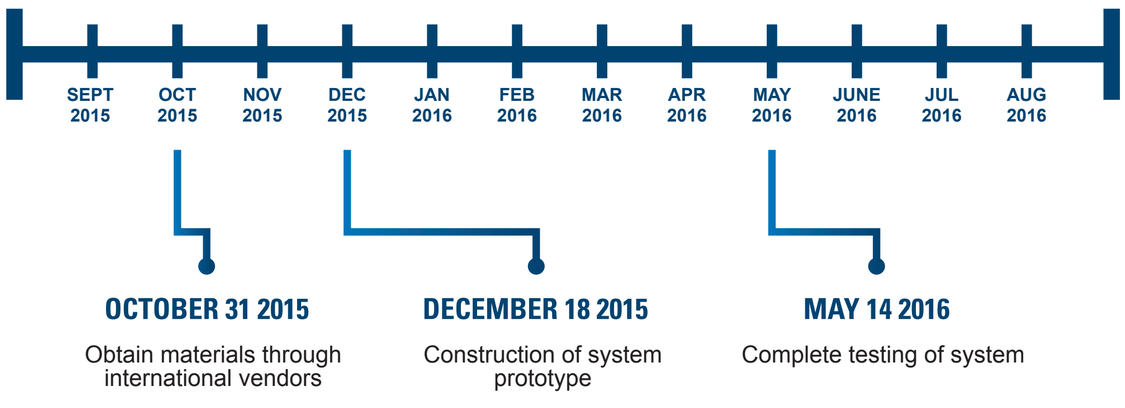
Membrane And Resin Desalination System

The concept for this system arose from a need to make desalination processes more efficient and economical around the globe. Current methods such as reverse osmosis, and thermal distillation, are cost prohibitive due to the high amount of electricity used. The Membrane and Resin Desalination System uses a novel patent-pending approach to transport ions through semi-permeable membranes under the influence of an applied electric potential, thus reducing the power consumption of desalination.



Overview of Desalination System

MILESTONES



ABOUT OUR TEAM

Dr. Mayer, Faculty Mentor/Advisor (Civil, Construction and Environmental Engineering)
Emmanuel Kayiwa, Student Lead
Matthew Vitello, Design and Build Engineer
Alex Zucca, Design and Build Engineer

The idea for the system started when Emmanuel saw the firsthand effects that water scarcity had on wide array of people. He felt compelled to do something about the problem by researching, experimenting, and building various desalination systems. He then sought the expertise of Dr. Mayer, and additional engineering help from Matt and Alex to streamline the construction and testing of the system.

BEYOND BOUNDARIES
Sustainability of Valuable Resources

One of the main goals of this system is to help increase the sustainability of water resources around the world. As a Jesuit institution, Marquette is invested in being a responsible steward of environmental resources. This project embodies this principle of sustainability through reduced power consumption, resulting in a more affordable desalination process which can provide safe drinking water to larger numbers of people. Succesfully implenting this system worldwide would play a large part in resolving the water scarcity issue facing milions of people.

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Water and Environmental