

What is a Fab Lab?

By David Barrett, OPNAV N415 **

A Fabrication Lab (Fab Lab) consists of a suite of digital fabrication and rapid prototyping machines, which typically include a high resolution CNC milling machine, laser cutter, wood router, 3D (desktop) printer, as well as, the accompanying computers, software and electronics necessary for design, programming and machine communications.

Labs are in either fixed locations or in modified mobile trailers. This equipment allows sailors and marines to use computer-aided design and manufacturing tools to make almost anything they can imagine. Fab Labs across the world share the same foundation of machines and equipment, but can be tailored to support specific mission requirements. Fab Labs serve as technical platforms for education, workforce development and prototyping ideas.



Fab Labs allow individuals to explore the entire engineering design process in authentic and real world contexts by providing tools that enable them to go from concept to drawing, models to prototype, and redesign to final product.

A Fab Lab affords the tools to develop the practical and critical thinking skills sailors and marines will need to be the inventors and innovators of the future. The lab serves as a motivational environment to encourage engagement with technology.

** =The opinions expressed here are solely those of the author(s), and do not necessarily reflect those of the Department of the Navy, Department of Defense or the United States government.