THE OHIO STATE UNIVERSITY
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Automated assistive breathing device with sustainable energy source for disaster response and the developing world

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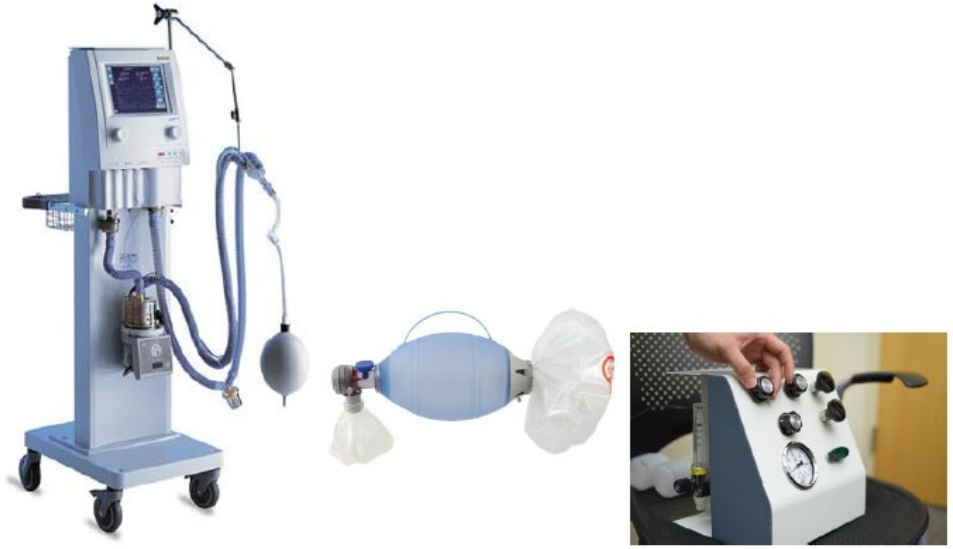
Motivation: Mechanical ventilators have been developed to provide automated, life-sustaining assistance to individuals with difficulty breathing. However, current ventilator systems are either expensive, require constant medical supervision, or require reliable electrical power which are not viable solutions for disaster response and the developing world (Fig. 1).

Project: We propose a new automated, portable ventilator with a sustainable energy source. The unique features of this proposed device include a sustainable energy source, continuous operation for over 30 minutes without user intervention, and portability for operation in austere environments.

Goal: The goal of this project is to build a working prototype of the proposed ventilator to bring to the community for feasibility and human factor testing.



(a) Hamilton-Galileo (b) Ambu (c) NeoLife

Fig. 1. Three ventilator products in the market.