



Automatic Respiration Management Exclusively for Emergencies

The world needs ventilators

HIGH DEMAND DUE TO COVID-19

Ventilators are likely to be in critically short supply both in the USA and worldwide in the near future.

NEED SIMPLE DESIGNS

Existing designs rely on specialty parts with little existing stock and long lead times, and are mostly limited to being made in quantities of a few thousand over the next few months.

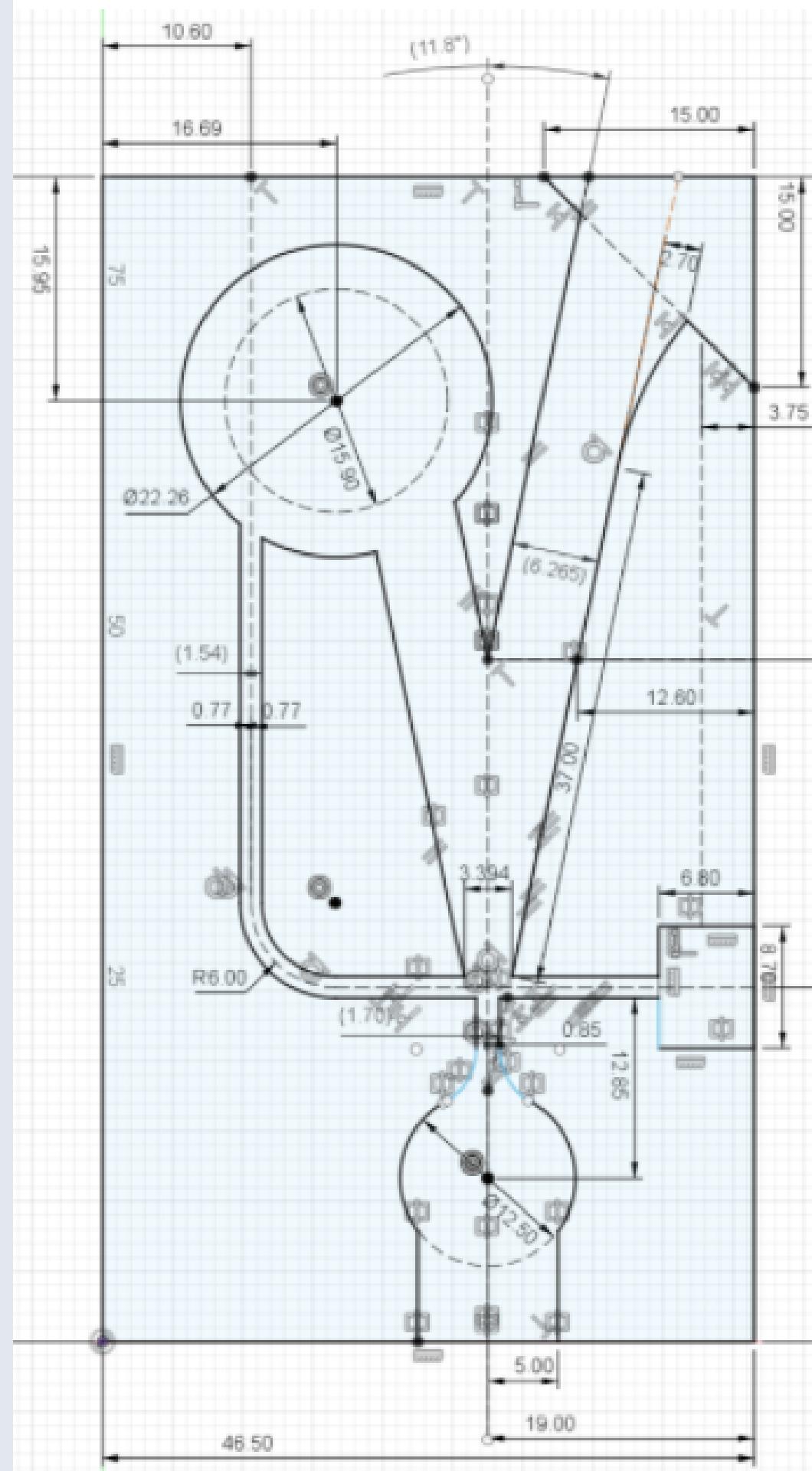
It is likely that the potential number of ventilators needed in countries with less developed healthcare systems will be in the many millions, and the supply is in the low thousands.

Armeevent

THE DIFFERENCE

NO ELECTRICITY OR MOVING PARTS

Being easy to manufacture is one of the most important features of ventilator designs during the COVID-19 crisis, as many popular ventilator designs are using materials which simply will not scale beyond a few thousand devices. These often use Arduino, rare valves, or other electronics which will not be widely available during the current crunch on supply chains. In the optimistic case, these devices may supplement ventilator stocks in developed countries, but they certainly won't deal with availability issues in much of the rest of the world – we need a cheap and highly-manufacturable device for that.



The History Armeevent

TIMELINE OF KEY EVENTS

1965 ARMY
EMERGENCY
VENTILATOR PATENT.

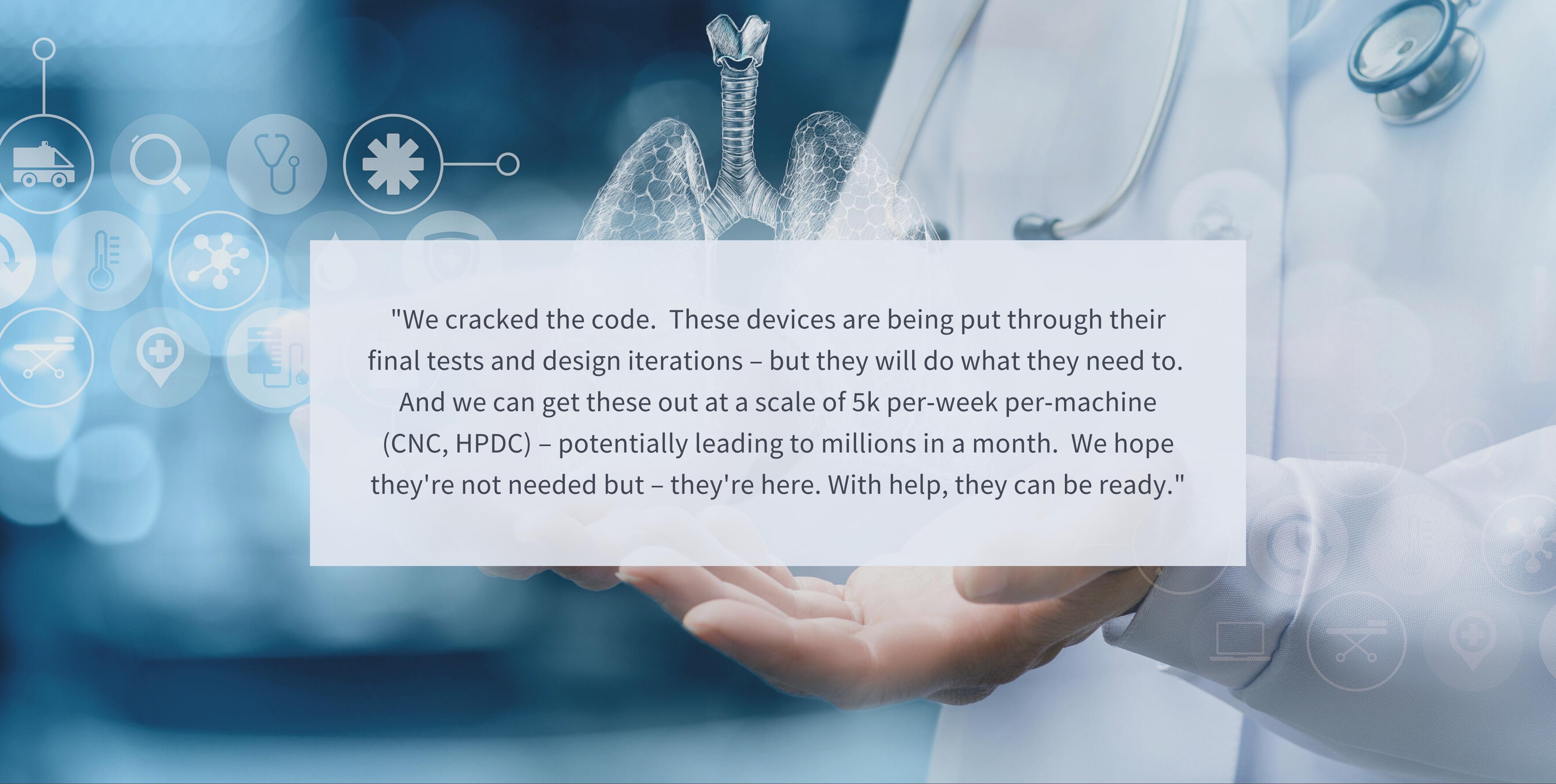
Simple design with negative switching pressures, tested on dogs and humans, planned just for rugged field use.

MARCH 2020 :
RESURRECTION OF
1965 MODEL

An online community of engineers found a copy of the 1965 design and started iterating to try and adapt it to treat COVID patients (with positive pressures)

APRIL 2020:
CROWDSOURCED
TESTING

After several iterations, the engineers were ready to test the device with the help of the rest of the world...



"We cracked the code. These devices are being put through their final tests and design iterations – but they will do what they need to. And we can get these out at a scale of 5k per-week per-machine (CNC, HPDC) – potentially leading to millions in a month. We hope they're not needed but – they're here. With help, they can be ready."



Simplicity

This design is built to do one thing only: to help the average patient breathe with Assisted-Pressure-Control ventilation. While this will improve in future versions, we believe that's already enough to make a big difference. By tending to the respiratory needs of the majority, scarce professional ventilators can be freed for the most urgent cases. The device has no controls, and must be swapped out if a doctor wishes to try different pressures for their patient than those built in.



Part of a System

These devices are built to be modular, and connect with existing hospital supplies or other volunteer-supplied solutions to hospital supply-chain shortages. By completing the most difficult piece of the puzzle we let others fill in the gaps. A proper ventilator system still needs sensors, alarms, and emergency release valves, but none of these pieces are as scarce and difficult to produce as this one, which controls pressure switching and timing.

WHAT WE NEED

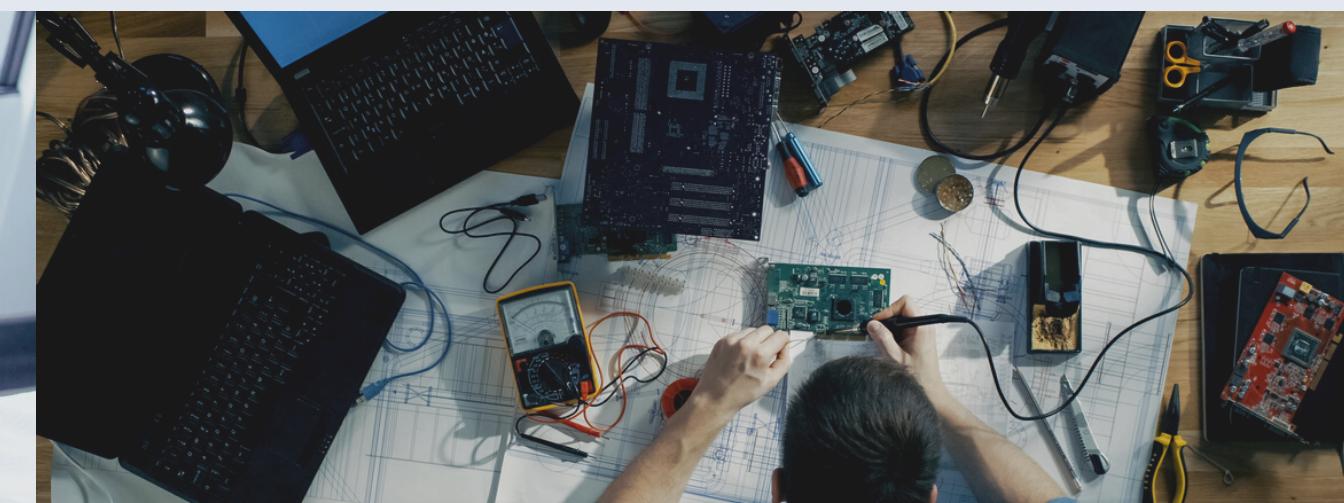
1. MEDICAL EXPERTS AND TESTERS.

We need feedback, professional testing, and we need helping hands to get through regulatory approval. If you know someone who can help, reach out.



2. ENGINEERS AND MANUFACTURERS

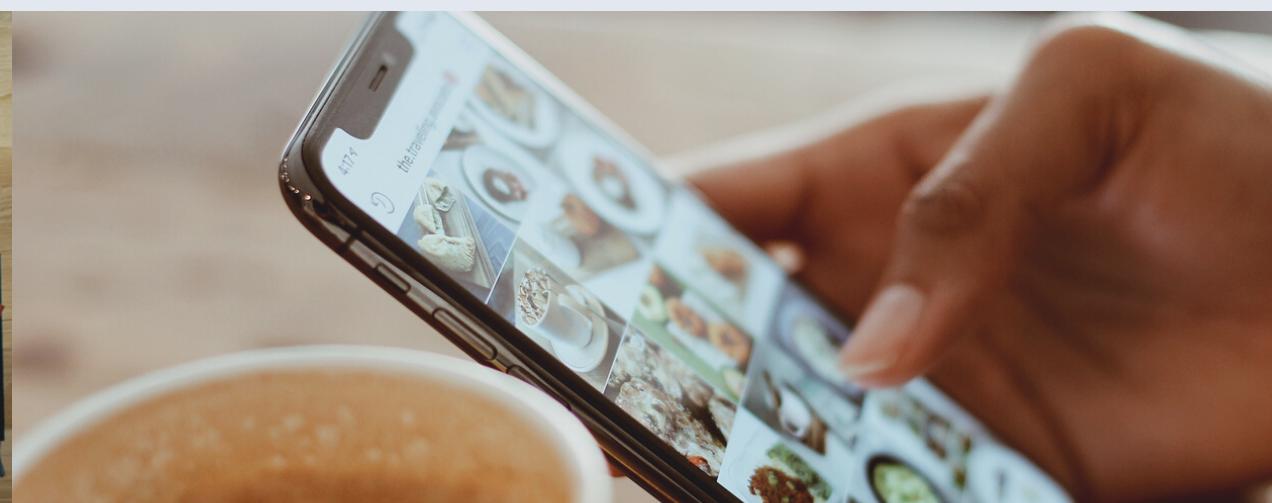
We need engineers that can challenge current designs and continuously improve. We need producers who can run with these designs into finished products. There is much to do and very little time – we can't do it all on our own.



3. SPREAD THE WORD.

As we finalize designs, we need people to know there is an option available and ready to be used.

We need people to inform themselves and their friends on this device.



OPEN SOURCE

We offer these designs freely as Open Source information available for everyone. We take on no liability ourselves, and it will be up to manufacturers and marketers to package these designs for FDA and regulatory approval. We plan to help with that documentation, filling out most of the regulatory forms and supplying copious resources for information and marketing purposes. The hope is that many groups will be able to run with this design simultaneously, so it can spread throughout the world with record speed.

FREELY AVAILABLE

This design was sourced and created by volunteers working for many weeks to do their part to solve a world crisis. We ask for no compensation, but operate as a Non-Profit under the Interstate Disaster Medical Collaborative (IDMC.us) and would gladly accept donations or a percentage of sales, which we will direct towards further developing this device and quickly spreading it to less-fortunate communities.

Contact us

FOR MORE INFORMATION OR TO HELP BRING THIS DESIGN
TO MARKET, PLEASE CONTACT US AT
CONTACT@ARMEEVENT.COM OR VISIT OUR WEBSITE AT
WWW.ARMEEVENT.COM