

ARCHEON The High-Performance Ventilation.

PRESS KIT 2023



High-performance ventilation specialist.

French company based in Besançon, **Archeon** Medical has been revolutionizing the practice of manual ventilation since 2018.

Founded by Alban DE LUCA and Pierre-Édouard SAILLARD, **Archeon** Medical develops advanced technologies to simplify care and help first aid teams better ventilate patients in life-threatening emergencies.

Archeon has announced in February 2022 a fundraising of \$6 million to pursue the development of new ventilation technologies.

Archeon's EOLife® products are now marketed in more than 15 countries across Europe, the Middle East, Asia-Pacific and North America.



In 5 years of existence, more than 2300 patients have already benefited from EOLife®

“ Our mission is to make cutting-edge technologies available to as many healthcare professionals as possible, in order to improve patient care. **Archeon** is driven by innovation. This is why we are striving to make high-performance ventilation a widespread practice. The US manual ventilation market represents 40% of the world market and our company will make all the efforts to meet this market by strengthening our teams and our distribution network ». *Pierre-Edouard Saillard, co-founder of Archeon*



A well-known disruptive device.

Archeon is a pioneer in artificial intelligence in the field of pulmonary ventilation.

Focusing on the aspects of portability, ergonomics, and simplicity, Archeon's innovations have been rewarded on several occasions including recently with EMS World Innovation Award in 2022, the Innovation Award at the National Congress of the French Fire Brigade in 2021, the European Commission Award to fight against Covid-19 in 2020 and many others.

Supported by the European Commission and guided by the objective of revolutionizing ventilation, Archeon is working on a cutting-edge ventilation monitoring system for hospitals and care centers.



14
awards

9
registered patents



An answer to multiple health public issues.

Cardiac arrest remains the leading cause of death in the world, affecting nearly 7 million people a year. The survival rate is only 5% and has not significantly improved since the massive adoption of automatic defibrillators. Putting ventilation back at the heart of cardiopulmonary resuscitation responds to several public health issues.

Pre-hospital cardiopulmonary resuscitation, as it is approached today, focuses on cardiac massage techniques, leaving aside the essential aspect of oxygenation of the patient in cardiac arrest. It has been shown that a well conducted manual ventilation doubles the chances of survival of patients in cardiac arrest ⁽¹⁾.

Since 2018, **Archeon** is putting the «P» back in «CPR» !



61 % of cardiac arrest survivors are suffering from pneumonia after 7 days due to hyperventilation ⁽³⁾.



High-Performance ventilation :

- ▶ Provide an adequate tidal volume
- ▶ Avoid excessive gas leakage
- ▶ Avoid hypoventilation and hyperventilation

By preventing those risks, a good ventilation improves the chances of survival and limits long-term pulmonary sequelae and length of intensive care stays ⁽²⁾.



Hyperventilation causes pneumonia which doubles the length of ICU stay after cardiac arrest ⁽⁴⁾.

EOLife®

A long-awaited AI-powered device.

American Heart Association recommendations for cardiac resuscitation suggest tidal volumes* of approximately 500-600 mL (6-7 mL/kg) for adult patients⁽⁵⁾.

This is the first time a device allows practitioners to comply with resuscitation guidelines from the American Heart Association. Today, EOLife® is the only device allowing rescuers to accurately measure tidal volumes and ensure high performance manual ventilation in compliance with these recommendations.

Oxygen is a lifesaving essential medicine, that is still administered without measurement. By using advanced AI algorithms, EOLife® guides first responders in delivering an oxygen volume tailored to the patient's lung profile.

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This device is changing practice! I've been using this product for about a year in statewide training in the commonwealth and its impact in BVM training has been amazing! Being independent piece of equipment, it is available for all provider levels, with or without a "tube". The EOLife X is putting the "P" back in CPR !!

Bob Page, Statewide CE Educator at Virginia Office of EMS

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* amount of air that moves in or out of the lungs with each respiratory cycle.

- Real-time feedback on tidal volume
- Improves the quality of manual ventilation by +70%
- Reduces the risk of hyperventilation by a factor of 10
- Detection of possible esophageal intubation
- Identification of leaks and gastric insufflation
- Adapted to all healthcare providers



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We think the next step to ensure clinicians are delivering the highest quality ventilation is to have a portable device that can be used in the prehospital environment and accurately measure ventilation characteristics (especially ventilation rate and tidal volume). (...) Having used the EOLife X during local EMS training, we observed that EMS clinicians found the device easy to use and permitted more focus on the rate and tidal volume of ventilations they delivered.

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*Dr. Matthew Neth, MD
Assistant Professor and Medical Director
Oregon Health and Science University Medical Resource Hospital*

*Prof. Mohamud Daya MD, MSc
Professor, Department of Emergency Medicine, EMS section chair
Oregon Health and Science University*

EOLIFE® RECEIVES FDA CLEARANCE.

Sold in more than 15 countries around the world, EOLife® has been **approved on the American market** since March 2023.

First smart device that measures the quality of manual ventilation available on the U.S. territory, EOLife® measures ventilatory parameters and gives a real time feedback on the quality of the manual ventilation provided to the patient in cardio-pulmonary arrest.

According to the American Heart Association, “there are more than 357,000 EMS-assessed out-of-hospital cardiac arrests (OHCA) each year in the United States⁽⁶⁾.”

The use of EOLife® in the United States could save approximately 25,000 lives each year and could represent a significant cost saving valued at \$20,000 per patient⁽⁷⁾.

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It is time for health authorities and learned societies, like the American Heart Association, to regulate the practice of manual ventilation, now that users have the possibility to accurately control oxygen delivery to patients. It is simply unacceptable that a procedure as vital as manual ventilation is not better taught and regulated. This has to change... »
Alban De Luca, co-founder of Archeon.

“
We are very proud to have met this challenge as a team. We have worked tirelessly to make EOLife® a leading technology for healthcare professionals and patients in the United States. This FDA approval shows us that our efforts are paying off! This an important milestone for Archeon that opens new horizons ! »
Valentine Oqda, QA/RA Director, Archeon



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The device developed by Archeon Medical, with its capability for real-time feedback, offers an opportunity to enhance the quality and safety of ventilation in all patients undergoing manual ventilation. We believe that, with proper training, this device can be quickly and easily applied to a manual ventilation system in the prehospital and in-hospital setting.

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*Dr. Joseph Finney, MD
Assistant Professor of Pediatrics
Division of Pediatric Emergency Medicine
Director of Emergency Medical Services
Washington University in Saint Louis &
Saint Louis Children's Hospital*

*Dr. Fahd Ahmad, MD, MSCI
Associate Professor of Pediatrics
Division of Pediatric Emergency Medicine
Director of Research, Associate Fellowship Director
Washington University in St. Louis &
St. Louis Children's Hospital*

The High-Performance ventilation expertise in their hands.



A game-changing technology.

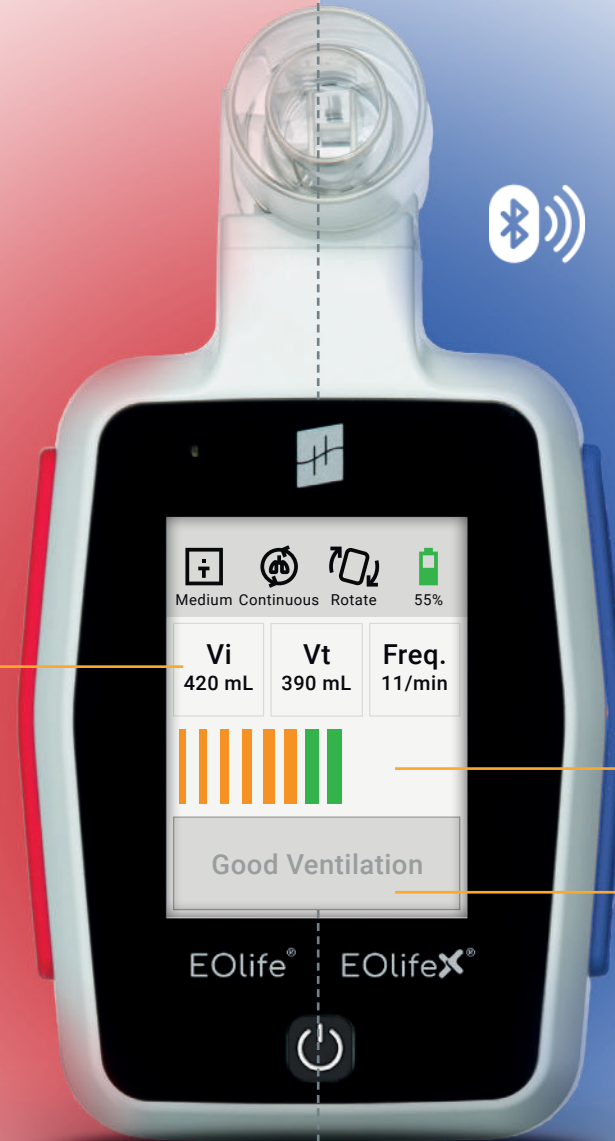
The EOLife® devices adapt to any bag, mask and tracheal tube to measure and give **REAL TIME FEEDBACK** on insufflated volume, tidal volume, as well as ventilation rate and gas leakage.

Both devices have the same features except that EOLife X® enables data download via Bluetooth and can record ventilation parameters in «Blind Mode».



Scan me
to see EOLife®
in action

Medical Device Training tool



Real time visualisation of
Insufflated volume (Vi)
Tidal volume (Vt)
Ventilation rate (Freq.)

Real time feedback of
Insufflated volume

Smart alarm
priorization
system

References.

- (1) Chang MP, Lu Y, Leroux B, Aramendi Ecnarro E, Owens P, Wang HE, Idris AH. Association of ventilation with outcomes from out of hospital cardiac arrest. Resuscitation. 2019 Aug
- (2) Mongardon N, Perbet S, et al. Infectious complications in out-of-hospital cardiac arrest patients in the therapeutic hypothermia era. Crit Care Med. 2011;39(6):1359-1364.
- (3) Tsai MS, Chiang WC, Lee CC, et al. Infections in the survivors of out-of-hospital cardiac arrest in the first 7 days. Intensive Care Med. 2005;31(5):621-626.
- (4) Mongardon N, Perbet S, et al. Infectious complications in out-of-hospital cardiac arrest patients in the therapeutic hypothermia era. Crit Care Med. 2011;39(6):1359-1364.
- (5) 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care, Monica E. Kleinman, Chair; Erin E. Brennan; Zachary D. Goldberger; Robert A. Swor; Mark Terry; Bentley J. Bobrow; Raúl J. Gazmuri; Andrew H. Travers; Thomas Rea
- (6) American Heart Association Heart and Stroke Statistics - 2022 Update
- (7) Joseph F Dasta 1, Trent P McLaughlin, Samir H Mody, Catherine Tak Piech. Daily cost of an intensive care unit day: the contribution of mechanical ventilation a. Crit Care Med. 2005 Jun;33(6):1266-71.



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