



Airway Shield™

SAFER INTUBATION

for patients and clinicians



AIRWAY SHIELD™: A novel device to facilitate intubation



ENDOTRACHEAL INTUBATION

An Unresolved Medical Challenge

Endotracheal Intubation (ETI)

The 3rd Most Common Medical Procedure in Hospitals around the World
A High-Risk Life-Saving Procedure

45%

of intubations in critically ill patients end up in
major complications
(hypoxemia, cardiovascular instability or cardiac arrest)

+100M

intubations per year **worldwide**
for all surgical and critically ill patients

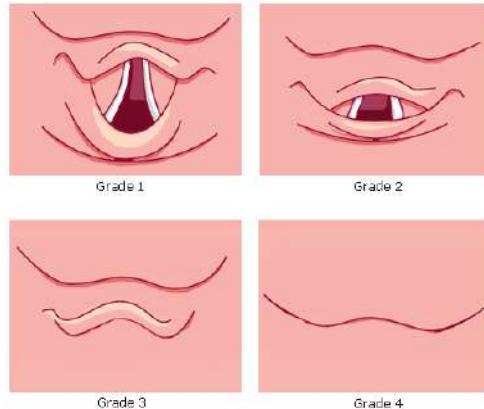
\$5.94B

of **annual national cost** of
peri-intubation morbidity and complications
in the U.S.

Normal vs Difficult Airways (DA)

Difficult airway are the ones where those **complications are more probable to happen**. The manage of a **difficult airway** requires advanced planning and alternative tools and techniques, and presents increased risks of complications.

ANATOMICAL DA



PHYSIOLOGICAL DA



SITUATIONAL DA



Most cases of DA in
Anaesthesia



± 5% of ETI are DA

Most cases in
ICU



± 90% of ETI are DA

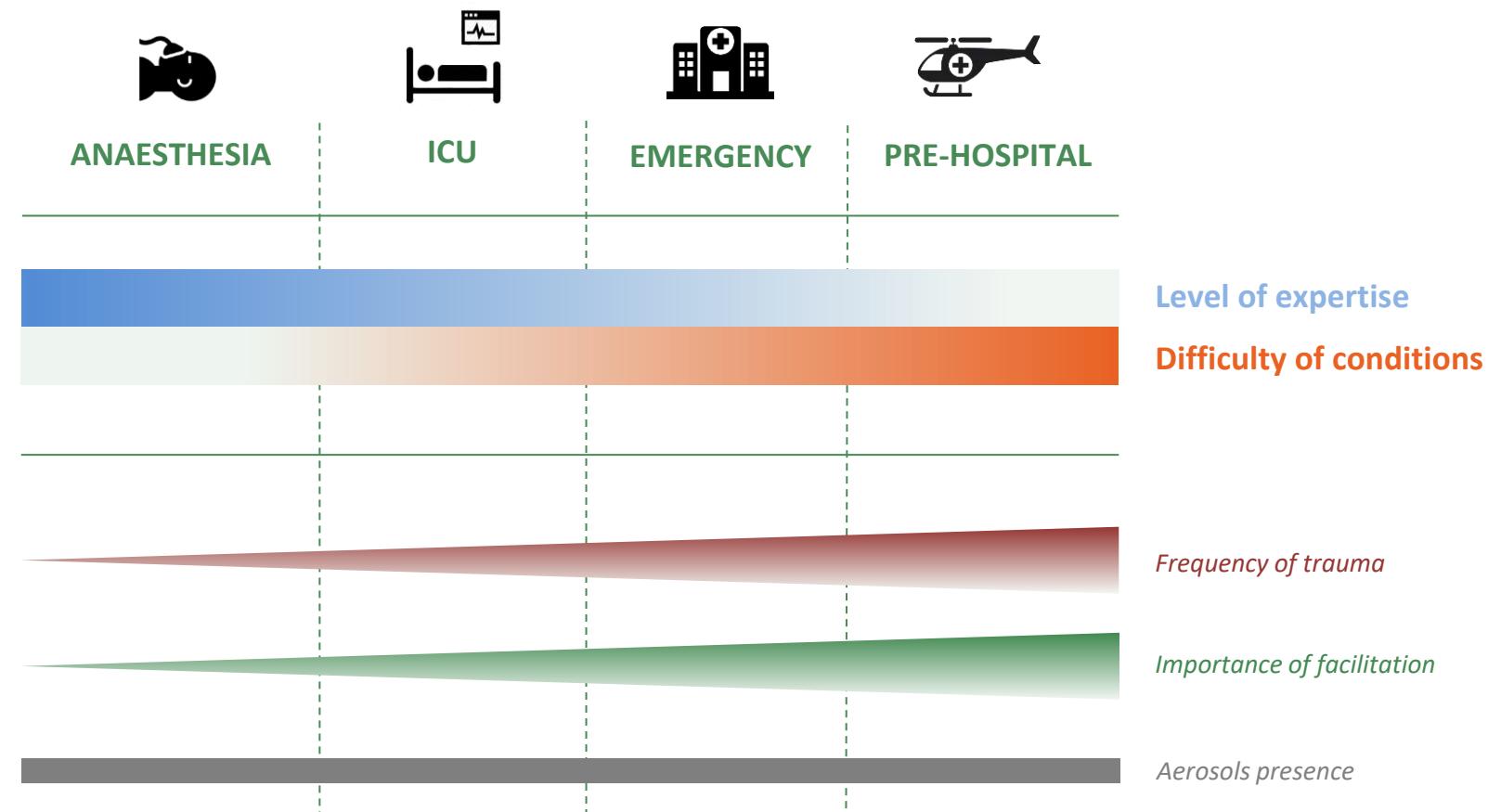
Most cases in
Emergency and Pre-Hospital



± 100% of ETI are DA

ETI – Where is Performed?

Endotracheal Intubation (ETI) is performed during anaesthesia in Operating Rooms (ORs), in Intensive Care Units (ICUs), Emergency Rooms (ERs), and pre-hospital settings. Operators' level of expertise generally decreases outside the ORs, while the difficulty of conditions generally increases, particularly in pre-hospital settings.



AIRWAY SHIELD™: A novel device to facilitate intubation



SOLUTION

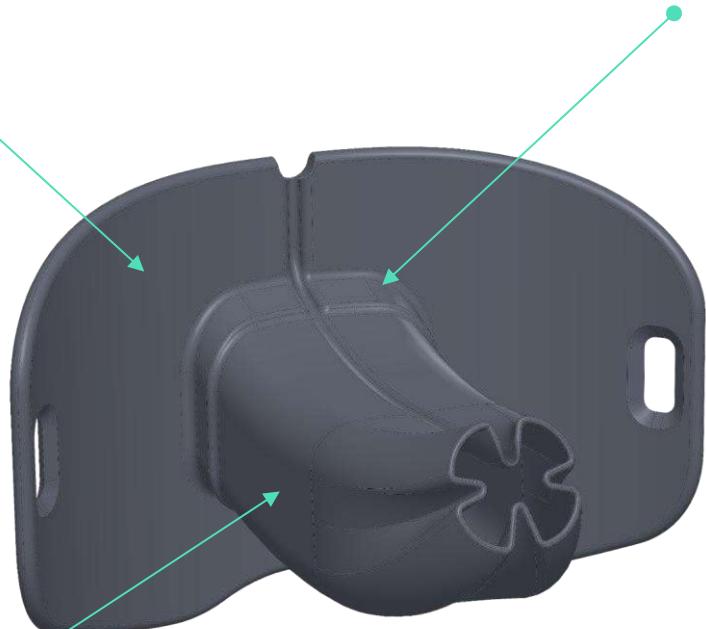
The SOLUTION for a Safer ETI: Airway Shield™

The world's first device **for endotracheal intubation that protects patients from dental and mucosa trauma, clinicians from aerosols, and guides the endotracheal tube** easily and simply into the trachea.

Sealed '**Central Opening**' to introduce the laryngoscope blade, followed by the ETT, to perform ETI



The '**Shield**' covers the patient's mouth and protects the operator from infection



A '**Reinforced Area**' also protects the teeth from damage during the ETI procedure

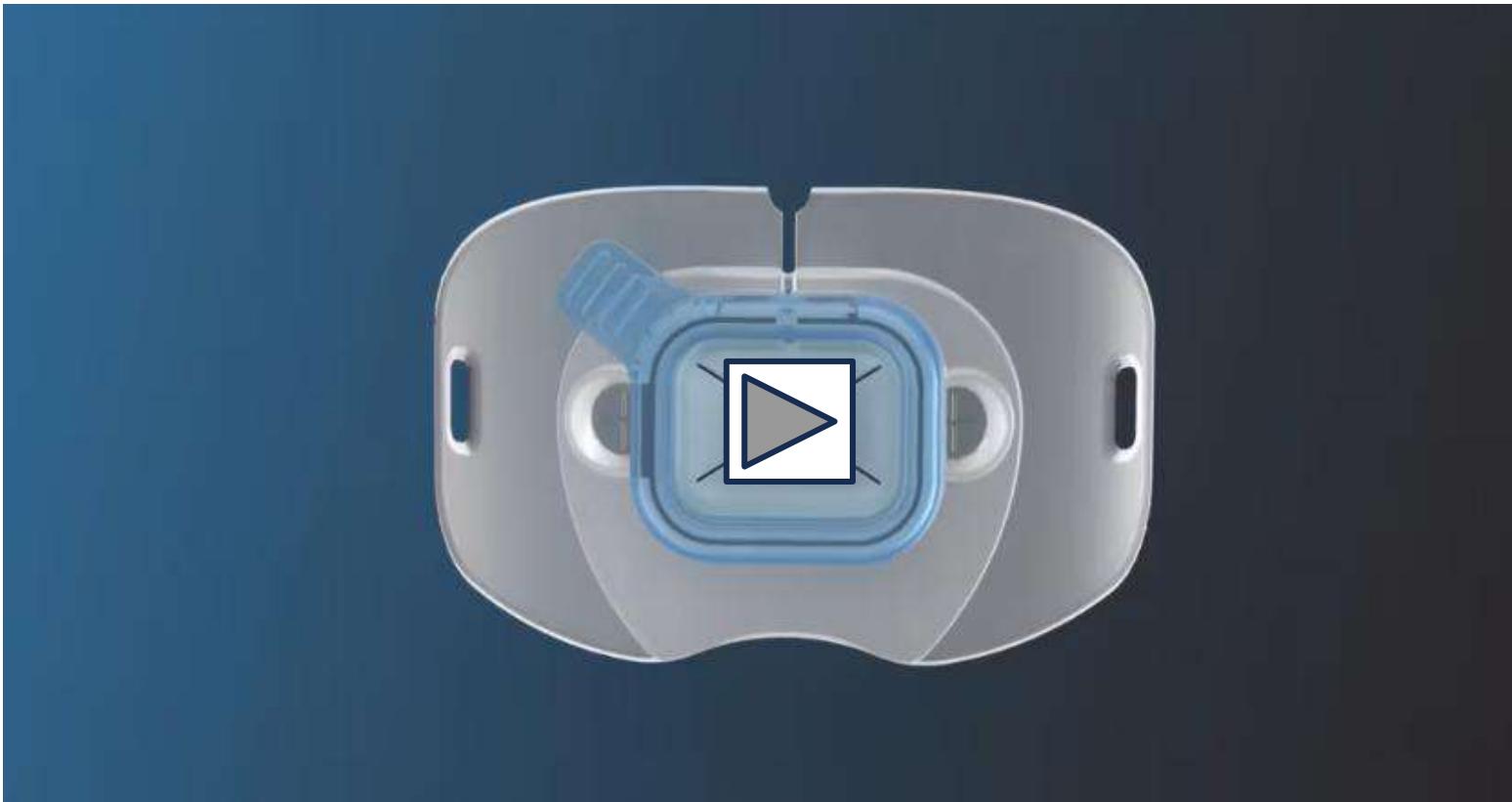
Sealed '**Lateral Openings**' to allow oxygenation and aspiration of secretions and/or aerosols

The '**Guiding-Channel**' facilitates intubation by guiding the endotracheal tube towards the larynx

Shield-Guided Technique™



The Airway Shield™



The Airway Shield™



The simple yet innovative operating mechanism behind the **Airway Shield™** consists in supporting the tongue while creating a pathway for the endotracheal tube (ETT), so it can easily follow the direction set by the laryngoscope blade towards the larynx



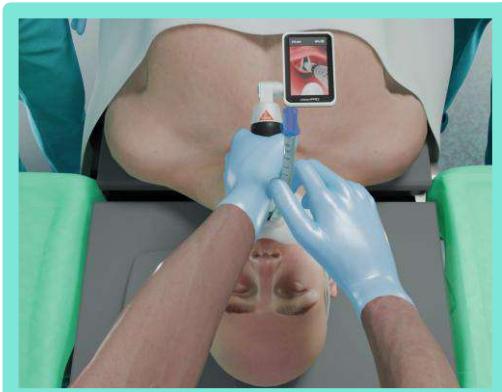
1. Placement of the **Airway Shield™**



2. Introduction of the videolaryngoscope



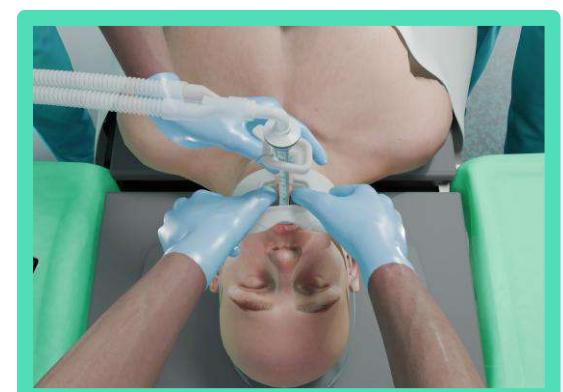
3. [Ensure correct view of the glottis]



4. Introduction of the Endotracheal Tube

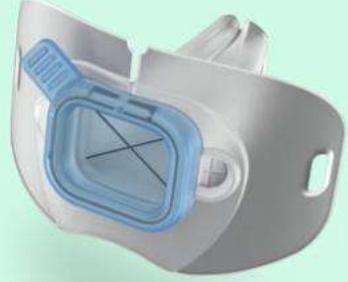


5. Removal of the videolaryngoscope



6. Removal of the **Airway Shield™**

The Airway Shield™



AIRWAY SHIELD™

INTUBATION MASK



C-MAC Large Monitor
VIDEOLARYNGOSCOPE

D-BLADE Blade



Endotracheal Intubation (ETI)

Airway Shield. What problem(s) we are solving?



1.

Complications: Adverse Events (AE)

**45% (severe AE)
in Emergency
Intubations**

- Death or disability
- Prolonged hospital stays
- Significant patient claims

2.

Complications: Airway Trauma

**30% of total
Anaesthetics
Claims in US**

- Patient pain and discomfort
- Frequent patient claims
- Extra costs for the hospital

3.

Health Systems: High Costs Access

**Prehospital,
Rural and
Remote Areas**

- Training costs
- Availability of Highly skilled Specialist
- System access

The Airway Shield™



Easier, Faster and Safer Intubation

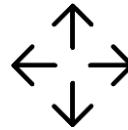


PATIENT PROTECTION

Protects patient's teeth and mucosa

Dental injuries are frequent and much more likely in patients with difficult airway¹

Laryngeal injuries (19-27%), dysphonia (13-60%) and dysphagia (23-33%)².



GUIDED INTUBATION

Reducing intubation time by 50%³
Increases the first pass success

Increasing risk of **bradycardia and desaturation** as time increases⁴



CLINICIAN PROTECTION

Protects clinician from infection by decreasing 95% aerosols exposure⁵

5% hospitalized patients with COVID-19 were health care providers⁶

Up to **10%** of healthcare workers involved in COVID-19 ETI were infected⁷

1. Tan, Y. et al., 2018

2. Kelly, E. et al., 2023

3. Alonso, Jm. et al., 2021

4. Nadler, I. et al., 2016

5. Alonso, JM. et al., 2022

6. Kambhampati, AK. et al., 2020

7. Weissman, DN. et al., 2020

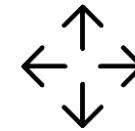
The Airway Shield™



Easier, Faster and Safer Intubation



PATIENT PROTECTION



GUIDED INTUBATION



CLINICIAN PROTECTION



Easy to use

For less experienced operators



Easy to learn

Minimal Training required



Low-cost

Simple solution to a complex problem.



Disruptive technology

Revolutionary and innovative design



Patented

Design and method protected by an international patent.

Additional advantage of the Airway Shield™



Airway Shield™ reduces Dental Trauma during Endotracheal Intubation, the most common anaesthetic-related medical claim

Dental injuries are the most common anaesthetic-related event reported, accounting for up to 33% of the incidents^{1,2}

86% of the injured teeth are the upper incisors, laryngoscopy being the major factor³

Dental injuries are much more likely in patients who are difficult to intubate (increasing chances from x3 to x20)⁴

¹ Owen, H. & Waddell-Smith, I. (2000). Dental trauma associated with anaesthesia. *Anaesthesia and intensive care*, 28(2), 133–145. <https://doi.org/10.1177/0310057X0002800202>.

² Ranum, D. (2020). Anesthesiology Closed Claims Study. <https://www.thedoctors.com/articles/anesthesiology-closed-claims-study>.

³ Ansari, S., Rajpurohit, V. & Deo, V. (2016). Dental Trauma due to Intubating during General Anaesthesia: Incidence, Risks Factors, and Prevention. *Oral Health and Dental Management*. 15(6). 377.

⁴ Tan, Y., Loganathan, N., Thinn, K. K., Liu, E. H. C., & Loh, N. W. (2018). Dental injury in anaesthesia: a tertiary hospital's experience. *BMC anesthesiology*, 18(1), 108. <https://doi.org/10.1186/s12871-018-0569-6>

Changing the intubation paradigm

Airway Shield™ is a **disruptive technology**. Since the introduction of the laryngoscope in 1943 by Sir Robert Macintosh, there has been no change in the intubation paradigm.



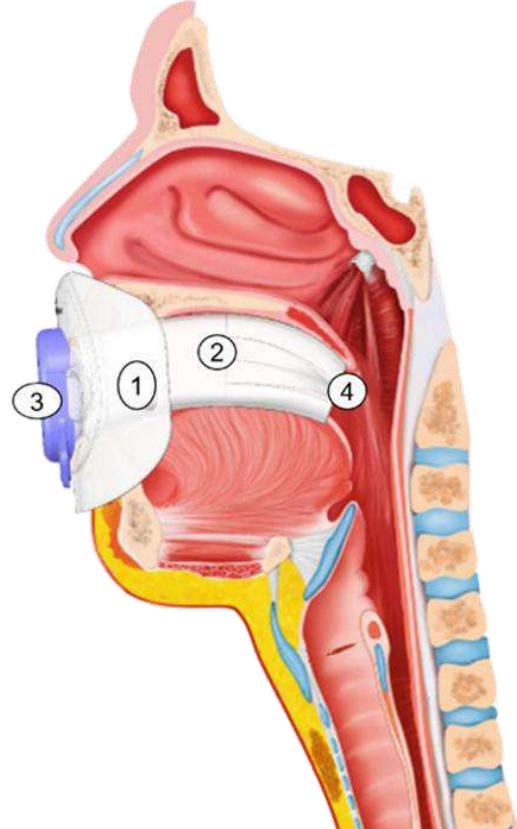
Sir Robert Macintosh
1943 – Laryngoscope



Macintosh laryngoscope

For the first time in history, a medical device, **Airway Shield™**, allows successful intubation with the patient's mouth covered.

Airway ShieldTM



According to Grape & Schoettker, 2017, the “ideal” device as an intubation aid should:

Be inexpensive, readily available, single-use, easy to store and transport, and simple to handle.

Be firm enough to maintain its shape after bending (memory effect), but soft enough not to cause airway trauma.

Allow emergency oxygenation.

Be compatible with videolaryngoscopy.

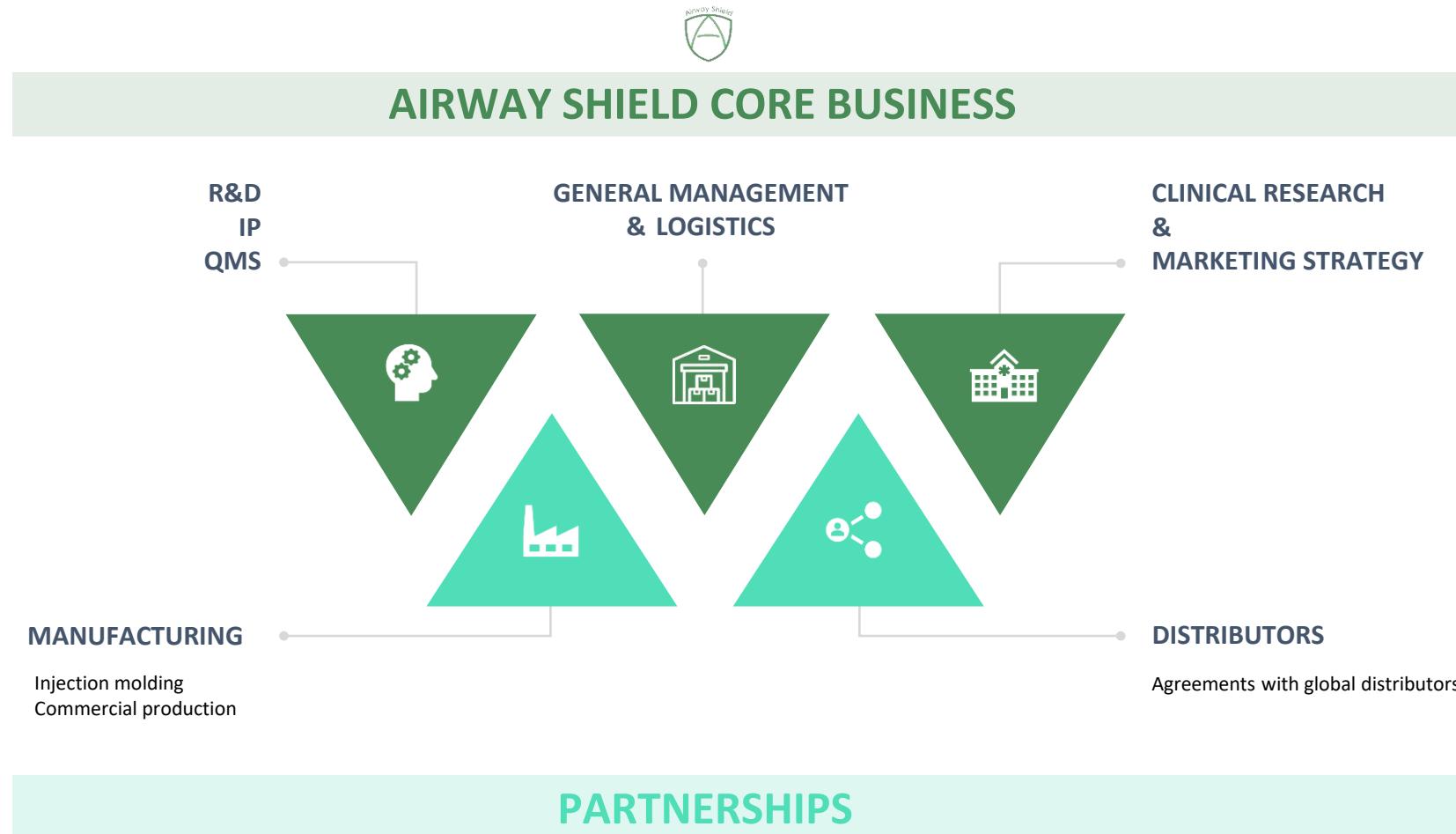
AIRWAY SHIELD™: A novel device to facilitate intubation

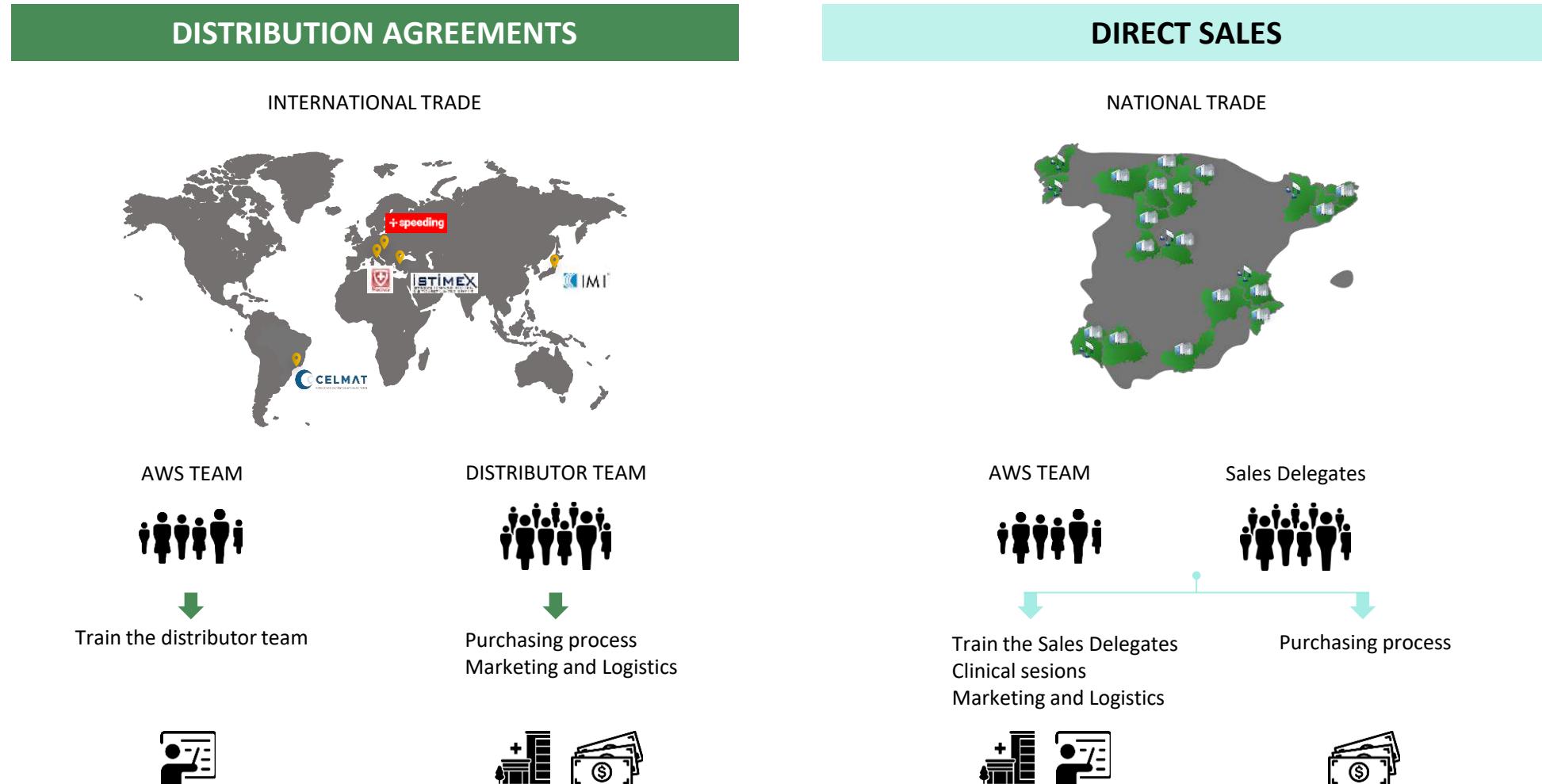


BUSINESS MODEL

Business Model

Airway Shield S.L. follows a B2B model. Our core business is IP management, R&D, Clinical Research and Marketing, and overall management and logistics, while manufacturing and distribution is externalized and tightly controlled by the company under an ISO13485 based QMS.





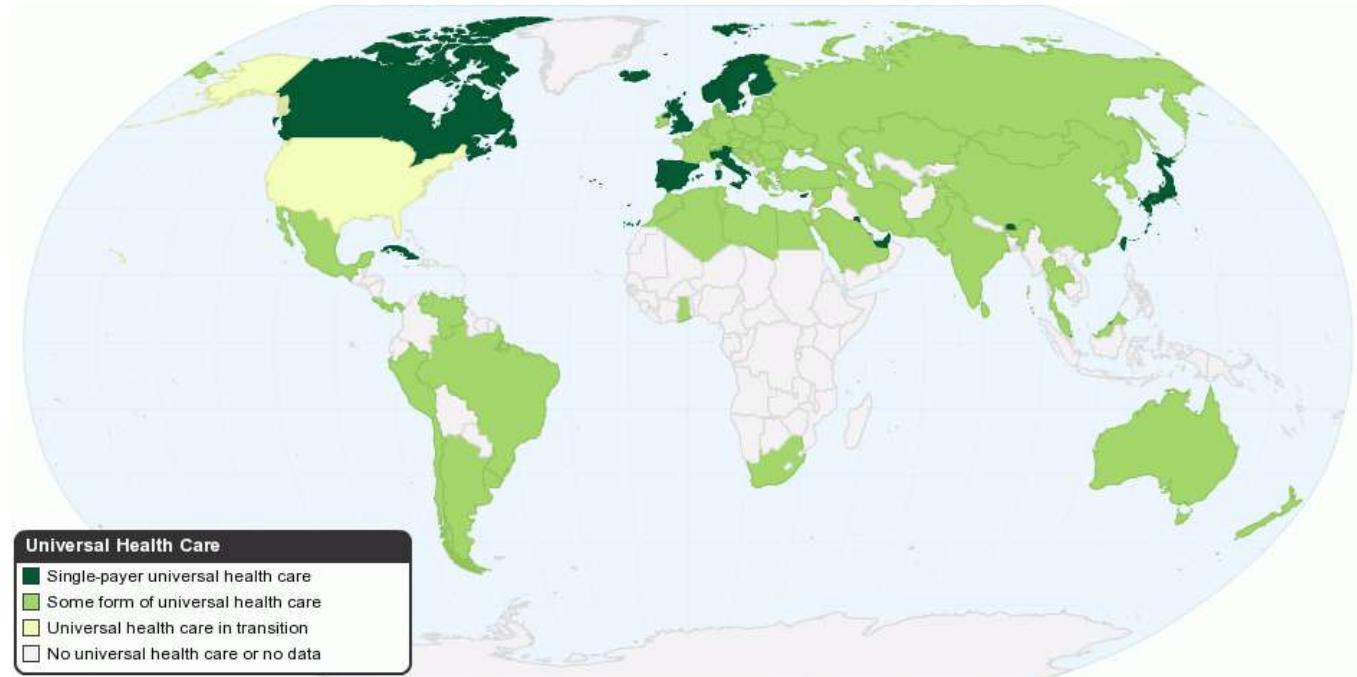
Commercialization Strategy



- ▶ Every healthcare system is different around the world.
- ▶ Our smart business model takes this into account.
- ▶ To this purpose:

We work with the best distributors in each country, who know and manage their health model.

Airway Shield will recruit experts in international commercialization.



WHO 2008, *The world health report 2008: primary health care now more than ever*, ISBN 978 92 4 156373 4,
World Health Organization, Geneva 27, Switzerland.



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IP

Airway Shield™ is Patented Worldwide



→ The international patent we hold is **strong** and **robust**.

→ Patent protects not just the device but also
The **unique intubation technique**:

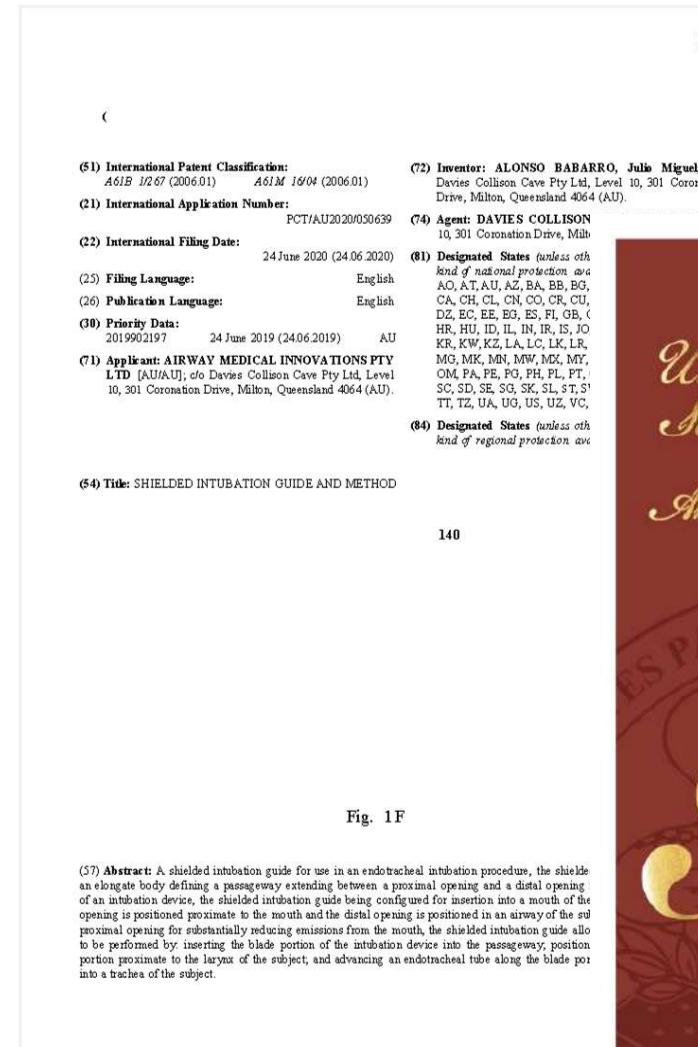
- Covering the mouth,
- intubating through a channel,
- with videolaryngoscope (this is the only viable method of intubation when the mouth is covered)

→ The patent covers 90% of the **world market**.

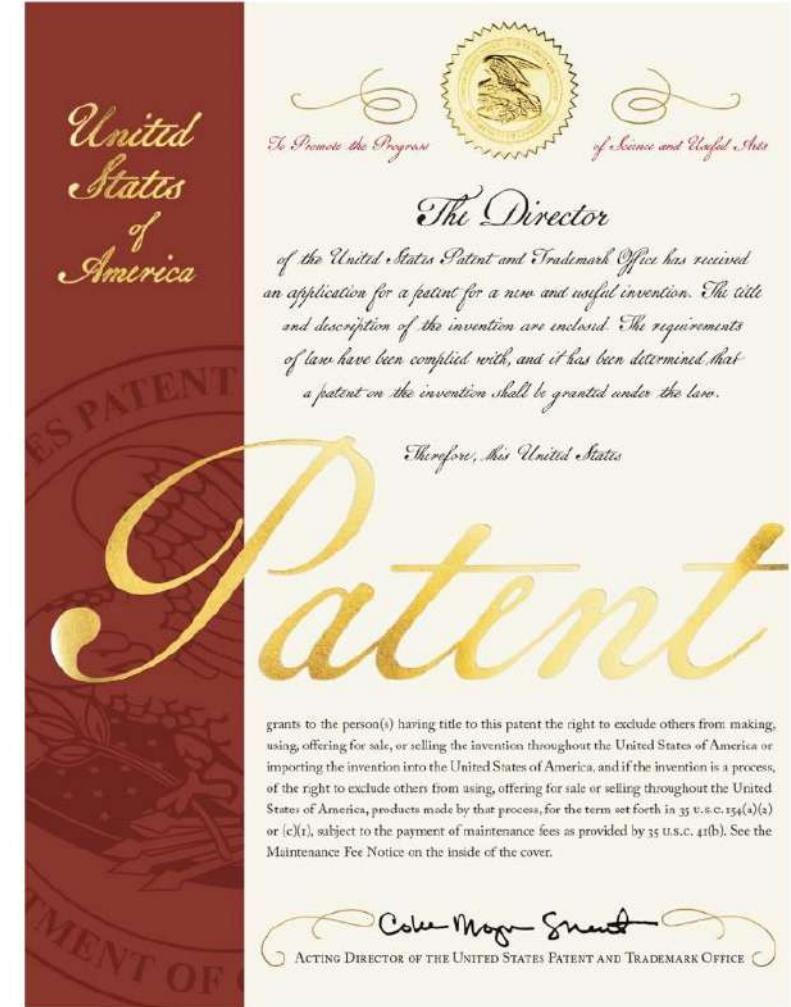
→ **National phases advanced worldwide. US and Japanese Patents already granted in 2025. The remaining jurisdictions are expected to be completed by 2026.**



International Publication Number: WO 2020/257851 A1
Jurisdiction: International (PCT)



[Link to the patent via PATENTSCOPE](#)

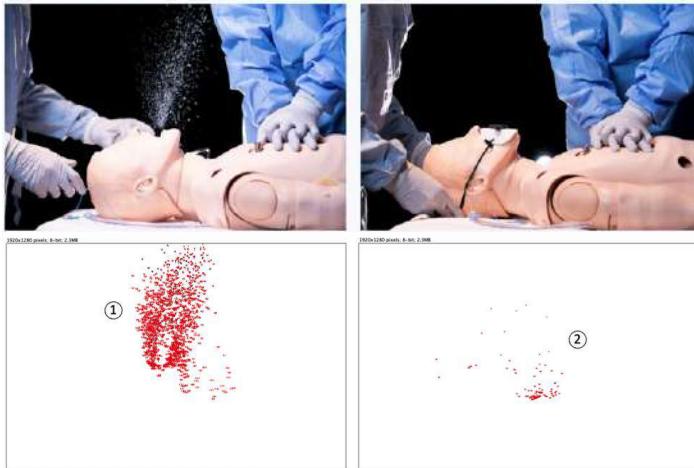


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CLINICAL STUDIES

Phase I Aerosol Protection



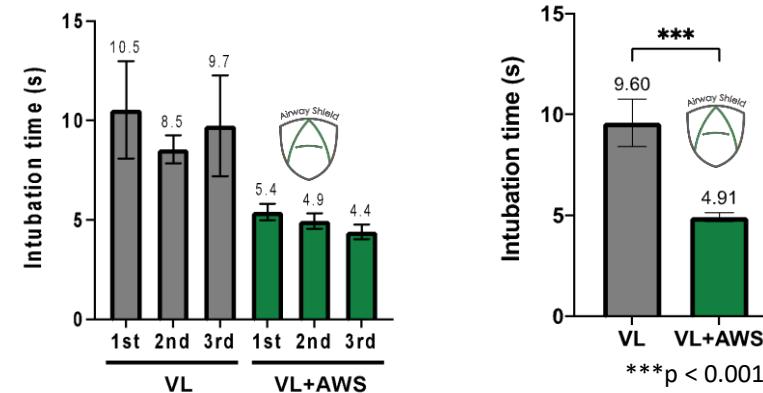
95%
*reduction in exposure
to aerosols*

Alonso, J. M. et al. (2022). *European Journal of Anaesthesiology*, 39(11), 900-903. <https://doi.org/10.1097/EJA.0000000000001731>

CLINICIANS PROTECTED

Phase II Feasibility of the new technique

Mean duration of each ETI attempt without & with **Airway Shield™**



50% *Intubation time reduction*
100% *Intubation success rate*

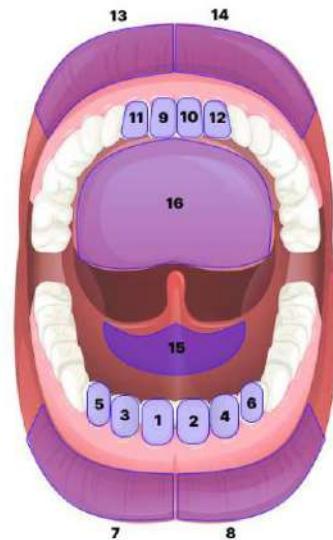
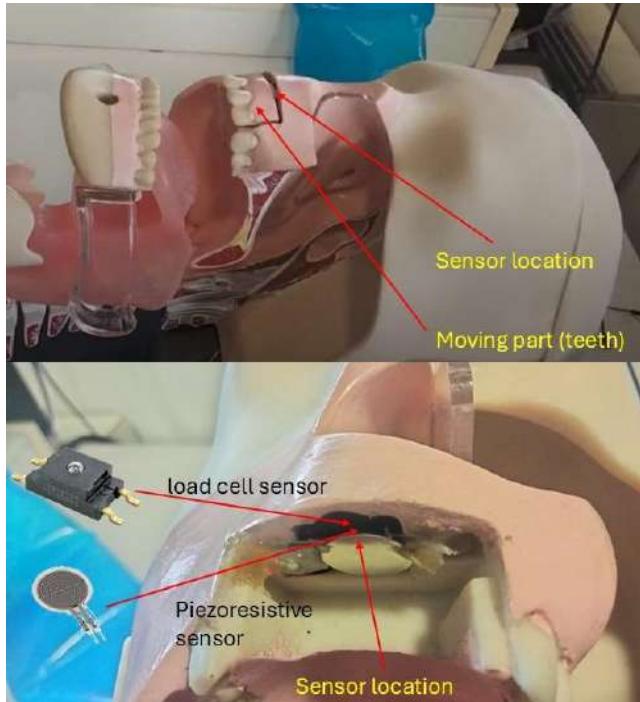
Alonso, J.M. et al. (2021). *Intensive Care Medicine Experimental*, 9(1), 134 (Abstract 000641). <https://doi.org/10.1186/s40635-021-00413-8>

PATIENTS PROTECTED

Pre-clinical Study

Phase III – Trauma Protection

Sensorized manikin for trauma analysis during ETI: comparison between videolaryngoscopy with and without the Airway Shield™ device.



- **70% reduction in the total force applied over the incisors**
- **50% Intubation time reduction**
- **100% Intubation success rate (versus 80,77% Success rate without the Airway Shield™)**

PATIENTS PROTECTED

Pilot Study in OR

for safety evaluation

20 Patients



Hospital Universitario Marqués de
Valdecilla. Santander, Spain



Comparative Study

vs. Traditional Technique in OR

102 Patients



Hospital Universitario de Araba.
Vitoria, Spain



Airway Shield is Safe and Effective

for ETI by experience anaesthesiologist in OR

TESTIMONIALS from Anaesthesiologists involved in the Studies



Dr Ana Mendiguren

Anaesthesiologist,
Araba University Hospital, Vitoria

"Simple, intuitive and easy to use. This device facilitates intubation and protects healthcare professionals against the risk of infection".



Dr Mikel Bibanko

Anaesthesiologist,
Araba University Hospital, Vitoria

"An innovative device that will be crucial in the protection of healthcare workers".



Dr Jon Renteria

2nd year resident in Anaesthesia,
Araba University Hospital, Vitoria

"A revolutionary idea in the field of safety combined with a technology that is easy to use, even for those with less experience."



Dr Fidel de Celis

Anaesthesiologist,
Araba University Hospital, Vitoria

"Easy to use, easy to fit and easy to intubate. And at the same time protects against aerosols. Brilliant."



Clinical Studies



*Spain, Italy, Sweeden,
Poland, Brazil and
Qatar*



Multicenter Study

Comparative Study

vs. Bougie and Stylet in OR

750 Patients

AIRWAY SHIELD™: A novel device to facilitate intubation



GLOBAL AIRWAY MARKET

Global Airway Management Market



Globally 140,000 Hospitals & health providers

Potential Target Customers and Users of Airway Shield, including Departments of Surgery and Anaesthesia, Emergency Medicine Services, Intensive Care Units, and Pre-hospital Care and Military Services.

Intubation rate increasing due to aging population, chronic illnesses and increase of emerging respiratory diseases such as COVID-19.

3rd

*most common medical procedure
in hospitals*

+100 Million

Intubations yearly worldwide

\$ 2.3 Billion

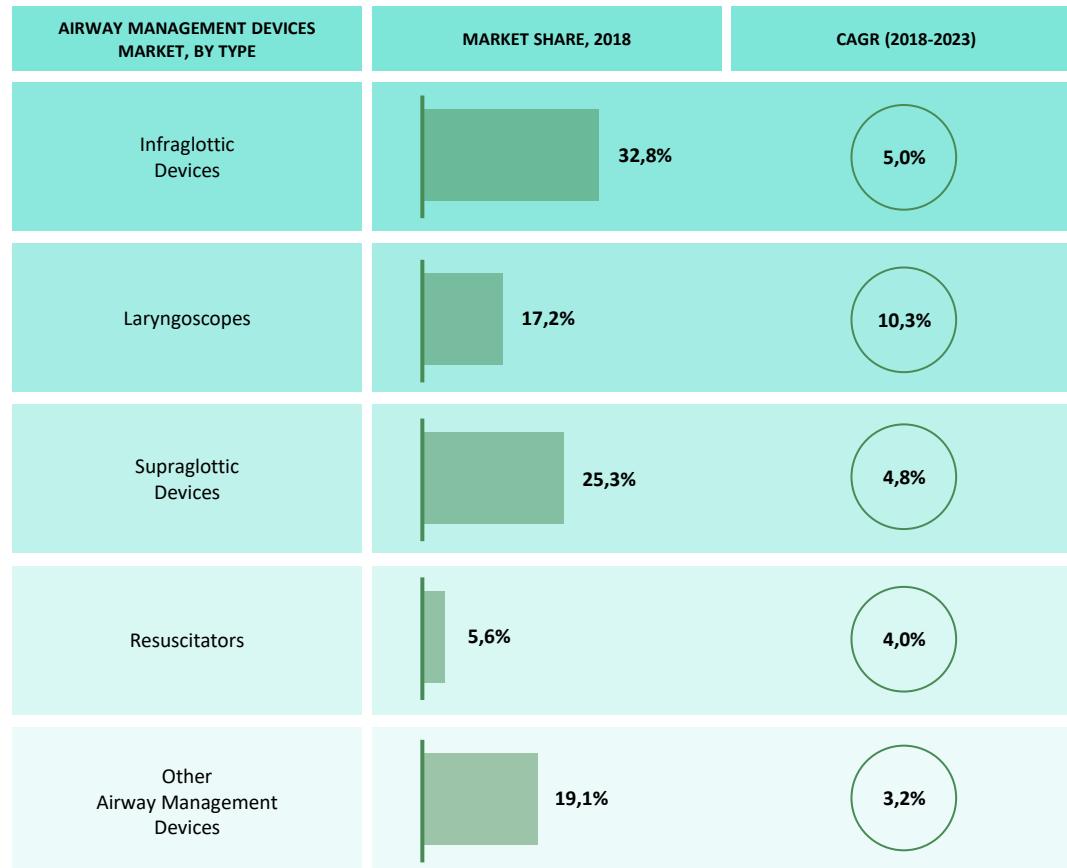
*Global Airway Management Market
value estimation for 2025*

Airway Management Market



The global airway management devices market is projected to reach USD 2.3 Billion by 2025 from an estimated USD 1.6 Billion in 2018, at a CAGR of 5.6%.

The airway management devices market segmented by type



Airway Shield is the disruptive medical device that will replace all devices used when endotracheal intubation is difficult. This is the case of supraglottic, resuscitation and other devices, which represent 50% of the market share and were born as a response to the difficulty of the endotracheal intubation procedure

The Airway Shield is the ultimate complementary device to be used for all endotracheal intubations



Competing for 50% of the Global Airway Management Market

AIRWAY SHIELD™: A novel device to facilitate intubation



COMPETITORS

Direct Competitors



	Airway Shield™	Bougie	Stylet
Price	10 €	16 €	4 €
Easy of use	Designed for easy use , even by less experienced practitioners, reducing the skill barrier. (Alonso, JM. et al., 2022).	Simple to handle but requires skills for optimal performance (Jaber et al., 2021).	Requires advanced technique to properly shape and maneuver (Tollman & Ahmed, 2022).
Time efficiency	50% reduction in intubation time (Alonso, JM. et al., 2022)	Increases time	Increases time
Safety	Protects patients' oral mucosa and teeth from trauma and protects clinicians from respiratory aerosols, reducing complications and infection risks. (Alonso, JM. et al., 2021).	Risk of airway trauma , including airway perforation, haemorrhage, and bronchoalveolar injury (Arndt et al., 2008; Grape & Schoettker, 2017).	Risk of trauma , accidental extubation, and other complications like stylet breakage. (Gray et al., 2018; Chalhoub et al., 2013).

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TEAM

Airway Shield Team



Airway Shield Team combines a deep expertise in the medical field with a solid knowledge and experience in quality, commercialization and business development.



in Dr. Julio Alonso, M.D.

Founder and CEO

Internationally recognised Intensive Care Specialist since 2011, with an extensive expertise in airway management and the development of new medical devices



in Cambell Smith

CPO

With 20+ years in industrial design, founder of Metric Studio, expert in CAD/CAM/CAE and product development, leading Airway Shield's 3D design.



in Jose Luis Martín, MBA.

CFO

With extensive experience in biotech, venture capital, and finance. Professor at ICADE and startup mentor.



in Natalia Moracho, Ph.D.

Director of Medical Communication

PhD in Health Sciences and specialized in Clinical Research. 6 years of extensive scientific background, with several journal publications and MSc in pharmaceutical industry.



in Joanne Zusieh, MBA.

Director of Business Development

Specialist in transition of innovative MedTech from research to commercialization. Background in go-to-market strategy and global commercialization collaborations since 2018



in Carlota Muñoz, MSc.

Director of Quality and Regulatory Department

Experienced in Quality Assurance, supplier coordination and scientific research with 4 years experience in Basic Science and quality technician.



in Nieves Espinosa

Director of Business Management

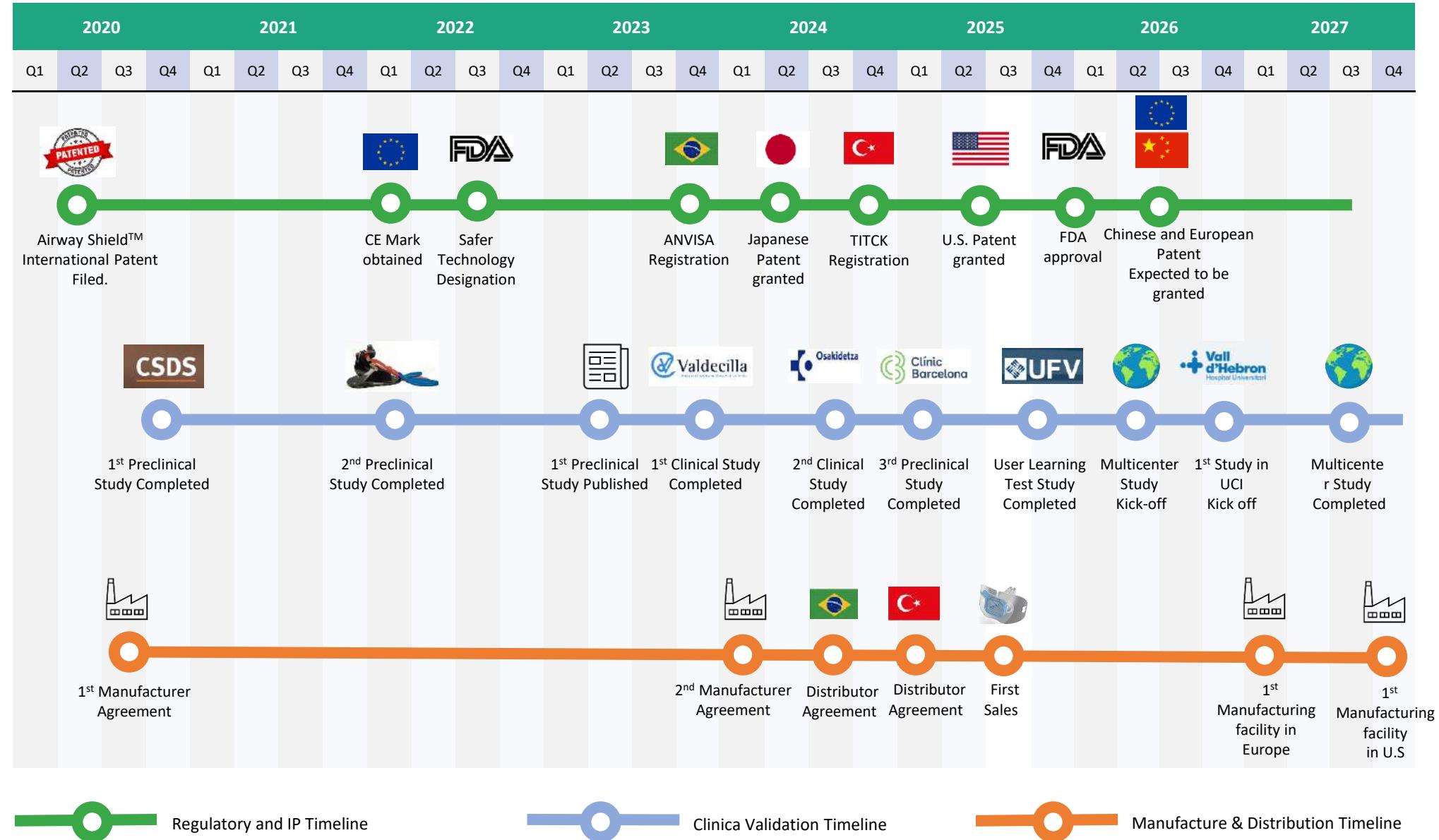
Strong background in Corporate Journalism, specialized in communication strategy with hospitals and KOLs

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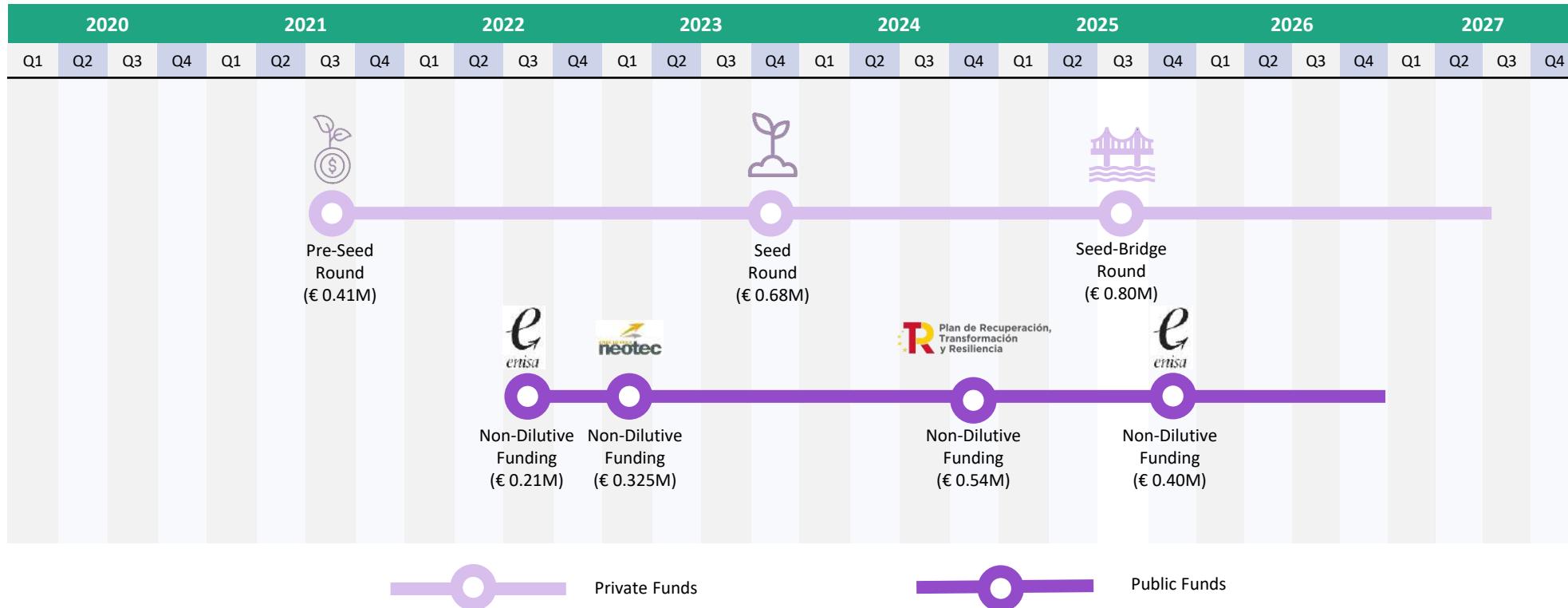
MILESTONES AND FUNDING

Achieved and near future milestones



Public and Private Funds

June 2020 - December 2027



Validations



Public institutions trusted on us



Financiado por
la Unión Europea
NextGenerationEU

Awards

Winners Cantabria 2022



Global Winners 2023



Global Winners 2024



Validations



Entrepreneur Events

IV AI-Andalus Innovation Venture Edition (Seville, Spain)



X B-Venture Edition (Bilbao, Spain)



4YFN (Bcn, Spain)



Acceleration Programs

Healthtech 2023 Program (Boston, US)



AceleraStartup 2024 Program



S2B Health&Care 2024 Program



Lanzadera 2025 Program



Recognitions

Safer Technology (2023)



BioExpert Network (2023)



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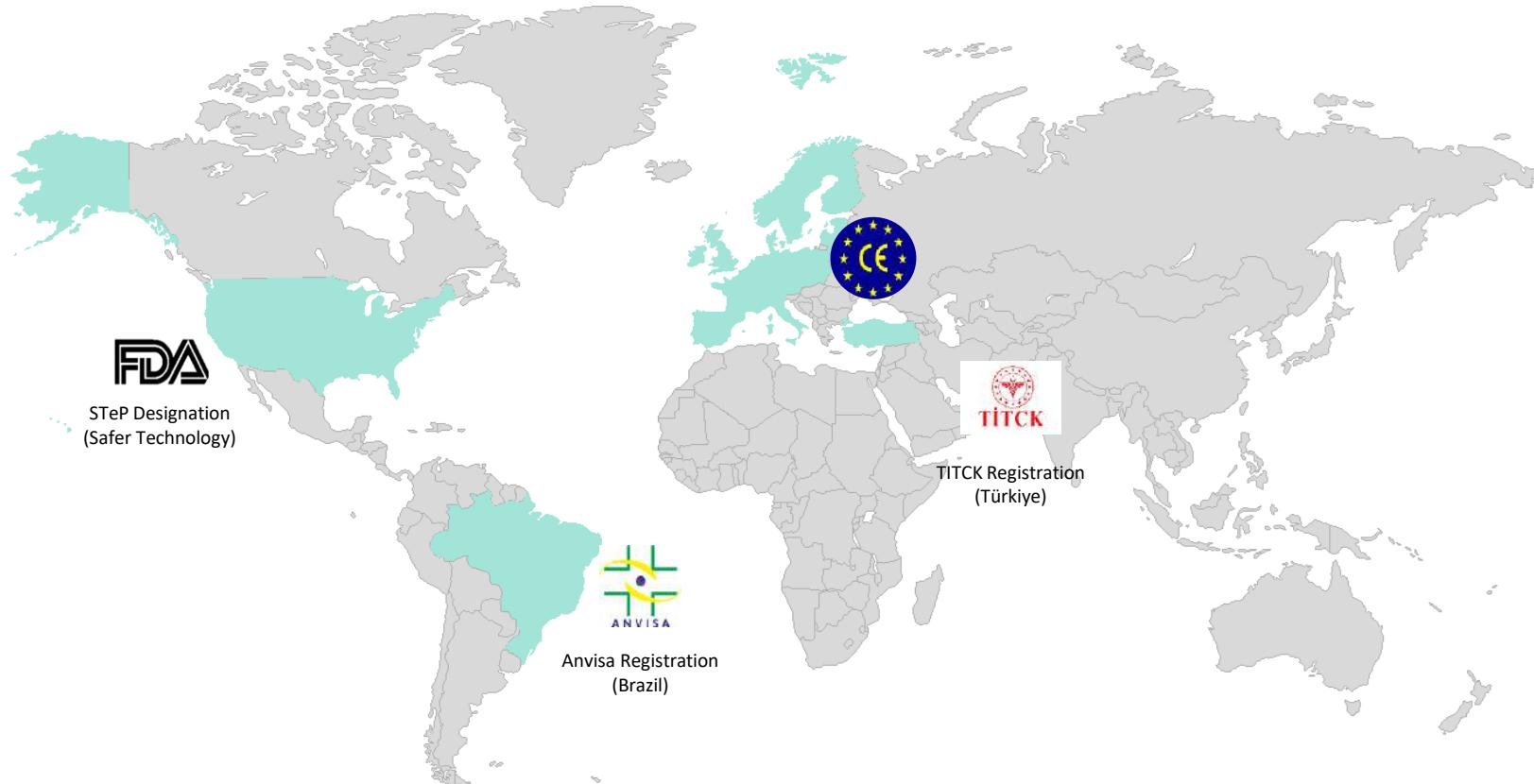


GO-TO-MARKET AND REGULATORY

Regulatory Achievements

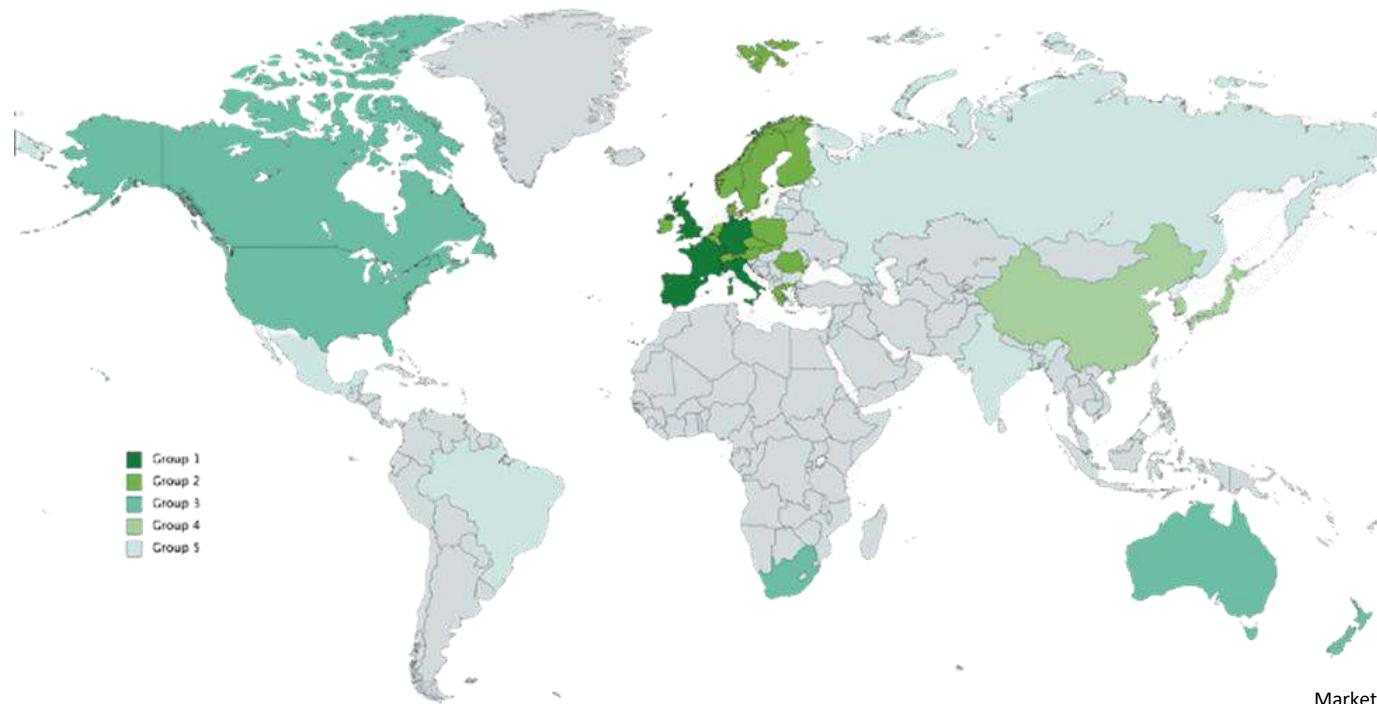


Airway Shield™ is a device with CE Mark, ready for commercialization in Europe



Airway Shield™ has received the designation of “**Safer Technology**” by the FDA, which will facilitate the commercialization in US

Go-to-Market Strategy



Estimated Number of Intubations per group of countries*

GROUP 1	5.5M / yr
GROUP 2	2.9M / yr
GROUP 3	7.7M / yr
GROUP 4	27M / yr
GROUP 5	31.2M / yr

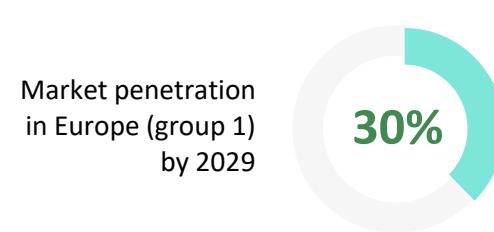
Estimated market penetration in each group of countries over the next 5 years

	2025	2026	2027	2028	2029
Market penetration in Group 1	0,1%	0,5%	1,5%	10%	30%
Market penetration in Group 2			0,7%	5%	27%
Market penetration in Group 3			0,2%	3%	18%
Market penetration in Group 4				0,3%	7%
Market penetration in Group 5					0,3%

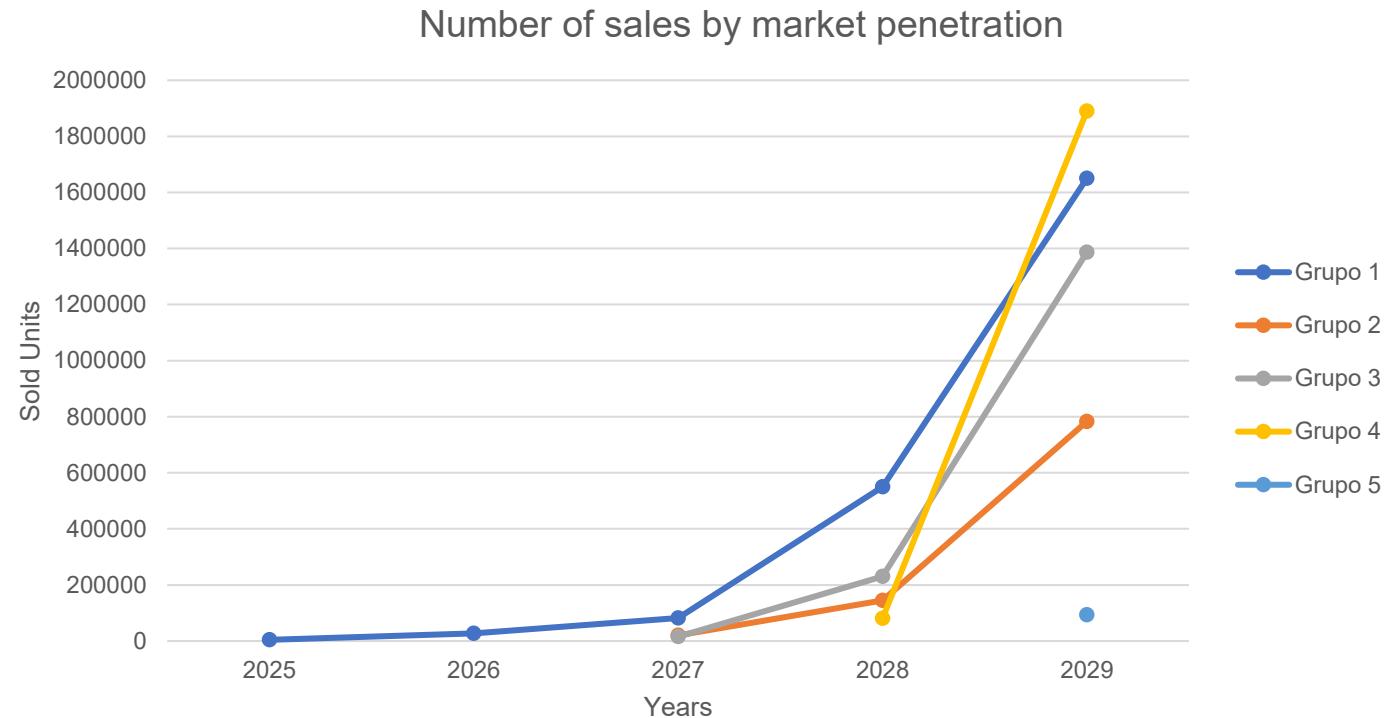
*According to the 4th National Audit Project, 1.1 million ETI procedures are performed per year in the UK. The total population in UK is 66 million. We extrapolate this proportion to the other countries to obtain the estimate of intubation per year in each country and groups of countries. It is a conservative estimation (based on numbers from 2013).

Market: Financial Projection

We will achieve 30% market penetration in Western Europe and 18% market penetration in USA by 2029.



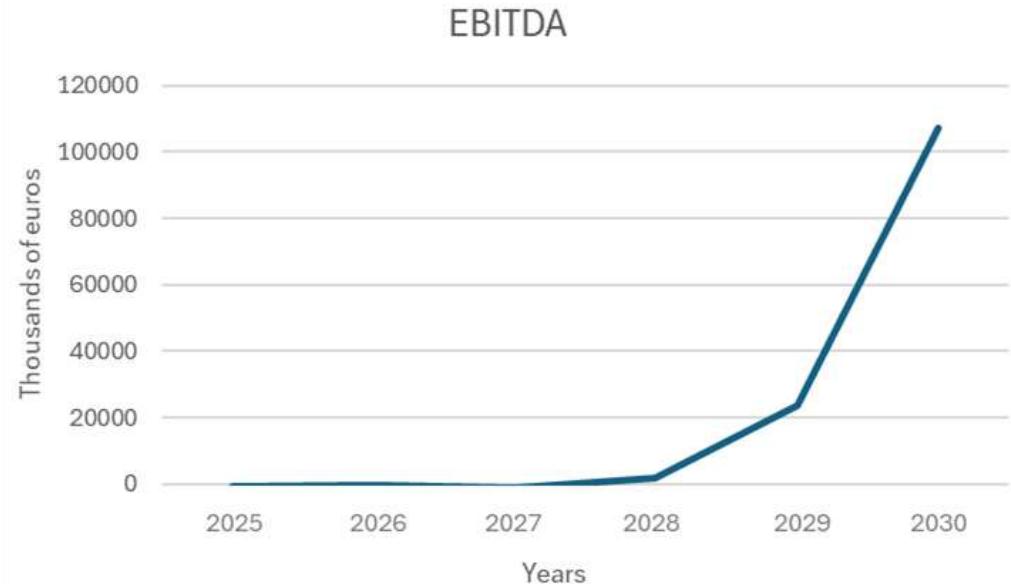
€38M Worldwide sales by 2029



Market: Financial Projection

We will achieve positive EBITDA and Cash Flow by 2028.

Figures in thousands of euros	2025	2026	2027	2028	2029	2030
Revenues	42,0	189,0	758,7	6.439,2	39.039,6	165.684,1
Expenses	836,0	500,4	1.689,2	2.440,4	3.861,5	10.019,4
EBITDA	-532,9	-96,4	-1.148,3	2.038,6	23.534,5	107.149,7



Future Roadmap



	2026	2027	2028	2029	2030
Q1	FDA approval Recurrent sales in Spain & Portugal	New Manufacturing facility in Europe New devices ready for regulatory process		Market Launch in the rest of the world	
Q2	Market launch in Europe, rest of Big 5 (DE, UK, IT and FR)	Recurrent sales in Europe 1 st sales in U.S	Recurrent sales in U.S Multicenter study completed		Global distribution
Q3		Open Subsidiary in Hong Kong			
Q4	Open Subsidiary in U.S. Market launch in U.S.	Market launch in Asia New Manufacturing facility in U.S.		Continue exponential growth	

New Developments

Pediatric sizes

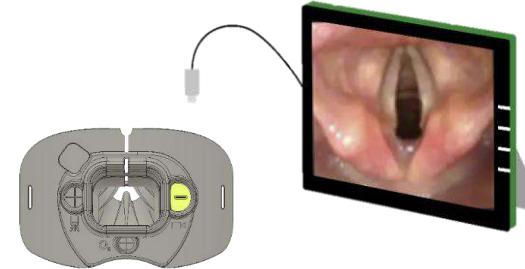


Actual device's size



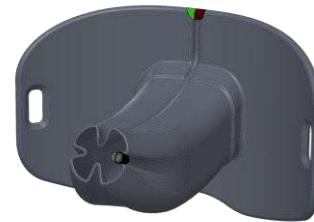
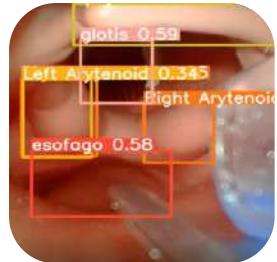
New pediatric sizes

Video Airway Shield™



An advanced version of the AWS™ that integrates video capabilities, allowing its use with direct vision laryngoscope and making it accessible in any department, even in the absence of a video laryngoscope.

Airway Shield™ + AI



In combination with our own image recognition software, it will allow to recognize anatomical structures of the airway and thus, confirm the correct placement of the endotracheal tube in real-time.

Video-AWS-Scope™

This new development takes the Video- AWS™ a step further by providing the ability to direct the ETT without the need for a laryngoscope or videolaryngoscope, making its use universal and independent of complementary devices. It will reduce costs and increase accessibility in healthcare systems.

As we are **currently working in the IP protection for some of these developments**, we cannot offer more details of their new features and advantages.

AIRWAY SHIELD™: A novel device to facilitate intubation



NEW FUNDING ROUND

Funding Rounds



FFF Round via Capital Cell in September 2021

415.000 € raised in less than 24 hours
Post-money valuation: 2.015.000€

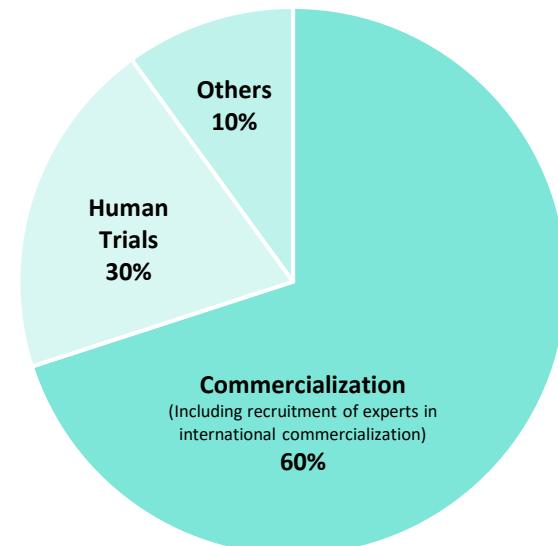
Pre-Seed Round via Capital Cell in December 2023

680.000 € raised in less than 10 days
Post-money valuation: 4.680.000€

Seed-Bridge Round 2025

✓ **Q3 2025**

✓ Objective:
Raise **800.000 €**



30% Human trials:

- Cost-effectiveness
- Multicenter International Study

60% Commercialization

- USA Market Access Studies
- Sales network expansion
- Marketing promotional

AIRWAY SHIELD™: A novel device to facilitate intubation



EXIT STRATEGY

Our exit strategy is an acquisition by a "**major player**" in 2028, or
an initial public offering (IPO) for listing on a public market such as Euronext

POTENTIAL BUYERS

are big players in the airway management market



Comparable operations



2012

Teleflex®

Acquires
all assets of
LMA International N.V.

\$ 276M

LMA® Supreme™ Airway

2013

Ambu®

Acquires
all assets of
King Systems Inc.

\$ 120M

KingVision® Video Laryngoscope

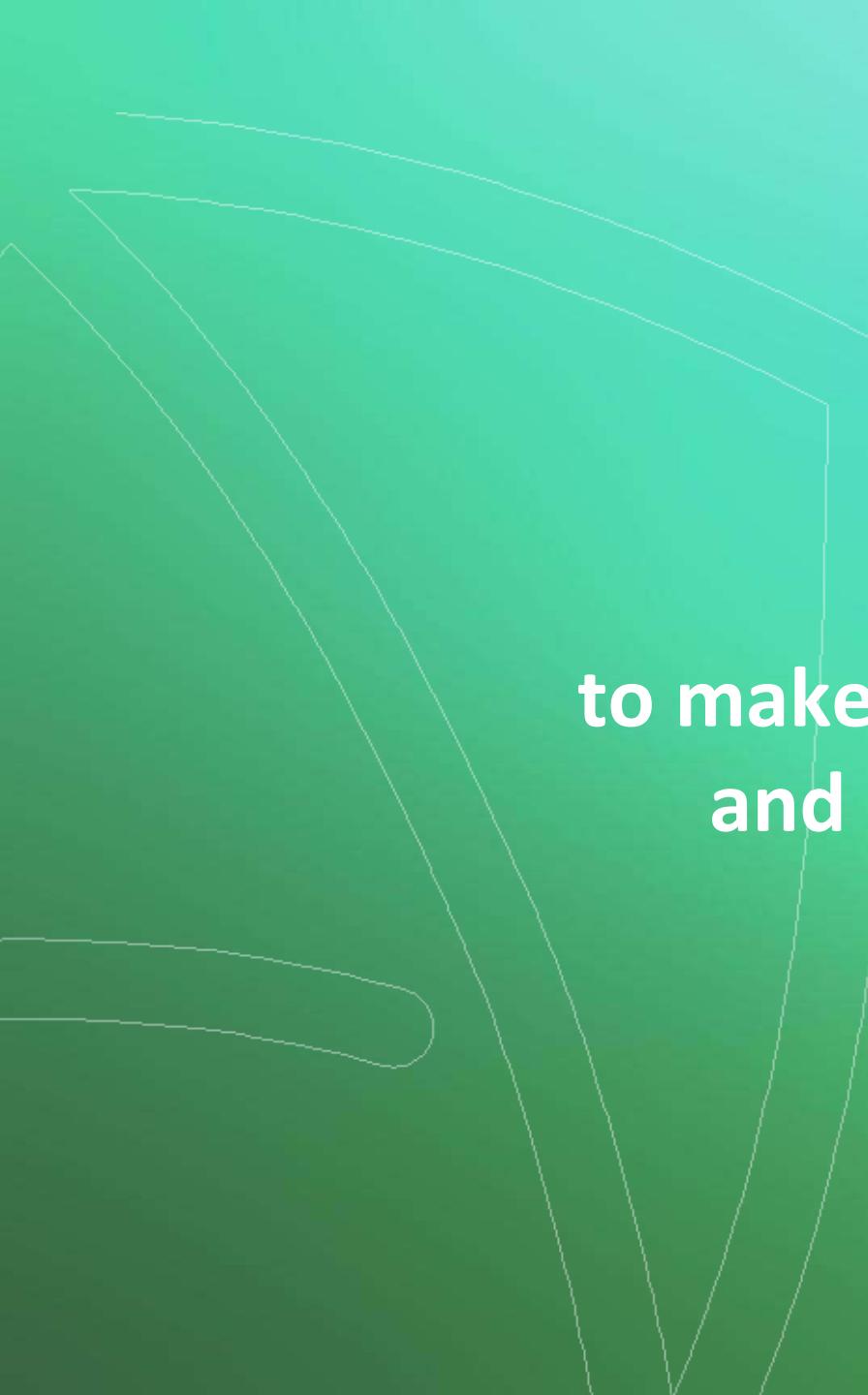
2015

Medtronic

Acquires
all assets of
Aircraft Medical L.T.D.

\$ 110M

McGRATH® MAC Video Laryngoscope



**Our Dream,
to make intubation safe everywhere
and save thousands of lives...**

The background features abstract white line art on a green gradient. The lines are thin and wavy, creating a sense of motion and depth. They form various shapes, including a large, irregular polygon on the left side and some smaller, more delicate lines on the right.

... we will reach a Global Impact.



Safer
Intubation