



# ELEVRE MEDICAL

Innovation in Breathlessness Management



NUI Galway  
OÉ Gaillimh



## DYSPNOEA (BREATHING DIFFICULTY)

*Affecting **320 million** COPD sufferers worldwide*

Breathlessness 'attacks' on exertion

Central to the "disease spiral" of COPD

Devastates quality of life and huge burden on healthcare systems

"There's no way I could get a job or go to work"

"It **stops** you from **living**"

"It **controls** me"

"you think, '**Will I ring the ambulance?**' "

# CURRENT CLIMATE



**391 million**  
living with COPD  
worldwide<sup>1</sup>  
82% (320 m) have  
dyspnoea<sup>2</sup>



**\$100 billion +**  
Annual COPD Costs  
in US<sup>3</sup> and Europe<sup>4</sup>



Treatment aims to  
**reduce symptoms** and  
**avoid exacerbations**  
Primarily oral and  
inhaled medications



Need for innovation:  
ATS and ERS calling for  
**new breathlessness  
therapies**

# reswave



First-of-its-kind, wearable  
breathlessness therapy

Unique mechanism of action:  
Neuromuscular stimulation

Patent pending on embedded  
sensing technology

Class IIa / De Novo Class II

AI and monitoring potential

## COMPETITIVE LANDSCAPE

Treatment	Aim	Note
Inhaled and oral meds	Open the airways	Dyspnoea often persists despite optimised meds
Adjunctive Medical Devices	Open the airways	Requires user to breathe into, not practical while active
Pulmonary Rehab	Improve physical fitness	Good outcomes but scalability issues
Opioids (e.g. Morphine)	Alter sensation by acting centrally on the brain	Side effects, more typically used in advanced disease
<b><i>ResWave</i></b>	Alter sensation by respiratory nerve stimulation	Wearable, unobtrusive, unique mechanism, no known side effects

# FIRST-IN-HUMAN STUDY – Q1 2023



## Design

- Exploratory randomised-crossover study
- 20 participants with COPD
- ResWave vs Control during Cardiopulmonary Exercise Testing



## End-points

- Adverse Effects (primary)
- Dyspnoea scores (secondary)
- Exercise capacity (secondary)



## Status

- **Regulatory authorisation:** granted
- **Site:** Confirmed – Beacon Hospital
- **Recruiting:** This month

# MARKET AND FINANCIAL OVERVIEW



TAM: €480 billion

SAM: €9.5 billion

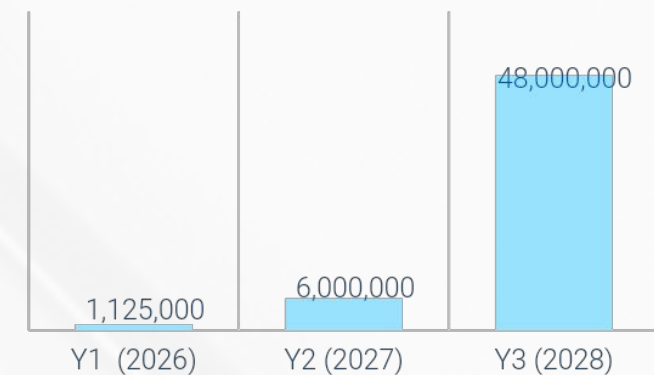
SOM: €4 billion



CAGR of 6.37%  
for global COPD  
device market  
(2022 – 2027)<sup>5</sup>



■ Year  
■ ResWave Projected Revenues (EUR)



# FOUNDING TEAM



Director of Clinical Affairs  
Dr Dylan Creane



CEO  
Miriam Savage





# CLINICAL LINKS



**Prof Richard Schwartzstein**

Chief of Pulmonary, Critical Care and Sleep Medicine

Beth Israel Deaconess / Harvard Medical School



**Prof Kyle Pattinson**

Principal Investigator of Breathe Oxford

Nuffield Department of Clinical Neurosciences



**Prof Seamus Linnane**

Deputy Medical Director and Respiratory Consultant

Beacon Hospital

Patient engagement and focus groups through



Human Factors Formative Evaluation of prototype design carried out in London

# FUNDING NEEDS

**Seed: Q2 '23 – Q4 '25**

Clinical Evidence &  
Achieve CE Mark

3.9 M

Product Development

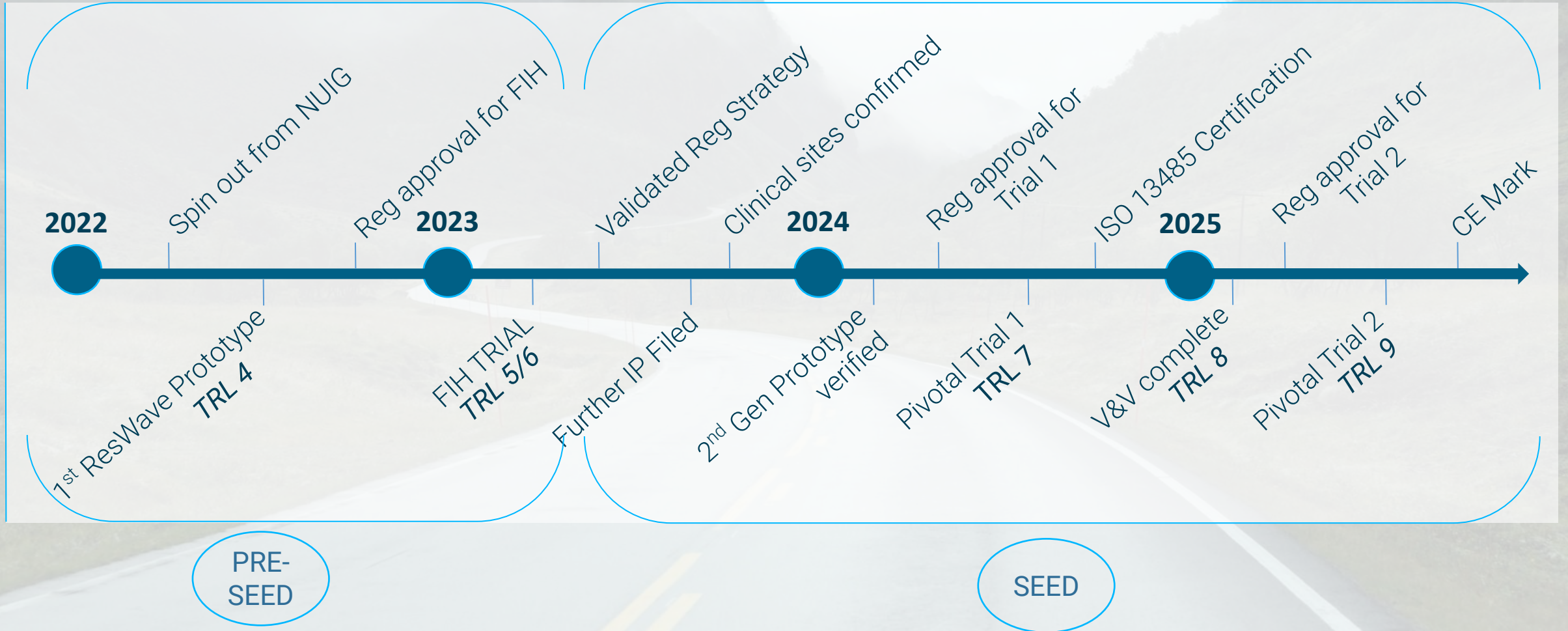
**Generate Clinical Evidence**

IP Development & Design Freeze

Refine Market Access Strategy

**Obtain CE Mark**

# PRE-SEED & SEED MILESTONES



# Bringing innovation to Breathlessness Management



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# References

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5. Research, D.I.B. (2022) Chronic obstructive pulmonary disease treatment devices market expected to witness massive growth with a significant CAGR of 6.37%, asserts DelveInsight |, Medgadget. Available at: <https://www.medgadget.com/2022/07/chronic-obstructive-pulmonary-disease-treatment-devices-market-expected-to-witness-massive-growth-with-a-significant-cagr-of-6-37-asserts-delveinsight.html>. Accessed: January 26, 2023.