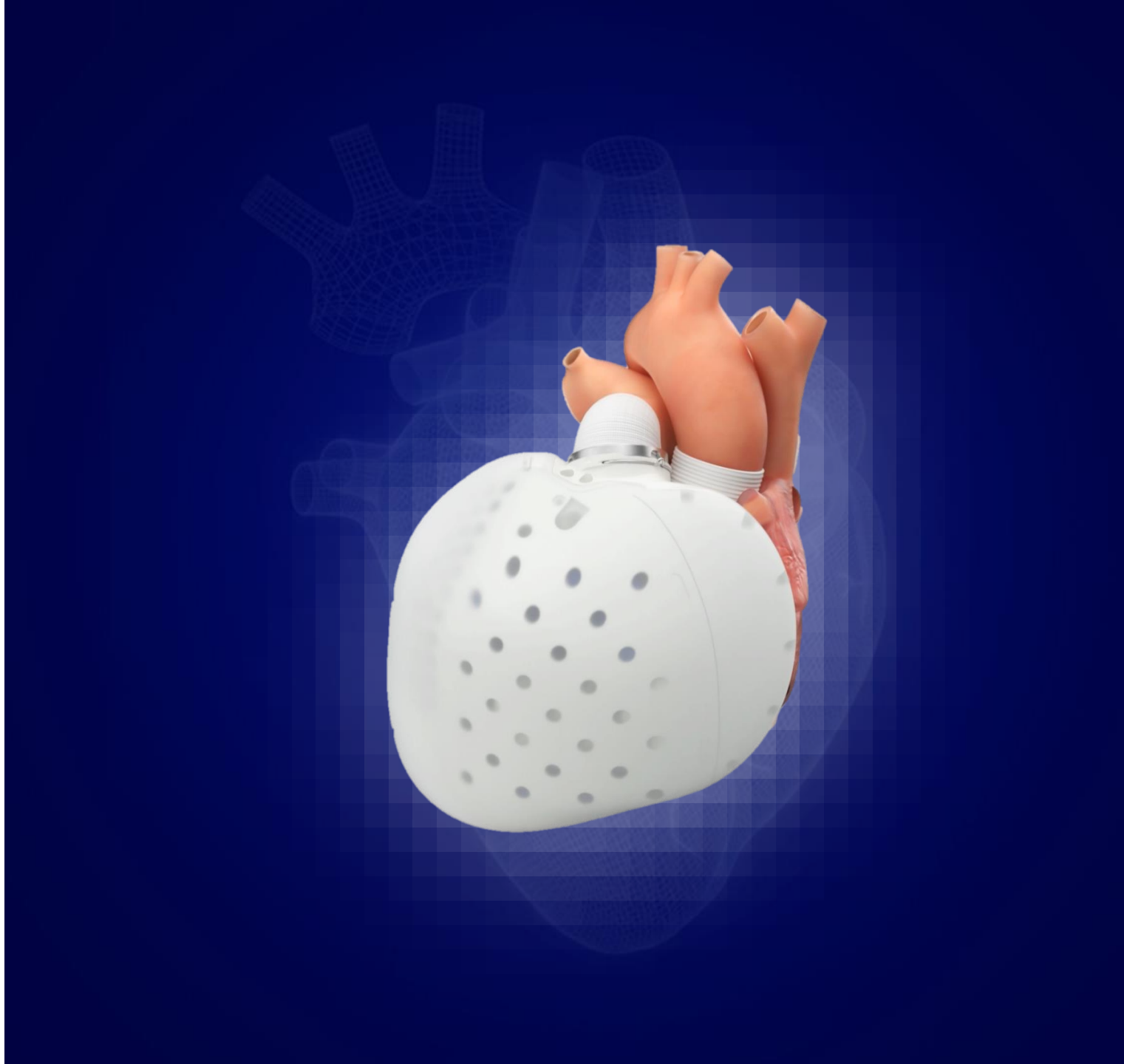
Driving the revolution in cardiology

Webinar: Q1 2025 update

April 9, 2025



Disclaimer

This presentation and the information it contains do not constitute an offer to sell or subscribe, or a solicitation of an offer to buy or subscribe, for CARMAT shares in any country.

This presentation may contain forward-looking statements regarding the Company's objectives and outlook. These forward-looking statements are based on current estimates and expectations of the Company's management and are subject to risks and uncertainties, including those described in its Universal Registration Document filed with the Autorité des Marchés Financiers (AMF) under number D.24-0374, as updated by an amendment to the 2023 Universal Registration Document filed with the AMF on September 17, 2024 under number D.24-0374-A01 (together, the "2023 Universal Registration Document"), and available on CARMAT's website.

Readers are specifically reminded that the Company's current cash runway extends only until the end of May 2025 and that, given its funding requirements and the existing dilutive instruments, shareholders may experience significant short-term dilution of their equity interest in the Company. The Company is also exposed to other risks and uncertainties, including its ability to implement its strategy, the pace of development of its production and sales, the timing and outcomes of ongoing or future clinical trials, technological developments, changes in the competitive landscape, regulatory developments, industrial risks, and any risks related to the Company's ability to manage its growth. Forward-looking statements included in this presentation may not materialize due to these factors or to other unknown risks or uncertainties, or due to factors currently not considered material or specific by the Company.

Aeson® is an active implantable medical device marketed in the European Union and other countries that recognize the CE marking. The Aeson® total artificial heart is intended to replace the ventricles of the native heart and is indicated as a bridge to transplantation in patients with end-stage biventricular heart failure (Intermacs classes 1–4) who are not eligible for maximal medical therapy or a left ventricular assist device (LVAD), and who are likely to undergo heart transplantation within 180 days of implantation. Implant decisions and the surgical procedure must be performed by healthcare professionals trained by the manufacturer. The documentation (clinician manual, patient manual, and alarm booklet) must be read carefully to understand the characteristics of Aeson® and the information required for proper patient selection and use (contraindications, precautions, side effects).In the United States, Aeson® is currently available only through a feasibility clinical trial approved by the Food & Drug Administration (FDA).

April 9, 2025

Speakers

Q1 2025 achievements and outlook

Stéphane PIAT

Chief Executive Officer

Pascale D'ARBONNEAU

Deputy General Manager & Chief Financial Officer

Francesco ARECCHI

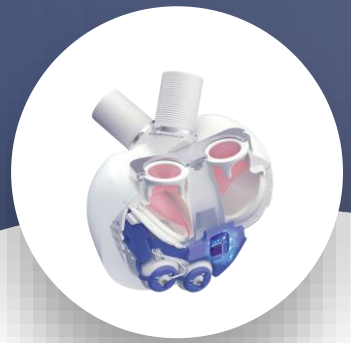
Director of Global Market Development

Pr Christian LATREMOUILLE

Chief Medical Officer

CARMAT's Critical Mission

Addressing the advanced heart failure crisis driven by donor organ shortage



OUR MISSION

To provide **quality of life** to patients with advanced heart failure by offering innovative and reliable technologies that save lives

OUR VISION

Aeson® to become the primary
alternative to Heart Transplants

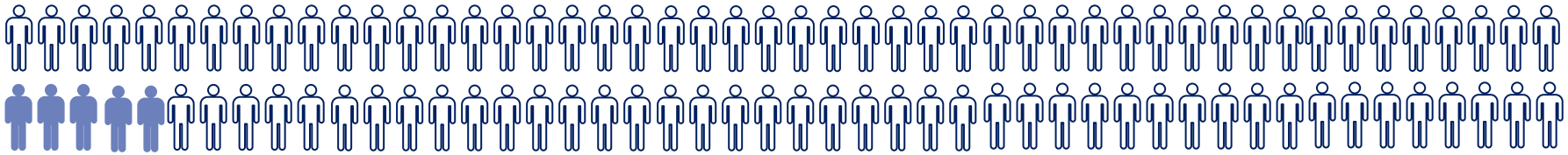
High unmet medical need in advanced heart failure

150,000

Patients suffering from advanced biventricular heart failure every year*

7,300

The number of hearts transplants**



95% of patients in need of a transplant are not treated

* Source: Savarese G & al. Global burden of heart failure: a comprehensive and updated review of epidemiology. Cardiovasc Res. 2022; 118(17): 3272-3287

** Source: GODT: www.transplant-observatory.org (Europe + USA)

CARMAT, a fully fledged company already at commercial stage in Europe

Well positioned to become a global leader in « heart replacement »

	Today	In a few years
	**Commercial stage** (5 EU countries)	**Commercial stage** (All EU countries + Middle-East)
	**Clinical stage**	**Commercial stage**
	**Temporary support** (bridge to transplant - BTT)	**Permanent support** (destination therapy - DT)
	BTT: Aeson® implanted on a temporary basis until a human graft is available and the patient can be transplanted	**DT: Aeson® implanted permanently with no subsequent transplantation**

c. 200 highly skilled people (R&D, Medical, Selling & Marketing, Regulatory, Quality)
Manufacturing capacity of 500 hearts / year

* Data to March 31, 2025

2025, a pivotal year in our commercial journey

2024	2025	2026 - 2027

Creation of the commercial platform

- Build a field team
- Train hospitals
- Progress on therapy reimbursement

Consolidation of the commercial platform

- Train more hospitals
- Promote the therapy
- Generate clinical evidence

Commercial growth

- Leverage clinical data
- Get reimbursement in France
- Build on long-term support

Focus on EFICAS study

Preparation for long-term support

- Improve Aeson®
- Obtain MDR CE Marking

Preparation for U.S. launch

Operational Excellence

Solid performance in Q1 2025

STRONG SALES

16 Aeson® implants
(vs. 7 in Q1 2024)

€2.4m in sales
x2.4 vs. Q1 2024

› 5 implants/month

RAPID PROGRESS IN THE EFICAS STUDY

13 implants
in Q1

49 cumulative
implants

94% of the 52 inclusions expected in total

STRATEGIC AND REGULATORY MILESTONES

2 publications
in peer-reviewed journals

FDA: final stage
of discussions to start the 2nd cohort of the EFS study in the U.S.

“MDR” CE marking
expected in H1 2025

Q1 achievements in line with the Company’s operational and strategic objectives

Agenda

I. Clinical experience

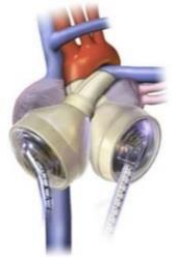
II. Commercial development

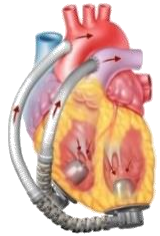
III. Finance

IV. Outlook

Aeson®, a unique and unrivalled device

Aeson®, the only device enabling physiological heart replacement without complications





	SynCardia	BiVAD	Aeson®
01 Biventricular Support	✓	✓	✓
02 Pulsatility	✓	✗	✓
03 Autoregulation	✗	✗	✓
04 High hemocompatibility	✗	✗	✓

Full physiologic replacement

Unparalleled Safety Profile

No embolic stroke

No intestinal bleeding lesions

Rare percutaneous cable infections

A game-changer therapy for physicians and patients

Safe surgical procedure

- Patient selection guided by proctors
- Pre-implant 3D virtual tool to check anatomical fit
- 100% successful surgical procedure
- Fast recovery

Quality of Life

- Automatic real-time adaptation of blood flow to patient activities
- Few drugs
- Discharge from hospital and return to normal life at home

Sustainable support

- No ongoing “adjustments” needed
- Smooth day-to-day system management by the patient
- Unmatched safety profile

Patient discharged from hospital after 6 to 8 weeks

Significant clinical experience accumulated since 2013

108 patients treated since 2013, including 42 in 2024 and 16 in Q1 2025

108

patients suffering from advanced heart failure have been treated with Aeson®

The longest support duration exceeded is

25 months

The cumulative experience is

44 years

32

patients are currently on Aeson® support

Median Time to ICU discharge
14 days [9-22]

Median Time to Hospital discharge
52 days [36-71]

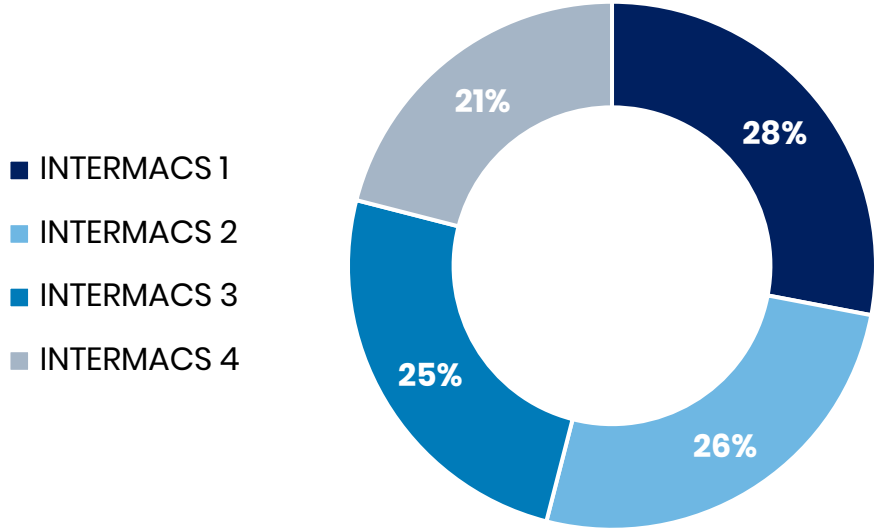
Average time on Aeson®
166 days [27-488]

A marked increase in Aeson® adoption since 2024

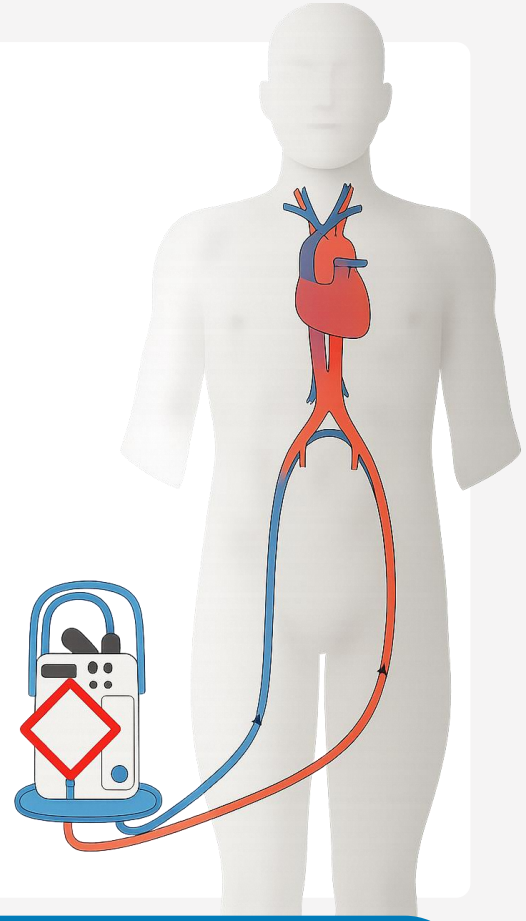
Experience allowing management of increasingly complex cases

c. 50% of severely ill patients (Intermacs 1 and 2), c. 50% of patients on ECMO prior to implant*

INTERMACS Profiles



- **c.50%** INTERMACS Profile 1 or 2
- **c.50%** of patients on Extracorporeal Life Support (ECMO) at Aeson® implant (average 12 days)
- **>20%** Previous cardiac surgery



* Recent clinical experience (November 2022 – March 2025). « ECMO » stands for Extracorporeal Membrane Oxygenation, also known as « ECLS » (Temporary / Extra-Corporeal Life Support)

Aeson® offers a solution, even to patients at risk of death in the very short term, with no other therapeutic options

A steady expansion of the indications and treated patients profiles*

Patient characteristics*

77 Patients treated

75 Male, **2** Female

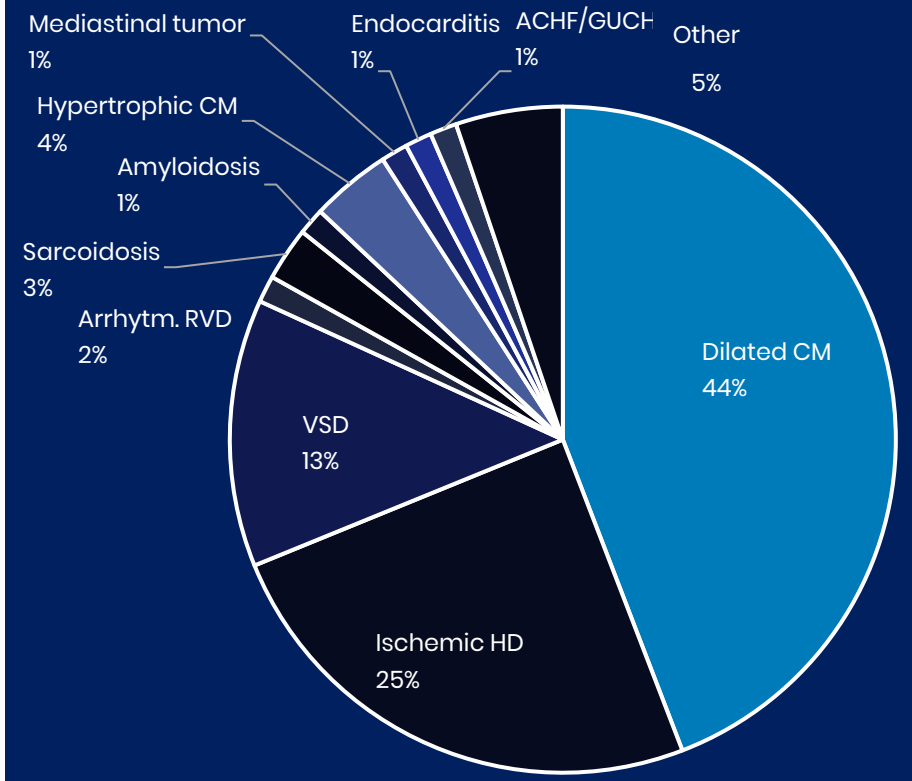
Age **54 (22-73) y/o**

BMI 28 (17-40) kg/m2

Creatinine **1.6±1.05 mg/dL**

Bilirubin **1.6±1.6 mg/dL**

Etiology



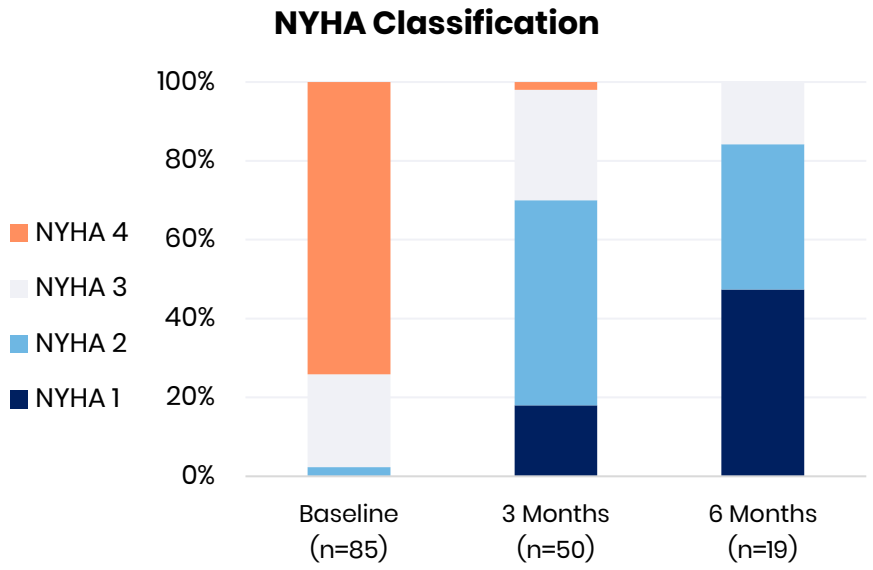
ACHF/GUCH: Advanced Chronic Heart Failure/Grown-Up Congenital Heart Disease
Arrhytm. RVD: Arrhythmogenic Right Ventricular Dysplasia
CM: Cardiomyopathy
HD: Heart Disease
VSD: Ventricular Septal Defect

* Recent clinical experience (November 2022 – February 2025)

Aeson® provides a solution for a broad range of patient profiles across a wide range of indications

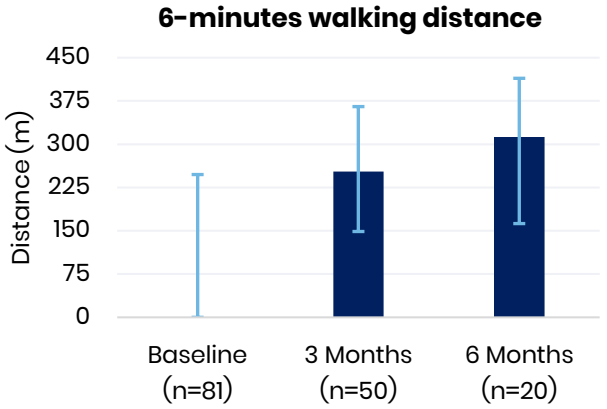
A significant, rapid and sustained improvement in patients' quality of life

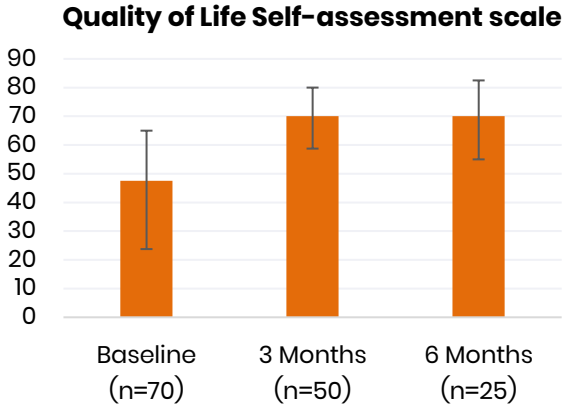
Improved patient mobility and general state of health

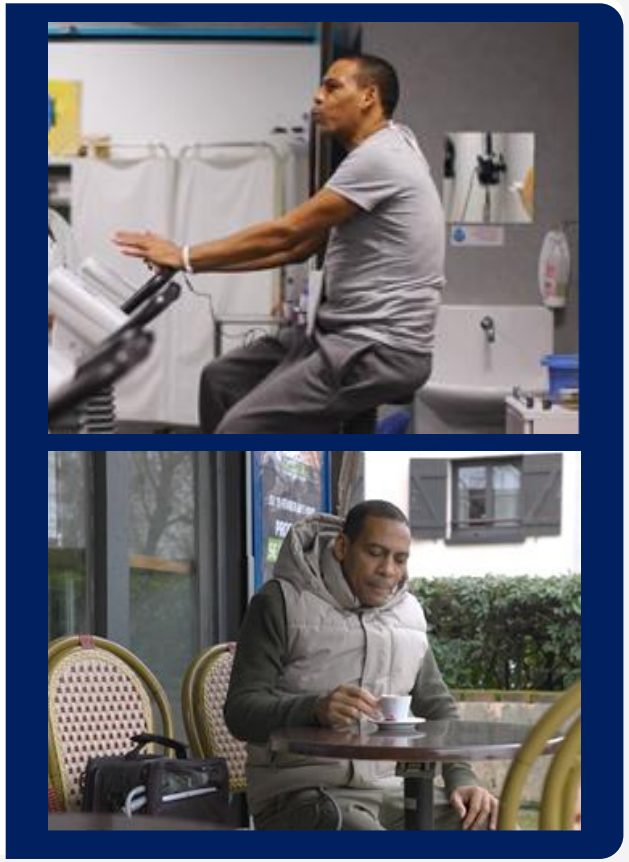


NYHA: Classification of Heart Failure from Stade 1 (no symptoms) to Stade 4 (symptoms present even at rest)

Data from Pivotal, EFICAS, and Post-Market Surveillance studies







Aeson®' self-regulation and hemocompatibility drive a significant and rapid improvement in patients' quality of life

EFICAS, a strategically important study for CARMAT

CLINICAL OBJECTIVES

Security and performance

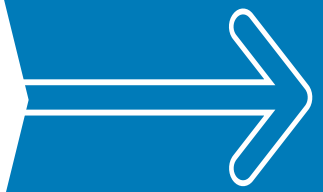
Primary end-point
Aeson® support for 6 months or transplantation within 6 months, without embolic stroke

52 Patients (France)

Study results expected end-2025

ECONOMIC OBJECTIVES

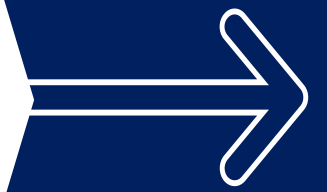
Value proposition



Reimbursement in France

STRATEGIC OBJECTIVES

Therapy adoption in Europe



PMA filing in the U.S.

Discussions initiated with the authorities to enable patients' continued access to Aeson® in France, post-completion of the EFICAS study through to reimbursement (anticipated from the end of 2026)

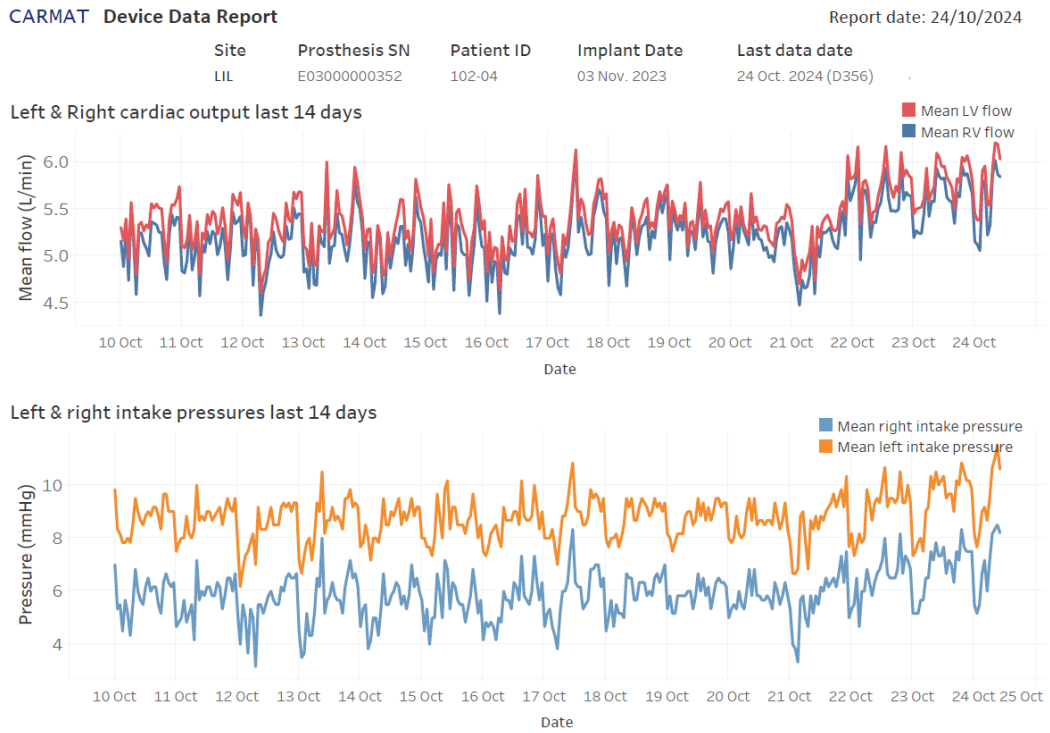
Generation of strong “clinical evidence” to support Aeson® adoption

		Status	Publication Date
Patients with pulmonary hypertension (3 patients)	*The Journal of Heart and Lung Transplantation*	Published	**Feb.** 2025
Patients under ECMO before/at the time of Aeson® implant (10 patients)	*Journal of the American College of Cardiology: Heart Failure*	Published	**April** 2025
EFICAS study results (52 patients)*	*Publication in a leading scientific journal*	**94%** of enrolment completed	From **end-2025**

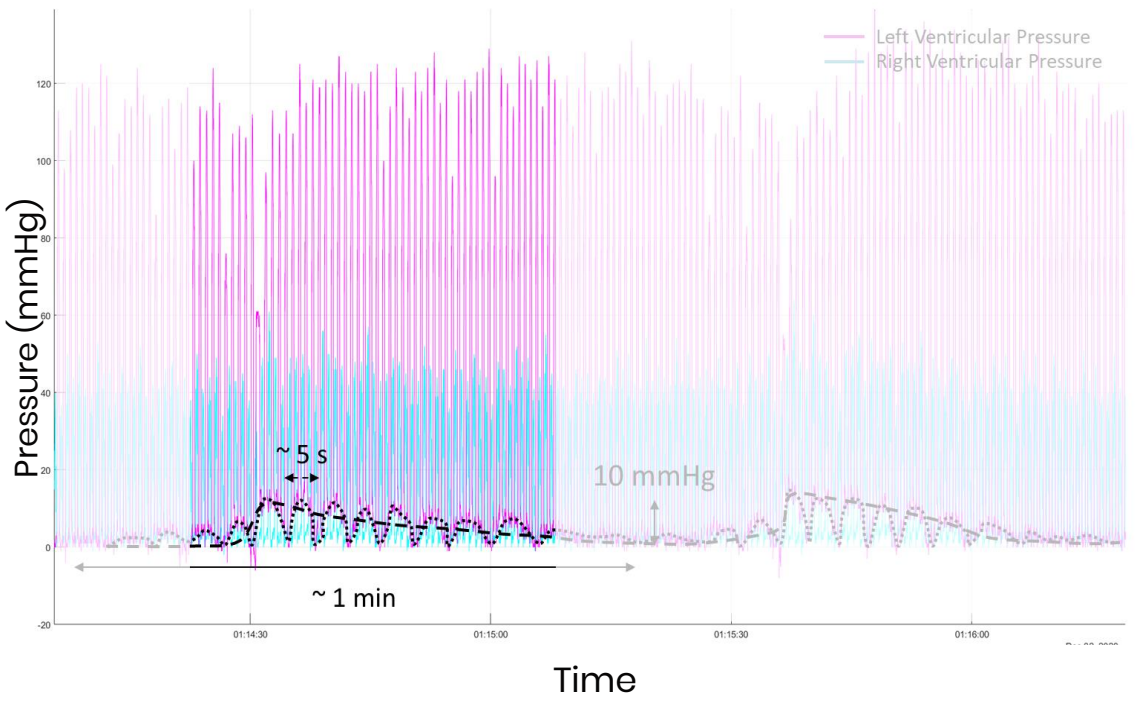
* Subject to completing enrolment shortly

Three important publications expected in 2025

Aeson®: a device generating billions of data



Example of dehydration detected using Aeson® data and effect of corrective action (hydration)



Example of obstructive sleep apnea detected with Aeson® data

These data could ultimately be used to improve patients' care beyond treatment of heart-failure

Agenda

I. Clinical experience

II. Commercial development

III. Finance

IV. Outlook

Convincing Q1 sales in line with objectives

16 implants

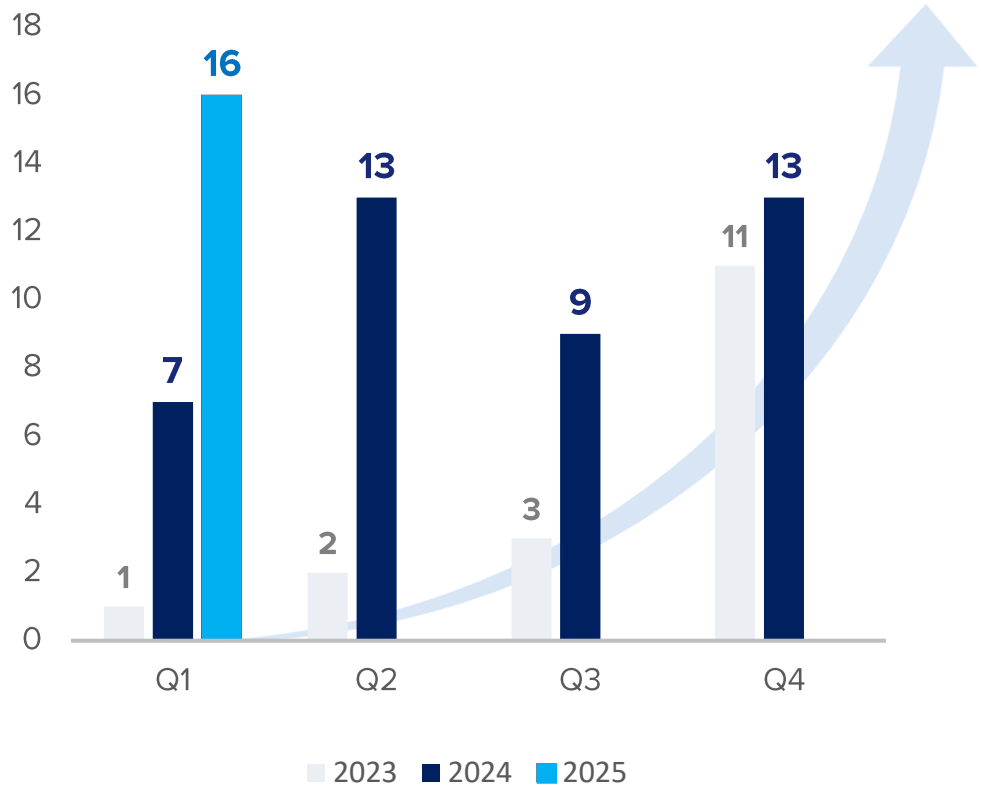
€2.4m in sales

x2.4 vs Q1 2024

+10% vs Q4 2024

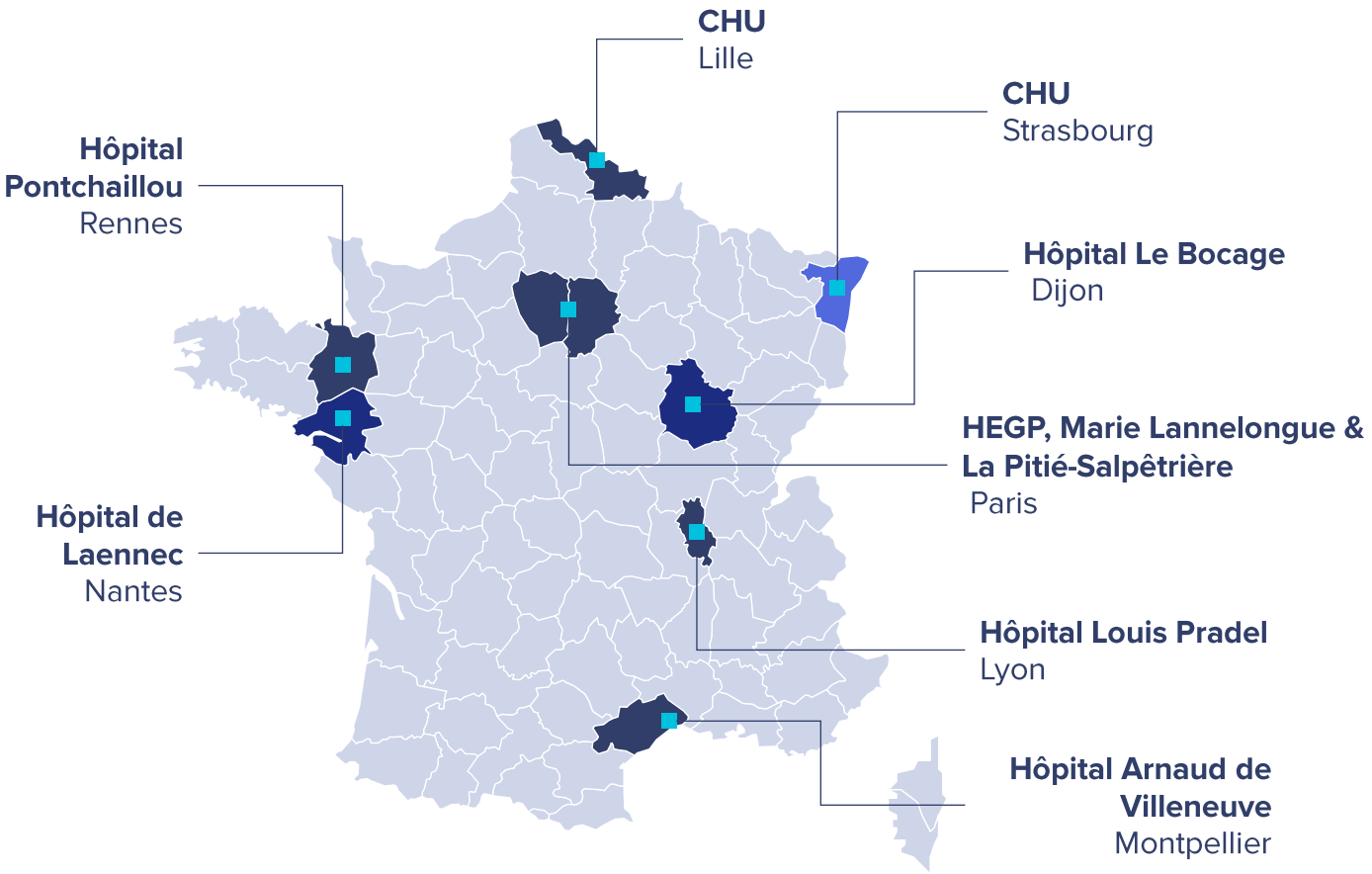
> 5 implants/month

Quarterly evolution in implants



The best quarter in CARMAT's commercial history

Outstanding progress in EFICAS study in France



Recruitment rate of 94%

13 implants in Q1

49 cumulative implants

Recruitment completion expected in

Q2 2025

Strong adoption by hospitals

6 hospitals with at least 5 implants

CHU Lille with **10** implants

EFICAS predicts future therapy adoption in other European countries

Continuous commercial progress in Q1 2025

Germany

- Sustained patient flow, similar to France
- Sicker patients
- « Long-term » BTT market
- Ongoing market development
- 2 implants in Q1 2025

25
cumulative implants

Italy

- 1 new active center
- 1 tender awarded
- 2 others being negotiated
- 1 implant in Q1 2025

7
Cumulative implants

Other

- **Croatia:** national tender awarded
- **Hungary:** Agreement with a distribution partner
- **Spain:** interest from several hospitals

Significant potential

35 cumulative Aeson® implants in commercial setting

Increased customer engagement and public awareness

JESFC 2025

January 15-17
Paris, France

Masterclass ARCOTHOVA/SFAR

March 13-14
Montpellier, France

DGTHG German Society for Heart- and Thoracic Surgery

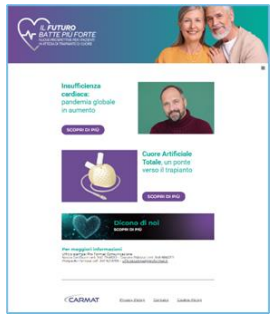
February 15-17
Hamburg, Germany

Congresses

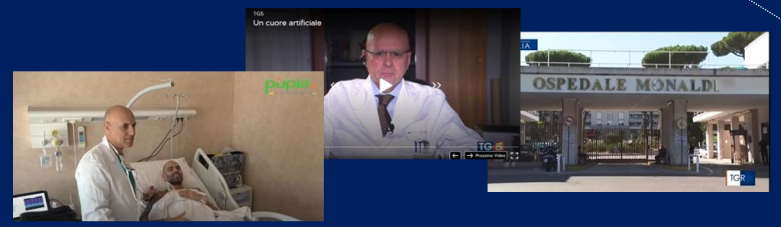
Campaigns

Lay Public

Print media



TV & Radio (Italy)



"100th patient" Campaign

Post Aeson User Meeting campaign

"High Risk Patients" Campaign

2nd Italian webinar

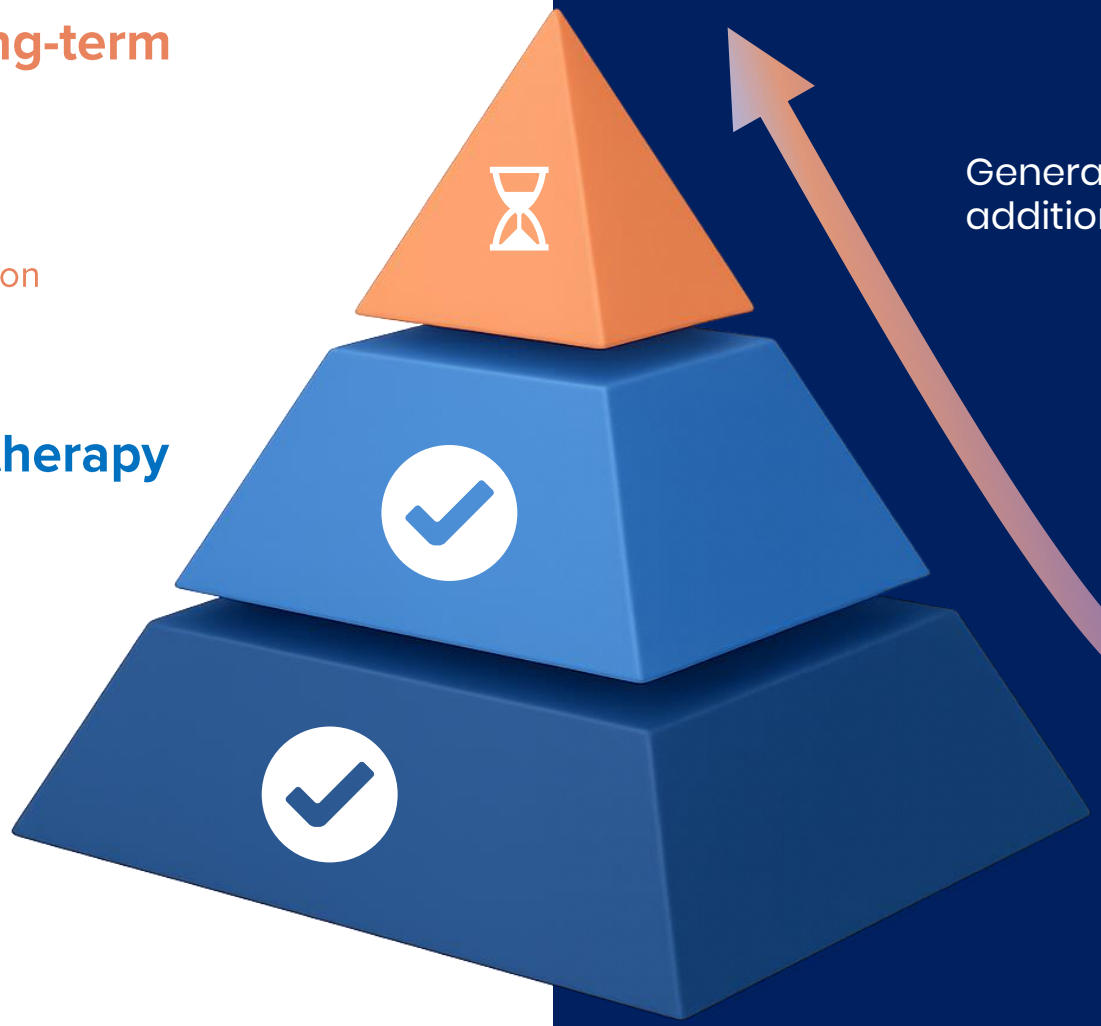
Promising outlook for the therapy

Clinical evidence for long-term support

- Patient flow
- Broader indications
- Geographic expansion
- Reimbursement

Impactful and valuable therapy

Unmet need



Growth catalysts

DT

Long-term support indication

Generation and publication of additional clinical data

"MDR" CE marking

EFS study (United States)

Publications on early experience

Agenda

I. Clinical experience

II. Commercial development

III. Finance

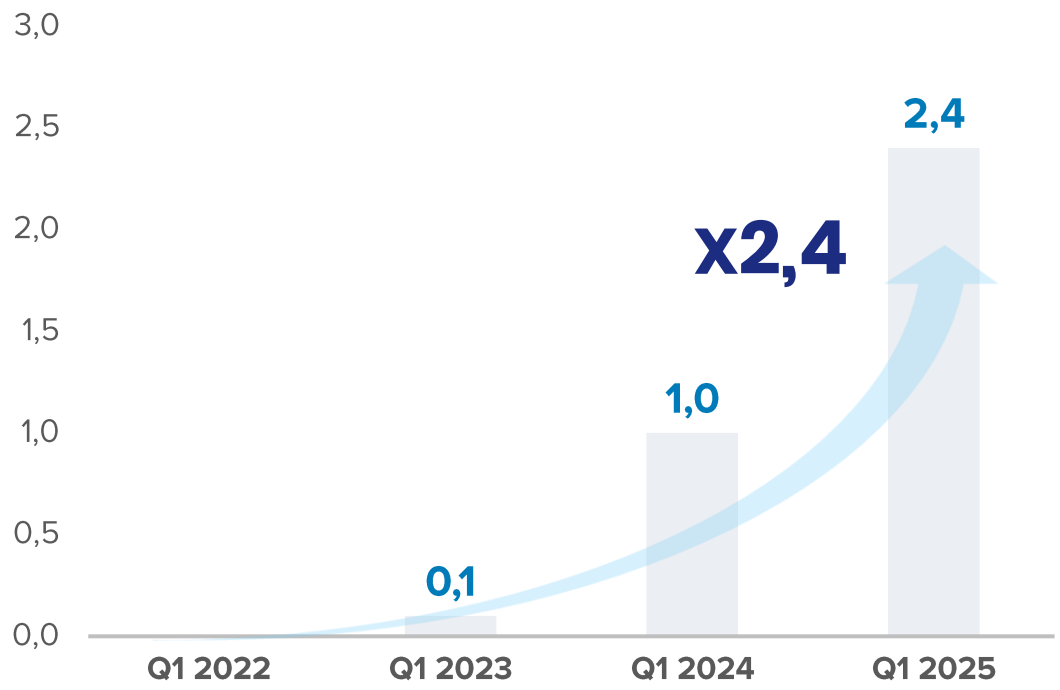
IV. Outlook

Robust sales dynamics in Q1 2025

Sales of €2.4m

16 Aeson® implants (vs 7 in Q1 2024)

Sales multiplied by 2.4 vs 2024



In line with CARMAT's objective to double sales in 2025

On our way to profitable growth

Sales momentum
- Sales development in Europe
- US Launch
- DT Indication

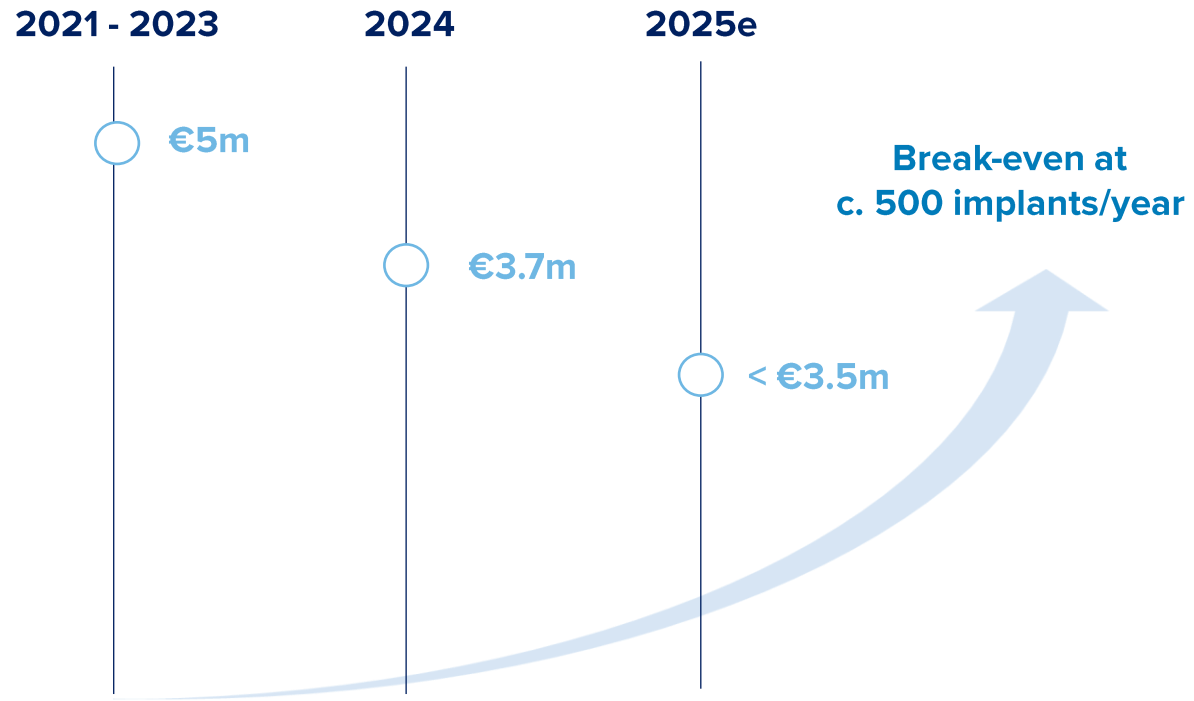
Margin enhancement
- COGS reduction
- Operational Excellence

Working capital management
- Inventory management

Financial engineering
- Financial debt restructuring

Cash-burn reduced by 23% in 2024

Monthly Cash-Burn*



Financial architecture in place to drive cash-burn down

* Cash-flow from operations and investments.

Our profitable growth trajectory

Trajectory based on sales development and operational excellence. Production capacity in place to achieve breakeven.

2024 → Breakeven (500 implants / year) → Thousands of implants

60 Hospitals (EU)

0.7 implant per year per hospital

c. 100 Hospitals (EMEA)

5 implants per year per hospital

Production capacity of 500 hearts/year already in place

EMEA

United States

Destination Therapy (DT)

Operational Excellence

Financing

Total financings of c. €550m since inception

Financing journey c. 75% complete

Cash runway until end-May 2025

12-month funding gap of c. €35m

Targeting long-term financing

- **Primary financing through permanent resources (capital increases / non-repayable funding)**
  - Targeting a cash runway > 12 months
  - On-going discussions with financial investors
- **Additional financings**
  bringing room for maneuver if and when required
  - Flexible equity line with parameters (volumes, price) controlled by CARMAT

Agenda

I. Clinical experience

II. Commercial development

III. Production et finance

IV. Outlook

Why have Total Artificial Hearts been under-used over the last 20 years?

- Clinical complications
- Poor quality of life
- Insufficient product durability

Why is Aeson® a game-changer in artificial heart technology?

CLINICAL QUALITY	QUALITY OF LIFE	PRODUCT DURABILITY
• No embolic stroke • No gastrointestinal bleeding • Rare percutaneous cable infections	• Minimal noise • No vibrations • Self-regulation • Right-left balance • Few drugs • VAS score: 70 at 6 months • 6MWT: 350 meters at 6 months	• 15 years of continuous improvement • Bench testing • Significant real-life experience • Enhanced electronics • Enhanced compliance bag
Unparalleled safety profile	**Quality of Life**	**Enhanced version of Aeson® by the end of 2025**

Aeson® provides an answer to all artificial heart challenges

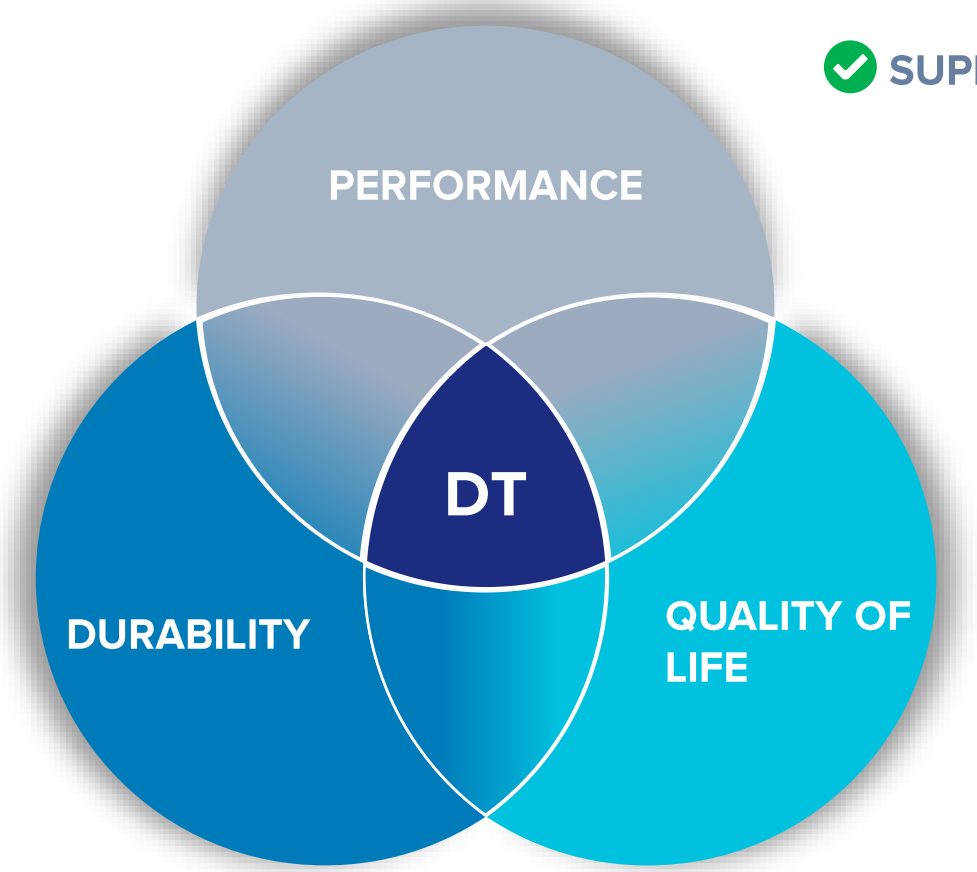
* VAS score: patient self-assessment of quality of life; 6MWT: 6-minute walk test

Aeson® on its way to permanent support (destination therapy - DT)

Aeson® is best positioned device for long-term patient support

SUPERIOR CLINICAL RESULTS

EXTENDING AESON'S DURABILITY

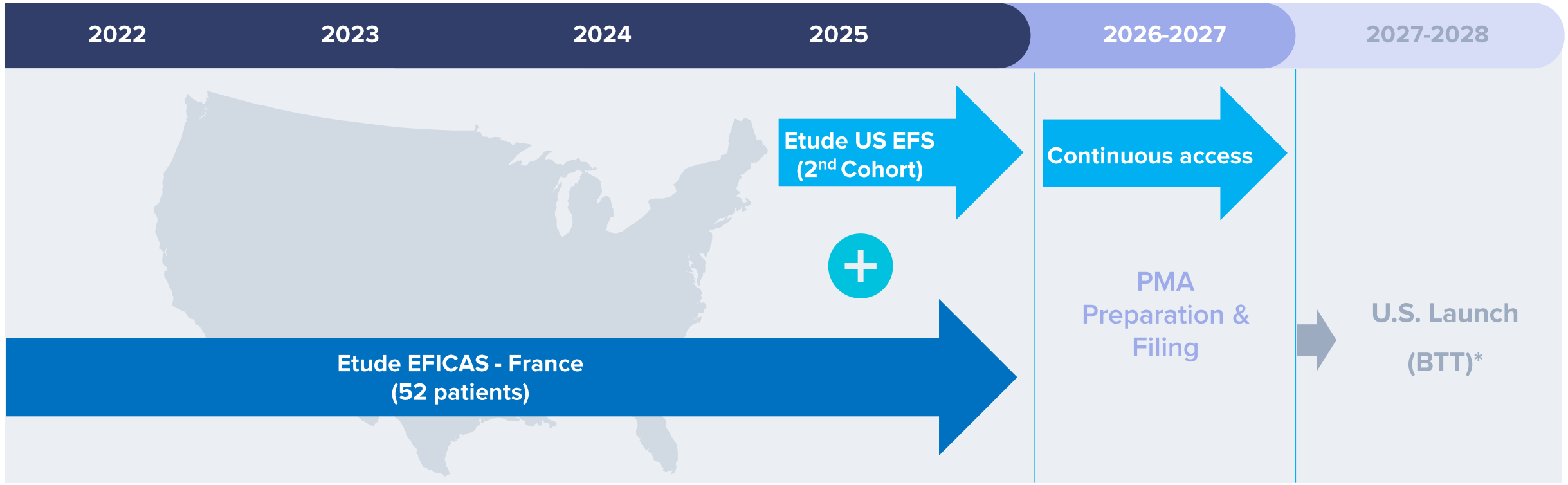


BETTER QUALITY OF LIFE

A clear roadmap for permanent use of Aeson®

U.S. launch targeted by 2028

Optimized U.S. market access strategy based on EFS study and using EFICAS data



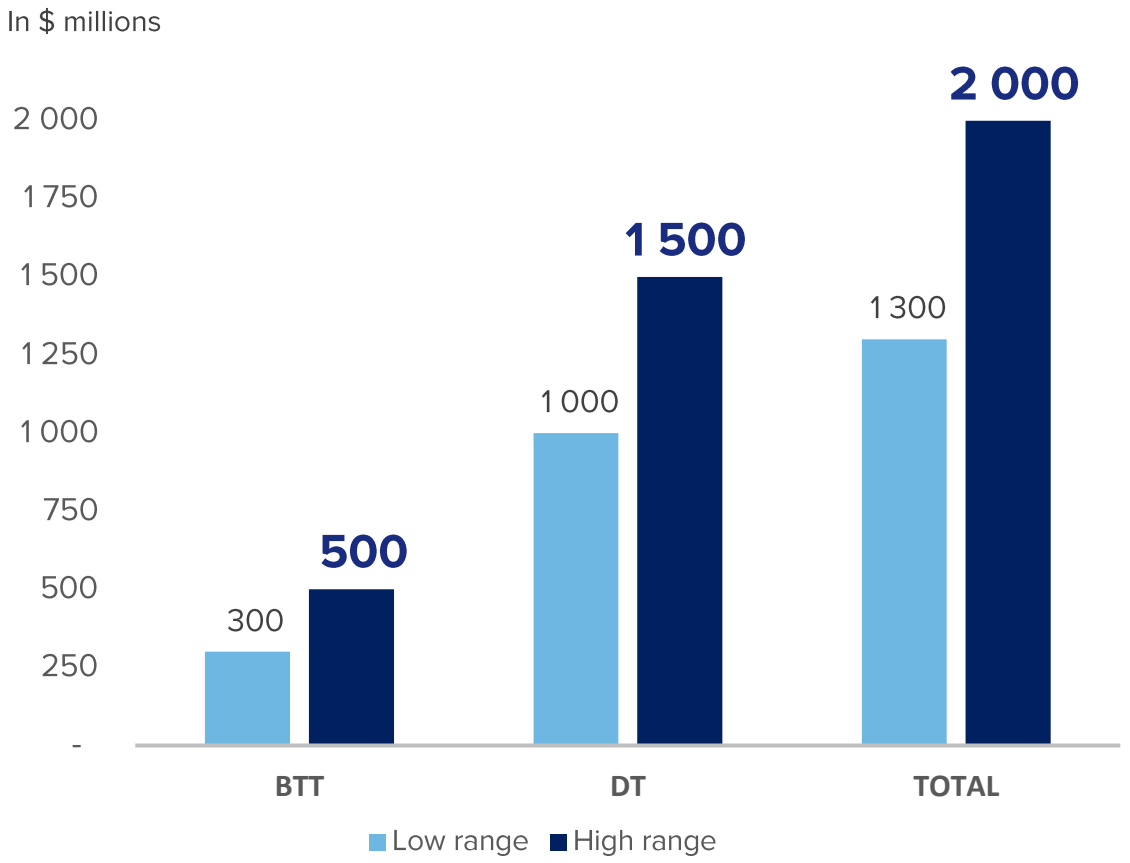
* The DT indication would be obtained later.

CARMAT is at a very advanced stage of discussions with the FDA, to get in Q2 2025, the authorization to initiate the second cohort of the EFS study in the United States

A huge business potential

Global addressable market of $40+ bn by 2030 (BTT + DT)**

Aeson® “peak” sales estimated at $2bn*, representing around 5% of the addressable market



CARMAT poised to lead the heart replacement segment

* Company estimates

** https://edition.cnn.com/2021/03/25/business/carmat-artificial-heart-spc-intl/index.html (cardiovascular disease technology market)

Our priorities

1. **Continued sales development in Europe**
2. **Generation and publication of clinical data** (evidence-based medicine)
3. **Preparing for long-term use of Aeson®**
4. **Preparing the launch of Aeson® in the United States**
5. **Continued journey towards profitability**

Our ultimate goal: to become the 1st total artificial heart approved for destination therapy (DT)

THANK YOU