

BECAUSE WE BELIEVE
THE FUTURE STARTS NOW

Investor Presentation

June 2020

Safe Harbor



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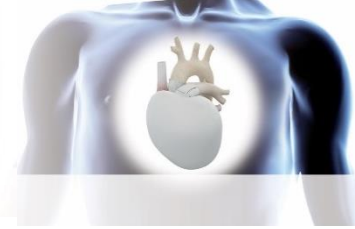
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Vision and Mission



Vision

Our vision at CARMAT is to become the primary alternative to Heart Transplants with the implementation of our Total Artificial Heart (TAH).



Mission



Our mission at CARMAT is to provide quality of life for patients with advanced heart failure by creating innovative and reliable technologies that save lives.

Advanced Heart Failure



6,000

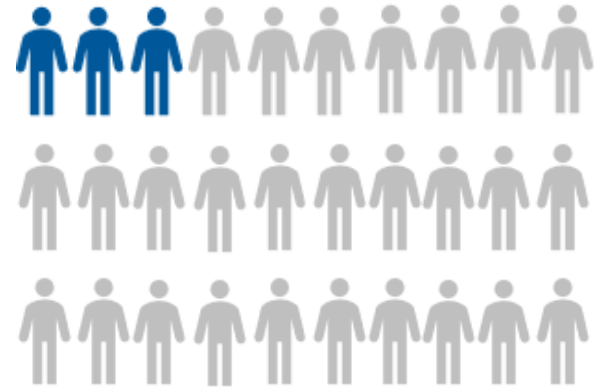
The number of heart transplants per year in the U.S. and EU

60-94%

The mortality rate of Advanced Heart Failure within a year

The percentage of patients treated in need of transplants

3%



CARMAT – A Combined Approach



Medical

Professor Alain Carpentier:

International medical leadership in biomaterials and pericardial valves. Carpentier invented the first valve bioprotheses and developed standard techniques for plastic and reconstructive surgery of heart valves.



Aerospace



Airbus Group (EPA: AIR):

Formerly EADS MATRA, Airbus is an aerospace industry leader for the creation of complex embedded systems.



The only bio-prosthetic, self-regulated artificial heart

- A **physiological** artificial heart that offers a viable alternative to heart transplantation
- An implantation technique easily **reproducible** by cardiac transplant surgeons
- A return to a **full life** for otherwise critically ill patients

A Proven Leadership Team



Stéphane Piat
Chief Executive Officer

- Over 20-year experience in the medical device business
- Previously Divisional Vice President Global Market Development at Abbott
- Johnson & Johnson Cordis (2002-2007)



Piet Jansen
Chief Medical Officer

- Experience in cardiology sector, notably in Mechanical Circulatory Support devices
- Former Medical Director at WorldHeart, Clinical Affairs Manager at Jarvik Heart



Alexandre Eleonore
Director of Manufacturing

- Manufacturing background, notably in cardiology sector
- Previously Vice President Operations and Customer Service at MicroPort CRM
- Former Manager at Faurecia, Paint Network Manager at Plastic Omnium, Vice President Manufacturing CRM and Neuromodulation at LivaNova



Raouia Bouyanzer
HR Manager

- 20 years in human resources including benefits, employee relations, payroll, talent acquisition and training
- Former manager at Morgan Stanley where she held positions in social benefits, payroll and audit



Pascale D'Arbonneau
CFO, IT

- Over 25-year experience in Finance
- Previously CFO and Head of EIBV (family office)
- Several local, regional and global VP positions at GSK in Finance, Compliance and Controlling



Marc Grimmé
Director of R&D

- In charge of technical operations of the CARMAT program since 1996



Thierry Dupoux
Sr. Director of QA and Regulatory Affairs

- Solid QA / RA and R&D background in cardiology sector, notably in CRM and Surgery
- Previously WW Vice-President of QA at LivaNova



Eric Richez
BD Director

- Over 13 years' experience in sales & marketing with Thoratec, a global leader in ventricular assistance devices, where he served as Sales & Marketing Director from 2002 to 2011 and Sales Director EMEA from 2011 to 2013.



Francesco Arecchi
Marketing Manager

- Career in Life Sciences companies such as Johnson & Johnson and Abbott, where he held a number of positions from sales to marketing in Cardiology breakthrough technology products such as Cypher and MitraClip.



The logo for CARMAT, featuring the word "CARMAT" in a bold, blue, sans-serif font. To the left of the text is a grey, curved swoosh that starts under the 'C' and extends to the right, ending under the 'T'.

Market Opportunity



The logo for CARMAT, featuring the word "CARMAT" in a bold, blue, sans-serif font. To the left of the text is a grey, curved swoosh that starts under the 'C' and extends to the right, ending under the 'T'.

Market Opportunity in Cardiology for Medtech Companies



GLOBAL MAJOR PLAYERS IN CARDIOLOGY



Abbott

Boston Scientific



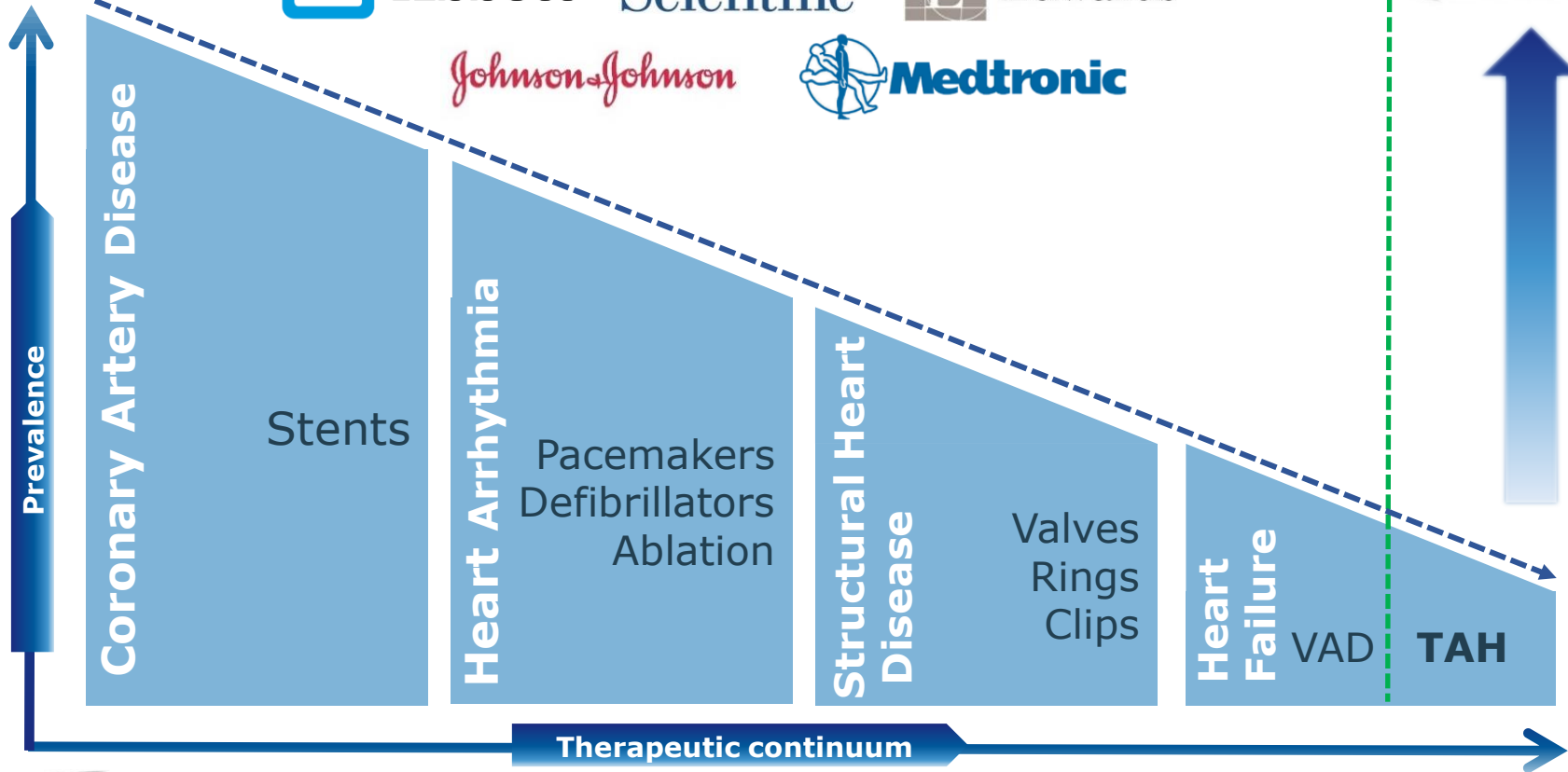
Edwards

Johnson & Johnson



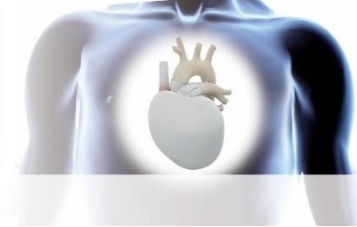
Medtronic

CARMAT



CARMAT

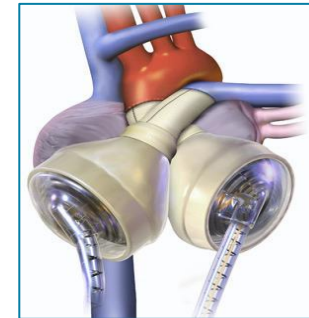
Severe Unmet Need with Few Treatment Options



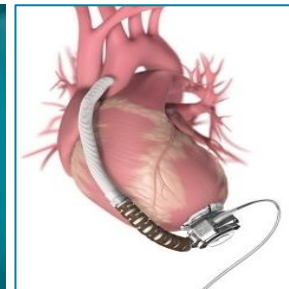
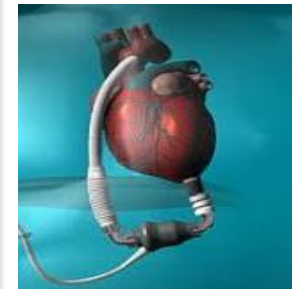
Few treatments available with mixed outcomes

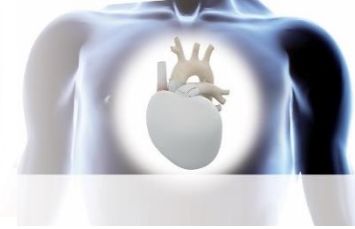
NYHA Class	INTERMACS Patient Profiles	Time to intervene	Prevalence ⁷	
IV	1 – Critical cardiogenic shock	Hours	14%	Total Artificial Heart
	2 – Progressive decline	Days	41%	
	3 – Stable, inotrope dependent	Weeks	28%	
	4 – Resting symptoms	Months	12%	VAD
	5 – Exertion intolerant		5%	
	6 – Exertion limited			
III	7 – Advanced NYHA Class III			

SYNCARDIA



THORATEC® HEARTWARE®





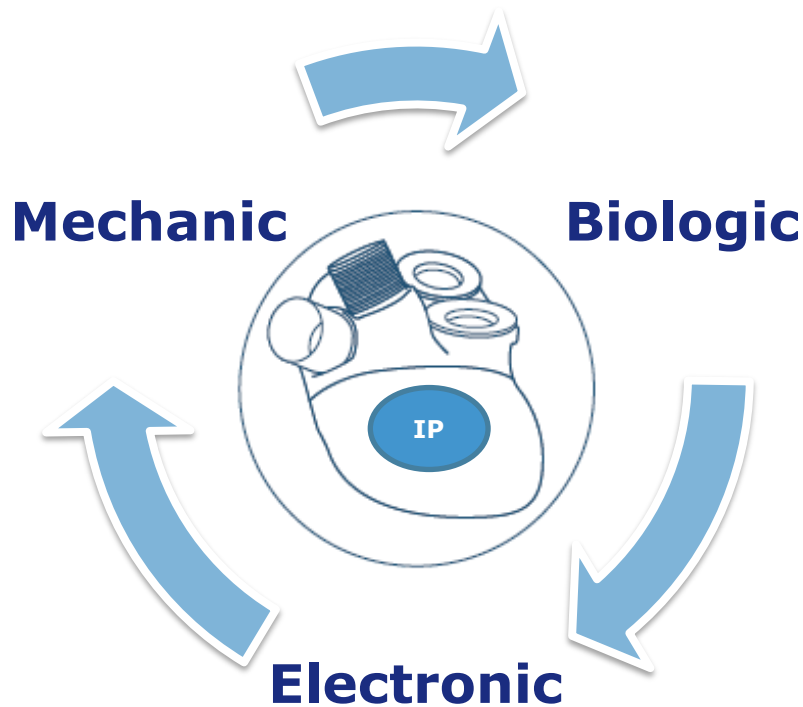
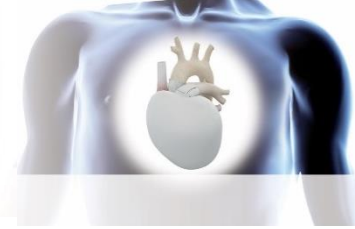
CARMAT



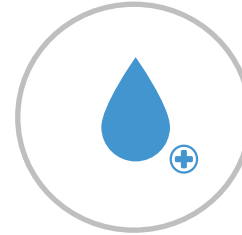
The World's Only Bioprosthetic
Self-Regulated Artificial Heart

CARMAT

CARMAT's Solution



BIOCOMPATIBILITY



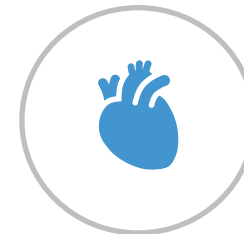
Built with surfaces **made of biocompatible materials** in contact with blood that potentially reduces thromboembolic risks

AUTO-REGULATION



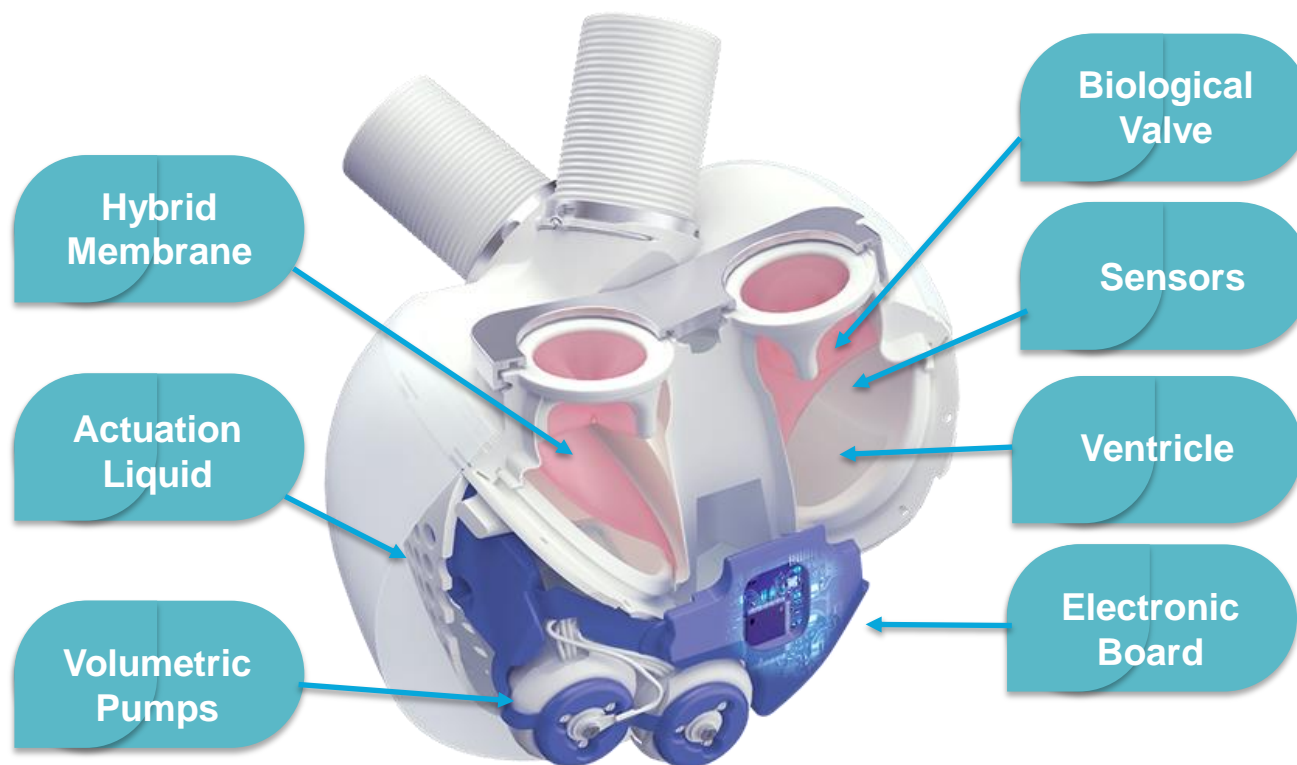
Immediate, automated response to patient's physiological needs whether they be active, inactive or transitioning activity levels

PULSATILITY



The pump unit hydraulic mimics the two parts of the heartbeat: **diastole when heart muscle relaxes and fills the chambers with blood; systole when muscle contracts and pumps blood into the arteries**

Device at a Glance



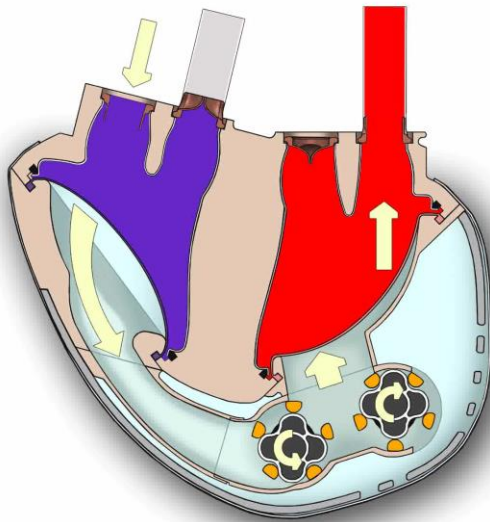
The Pump Mechanism



Mechanic Overview:

Volumetric pumps contained within the silicone chamber, activate the hybrid membranes allowing for blood to enter and exit the chambers

Mode of Operation:



1

Blood Flow Assessment

In-flow pressure is measured by sensors per millisecond to calculate flow requirement

2

Flow Auto-Regulation

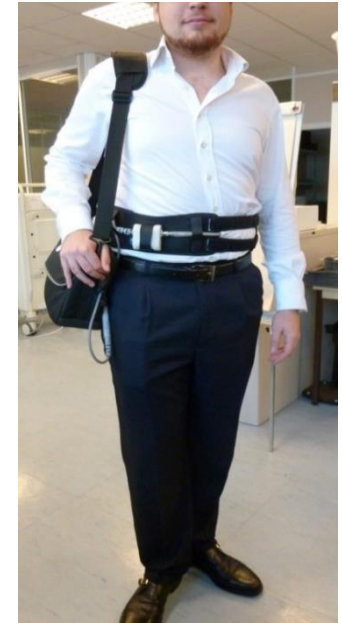
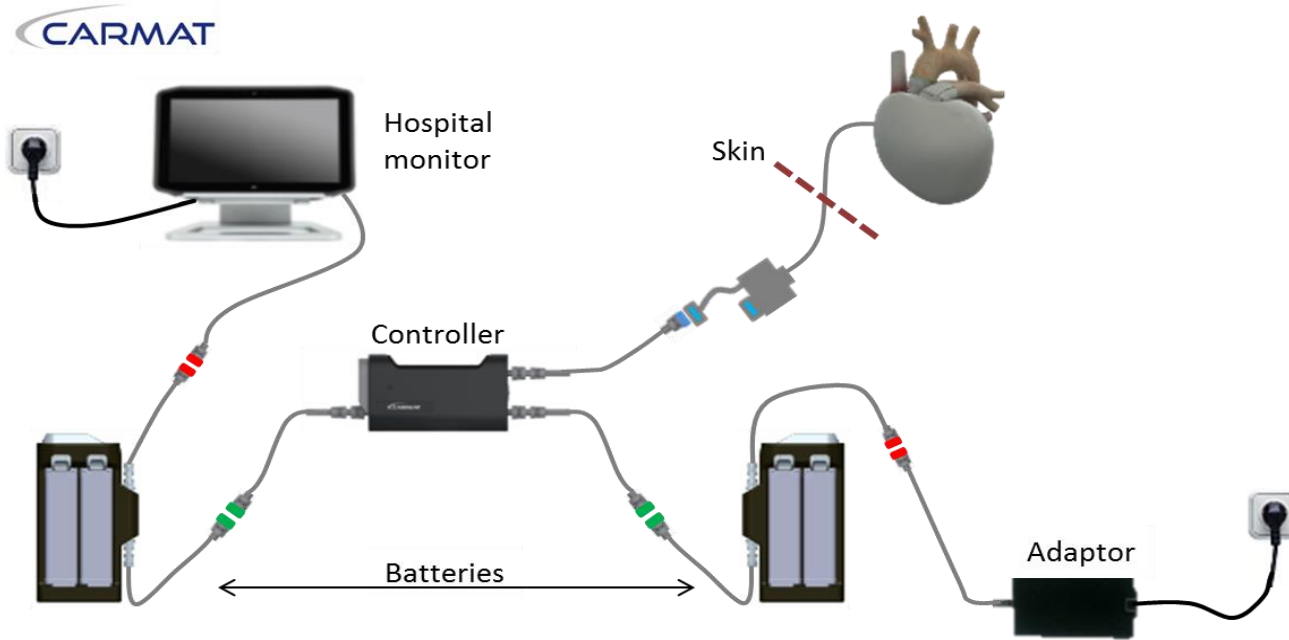
Speed and rotation direction of volumetric pumps adapts every 2 milliseconds to deliver calculated pulsatile flow

3

Flow Control

Membranes checked by 2 ultrasound sensors every 2 milliseconds to ensure volume of blood delivered via pump is accurate

Portable System Overview



Wearable System

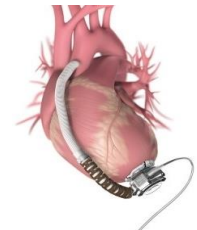
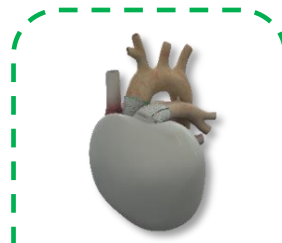
- Significantly increases patient convenience and autonomy
- Controller/monitor and 2 sets of batteries
- Rechargeable power source provides between four to six hours of autonomy depending on activity level
- Total weight 3kg/6.6lbs

CARMAT's Unique Solution



4 essential requirements to provide physiological support without complications*

- Biventricular Support
- Pulsatility
- Self-Regulation
- High Biocompatibility



	CARMAT TAH	Syncardia TAH	BVAD	LVAD + pRVAD	LVAD
Biventricular support	✓	✓	✓	✓	✗
Pulsatility	✓	✓	✗	✗	✗
Self-Regulation	✓	✗	✗	✗	✗
High Biocompatibility	✓	✗	✗	✗	✗

Full physiological support

* Rogers JC et al. *N Engl J Med* 2017; Money L et al. *ASAIO J* 2020; Lai JV et al. *ASAIO J* 2020
Mehra M. *Eur Heart J* 2017; Murase S et al. *J Heart Lung Transpl* 2020



 **CARMAT**



Clinical Development

 **CARMAT**

Ongoing EU PIVOTAL Study



Cohort One

- Completion of 10 patient enrollment for the first cohort of the study



Cohort Two

- 3 of 10 patients enrolled to date



Enrollment Objective

- **20 patient** enrollment objective in the next 4-5 months



Primary Objective

- **6 months survival**

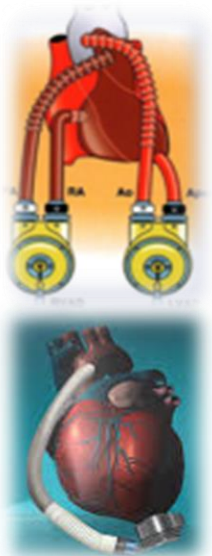
PIVOTAL Study Initial Results



- ➔ 6-month survival rate among the first 8 of 11 patients: **73%**
- ➔ Accounting for experience factors, we expect improvement with second patient cohort

Six Month Survival Rate

CARMAT FIM	50%
CARMAT PIVOT (11 Patients)	73%
SynCardia*	54% - 62%
BIVAD**	46% - 68%
LVAD***	90% - 92%



* Kirklín JK et al, J Heart Lung Transplant 2018;37:685-691. Arabia F et al, J Heart Lung Transplant, 2018;37:1304-1312

** Lavee J et al, J Heart Lung Transplant 2018;37:1399-1402. Arabia F et al, Ann Thorac Surg 2018;105:548-56

*** Strueber M et al. J Am Coll Cardiol 2011;57:1375-82. Netuka I et al, J Am Coll Cardiol 2015;66:2579-89

Unparalleled Safety Profile



Product A	Stroke	Surgical Repair Bleeding	Gastrointestinal Bleeding	Percutaneous Cable Infection
CARMAT FIM	0%	75%	0%	0%
CARMAT PIVOT (Part 1)	0%	27%	0%	0%

- Compared to alternative therapies, CARMAT boasts a positive 6-month safety profile in 11 patients participating in Part 1 of our Pivotal Study
- No CARMAT patients have displayed stroke, hemolysis or digestive system bleeding in the first cohort study

SynCardia*	23%	41%	20%	22%
BIVAD**	7%	n/a	7%	7%
LVAD***	8%	14%	8%	10%

* Arabia F et al, J Heart Lung Transplant, 2018;37:1304–1312. Demondion P et al, Eur J Cardiothorac Surg. 2013 Nov;44(5):843-8.

** Lavee J et al, J Heart Lung Transplant 2018;37:1399–1402

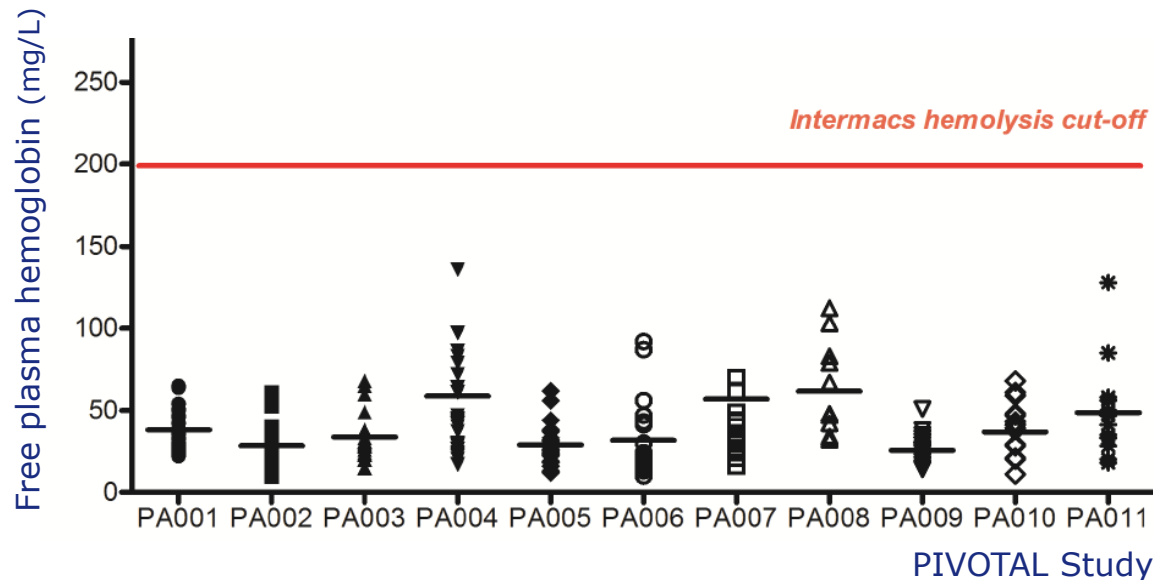
*** Netuka I et al, J Am Coll Cardiol 2015;66:2579–89

No Hemolysis



- Factors causing hemolysis (red blood cell rupture) negligible for CARMAT
- Hemolysis markers (free plasma hemoglobin) ↓↓ in all patients

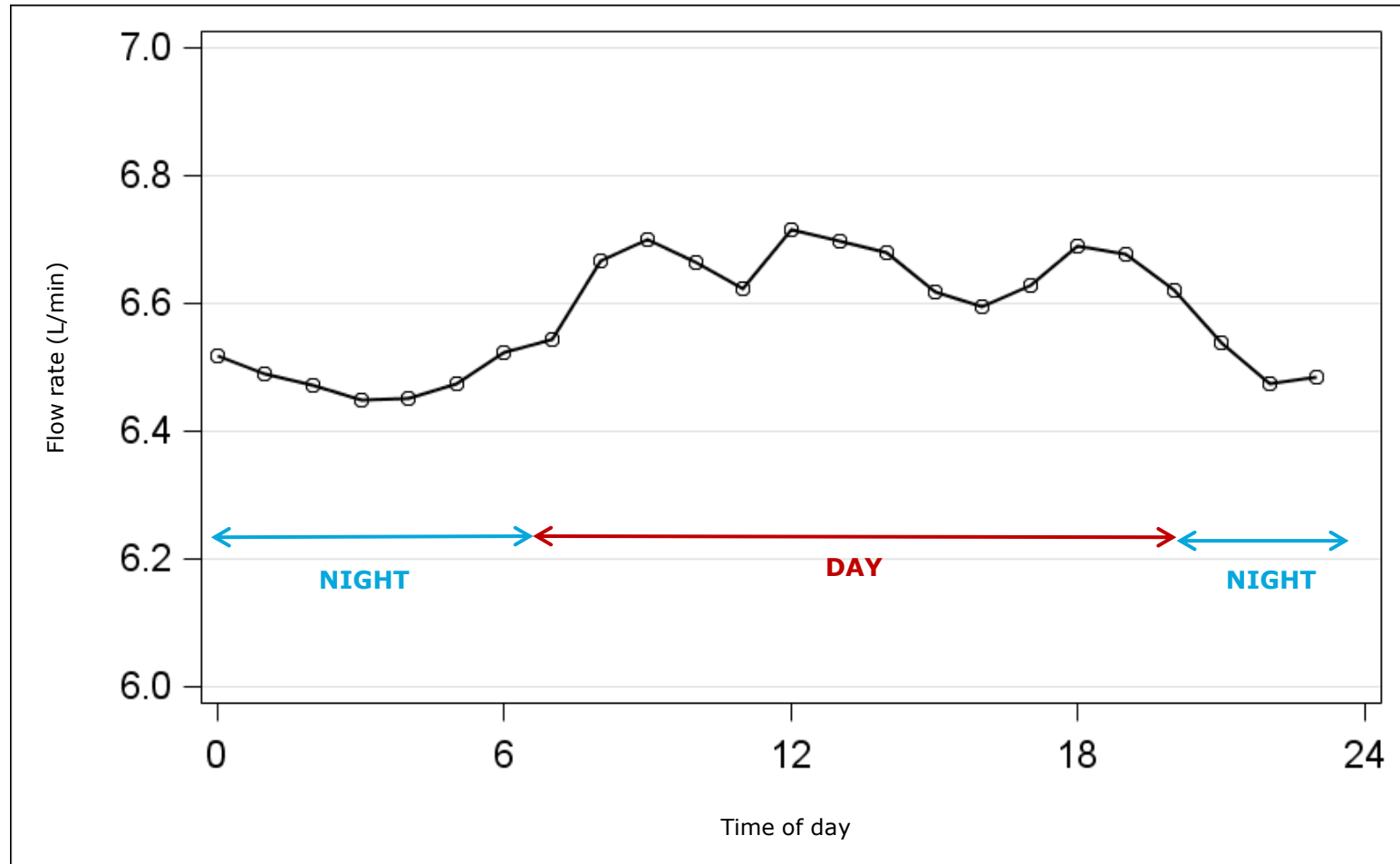
Factor causing hemolysis is present	LVAD	SynCardia	CARMAT
Shear Stress	++	+++	-
Synthetic Material	+++	+++	+



The Prosthesis Continues to Replicate a Human Heart



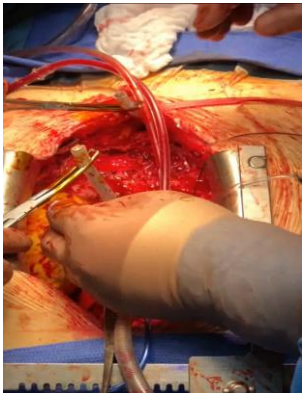
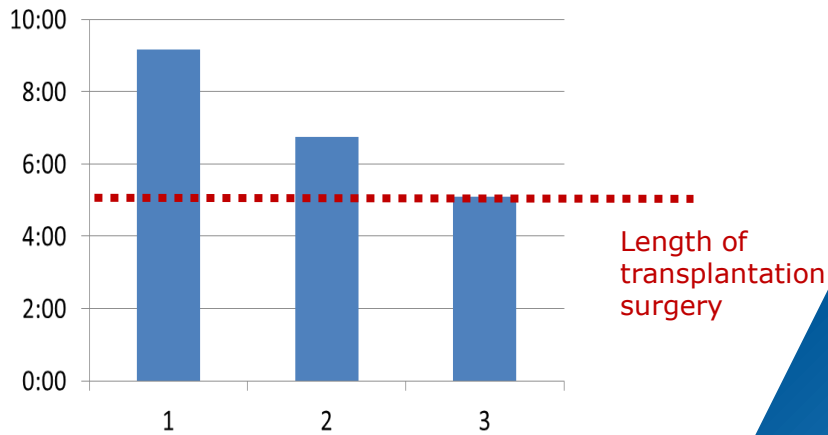
Circadian Cycle *10+ months of support*



Optimization of the Surgical Experience



Length of Surgery Evolution (hours)



100% procedure success rate

Experience-driven shortened surgery

5/5 successfully completed transplants post-CARMAT TAH

Pre-graft waiting times with CARMAT:
between 109 and 305 days

No tissue adhesion around the CARMAT prosthesis

Improving Quality of Life



CARMAT device offers major quality of life improvements:

- Faster Recovery
- Greater mobility
- Regained physical independence
- Autonomy comparable to LVAD

Faster recovery with CARMAT TAH

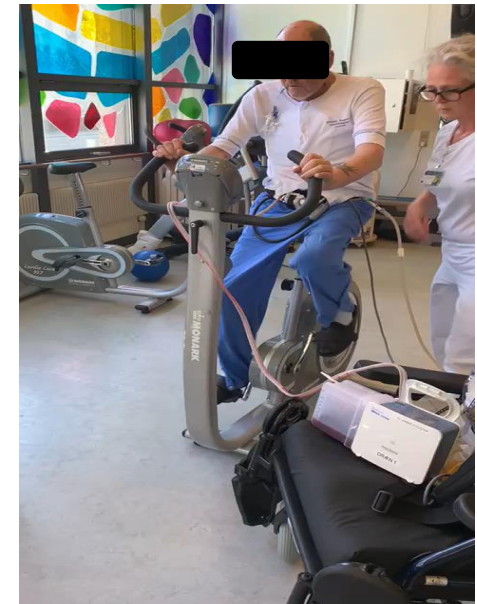
*CARMAT TAH
exercise*



*Post-transplant
exercise*



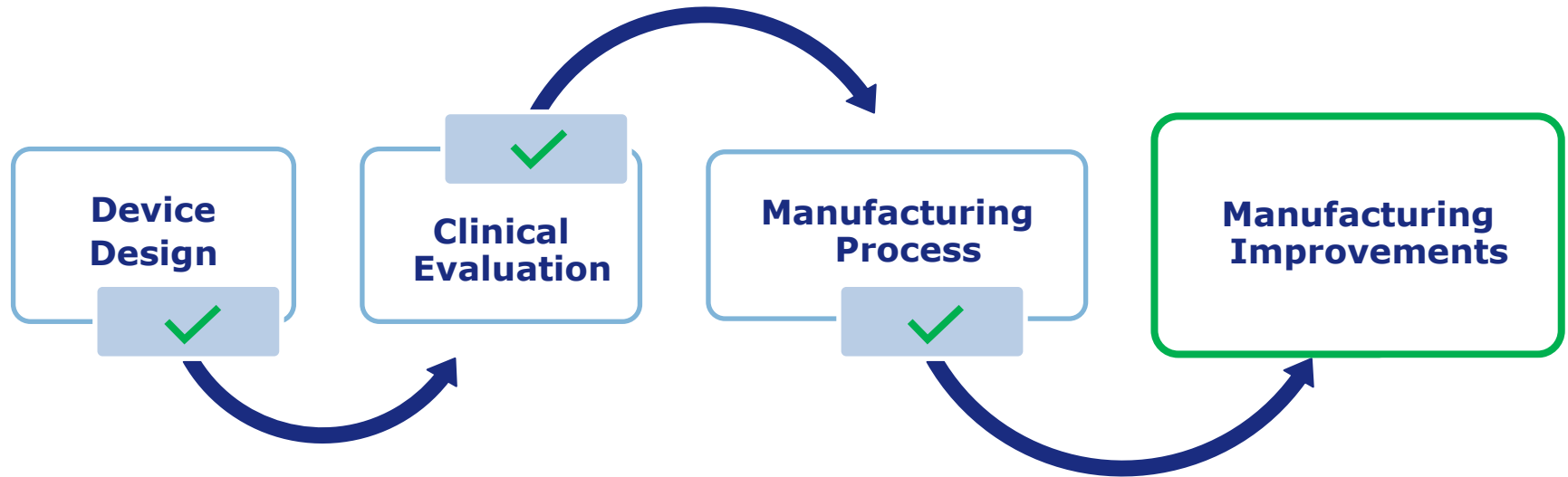
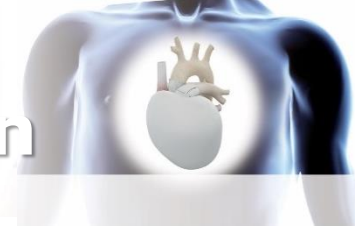
*Post-transplantation
consultation*





Strategy and Outlook

Targeting Unmatched Support Horizon



- Through its telemetry capacity the CARMAT device generates big data that drives continuous improvement
- Following analysis of the first cohort of the PIVOTAL study, multiple manufacturing process improvements have now been implemented
- This approach will be key to ultimately achieving the goal of providing a true destination therapy

U.S. Early Feasibility Study



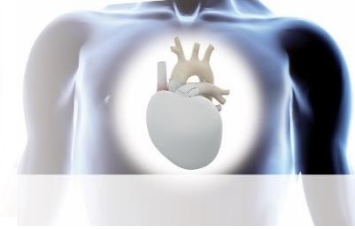
EFS in the U.S.

Next Steps:

- Expected to commence during 2020
- Recently obtained approval for full reimbursement for the device and procedure from CMS (Centers for Medicare & Medicaid Services)
- Receive approvals from Ethics Committees
- Sign study contracts with selected centers and begin patient selection

Study Objective: enroll first U.S. patients during 2H 2020

EFFICAS Study



EFFICAS in France

Study Objective: Complete study of 52 patients with collection of medico-economic data in France exclusively

Completed:

- Forfait Innovation filed in Q4 2019
- Favorable HAS opinion received in February 2020

Outstanding:

- Working through budget negotiations

Upcoming Developments



Application submission and anticipated approval of CE mark in 2020



Continuous improvement of production processes in Bois-d'Arcy



Anticipate completing the PIVOTAL study in Europe in 2020



Start of the EFFICAS study in France within the "Forfait Innovation" Framework



Start the implants within the framework of the Early Feasibility Study (EFS) in the U.S. in Q4 2020



Prepare the company for commercialization

Manufacturing & European Commercialization Updates



Objective: to initiate commercial activities in the EU during 2021

Manufacturing updates have increased reliability of the prostheses and allowed for better fluidity and continuity of production.



Commercialization

CE Marking

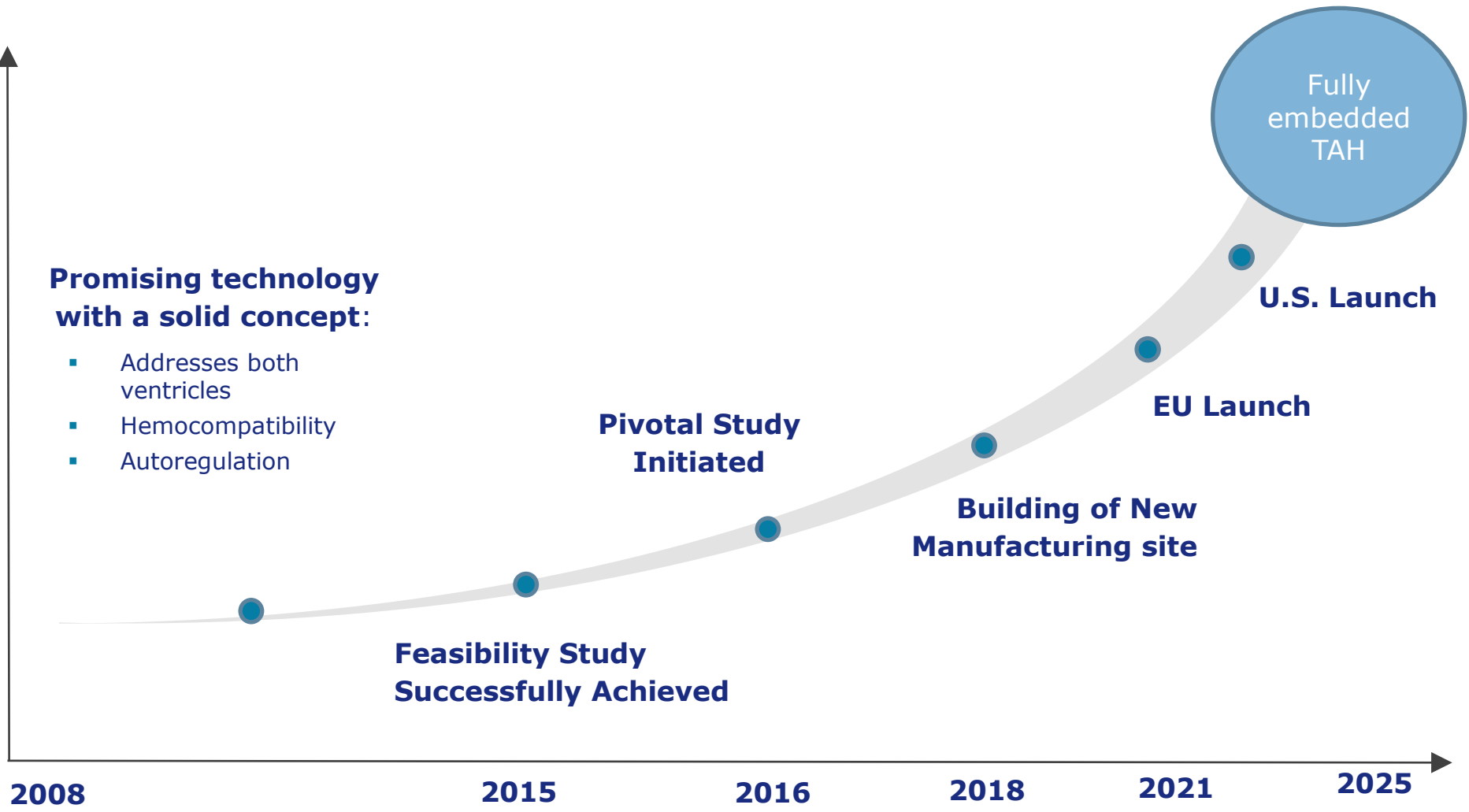
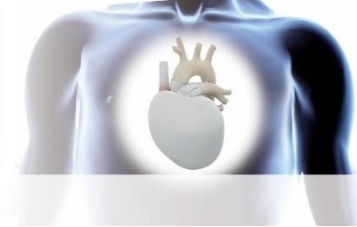
Robust clinical file with 13 patients ongoing review of DEKRA on the technical dossier



Marketing

Start contract negotiations with German hospitals

CARMAT - a Clear Path for Success





Financial Summary



Financial Performance



€ millions FYE 31 Dec	2017	2018	2019
Revenue	€0.0	€0.0	€0.0
Operating Profit	(€31.0)	(€42.8)	(€42.4)
EBITDA	(€30.3)	(€41.8)	(€41.3)
Net Income	(€29.2)	(€41.7)	(€42.6)

- **Prosthesis not yet marketed – no sales in 2019**
- **Operating expenses** addressed through European market access strategy:
 1. Continuation of the CE marking process
 2. FDA approval to start a feasibility study in the United States
 3. Ensure the reliability of the production processes and preparation for the ramping up at the Bois-d'Arcy plant

Available Financing



Cash as of 12.30.2019

€55m



EIB loan | Tranche 2

€10m

EIB loan | Tranche 3

€10m

**Non dilutive financing:
drawdown subject to technical
milestones**

CARMAT currently has financial runway to 2H 2021 including completion of EU clinical developments and preparation for commercial activities.

Stock Market Performance



Public Market Overview

Ticker: EPA: ALCAR

ISIN Code: FR0010907956

Industry: Health Equipment and Services

Share Price: €18.16

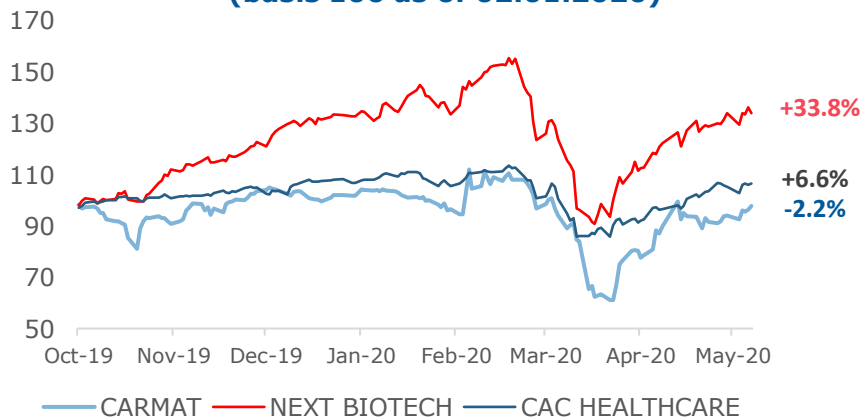
Shares Outstanding: 12,609,649

Market Cap.: €229.0m

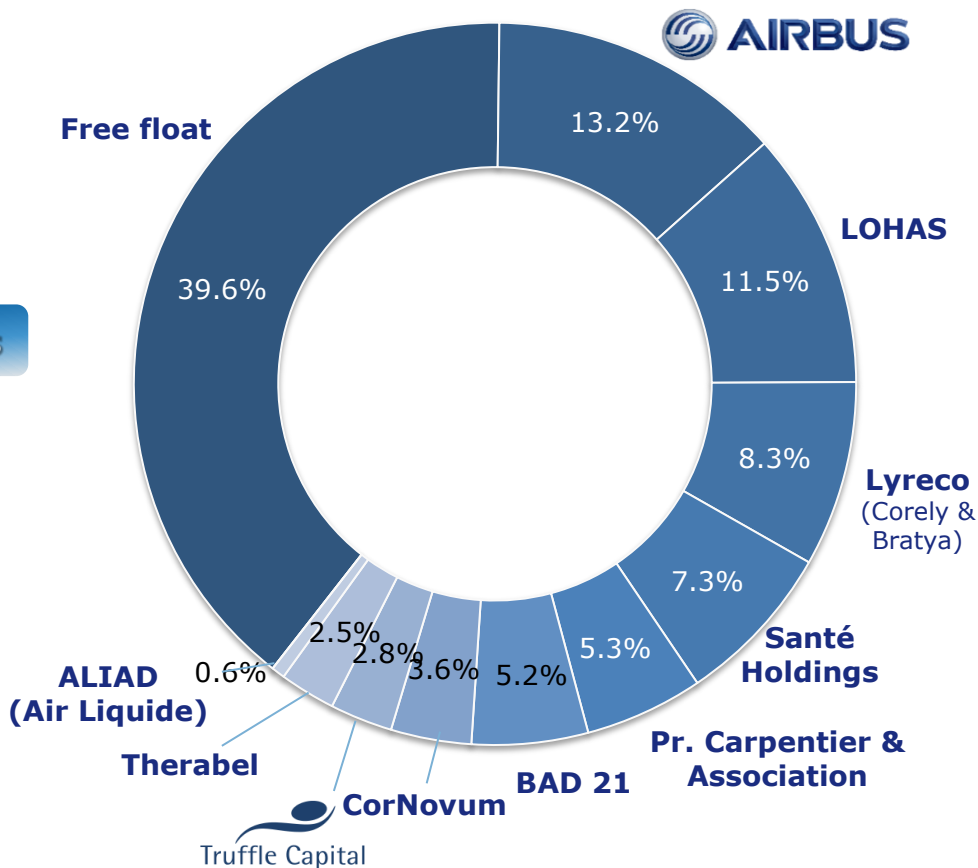
Note: As of 2/01/20; Source: Bloomberg, Company Filings

CARMAT Share Price vs. Sector Indexes

(basis 100 as of 02.01.2020)



Shareholder Structure

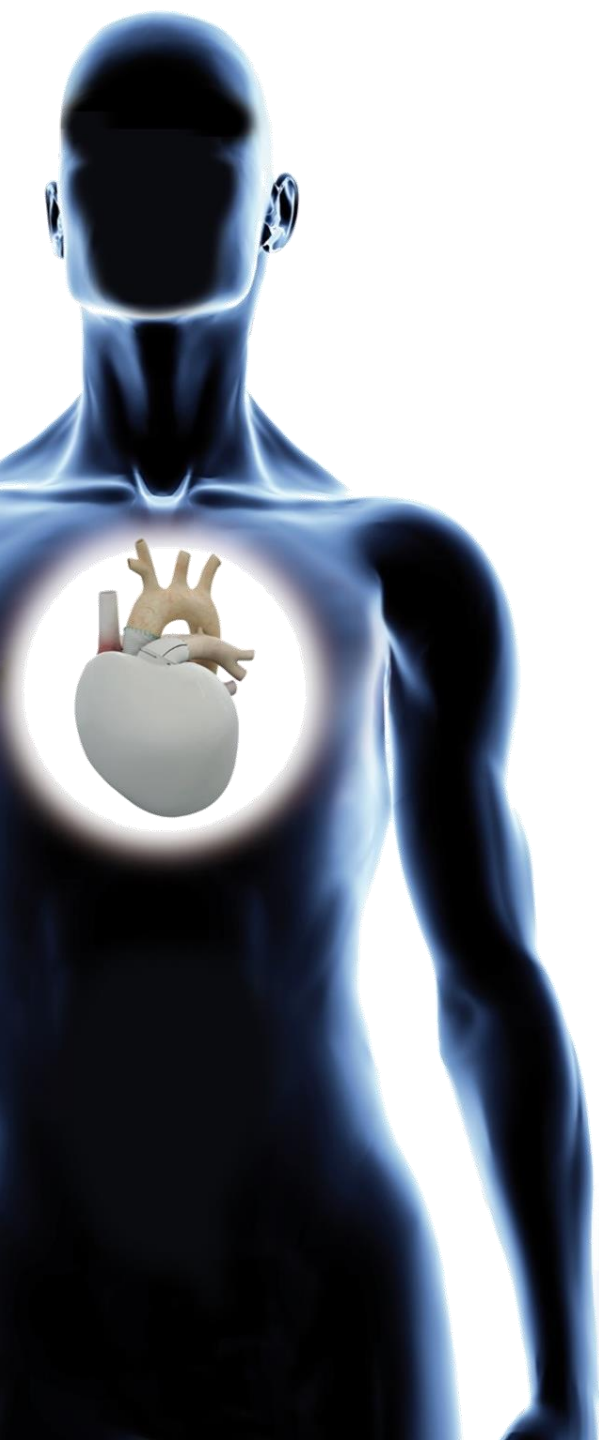


Why Invest in CARMAT Today?



- **Global technological breakthrough** providing the first bioprosthesis based on physiological functions
- Credible solution to the problems associated with **terminal biventricular heart failure**, a condition steadily becoming more pervasive
- Significant clinical and technical progress to application submission and expected approval of **CE mark in 2020**
- Support from first-class **industrial** and **financial partners**, as well as **leading players in cardiology**
- Acceleration in CARMAT's transformation towards becoming an **industry leading** medical device company





 CARMAT

Thank You!