



## CARDIAWAVE DEVELOPS THE WORLD'S FIRST NON-INVASIVE THERAPY FOR THE AORTIC STENOSIS

Press release • Paris, September 27, 2018 • **Cardiawave, the startup created from the research work of the Langevin Institute and the Georges Pompidou European Hospital (HEGP), announced that it had secured 7 million euros in financing, to accelerate the development of ultrasound for the treatment of calcific aortic stenosis.**

Cardiawave was created in October 2014 by Benjamin Bertrand (French-American entrepreneur), physicists Mickaël Tanter, Mathieu Pernot and Mathias Fink from the Langevin Institute (CNRS/INSERM/ESPCI joint research unit), world leader in ultrasound imaging and treatment, and the Cardiologist Emmanuel Messas, Department Head and Laboratory Director of the Georges Pompidou European Hospital (HEGP).

During the summer, it won 2.5 million euros in subsidies via the European program Instrument PME, phase 2, which finances the most disruptive European technologies developed by companies with very high growth potential. At the same time, it secured a capital increase of 4.5 million euros from its traditional shareholders (Sofimac Innovation, Business Angels des Grandes Ecoles (BADGE), Paris Business Angels (PBA), Angels Santé and Angels' Bay Invest) and by expanding the financing round to family offices, including those of Philippe Oddo and Serge Crasnianski. This brings its new financing capacity to 7 million euros.



For Benjamin Bertrand, the CEO of Cardiawave: *“This fundraising from our traditional shareholders and prestigious family offices shows that our company project is a perfect combination of ambition and realism. Along with the subsidy from the European Instrument PME, it will allow us to comfortably plan our developments beyond human clinical studies, which will begin in 2019. The marketing and the CE mark are expected for the beginning of 2021.”*

### CARDIAWAVE, WHEN FUNDAMENTAL SCIENCE MEETS CLINICAL PRACTICE

Cardiawave has developed a non-invasive medical device to treat heart valve disease, particularly that of aortic stenosis, the most common valve disease in adults and one of the main causes of cardiovascular mortality worldwide.

The technology developed by Cardiawave, which is the result of more than 5 years of cooperation between the teams at the Langevin Institute and the HEGP on focused ultrasound, is based on several patented breakthrough innovations.

Named “Pulsed Cavitation Ultrasound Therapy” (PCUT), the treatment consists of applying ultrasound, which, through a very high precision mechanical effect (cavitation), micro-fractures the calcifications and thus makes the flaps of the heart valve flexible again immediately during the procedure. When the aortic valve opens better, oxygenated blood can flow through the body properly again.

The technologies brought together in the device developed by Cardiawave have many advantages compared to the latest developments and all existing technologies. Using an integrated imaging device coupled with the ultrasound treatment procedure, it is possible to monitor the treatment's progress and its effects in real time.

### CONTACTS PRESSE

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## CARDIAWAVE WILL SOON MEET A MAJOR PUBLIC HEALTHCARE NEED

Aortic stenosis (AS) affects 3 to 12% of the population over 65 years of age: this disease has become a major challenge in public healthcare because of the aging of western populations. The survival rate is 2 to 5 years for patients diagnosed with severe symptomatic AS, which approximately 1.3 million patients in Europe suffer from today.

Whether it concerns open-heart surgery or a minimally-invasive TAVI-type procedure, the current treatment is for very ill patients only with a high risk of sudden death. Both approaches cause complications (stroke, infections, infarction) and the morbidity associated with these procedures is 3% to 5% at 30 days, 20% at 1 year and 40% at 3 years. Their cost is also extremely high, limiting their distribution and use. Currently only 30% of patients with AS at the severe stage are treated, due to non-diagnosis or the ineligibility of patients for current medical options, or finally due to a lack of infrastructures.

With its non-invasive device, lower cost than current treatments and easy use by cardiologists, Cardiawave's goal is to meet several challenges: to treat more patients, earlier and with better cost effectiveness for healthcare systems.

The first human clinical study will begin in the spring of 2019 and enable Cardiawave to plan for the Medical Device CE mark at the beginning of 2021 and treatment deployment the same year. To make this possible, fundraising for 15 million euros will take place at the end of 2019 and beginning of 2020.

## ABOUT SOFIMAC

Sofimac Innovation is an independent management company certified by the financial markets regulator (AMF) and dedicated to technological and innovative investment. We are present in Paris, Lyon, Rennes and Aix-en-Provence, as close as possible to the major innovation centers in France. We support innovative start-ups in their growth projects with a wide range of investment vehicles. Working in a wide variety of technological sectors, particularly in the health and digital sectors, our team comprises 10 experienced investor-entrepreneurs specialized in their field. Sofimac Innovation currently manages 8 funds comprising around 80 active companies.

Sofimac Innovation is part, along with Sofimac Régions, of the Sofimac Investment Managers group, which has been investing in innovation and growth capital for nearly 40 years.

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## ABOUT LES BUSINESS ANGELS DES GRANDES ECOLES, PARIS BUSINESS ANGELS, ANGELS SANTÉ, ANGELS' BAY INVEST

81 Business Angels members of these 4 networks have been supporting Cardiawave since its early days in 2015, providing advices and capital money. They have financed Cardiawave in 2015, 2016 and 2018 at the total extend of €3.4 Million, thus becoming, as a group, a significant shareholder of Cardiawave. They also participate in the governance of the Company throughout an active work as members of the Board (2 representatives).



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