Naturally Restoring the Heart Valve

Xeltis is a clinical-stage medical device company pioneering a restorative approach in heart valve therapy. Xeltis’ technology enables natural heart valve restoration. Xeltis’ heart valves enable the patient’s own body to naturally restore a heart valve through a therapeutic approach called Endogenous Tissue Restoration (ETR).

- **With ETR, the patient’s natural healing system develops tissue that pervades Xeltis’ heart valve**, forming a new, natural and fully functional valve within it. As ETR occurs, Xeltis implants are gradually absorbed by the body.
- **ETR is enabled by Xeltis’ technology platform based on Nobel prize awarded science.** RestoreX is the world’s first polymer-based technology designed to enable natural restoration of heart valve function.
- **In industrialized countries heart valve disease is estimated to affect approximately two percent** of the population, with hundreds of thousands of patients undergoing heart valve intervention every year.
- **Today, patients with artificial heart valves** generally endure the risk of repeated replacement procedures or take long-term medication with potentially severe side effects.
- **Xeltis’ novel restorative approach has the potential to overcome the limitations of current artificial heart valves.** This may improve the lives of hundreds of thousands of patients requiring heart valve replacements and reduce overall healthcare system costs.

Trials on Restorative Heart Valve Therapy Underway

- **Xeltis completed enrollment in the Xplore-I feasibility clinical trial** for its pulmonary valve. Devices have successfully been implanted in 12 patients at multiple sites in Europe and Asia. The primary objective of the study is patient survival rate six months after surgery.
- **Xeltis initiated Xplore-II**, a U.S. multi-center feasibility clinical trial for its pulmonary valve. Four prominent U.S. centers are now participating in the Xplore-II trial.
- **The latest study results from Xeltis’ preclinical aortic valve program** have been presented during a dedicated session on ETR at TCT 2017. The data showed promising results with good hemodynamic performance and fully functional valves in vivo 12 months after implantation.

Data Confirmed Promise to Naturally Restore Complex Heart Anatomy Function

- **The 31-month follow-up data from a pediatric feasibility study** of a vascular graft developed with RestoreX technology showed positive functionality results with no device-related adverse events, and significant improvement in patients’ general conditions. In the study, all five children, age 4 to 12 years at enrollment, had only one functioning heart ventricle due to congenital heart defects (CHDs).

How Endogenous Tissue Restoration Works

- **Step 1**: Xeltis devices work as normal heart valves once they are implanted.
- **Step 2**: New tissue naturally forms around and within the device to restore a new, healthy, functioning heart valve.
- **Step 3**: Xeltis devices gradually absorb, leaving patients with a new, healthy, functioning heart valve.
Xeltis Closed a €45 Million Series C Financing

• It is supporting continuation of clinical activities and acceleration of product and market development for the company’s novel pulmonary and aortic valve programs.
• Led by a global strategic investor; the funding included participation from venture capital fund Ysios Capital, institutional investors (LSP, Kurma Partners and VI Partners) and private investors.
• “Xeltis has the potential to transform the way heart valve disease is treated in the future,” says Michel Darnaud, chairman of the board of Xeltis.

Xeltis is Supported by Nobel Laureate Professor Jean-Marie Lehn

• Professor Lehn received the 1987 Nobel Prize in Chemistry for his work in supramolecular chemistry, the science that Xeltis used as the basis for its RestoreX technology.
• He is recognized as a pioneer in supramolecular chemistry, a term that he first coined.
• Professor Lehn is currently active on a number of scientific advisory boards and is director of the Supramolecular Chemistry Laboratory at the Institute of Supramolecular Science and Engineering in Strasburg, France.

What Experts are Saying

Jean-Marie Lehn Nobel Laureate, PhD
Pioneer in Supramolecular Chemistry; co-winner of 1987 Nobel Prize in Chemistry

“Supramolecular chemistry enables Xeltis technology by providing unique biochemical and biomechanical properties, delivering solutions to issues faced by traditional materials over the course of decades.”

(Final: Prof Lehn is a Scientific Advisor to Xeltis)

Frederick J. Schoen, MD, PhD
Executive Vice Chairman, Pathology, Brigham and Women’s Hospital
Prof. of Pathology and Health Sciences and Technology, Harvard Medical School

“I am impressed by the Xeltis preclinical results to date that have advanced our understanding of host-biomaterial interactions and show potential for an innovative approach that could improve the care of patients with cardiovascular disease.”

(Final: Prof Schoen is a Scientific Advisor to Xeltis)

Martin B. Leon, MD
Director, Center for Interventional Vascular Therapy
Columbia University Medical Center / New York-Presbyterian Hospital

“I am excited by the potential of the Xeltis technology for the replacement of heart valves, bringing significant benefits not only to the procedure and valve designs but also to clinical outcomes for patients.”

(Final: Prof Leon is a Medical Advisor to Xeltis)