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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health



National Institutes of Health Commercialization Assistance Program
(NIH-CAP)

Company Profile

Industry Sector:

Diagnostics

Hyperpolarized Noble Gases 129Xenon and 3Helium serve as inhaled contrast agents for Magnetic Resonance Imaging evaluation of pulmonary function and functional microstructure for diagnosis, staging, phenotyping, and management of lung diseases including COPD, asthma, IPF, CF, and BPD.

Company Overview:

Xemed LLC is developing Hyperpolarized 129Xenon and 3Helium contrast agents in Clinical Trials towards FDA approval.

Target Market(s):

Pharmaceutical companies validating new pulmonary drugs.
Hyperpolarized inhaled contrast agents provide detailed, quantitative evaluations of pulmonary function and pulmonary functional microstructure, which can provide surrogate endpoints for drug trials or assist in screening subjects for drug trial enrollment

Key Value Drivers

Technology*:

Xemed is licensee of technology patented by the University of New Hampshire for production of Hyperpolarized 129Xenon and 3Helium. Hyperpolarized gases can be inhaled by a patient lying in an MRI scanner for evaluating 3D maps of lung functional parameters: regional ventilation, alveolar dimension, septal thickness, oxygen uptake

Competitive Advantage:

Hyperpolarized 129Xenon production using patented methods offers one hundred times greater yield than competing systems, allowing human lung scans several times per hour

Plan & Strategy:

Pilot studies are underway at Harvard and Virginia to focus Phase II study parameters and goals. Xemed intends to define and complete FDA Phase II and III by establishing a worldwide Hyperpolarized Xenon Imaging Network and conducting trials at four centers.

*Technology funded by the NHLBI, NIBIB, NIEHS, NCRR, and NCI and being commercialized under the NIH-CAP

Management

Leadership:

F. William Hersman PhD, CEO and owner of Xemed and Professor of Physics at the University of New Hampshire has twenty years experience creating and leading large science-based organizations. Currently serving (2009-2010) as elected President of the Hyperpolarized Media MR study group of the International Society of Magnetic Resonance in Medicine.

Scientific Advisory Board:

Kai Ruppert, PhD, University of Virginia
Sam Patz, PhD, Brigham and Women's Hospital and Harvard Medical School

Product Pipeline

Imaging agents:

Hyperpolarized 129Xenon: MagniXene™

FDA allowance to proceed with Phase II trials, pilot studies underway at two sites

Hyperpolarized 3Helium: MagniLium™

Available soon

Infrastructure:

XeBox-E10 automated ultra-high-yield 129Xenon polarizer

FDA approved Xemed's request to charge. Accepting orders

HeliBox-Z100 automated high-yield 3Helium polarizer

Operational prototype under evaluation

32-element xenon chest coil for accelerated parallel imaging (Siemens Tim Trio)

Operational prototype under evaluation