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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: Medical Devices and Optical Instrumentation

Company Overview: Powerscope has expertise in aerosol technology and optical diagnostics. The company is involved in the development and commercialization of drug delivery devices and innovative instrumentation based on its advanced technologies.

Target Market(s):

- Hospitals for drug delivery to humans;
- Research laboratories for drug delivery in pre-clinical research;
- Industrial quality control market for optical diagnostics.

Key Value Drivers

Technology: High-frequency ultrasonic nebulizer for generation of dense clouds of submicron drug aerosols. Particle concentrations as high as 20 million per cc and mass median diameters as low as 100 nm are feasible. Powerscope is seeking implementation of this technology in delivery of drugs to the lungs; esp. drug delivery to the patients needing penetration of the inhaled drug to the peripheral region of the lung.

Competitive Advantage: Existing devices for inhalation drug delivery generate aerosols with supermicron mean size. Gamma scintigraphy data shows that they do not deliver aerosols uniformly and cause spots of concentrated deposition. Also, the drug does not adequately reach the peripheral region of the lung. Powerscope's technology enables uniform and deep-lung drug delivery by generating high-concentration submicron aerosols.

Plan & Strategy: Seeking partnership with the manufacturers of mechanical ventilators for hospital applications of the technology.

*Technology funded by the NHLBI and being commercialized under the NIH-CAP.

Management

Leadership:

Amir Naqwi, Ph.D., President

Scientific Advisory Board:

Prof. Timothy S. Wiedmann, Pharmaceuticals Department (Expertise: inhalation drug delivery)

Dr. Leroy Fingerson, former CEO TSI Inc. (Expertise: Founding and management of a hi-tech business with annual revenues of >\$100M)

Dr. Donald Holve, Partner Processmetrix (Expertise: Development and Commercialization of new technologies based on government funding)

Product Pipeline

Concept proven; however, original device was >\$4,000 per unit

Low-cost device (\$500/unit for batches of 20; <\$50 for batches of 1000) developed and proven; extensive testing underway; to be completed by June 2008

Plan to release an aerosol generator for animal research by December 2008; to be marketed by an established supplier of pre-clinical research equipment

Plan to generate gamma scintigraphy data with rodents (and possibly larger animals) by December 2008 to show the penetration of submicron aerosols in the lungs

Ventilator application to be developed with the strategic partner in 2008 and 2009.