

Executive Summary

The Company

BioLum Sciences, LLC is the developer of a medical device, the BioSense AMD (Airway Monitoring Device), that aids in the diagnosis and monitoring of respiratory diseases, such as asthma and COPD, by enabling patients to measure airway inflammation with a quick and reliable test.

BioLum's test analyzes EBC (Exhaled Breath Condensate) using a disposable collection device and reagent cartridge that contains a noninvasive test. Our team comprises an effective partnership between entrepreneurial expertise and scientific innovation. BioLum Sciences has capitalized on the thriving business sector in the Dallas area to forge partnerships and a strong consultant network.



Recently, we have become a resident company at Johnson & Johnson Innovation JLABS at the Texas Medical Center.

Market Opportunity, Value Proposition, and Customers

There are approximately 300M people in the world with asthma. The Centers for Disease Control and Prevention puts the annual cost of asthma in the United States at more than \$80 billion. Asthma accounted for 470,000 hospitalizations, 1.6 million ER visits, and 10.5 million doctor visits in 2013.

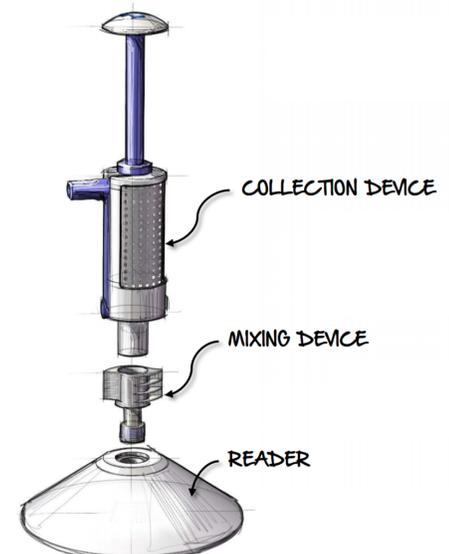
BioLum utilizes the 'razor and blades' business model by selling our product and test kits as a means of determining airway inflammation. BioLum's product will be a onetime purchase for specialists, primary care clinics, hospitals, and patients. The Company looks to capture profitability through bulk purchase orders and steady repeat sales of our test kit, which will be used each time a breath sample is analyzed. Consistent and regular testing will offer significant patient benefits, while also providing physicians and researchers with an improved understanding of the disease through patient-generated data.

There are approximately 26M people in the U.S. with asthma; if each of those asthmatics took only one BioLum test each year, the total addressable market (**TAM**) is **approximately \$390M**. There is a clear societal need and market opportunity for improved asthma treatment to reduce the health burden and economic impact of this disease. Having a window into the lung will allow doctors to administer the proper form of treatment.

Patients can analyze their breath with our device and receive a reading that indicates the presence and severity of their airway inflammation in less than 5 minutes.

This will allow patients and physicians to:

1. **Monitor patient adherence to treatment**
2. **Determine the efficacy of treatment plans**
3. **Reduce asthmatic episodes through medication optimization**



Target sectors:

1. **Pharmaceutical companies** can use our technology during clinical studies to validate the efficacy of their drugs and treatments, while increasing the amount of the clinical research associated with our product.
2. **Physicians** will implement our test into their daily practice, providing them with valuable insight into a patient's condition that has not previously been available, allowing for more effective personalized healthcare.
3. **Patients** will have the ability to monitor their symptoms using clinical grade technology.

Technology & Innovation

Currently BioLum's BioSense AMD is a commercial prototype nearing completion. A low-cost photon detection system and an extremely sensitive chemical assay have been developed and tested in multiple clinical studies with a total of 80 patients being tested at three different time points.

Competition

Physicians currently diagnose asthma and COPD by gathering evidence of affected airways using spirometry, patient reports, and family history. These methods rely on patient compliance to be accurate, unlike biomarker measurement. Aerocrine's device, the NIOX Vero, measures FeNO (fractionally exhaled nitric oxide) and is currently the leading biomarker product on the market. Due to the prohibitive cost associated with the purchase and maintenance of the Vero, Aerocrine has had limited market penetration in the US and has yet to reach the homecare market. Fortunately, Aerocrine has proven the effectiveness and demand for biomarker measurement, paved the way through clinical trials, and convinced insurance companies to publish CPT reimbursement codes for biomarker measurement.

The Team

Edward Allegra, CEO: Edward has a strong medical and economic background with experience working in a lab environment as well as pitching his ideas to investors all over the nation. He oversees the product and business development, while fostering relationships with investors, partners, and customers.

Jack Reynolds, CFO/COO: Jack has gained valuable experience working with a hedge fund, a foreign currency brokerage, a fintech company, and a startup venture of his own. He oversees day-to-day operations, financial analysis & forecast, risk management, and resource allocation while building out processes and systems for scalable future growth.

Dr. Alexander R. Lippert, CSO: Dr. Lippert has 13 years of expertise in synthetic chemistry and the development of optical techniques for imaging biological analytes in living cells, animals, and clinical samples. He has filed five patents, published 25 papers, and serves as PI on multiple grants awarded by the National Institutes of Health and various private organizations. Dr. Lippert oversees product development and chemical assay integration.

Miguel E. Quimbar, CTO: Miguel has 5 years of research experience in analytical chemistry with a focus on chemiluminescence assays. His research yielded a publication on our initial chemiluminescence system. He oversees BioLum's research and development by optimizing the assay, performing clinical studies, and working with collaborators to design systems supporting BioLum's assay.

Fundraising

BioLum is raising a \$1,000,000 seed round, of which \$300,000 has been secured from a Dallas-based VC firm, Intelis Capital. The round is offered as a convertible note with a \$2,000,000 valuation cap, but other options may be negotiated. Prior to the current round, we raised \$55,000 from Business Competitions, \$100,000 from friends & family, and our partner, Dr. Alex Lippert, received \$1,000,000 in federal funding supporting his research on our product's chemistry.

For more info please contact Edward Allegra at (732)-284-7042 or ecallegra@biolumsciences.com