

TBS Technologies - Company Summary

TBS – Unique and Superior Chlorine Dioxide Technology

TBS' innovative patented chlorine dioxide gas generator offers a next generation, inexpensive means of achieving superior disinfection, reducing overall costs, and potentially saving lives. TBS' revenue model comprises the sale of generators and single use cartridges, which are returnable, refillable and reusable ("green").

The Need for Better Disinfection in Target Markets

Hospitals. Studies indicate manually-applied liquid disinfectants are only about 50% effective on environmental surfaces, such as bed rails and door knobs. In hospital settings this ineffectiveness contributes to the occurrence of the CDC estimated 2 million Hospital Acquired Infections (HAIs) per year in the USA. Life Sciences. The traditional use of formaldehyde in Life Science facilities is being phased out due to the carcinogenic nature of formaldehyde and its long cycle times. Other markets, such as food processing, require disinfection to reduce the potential of contamination from E. coli, salmonella and other pathogens, as well as to reduce costs due to spoilage.

Global Market Size

TBS estimates the USA market for Life Sciences is \$250 million for devices and \$300 million per year for cartridges; for Hospitals \$500 million for devices and \$1.2 billion per year for cartridges. Global markets are estimated at 2X the USA market. Expanding use beyond hospitals to other healthcare institutions (nursing homes, clinics, long term care and others) would substantially increase the healthcare market opportunity.

Why Chlorine Dioxide Gas?

Chlorine dioxide has been well-accepted for many decades as a superior disinfectant chemical, effective on all forms of microbes. Chlorine dioxide leaves virtually no residues and typically has shorter cycle times than other chemical methods. Chlorine dioxide was chosen by the US government to disinfect the Hart Senate Office Building in 2001, suspected of anthrax contamination.

TBS' Chlorine dioxide gas reaches into surface imperfections at the microscopic/molecular level



Why TBS?

TBS' chlorine dioxide technology combines the characteristics of: superior disinfection chemical, gas phase application, low cost, portability, efficacy, benign chemicals for generation of chlorine dioxide, simplicity of operation, and integrated performance validation.

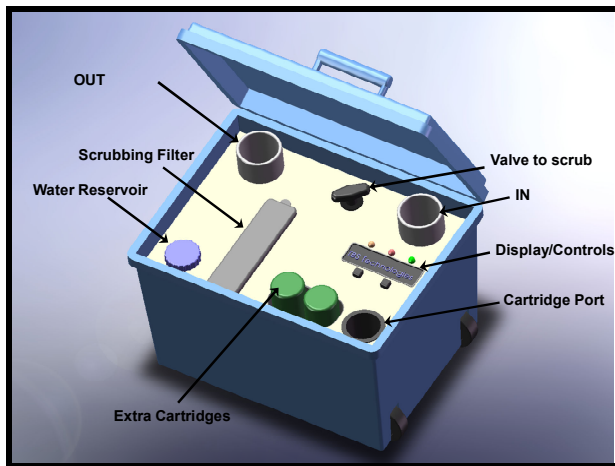
TBS' Technology Platform

TBS uses a cartridge concept to introduce the precursor chemicals into the generator. Water is added to the generator and the system is ready to operate. The amount of chlorine dioxide gas produced can be monitored and controlled by TBS' proprietary ClO₂ sensor to validate performance. The dispersal of the chlorine dioxide gas is facilitated by the use of a blower. Removal of chlorine dioxide after disinfection is complete to below OSHA standards is accomplished easily by passing the chlorine dioxide through a carbon filter. A wide range of concentrations and disinfection time spans can be achieved with one basic form factor. TBS has two issued patents and several patents pending.

Efficacy/Proof of Concept Testing and Prototypes

TBS has successfully demonstrated up to 6 log kill of *B. atrophaeus* spores. TBS has, in collaboration with both Massachusetts General Hospital and an EPA/FDA approved laboratory achieved from 99% to 99.9999% kill of various representative micro-organisms, including *staphylococcus aureus*, *E. coli*, *salmonella*, *pseudomonas aeruginosa* and *enterococcus faecalis*. TBS has successfully completed many tests with dozens of prototypes, in-house, at outside laboratories and at Beta sites.

Contemplated Commercial Product



Automatic operation consisting of 4 integrated 'plug-n-play' modules:

- Humidification with sensor and data logging
- ClO₂ generation
- ClO₂ sensing and data logging
- ClO₂ removal

Drop-down menu for selection of appropriate protocol

Approx. 20 lbs, 24" x 18" x 16"

Markets and Opportunities

TBS plans to sell into the Life Science market first, where we have received a positive response to our technology. TBS expects to very selectively pursue applications in other markets – many of which have already shown interest in TBS, such as food processing to reduce the risk of food contamination caused by *E.coli*, *salmonella* and other micro-organisms.

TBS – Hospitals

TBS believes that there is a huge market opportunity in healthcare, where our technology could be used to improve surface disinfection from the current 50% average efficacy to >99%, therefore playing a significant role in reducing Healthcare Acquired Infections (HAIs). It is expected that the federal government health insurance system will cease reimbursing hospitals for HAIs. This will shift approximately \$20-40 billion of annual cost from the public to the private sector, providing a strong motivation for hospitals to use improved disinfection methods.

High Margin Products

Expected initial margins of 65-70% for both our generator and our consumable provide a healthy cash flow from sales.

Exit

Our plan is to build a solid, profitable business with an initial emphasis on Life Sciences, and build from this foundation into other markets. Our business model, with a powerful annuity stream component makes TBS an attractive acquisition. Several large companies have already shown interest in TBS. Because TBS' technology may cross over many markets, the potential for multiple exits is feasible.

Management

Thomas Dee

tdee@TBSTechnologies.com

Chairman of the Management Committee and CEO

Mr. Dee has 30 years of business experience in business operations, manufacturing, membrane separations, product development, and business development. During his career with Ionics, Inc. he built a successful water business which was sold to Perrier (Nestlé), was involved with many international water projects totaling over \$100 million, and concluded 11 acquisitions.

Morton Rosenberg

Chief Financial Officer

As a part time consulting CFO, Mr. Rosenberg has played managerial and individual contributor roles as a Financial, Administrative and Systems Executive during the last 30 years in a variety of industries. He has served as Chief Financial Officer in an office products distribution company, a sheet metal fabrication company, a development stage fuel cell company that went public, a software developer, a manufacturer of woolen products, an investment management company, a real estate management company and a construction company.

Business Advisors

Stephen Korn

Former Vice-President, General Counsel and Secretary of Zoll Medical Corp., Ionics, Symbolics.

Daniel Kuzmak

CFO, Coaltek; formerly CFO at Ionics, Terex, Quench, ABB.

James Mulvihill, DMD

Former CEO: University of Connecticut Health Center, Juvenile Diabetes Foundation International, Forsyth Institute; former Chairman, Travelers Health Company, former Consultant to the Robert Wood Johnson Foundation.

Paul Sabin

Principal at Fikst, product design and development, numerous awards and patents.

John L. Brooks

President and CEO Joslin Center, former President of Healthcare Capital Consulting, Co-Founder the Prism Ventureworks.

Paige Arnof-Fenn

Founder and CEO of Mavens and Moguls, a global marketing strategy firm, Board Chair of the Alumni Board of Stanford University, Chair of the Board of Trustees of the Sports Museum at the Boston Garden.

Janice Bourque

Managing Director of Life Sciences for Hercules Technology Growth Capital. Formerly President/CEO of the Massachusetts Biotechnology Council (MBC) and Senior Vice President and Group Head-Life Sciences at Comerica Bank.

Scientific Advisors

William Carson

Co-founder and Senior Vice President Spectra-Analysis, Inc. Former Vice President of Research and Development groups at Ionics, PerSeptive Biosystems, Millipore and Waters Associates. Over \$1 billion of sales of products resulted from 21 issued US and more than 75 corresponding foreign patents.

Kenneth Kustin, PhD

Emeritus Professor of Chemistry at Brandeis University, formerly Chair of the Department. He received a B. Sc. degree in Chemistry and Mathematics at Queens College, a Ph. D. degree from the University of Minnesota in Inorganic Chemistry, and he was a postdoctoral fellow in the laboratory of Nobel-prize recipient Manfred Eigen at the Max Planck Institute for Physical Chemistry in Germany.

Eric S. Rosenberg, MD

Associate Professor of Medicine, Harvard School of Medicine, Associate Director, Clinical Microbiology, Infectious Diseases Division, Massachusetts General Hospital, numerous publications, presentations and awards.