

***Material Technologies, Inc.
(MATECH)***

**Trials & Tribulations of an
Entrepreneur's Path to Success**

***Robert M. Bernstein
Chairman and CEO***

Material Technologies, Inc.

- **In business ~ 17 years;**
 - **Listed on the NASDAQ: MTNA.OB**
- **Three major products:**
 - **Electrochemical Fatigue Sensor (EFS)**
 - **Videoscope**
 - **Fatigue Fuse**
- **Recently received funding to enable commercialization of products**

Timeline

In the Beginning – The Fatigue Fuse

- **1985: Martin Meyerson(former president of UPenn) brings me invention of the Fatigue Fuse, invented by Maurice Brull, founding Dean of Engineering at Tel Aviv University; I raise \$1,000,000 on an R&D partnership**
- **30 days after money is raised, Maurice dies.**
- **Wanted the 35 investors to have more than a tax deduction, so I bought a shell company**
- **1987: company runs out of \$\$\$; I get control of the public company and rights to the technology**
- **1989: raised more \$\$\$, hired Delevaux to finish technology**
- **1992: discover Delevaux defrauding us with false reports**
- **Hired Matt Creager. He makes it work; validated by Battelle**

The Electrochemical Fatigue Sensor (EFS)

First Target Market: Airframes

- **1993: I license EFS from UPenn, with a promise to pay \$200,000**
 - **A Vancouver stock promoter puts up \$400,000 cash for operations**
 - **Needing substantial R & D \$\$\$, I go to US Government**
 - **July 1994: I tell Sen. Arlen Specter we need \$5M for R & D**
 - **July 1995: “Congress expects Undersecretary of Defense.....“**
 - **February 1997: WPAFB offers \$1M out of the \$5M. Went back to Pentagon, got \$2.5M. Southwest Research Institute, San Antonio, TX is prime.**
 - **June 1998: Second contract- Matech, a two man co., is prime.**
- Work done by Southwest Research and UPenn**

Second Target Market: Turbine Blades

- **February 1999: Third contract- Subcontractor hired to build a borescope to deliver EFS to inside of on-wing engine to examine turbine blades. Does not work.**
- **Air Force suggests UltraSound and Eddy Current NDT through the borescope**
- **November 2000: Fourth contract to improve borescope and NDT delivery methods for on-wing engine examination**
- **Late 2002: borescope delivered, shown to AirForce, rejected as inadequate**
- **Matech gets borescope back, decides to reinvent concept. Now it is a Videoscope with NDT abilities, patent pending.**

Total of US Government contracts: \$8.3M

Third Target Market: Bridges

- **TEA-21: Requires every bridge inspected every two years**
- **Hooked up with politicians for reauthorization of TEA-21**
- **Meet Governor of Pennsylvania (Ed Rendell)**
- **Hire Rockwell Scientific to verify EFS under non-sinusoidal loadings (i. e., typical bridge spectrum)**
- **September 2003: proven to work in the lab, and should work in the real world**

Where Matech is now:

- **Bridges:**

- - **Contract with URS to examine two bridges in Penna.**
- - **Will do beta tests on a Calif. Bridge**
- - **Consultant in Ohio is doing further work on the application of EFS to bridges**
- - **Having custom potentiostat developed as part of field kit**
- - **Our lobbyist working on wording in TEA-21 to mandate EFS for bridge inspections**

- **Videoscope**

- - **Prototype delivered early February, '04**
- - **Demos lined up with UA, FedEx, Honeywell, others**

Material Technologies, Inc.

Organization:

- **Four direct employees, including secretary; two are part-time**
 - **Many specialists used as required: security attorneys, contract attorneys, patent attorneys, accountants**
 - **Board of Advisors, comprised of prominent persons in each field of interest of Matech's**
 - **Lobbyist to handle government relations**
 - **An associate to handle European sales**

As a public company, many SEC regulations govern our activities and actions

Trials and Tribulations along the Way:

- **Two spinouts during the way to raise money – October 1994 – July 1997**
- **Two stock promoters swindled us**
- **Two bad attorneys**
- **Allied Boston deal - \$125,000 legal fees**
- **August 2001: started selling shares overseas - \$1,500,000**
- **Stock went from \$4 to \$2 to \$.60 to \$.20 to \$.10 to \$.005**
- **Cash raised 1983-2003: \$4,000,000; \$6,500,000 paid in shares for services**
- **August 15, 2003: three weeks from going out of business, a cold letter comes in and I meet the guy. In three weeks we get \$1,500,000. The deal: 1 for 1,000 reverse split (150 M to 150,000) shares, and 75 million new shares, now @ \$2.90**

Electrochemical Fatigue Sensor Inelastic Response Seen Before Rapid Cracking

