ISO 9001:2008

engineering smart technologies
Midé Technology Corporation develops, produces and markets high performance products such as piezoelectric transducers and actuators, HydroActive™ bulkhead shafts seals, and other innovative solutions, for many industries including the aerospace, automotive and manufacturing industries. Our innovative people, systems approach, and customer focus provides us with the ability to conceptualize, design and deliver these high performance, intelligent systems and services tailored to our clients’ specific needs.

Core Competencies and Advantages
• Mechanical design, integration and testing
• Digital / Analog electronics and controls
• Smart Materials Systems
• Structures and structural dynamics
• Aeroelasticity and Aero-acoustics.

We are known for our ability to transition technologies to commercial products. Our company has a strong belief in the value of licensing for intellectual property. We have a strong base of technical expertise and have been awarded many U.S. Patents for our smart material systems. Midé has a proven track record in system approach and integration using our expert material knowledge. We have an excellent reputation with our customers and receive numerous follow-up contracts. We also regularly enter into partnership agreements with our customers.

Midé’s greatest strength is its excellence at systems engineering. Whether a solution requires a mechanical or electrical engineer, sensor or actuator, Midé approaches each problem from a systems engineering point of view. All of our engineers understand how each component affects, and is affected, by the rest of the components in the entire system. We work with our customers as team members, not just vendors providing a black box that performs some function. By working side-by-side with our customer, we are able to better understand how our product must fit into our client’s system. This understanding allows us to produce a solution for our customers that improves the performance of their products.

Our mission is to provide innovative value-added engineering solutions.

Achievements
• Production & installation of HydroActive bulkhead shaft seal aboard DDG-51 Class Destroyers, both LCS variants, and various commercial vessels
• Positive Pressure Relief Valve flying on the International Space Station
• Wireless data logging system for Navy F-18s
• 1 million+ packaged piezo products in the field
Midé’s headquarters in Medford, Massachusetts is outfitted to support all functions associated with research, development and light manufacturing. This 18,000 square foot facility includes an integrated computing network for design, analysis, and program management, along with a fully outfitted laboratory for R&D and light manufacturing equipment - for our packaged piezoelectric products.

A separate 5,500 square foot manufacturing facility in Woburn, Massachusetts houses Midé’s bulkhead shaft seal production area, and provides additional prototyping support.

**Laboratory**
Midé’s laboratory is fully equipped to handle all research and product development needs. Midé’s equipment includes: CNC lathes, 3-D printer, two milling machines, two Thermotron environmental chambers, Ling laboratory shaker, FLIR infrared camera, high speed camera, hydraulic test stands, central air pressure and pneumatic supplies, multiple data acquisition systems with calibrated sensors, signal conditioners, DSP’s, signal analyzers, oscilloscopes, multimeters, industrial presses, industrial ovens and kilns. Calibration of equipment is fully documented and maintained at regular intervals.

**Manufacturing**
Due to the growth of its bulkhead shaft seal business Midé added offsite heavy manufacturing space in Woburn, Massachusetts. In this space, Midé operates a 3-axis CNC mill for production and prototype work. Midé also has a fork lift, granite inspection tables, calibrated measurement tools and other heavy production equipment.

**Software**
In addition to its hard assets, Midé has ample software to support every development effort, including: SolidWorks CAD and Simulation, NASTRAN, Ansys, Matlab, Fortran, Labview, and Eagle PCB - for circuit design.

**Production**
Midé has both low and medium volume production capabilities, which it utilizes to supply high quality smart materials based products to customers such as Siemens, Boeing and Lockheed Martin. Two fully equipped local manufacturing sites, and an ISO9001 certified quality system enable Midé to provide high quality products to meet our customers’ challenging requirements.

**Prototype Development**
Midé has extensive experience in designing, developing, and testing prototypes for a wide range of applications. We follow an iterative process to arrive at a performance and cost optimum solution for our customers.

**Engineering Consulting**
Midé is a leader in the application of smart materials. We continue to challenge traditional approaches to problem identification and definition with our high-powered team of practical experts. Midé remains at the forefront of the latest technological and managerial advances. Our commitment to collaborative problem solving, our willingness to apply our own resources, and our reputation for providing clients with tangible benefits while protecting their intellectual property has cemented our trust and created successful long term relationships.

**Problem Solving through Modelling & Analysis**
Midé’s approach is to develop a basic understanding of the underlying challenges that are required to provide a solution or develop a new system. Midé personnel have extensive experience in the modeling of coupled static and dynamic systems including: compressible/incompressible fluid systems, structures, smart material systems, robotics, thermal, aerodynamic and nonlinear systems. We also have experience in the control of electro-mechanical systems, along with the capabilities to design and implement analog and digital controllers for these systems.
Wearable Sensors
Midé Technology is partnering with StretchSense to offer stretchable, wearable sensor solutions (with electroactive polymers) - perfect for the unobtrusive measurement of human body motion in the animation, augmented reality, sport, healthcare, and prosthetics industries.

Products:
- StretchSense Wearable Sensors Kit

Hydrogels
Midé utilizes hydrophilic polymers that can absorb large amounts of water to provide a mechanical response. This can be triggered via a number of mechanisms, such as a change in temperature, salinity, or pH. Midé has used these unique characteristics to design solutions ranging from HyrdoActive™ in-bedhead shaft seals to thermally adaptive wet suit.

Products:
- Reliant Premium Shaft Seals
- Omni Commercial Shaft Seals

Shape Memory Alloys and Super Elastic Alloys
Midé is a leading developer of Nitinol based products and has extensive expertise in the design and manufacture of shape memory alloy solutions and educational programs.

Products:
- Shape Memory Alloy Starter Kit

Piezoelectric Materials
Midé is the world leading supplier of packaged piezoelectric actuators and sensors. Midé manufactures all its packaged piezo products in-house.

Products:
- Volture Energy Harvesters
- QuickPack Actuators and Sensors
- SHIVR Haptic Actuators
- Piezo Fan

Smart Materials
Midé is a world leader in the application of smart material technology. We pride ourselves in providing end-to-end system engineering solutions with smart or active materials, including:

- Hydrogels
- Piezoelectric Materials
- Shape Memory Alloys and Super Elastic Alloys
- Smart Materials
- Wireless Data Acquisition
- Wearable Sensors
Markets & Customers

Commercial Customers:
We partner with some of our customers; however, most of those relationships are protected by non-disclosure agreements.

- Bell Helicopter
- Honeywell
- Bath Iron Works
- Lockheed Martin
- Polarcet
- Boeing
- Michelin
- Siemens

Government Customers:
U.S. Department of Defense:
- NAVAR
- Office of Naval Research
- Naval Surface Warfare Center
- NSWCDD
- NAVSEA

U.S. Army:
- AATD – U.S. Army Artillery and Missile Defense
- Lumen Portable Army Depot
- Robert Morris Acquisition Center
- Pocatello Test Branch
- TACOM – ARDEC
- Weapons and Materials Research

Air Force Research Labs:
- Kentland AFB
- Wright Patterson AFB

Management

Dr. Marthinus van Schoor
Founder, CEO and CTO

Attila Lengyel
President and COO

Chris Ludlow
VP of Engineering and CFO

Midé Technology Corporation is a privately held company, headquartered in close proximity to the nation’s premier high-technology research and development areas of Cambridge and Boston. Founded in 1989 by Dr. Marthinus van Schoor, a Ph.D. graduate of the Massachusetts Institute of Technology’s (MIT) Department of Aeronautics and Astronautics, the company has, over the years, established a high-profile team of practical experts. Midé maintains strong ties with MIT’s School of Engineering. This relationship enables the company to remain abreast of the latest technological advances, thereby assuring our clients state-of-the-art schemes to their engineering problems.

Dr. Marthinus van Schoor

Dr. Marthinus van Schoor (Founder, CEO and CTO) received a Ph.D. in Aeronautics and Astronautics from Massachusetts Institute of Technology, Cambridge, MA in March 1989. Dr. van Schoor has extensive qualifications and experience in a wide range of engineering fields. He holds several USA and foreign patents along with many publications in the area of composites and shape memory alloys. He has won and managed many advanced technology development programs for commercial companies, the US Department of Defense, and NASA. His designs are on commercial and naval ships, and currently flying on the International Space Station. Apart from his duties at Midé, Dr. van Schoor is also a part-time lecturer in the Aeronautics and Astronautics Department at Massachusetts Institute of Technology.

Attila Lengyel

Attila Lengyel (President and COO) graduated from Purdue University, West Lafayette, IN with a Master's Degree in Aeronautics and Astronautics in 1995. He was a part-time lecturer in the Aeronautics and Astronautics Department at Massachusetts Institute of Technology. He is published in the field of aeronautics and astronautics and is a co-inventor on a number of U.S. Patents in the smart material field.

Chris Ludlow

Chris Ludlow (VP of Engineering and CFO) received his BS in Aeronautics Engineering from Boston University in 2002 and has been working for Midé ever since. He received his MBA from the University of Massachusetts Boston where he graduated top of his class in 2010. Chris focused his MBA studies on finance, marketing, and product development courses to provide Midé with the best skills needed to commercialize its technologies. Chris has successfully used his degrees and experience to help Midé commercialize both SBIR and non-SBIR opportunities.

Chris Ludlow