



WHAT WE DO

Although SMS is known for our deep engagement in the tribology specializations of scratch and mar analysis, our strategy has always been to expand the horizons of fundamental tribology, for the purposes of improving the lives of those around us, and the essential systems necessary to support a better world and a better environment.

Every year billions of dollars worth of equipment and products are retired to landfills, incinerated or otherwise thrown away because of a lack of scratch and mar resistance. Handheld devices suffer from early wear and disposal because of a lack of scratch and mar performance. Produce and other perishable items, and even shelf-stable food items are compromised in transit, or in fields and factories, before they can be enjoyed and consumed. There is loss in every shipment: every transit through our global industrial processes incurs losses due to mars or scratches to their protective containers or to the products themselves. The speed and efficiency of production is limited by the scratch and mar resistance of the products throughout the industrial pipeline.

Wear in the form of scratch and mar are major factors in the loss of long-term value of houses, furniture, cars, and other long-term assets. SMS technology is leveraged to ensure that these assets become the investments owners expect, and restores confidence in manufacturers.

Mission-critical applications of our scratch and mar technology keep our neighbors and the environment safe for current and future generations. Our technology makes sure that oil pipes and devices survive years of hard use, and do not fracture or spill. Our technology makes sure that vibrations experienced in flight will not cause early wear on wiring and other critical components in the aviation industry. Our technology makes sure that your food arrives safe and unspoiled.

Surface Machine Systems strives to reduce the waste we see in the world, promote efficiency, ensure safety in mission critical applications, inspire confidence in our most valuable purchases, and make the world a better place for us and our children.

MISSION & VISION

Our Mission and Vision are simple.

Our mission is to work with the best scientific and engineering minds, worldwide, to design and manufacture the best research and applications solutions in applied tribology.

We intend to see these “solutions installed in every major application of scratch and mar to help our partners reduce waste and improve the productivity and lives of their customers.

WHAT IS TRIBOLOGY?

Simply put, tribology is the study of two surfaces in relative motion to each other. Surface Machine Systems specializes in the science, equipment, and tools necessary to study two specific kinds of tribology: macroscopic scratch and macroscopic mar.

When you think of scratch, the easiest thing to think of is a car key scratch on a car door. The mark left in the paint, or on the plastic components inside of the car is a scratch. It leaves a groove, and tends to roughen the surface. Mar has a similar effect but instead it has an “ironing” deformation or subtle damage that is visible to our eyes. Both effects damage surfaces and leave visible marks. We specialize in measuring those marks, for the purpose of preventing them from being seen, or preventing them from damaging a product.

KEY TECHNOLOGIES

Surface Machine Systems holds an exclusive license to a key patent on the implementation of ASTM D7027-13 and ISO 19252:2008-standard scratch and mar equipment. We have developed three generations of this device, expanding on three previous revisions of this equipment designed by Texas A&M. Future revisions will include improved stability and measurement, automation of common standards, and a production-line or desktop unit for deeper market penetration in quality analysis, rather than being solely focused on fundamental research.

Our most recent equipment design is the Black Box.

This digital visualization device is an enormous improvement on previous visualization technologies for aesthetic scratch analysis, and is an indispensable tool for mar analysis.

Our other technologies include a commercial version of the Texas A&M Surface Visualization Analyzer software, including new algorithms for scratch and mar analysis on a variety of system fields. We have extensive in-house expertise in applied scratch and mar research, and can assist with the design of test procedures and methodologies to partners who lack expertise within their own organizations.

HISTORY

Surface Machine Systems was formed in 2006 when we approached Texas A&M to commercialize the intellectual property and research-grade equipment developed at the TAMU Polymer Technology Center’s SCRATCH Laboratory. Seeing the potential in this fast-growing area of tribology, we secured a license to the fundamental technology, and developed the first industry-standards-compliant Scratch Machine - known as the Scratch 4 Machine. Our first customers included major automotive suppliers, and the US Department of Defense (food safety for US troops). Since that time, we have worked with the food packaging industry, automotive manufacturers, aviation manufacturers, consumer electronics manufacturers, oil industry suppliers, farm equipment suppliers, Universities throughout the world, and many other entities.

Our engagement has ranged from research projects—developing fundamental new models of analysis using artificial intelligence—to basic research in applied science in various industries. We have helped companies find solutions to scratch and mar, and we have supplied many of them with the equipment, tools, accessories, and software they need to expand their fundamental understanding of the science and applications of scratch and mar tribology.

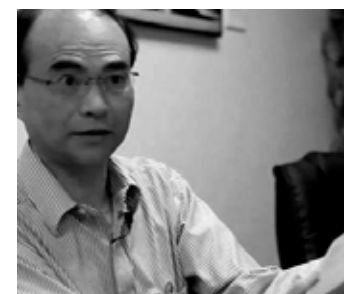
STRATEGIC PARTNERSHIPS & KEY PERSONNEL



Noah Smith
Surface Machine Systems, COO

Noah Smith holds a Masters of Computer Science, and has nearly two decades of experience as an entrepreneur in parts manufacturing. Mr. Smith formed SMS and negotiated the license to the fundamental technology. His roles include sales and customer support for Enterprise customers and product commercialization and management. He manages key relationships with critical partnerships for SMS.

Dr. H.-J. Su
Texas A&M University Polymer Technology Center SCRATCH Consortium



Our most important relationship is with the Texas A&M Polymer Technology Center SCRATCH Consortium, administered by Professor H.-J. Su, the principal researcher behind the scratch and

mar research used by SMS. SMS has cultivated a long-term relationship with Dr. Sue and several generations of his students at the lab. We continue to work with those students, including several who have graduated and continue to work in specialized scratch and mar tribology research.



William Love
Brendon and Lawrence, Manufacturing, Bryan, Texas

William Love and his company B&L are a strategic partner located near our offices in Bryan, Texas. B&L helps to design, manufacture, install, and support scratch and mar equipment in the United States and worldwide. They are key partners in the design of our latest generation of Scratch and visualization instruments. B&L specializes in machining and fabrication, and has deep experience supporting equipment manufacturers as a vertical services supplier for organizations such as ours.



Kato Tech Company, Japan
Kato Tech Co. holds a sub-license from SMS for manufacture, sales, distribution, and support of SMS-based equipment in Asia.



SMS

SURFACE MACHINE SYSTEMS

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