

“Simplify, simplify.”

Simplicity was the ultimate goal; research paid off with the ultimate solution.



Fig. 1: Headquarters of Haartz Corporation



Fig. 2: Thoreau's Cabin

Tucked away in the cool woods of New England, not ten miles from Henry David Thoreau's Walden Pond cabin, stands the World Headquarters of Haartz Corporation. Still family owned, this nearly hundred-year-old Acton, Massachusetts firm was established by John C. Haartz, Sr. to supply US auto makers with the first three-ply topping material for “horseless carriages.” Today Haartz is the world's number one supplier of automotive topping fabrics and a leading producer of soft trim car interior materials. In reaching this apex, the Haartz family nurtured a traditional New England work ethic — Focus on quality. Innovate. And, as Thoreau famously penned, “Simplify, simplify.”

In 2012 this drive to streamline production focused on the company's web gauging and control systems. “Back then our web scanners were made by two well known manufacturers,” said John Gilbert, Sr., Process Engineer at the Acton plant. “Our people wanted to find the best scanner brand for us as we began planning the upgrade of our extrusion lamination lines.”



Fig. 3: Coated console lid

Roll and sheeted goods made by Haartz can be found in almost every automotive brand worldwide, especially in convertible tops. In Acton, surface effects such as simulated leather are embossed into extruded PVC, TPO or other compounds as they create formable and hand wrap materials. These goods are formed into door panels, seats, console lids, instrument panels, and more, for models from Nissan to BMW. Some lines are set up to extrude material onto a thin layer of foam, giving the trim more cushion. They can also extrude between two layers of fabric.



Fig. 4: Diamond Plate

Typical material thicknesses range from 0.5mm to 1.3mm. Strict control of the extrusion process is critical to meeting Tier 1 supplier specs as well as IATF16949 Automotive Quality standards. Going outside standard deviation risks failing spec and wasting material. So by employing just one brand of gauging system across the board, Haartz could enable all line operators to gain a better knowledge of the system selected, and build a more consistent and efficient product.

“Because we run the lines 24/5 or 24/6 days a week, our operators need to move from line to line so vacations, sick days, and shift changes can be well covered,” Gilbert said. “It was crucial to select a system they all could easily adapt to and which could fulfill all our requirements as we pushed our capability.”

Kicking all the tires



Fig. 5: QMS Scanner at Haartz

The company wanted the best system for their future. “We talked with every major manufacturer out there,” Gilbert explained. “Our search included a parade of presentations and proposals, plus dozens of site visits over many months and several states.” What they learned surprised everyone on the selection team. One brand not only fit all their needs, but the differences between Mahlo America’s system and all other suitors were stunning. The team’s first impression was that the machine “is built like a tank.” As a bonus, most Mahlo parts are easily sourced from aftermarket suppliers; even motors and circuit boards. “With our legacy scanners we were compelled to sign service contracts,” Gilbert admitted. “After X number of years, the manufacturers stop supporting them. We were expected to buy new.”

“Mahlo said they still support scanners 25 and 30 years old. That moved them to our short list.” Still, it’s change. Change can cause people to fear making mistakes, losing control. “Once operators learn a system they don’t want to give it up,” Gilbert said. “They hate change.” As well, Haartz has high standards to maintain. With operations in the US, Mexico, Germany, India, China and Japan, changes at the HQ can have a global impact.

Engage the turbo-charger

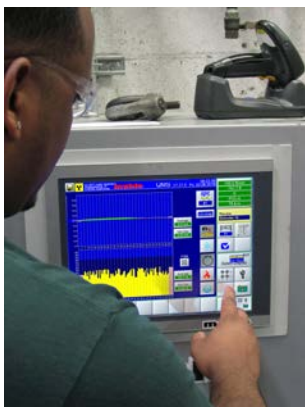


Fig. 6: Intuitive software

Two things about Mahlo America gave the Haartz decision makers the boost they needed. “Although the system had all the bells and whistles a process engineer craves, the Windows® Embedded-based interface is very intuitive,” Gilbert continued. “It’s so simple our production crews took over after just 10 or 15 minutes of training. Second, and probably most important, every person we met and spoke with at Mahlo knew their system thoroughly. And they totally understood our processes and challenges.”

A family owned, global enterprise as well, Mahlo GmbH Co. KG has been installing measurement and control systems since 1945. Headquartered by the Danube River in Saal, Germany, Mahlo engineers today exemplify the inventive and techtrendsetting mindset that motivated Dr. Heinz Mahlo to found the firm.

Zero to 100 in record time

In 2013 Haartz installed their first Mahlo scanner to test its performance measuring total weight on a line producing material for nose and tire covers. The results were profound.

As product requirements and challenges mounted, Haartz was easily able to assimilate Mahlo scanners into their other lines, measuring total weight, then film weight and laser thickness on the substrate, followed by full Auto Profile Control of the film weight. “The Mahlo APC gets up to production speed fast. Less material is wasted and uptime maximized,” Gilbert noted. “Our crews and engineers were all in favor of the change.”



Fig. 7: Web gauging with DFI Sensor

By year's end Haartz will have 15 Mahlo scanners online worldwide. "Lots of companies sell scanners that could probably meet our needs," Gilbert admitted. "The real difference for us was the technical aptitude and service attitude of Mahlo's people. Any time an issue comes up, Mahlo's staff makes getting us back online their first priority." "Only twice, since our first Haartz installation, have we had to make an on-site service call," said Eric Reber, North American Sales Manager at Mahlo America Inc. "We have received the occasional call along the way, but these issues were addressed quickly through our TeamViewer® service."

The TeamViewer program is a secure remote access service licensed with every Mahlo system sold. With it, users can give technicians temporary access to the HMI (human-machine interface) in real time via the internet. This allows a technician to diagnose the system quickly, efficiently, and remotely. "TeamViewer can also be used to provide remote training for operators or engineers. Mahlo Telephone Support and TeamViewer service is included at no charge, around the clock, for the life of our system," Reber noted.

Extra dashboard lights



Fig. 8: Mahlo's Eric Reber with John Gilbert from Haartz

Another feature on every Mahlo Auto Profile System is the diebolt heater failure alert. Haartz discovered that some of their legacy systems had quite a few dead diebolts and their graphs were giving them excessively averaged readings. "Mahlo systems graph in high resolution like a real world sheet and give us an alert for any diebolt that's not responding, Gilbert said. "We've been able to reduce our scan-to-scan standard deviation to about 0.5% from >2% previously. Also, seeing both the new scan and composite average on a single profile graph is a great feature." Haartz Quality Assurance operations Eric Reber (left) reviews the control readout with John Gilbert.

Color of choice? Green

Another parallel with Thoreau, often called "the father of environmentalism," is Haartz's commitment to sustainability. In addition to limiting waste in their manufacturing processes, the company strives to be "Locally Green" with their neighbors, communities and customers as one way to cut their carbon footprint. Haartz sources raw materials locally when possible, recycles TPO and PVC, and encourages carpooling. Continuous education and training, workplace safety, on-site fitness facilities and community outreach programs are credited with keeping the average employee retention high.

"Maybe it's a thing about family operated companies, but we really like Mahlo's simple, 'Old World,' business approach." Gilbert concluded, "Mahlo doesn't make machines in order to sell proprietary parts and service contracts. They engineer scanner systems that help support and strengthen our brand. That makes for a lasting business relationship."



Fig. 9: Haartz production facility