

GLOBAL SHOP SOLUTIONS CASE STUDY

HMC Instrument and Machine Works Ltd.

HMC Instrument and Machine Works Ltd. (HMC) is a Houston-based job shop offering complete machine shop services for some of the biggest names in the oil and gas industry, including Schlumberger, Halliburton and Parker Hannifin. Founded in 1991, the company also provides its CNC production, electric discharge machining (EDM), gun drilling, fabrication and assembly services for companies in the aerospace, medical and petrochemical industries.



HMC facilities located in Houston, Texas.



HMC's complete turn-key assembly certified by DNV GL.

Starting with one man and one machine, HMC has grown over the years to more than 40 team members and 35 machines operating out of a 50,000-square-foot, climate-controlled manufacturing facility. Using state-of-the-art equipment and the newest **CAD/CAM software**, HMC produces precision parts ranging in size from .060" to 36" in diameter, with tolerances as low as .0001" and a surface finish of 8 RA.

HMC also provides its customers with intricate engineering prototypes, production runs, testing, and coatings/material treatments, as well as metrology and supply chain services. The company manufactures parts of all alloys and various plastic and rubber polymers, and is in the process of becoming AS9100 certified. Specializing in hard-to-build equipment that other companies won't take on, HMC's motto is "If you draw it, we can build it!"

Based on his experience implementing Global Shop Solutions ERP software at a former employer, General Manager Alan Lowe was tasked with implementing the ERP software at HMC when he first came on board.

"When I first began looking at ERP software, we wanted a system that could grow with our business," says Lowe. "All our competitors were using Global Shop Solutions, and they all talked about how the company was constantly updating and improving the software. After some more research, it seemed like the best fit for our custom manufacturing environment."

97+% On-Time Delivery

Upon implementing Global Shop Solutions ERP software, HMC immediately focused on improving on-time delivery. According to Lowe, the software's up-to-the minute accuracy on jobs in progress has help generate a significant uptick in on-time delivery rates.

Every week, managers and supervisors gather for a meeting to review all jobs in progress to see which one are on schedule and which are running behind. With just a few clicks of the mouse, they can determine where each job is in the **production process**, who is working on which sequence, and where the job needs to go next. This up-to-date information enables managers to identify and take immediate corrective action on any jobs in danger of running late.

"We get audited every year by Schlumberger, and they also do performance reports on a quarterly basis," says Lowe. "So it's important that we perform at a consistently high level. Global Shop Solutions gives us advance warning so we can take action before a job ships late. As a result, our on-time delivery rate averages 97.3%."

Easy to See Trends and Buying Fewer Shoes

In addition to the real-time data, Global Shop Solutions ERP software superb tracking of historical data helps to lean operations, improve efficiencies throughout the shop floor, and more accurately quote repeat jobs.

It starts with all operators logging into to each job through the **Shop Floor Data Collection** screens located on the shop floor. That way, the system can track and assign direct labor to each job sequence with remarkable precision. After each job is completed and shipped, managers compare the job packet with the results displayed in the system to measure actual versus estimated. On repeat orders, they can easily determine whether performance is trending upward or downward in terms of costs and operator efficiencies.

"The amazing part is we can do all of this from one screen in **Supply & Demand**," notes Lowe. "We look at previous operations and determine which employees perform operations more efficiently than others – based on actual historical data – and where we need to improve."

"The other benefit of having so much data at our fingertips is we don't have to buy so many shoes," jokes Lowe. "We used to wear them out walking around the shop floor trying to find the data we needed about jobs in progress. Now we don't have to leave our desks because it's all there in front of us in black and white."

Cutting Down on Inventory Costs

Previously, HMC bought most of their raw materials in advance, which often led to over-purchasing and excessive inventory costs. With Global Shop Solutions ERP software, they now buy directly to the job, with the exception of a small percentage of materials that require minimum purchases. In addition to reducing inventory holding costs, the ability to track inventory more precisely has also improved the quoting process as well as customer service.

"Everything we manufacture now goes through inventory," explains Lowe. "When **putting together a quote**, we can go back through inventory to see if we have done that particular job before. If not, we look at quote history, which displays all the closed work orders, sales orders, the price(s) we sold the job for, and whether we made a profit or lost money. This gives us a much better idea of how to quote the job going forward."

"When customers call in to expedite a part we do the same thing," continues Lower. "From one screen, we can see if the part is in inventory, where the work order is on the shop floor, if the part is in production, and what's left to complete the job. This allows us to give the customer a fairly accurate date of when we expect to ship so they can reschedule their deliveries as needed."

Flexible Software with Timely Support

Lowe starts each day by processing incoming purchase orders and creating the routing for each job – another process Global Shop Solutions ERP software has simplified with its instant access to job, part and customer data. Using the Supply & Demand screen, Lowe quickly reviews the customer's sales and work order history, as well as the price on the purchase order to see whether it is correct or needs adjusting.

Lowe also appreciates the flexibility of the system, which allows HMC to easily adapt to changes in their production environment.



Large diameter precision bearing rotor.

For example, the oil and gas industry is notorious for its “boom and bust” cycles. Using the powerful **Advanced Planning & Scheduling** (APS) application, Lowe can schedule jobs more efficiently when their large oil and gas customers cut back on orders during a down cycle.



Small precision parts

and can't get anyone to help it can shut you down. The technical support team always responds to us in a timely manner, even on weekends!"

“APS gives us the option of scheduling finite workcenters,” he explains, “so when our work slows down we can reduce the available hours on each workcenter. This makes it easy to determine whether or not we need to bring people in on a regular basis. Not necessarily for overtime, but to make up time if a job is running late. APS also helps to manage large assembly jobs by providing a big-picture overview of the whole assembly in one place.”

Lowe also appreciates the “expandability” of the ERP software. By that he means the ability to add new features and capabilities as the needs of the business evolve.

“Global Shop Solutions is a very robust, flexible ERP software system,” he says. “Plus, the company is continually making improvements to the software, so there are always new features that can make your business more efficient. We also get fast technical support when we need it. When a system runs your entire production process, if you have an issue