



CONNECTICUT SHOP BECOMES PROUD OWNER
OF THE FIRST TWO SWISSNANOS IN THE US

PETRON AUTOMATION – READY FOR THE US MANUFACTURING RENAISSANCE

Decomagazine recently caught up with Petron Automation, Inc. a successful and growing Swiss-type and CNC machine shop located on the United States' East Coast. Participating in the discussion were two father and son teams and two other members of the Petron Automation "family": Mike Petro Sr., President; Mike Petro Jr., Operations Manager; Gary Boehringer, Applications Engineer; Jesse Boehringer, Swiss Department Supervisor; Joe Guerrero, Plant Manager; and Luis Santolamazza, VP Sales & Marketing.



Petron's CNC Manager and Plant Manager fixing a 7-degree angle block in one of the new SwissNanos to manufacture a custom part for the Medical and Electronics industries.

19 new machines

Last November, Petron Automation, Inc. held a ribbon cutting ceremony marking its facility expansion at 65 Mountain View Drive in Watertown, CT, USA. Tornos CEO, Michael Hauser, was there to witness the event. The company, established 34 years ago, added 9,000 square feet to make room for 19 new machines – more than doubling the company's capacity in 17,000 square feet total. Petron already

owns 11 high precision Tornos machines which have been working hard for them for years – those machines will stay in their original space. The new space, which was built on a "Going Green" initiative, will be dedicated 100% to new technology. *"The addition wasn't built to move existing machinery,"* Explains Mike Petro Jr., Operations Manager for Petron. *"It's a state-of-the-art addition and it*



Quality Control engineers using a digital micrometer to check tight tolerances for a part made in one of the SwissNanos.



Quality Control engineers using a Profilometer to check ID finish for a part made in one of the EvoDeco 32.

will be occupied strictly by the new, state-of-the-art Tornos machines. We're making a real effort to go green with high efficiency LED lighting and centralized air filtration system. Our electrical is all underground."

Odorless – the smell of success!

"In anticipation of moving deeper into medical and electronics, we think the green initiative will be important," Mike Jr. continues. When visitors see the new space, Joe Guerrero, Petron Plant Manager, says, "They're awe-struck. We had a steel supplier come in yesterday and they couldn't believe how clean the facility was. They said it didn't smell like any other shop they'd been in. It was very clean from top to bottom, front to back."

19 state-of-the-art, new Tornos machines

This year, Petron Automation has taken delivery of three of the planned 19 state-of-the-art, new Tornos machines which will occupy the new space. They purchased the first two SwissNanos to hit North America, plus an EvoDeco 32. Like a well-oiled machine (or a close-knit family), the team at Petron Automation, explains their growth plans by finishing each other's sentences. *"We are very strong within the medical, aerospace, firearms, electronics, connectors, fittings, and tooling industries,"* explains Mike Jr. *"These new machines will help us expand our operations and sales further into electronics, connectors... and micro parts, which we see as having huge growth potential,"* Luis Santolamazza, VP Sales & Marketing continues. *"We felt it was the right time to invest in nanotechnology,"* Mike Petro Sr., President, adds. *"We've got an awful lot of interest in it already. We're waiting for some tooling... before you know it, we're going to have a line of SwissNanos."* Says Jesse Boehringer, Swiss Department Supervisor, laughing, *"All the colors... like a big rainbow!"*

Awesome colors

Petron's first and second SwissNanos are actually the most mainstream of the colors offered by Tornos: Black. But that wasn't Petron's choice – it was just the color they could get fastest. *"They look great out there,"* says Gary Boehringer, Applications Engineer. *"As a former art teacher, I think the colors are awesome,"* Gary continues. *"Color helps the mood of the company!"* The team at Petron thinks the SwissNano color palette could have important productivity benefits as well – making their future expanding line up of SwissNanos easier to differentiate. *"It makes it simple for anybody in the shop to*

know where they're going and which machine is which," explains Gary. "We can say: 'Put it on the purple one!'"

Big Steps. Small Machines

But they didn't buy the SwissNanos for the color. They bought them for the precision and 4 mm diameter capability. They bought them to grow their business into the micro parts sector. Explains Gary: "One of the SwissNanos will be running an ordnance part with critical tolerances. Another will be running a high precision stainless steel part for a customer in France. The future looks bright for the Nano." "Getting the first two SwissNanos in the country, shows our President's commitment for the latest technology," says Luis. "That has always been part of the strategy here and having these new machines supports the point that we invest very regularly in the newest technology (we turn over our machines every 5 years). It's important to mention that these first two SwissNanos in the country were proven reliable making precision parts for the watch industry in Switzerland... and the purchase of these machines shows that we are trying to step ahead of technology."

Very easy to learn

"So far I enjoy the ease of use of the machine," explains Jesse. "It's a lot simpler than a standard ISO machine. The TMI Tornos Machine Interface is definitely a good point between an ISO machine and the full EVO interface. It's significantly different but everything is organized so it's very easy to learn." Joe adds: "As far as installing them, they don't take up much room out there on the floor. Originally we laid the drop down for the Deco 13/Deco 16 size machine; so we're actually going to be saving ourselves a lot of space." "The SwissNanos have great ergonomics," says Gary. "They are accessible from all sides. I could see setup times going down because of that. And I've noticed the ejection looks very efficient. I believe that that will be an advantage."

New business with SwissNanos

So, where does Petron expect new business to grow first with their SwissNanos?

"I think they have great potential in attracting customers in the dental industry," Gary offers. "And for small turbines, it looks proficient. I think there's great potential in that area. Micro machining is becoming more and more popular. And the



One of Petron's 4 Quality Control engineers using a Laser Vision System to check a part's dimensions from a part made in the EvoDeco 32.

SwissNanos will give us the capability to do much, much smaller work and hold extremely tight tolerances. We've got the right guys here to run the machines, program them, and set them up."

Big brother EvoDeco 32 runs lights out

The SwissNano's big brother, the Tornos EvoDeco 32, on the other hand, was purchased for its ability to run larger diameter precision parts around the clock. The Petron group estimates that 75% of the parts they manufacture are cut during the 12 hours (average) that the machines are minimally manned. "We have someone come out for an hour or two to make sure there are no issues," Jesse explains. "They might change tools, load some bars, and that's about it. So we're saving a lot of time and money by not running full crews." "The ability to run around the clock with these machines has allowed us to be competitive," adds Mike Jr. "It's opened up a lot more high volume work. These machines run so well that you don't need to have a crew during the night to watch them." "We pass that savings on to the customer and it's a win-win for both of us," adds Mike Sr.

Big improvements

"I can't wait to turn in the PTOs to get a couple more EvoDeco 32s," says Joe. "It's a big improvement over previous models – more solid, quieter, vibration-free. And of course, bright, which makes it easier to work on. The LED strip inside the machine is nice. We're very pro LED." "I'd like to emphasize

the quietness of the main spindles," Jesse adds. "That's a big improvement too. It was jaw-dropping how much of a difference it made. Plus they look cool. With the bigger window in the front, you can really see everything inside the machine now. And the EvoDeco 32 has a significantly improved door. It's a lot easier to get in there; so we're probably able to shave a couple minutes off setup now. These are little things but they make it more comfortable. You know once you work on these machines for a long time those little ergonomic changes really do matter."

Standard complicated part

Right now, the EvoDeco 32 is running one of Petron's standard parts. But "standard" for Petron does not mean "simple". "It's a very complicated part," Mike Jr. explains. "The QC record includes 60 different checks. It's 2" long and includes a lot of deep hole drilling, angled milling, reaming, bur-nishing. It's a simple part for us, but it's not a simple part." And Petron is dropping these parts complete with no secondary operations needed thanks to their highly capable Tornos equipment and their in-house expertise. Jesse and Gary were charged with eliminating secondary operations on the part back when it was still being cut on the older Tornos equipment. "For years and years and years we did secondaries on it," explains Mike Jr. "Then Jesse and Gary got their heads together and 'voila!'...they dropped it complete. They saved us a lot of time and money in not doing those secondaries and quality greatly improved too."

Working together, side by side, ready to take on the future

Father and son dynamic duos are only part of the picture at Petron. The team has grown and thrived thanks to one-time "outsiders" too. The group explains their hiring formula, in Petron's unified voice that unfolds as a threaded discussion. "As a supervisor," begins Jesse. "I can say that we really have a talented group of guys. And one thing that Petron likes to do is to take guys who have never been in the industry before and train them up." Gary adds: "What we're looking for are employees that are capable and motivated." "Whether they knock on the door, or it's a friend of a friend," Mike Jr. continues, "if they want to work and they have the willingness to learn, we can train anybody. Basically anyone who is motivated and wants to work... we can train them." Mike Sr. adds: "Don't get us wrong. We don't take 100%. For every person that comes in here you have 5 or 6 that have no interest and aren't qualified." Gary finishes, laughing: "What Mike is saying is that we kiss a lot of frogs before we get a prince!" Then he gets serious again, "But at the same time, I believe if you set up the right environment, then you attract the right kind of people. And I believe Petron has that environment."

Complex parts few other shops would touch

"You can have all the machinery in the world... but if you don't have the support staff, it's useless. So you've got to have a combination," explains Gary. "We've gotten to the point where we're taking parts that other companies avoid. Other companies print the part and throw it in the garbage. Those are the jobs we're quoting and we're running." According to Luis, Petron is known for being reliable both for excellent and consistent quality, and also for timely delivery of intricate parts from brass, steel, bronze, aluminum, and titanium, among other materials, for everything from aircraft to medical devices. "Word of mouth" has been their main reason for growth over the years. They have the technical capabilities and resources to manufacture primary and secondary operation parts (often helping customers' engineers optimize manufacturing processes – as their slogan says "from prototype to production"). "We do have some very complex parts that require maximum operator attention," adds Mike Sr. "One example is a military part... an aerospace helicopter. It's a difficult material." Jesse continues, "It has two thread whirling operations. It's a part that a lot of shops won't touch. It's also what they call a strategic metal... it's controlled by the US government. "Usually we get them in lots of 100 and 50. But it's



Petron's CNC Manager and one of the CNC Operators analyzing dimensions of a part for the firearms industry made in the new EvoDeco 32.

a continuous thing where there's a family of parts... It might add up to 2500 pieces a year; but that's going to take all year to run. That part is actually being done on our 13 mm machine. The 13 mm Tornos is probably running our most complex part in the facility." And now the SwissNanos will be running the smallest parts in the facility.

When Petron took delivery of their SwissNanos, it was clear to them that they were going to need new equipment to measure the parts that would come off those machines. As good as their old QC equipment was at measuring the helicoil parts, the new QC equipment needed to be better.

The "Tornos" of vision systems

Mike Jr. begins, "We needed the best equipment to check the SwissNano parts... we needed state-of-the-art QC." Luis continues, "As part of this growth with the new building and new machinery, we have invested in and strengthened our quality control department to make sure that the parts coming off our machines are to our customers' expectations or better. Our QC department has its own area now which is enclosed, temperature controlled, and state-of-the-art, including our Nikon vision system." "The new QC equipment will probably do the work of a couple inspectors (and more accurately) in 1 hour where it would normally take inspectors 5 hours," says Gary. "And the Nikon is always right. We don't have to write down the results... just print them out or export into an Excel spreadsheet or whatever the QC documentation requires." "I could be wrong," says Mike Sr., "but I think we've had zero rejects since they've been here. Am I right?" The others in the room agree. He's right.

Big plans for the future

It's clear that the Petron team has big plans for the future. They are growing methodically and confidently. "Petron is on the forefront of the Renaissance in American Manufacturing," summarizes Jesse. "The American consumer is slowly getting back to the idea of American made. And manufacturers care a lot more about their branding these days; especially with the use of social media and general public opinion about outsourcing overseas. I think there's going to be a lot of work coming back here to us."

And Petron Automation will be ready to make ultra-precise parts, large and small, of superior quality. The green initiative, coupled with an expanding line up of colorful SwissNanos, an EvoDeco 32, eleven other workhorse Tornos machines, and a united



November 25, 2013, Petron Automation, Inc. held a ribbon cutting ceremony marking its expansion to its facility at 65 Mountain View Drive, Watertown. The company added 9,000 square feet to make room for 19 new machines. The new facility triples the company's capacity and potentially adds five jobs next year and another 10 in the next 2-3 years. Left to right, Waterbury Regional Chamber Manufacturers Council Chair Rich DuPont, Vice President Pat Petro, President Mike Petro, Sr., Town of Watertown Economic Development Coordinator Joseph Seacrist, Manufacturing Engineer Chris Petro, Vice President of Sales Mike Petro, Jr., Waterbury Regional Chamber President & CEO Lynn Ward and Tornos CEO Michael Hauser.

family of motivated and highly capable machinists and support staff, is sure to help this American company see green (money) for years to come!



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