



## Patti Perspective

August 2015

### Greetings!

While industrial robots have been around for many decades, in the past few years there have been dramatic technology advances in vision systems and sensors which have significantly improved robotics speed and accuracy. With robot prices down and performance up, many of our clients are investing in buying new or upgrading older robotics. Patti Engineering has experience working with many brands of robotics. We are a FANUC Authorized Integrator; our feature article details some of our recent FANUC projects.

For this month's Patti Personnel Spotlight, we are featuring one of our young talented engineers, Nick Sadro. At Patti Engineering, we pride ourselves on being able to identify top talent engineers right as they graduate from college, with the goal of training them to be future engineering stars.

Just like any great sports team, recruiting the right players is of great importance to the team's long-term success. Nick Sadro joined us right after graduating college with his electrical engineering degree in 2014, and he has quickly become a great asset to our engineering team!

Patti Engineering is Prepared to Assist Clients

# Optimize Performance of FANUC Robotics Technology

Patti Engineering has a long history with FANUC Robotics. In fact, Patti Engineering has been working with FANUC robots since the inception of our company in 1991. Now, we are a FANUC Authorized Integrator, in addition to being a certified integrator for Kawasaki and COMAU.

Our recent FANUC Robotics projects have ranged from working alongside our OEM clients installing complete new assembly lines, to working directly for manufacturers to improve the performance of existing robotic system applications. If you have a robotic system in place and it is not meeting your expectations, our engineers have the experience needed to get the most out of your existing robotic equipment.

We are also called in when a manufacturer is looking to add new part types or add new stations to an existing line. When combining our robotics experience with our Siemens and Mitsubishi controls expertise, we have helped our clients achieve a higher level of performance from their robotic systems. Here are examples of our most recent FANUC projects.

- **Improve Performance Project:** An automotive client, a Siemens PLC end-user, was having reliability issues using a FANUC 2D iRVision and 3DL iRVision to pick torque converters from carts. The vision system was not functioning correctly; our client needed to improve cell reliability with the current hardware. Our engineer discovered the camera setup and calibration were incorrect. Our solution included reconfiguring cameras, recalibrating the vision system and retraining the vision programs. We streamlined the program by reducing the lines of code:
  - Before = 6054 lines of code
  - After = 4460 lines of code
  - Total lines removed = 1594 = 74% of original or 26% reduction.

These changes decreased downtime, improved cell reliability, and improved recovery. In addition, we added new features to display robot status to the HMI. The next robotics project we will tackle for this client will involve material handling, de-palletizing, and



vision applications.

- **Adding New Parts Project:** An OEM client was building tooling nests inside existing assembly line stations for an automotive engine plant. The plant needed to add the handling of new piston models. FANUC robots and Mitsubishi PLC software on the existing piston ringing/rod assembly line needed to be updated to handle an additional two new model/style pistons. Patti Engineering assisted our client's engineers in the software development and modification to meet the project's requirements.
- **New Assembly Line Project:** An OEM client was building an entirely new assembly line using Siemens PLCs and FANUC robotics for material handling, plasma cleaning, and sealant dispensing. Their team simply needed extra hands on deck. We assisted with set-up of the FANUC robots, path teaching, etc.

Robot prices are down and performance is up due to dramatic advances in vision and sensor technology. Therefore, robot sales and the need for programming and integration services are at an all-time



high. Whether you're a small or a large manufacturer, FANUC offers industrial robots for almost any application with payloads ranging from .5kg to 1350kg. As an Authorized FANUC Integrator, we are prepared to analyze your system requirements and provide a robotic solution that will improve quality, throughput, and productivity to give you the return on investment you are looking for.

If you would like a free initial consultation, we are here to help. You can fill out and submit this [contact form](#), or call us at 800.852.0994.

Satisfied customers are the #1 priority at Patti Engineering. Here is a great example of some recent feedback from one of our great customers:

*"Brian, I just wanted to take the time to personally thank you for your diligent efforts to help us complete this project. Your subject matter expertise quickly and effectively addressed major issues with this cell and your pleasant demeanor and flexibility made it*

*very easy to work with you. Thanks again, and I look forward to working with you again very soon."*

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## Patti Personnel Spotlight - Nick Sadro

Nick Sadro is done with his rookie season; he's been working at Patti Engineering for over a year now. But he's accomplished a lot since he started in May of 2014.



Nick graduated from Lake Superior State University (LSSU) with his Bachelors degree in Electrical Engineering. He chose the university for the advantages of a smaller school. He had the opportunity to meet with his professors frequently and to get to know them personally. Because of the small class sizes, all of his engineering courses included a hands-on lab.



With such a great engineering education, how did Nick come to work at Patti Engineering? We'll let him tell it. "I was introduced to Patti Engineering at the Michigan Tech Career Fair. I read the list of companies before I went and marked down that Patti Engineering was one that I wanted to stop by and learn more about. When I stopped by the Patti Engineering booth and talked to the team, I knew that Patti was somewhere I wanted to apply. The team stopped by LSSU to interview me on the way back through the Upper Penninsula, and now

here I am!"

He's worked on two Chrysler FIS (Factory Information System) projects through our new Kokomo, Indiana office. These projects both used Siemens PLCs programmed with Step 7 classic. He's also worked on a project upgrading a hydraulic ram tester cell that ran on a legacy control system. Another project involved commissioning a new

transmission line with ThyssenKrupp for a different automotive company.



One of Nick's hobbies is hiking. His favorite hiking spot is the Robertson Lake Cliffs in Ontario (pictured). "It's a very fun hike and the cliffs have some amazing views!" His other hobbies include biking, running, playing guitar, playing video games, and reading. You may notice he is a

Beatles fan, too, though Nick claims he does sometimes wear t-shirts that don't feature the classic band!

He enjoys traveling and the opportunity to experience new things. This summer he spent a week in London and Paris. Even in London, where you might not expect too many differences, he discovered that they serve beer much warmer than here in America!



Nick says, "What I like most about working for Patti Engineering is all the opportunities to learn something new. Every project I've worked on has presented me with challenges I have never faced before. I am always learning more about automation technology with every project. My coworkers are all very knowledgeable and always eager to share what they know."

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We work as partners with our clients. When you need an expert to help solve automation challenges, we are here to add value to your solution - enhance efficiency, increase productivity, and work with your team as a trusted resource. Visit our [website](#) for more information on our areas of expertise, or call us (248)364-3200 for a free initial consultation.

Thank you for your interest in Patti Engineering.

Best regards,

Georgia H. Whalen  
Director of Marketing  
Patti Engineering



In July, Patti Engineering announced the opening of its fifth office in Kokomo, Indiana. This follows the opening of our Chattanooga, TN office earlier this year. As in Tennessee, Indiana's growing demand for Siemens and Mitsubishi automation engineering expertise and robust manufacturing growth spurred the decision to open this new office. The Indiana office expands Patti Engineering's customer service and consultation bandwidth for its current key clients, Chrysler and Honda, and affords the opportunity to grow its customer base in the Midwest.

Read the press release

here: <http://pattiengineering.com/newsroom/siemens-and-mitsubishi-automation-expert-patti-engineering-opens-kokomo-indiana-office/>