



Developing a Regional Pipeline of CNC Machinists

How Universal Technical Institute, Roush Yates Engines and Mitsubishi Materials USA shaped the regions' automotive industry with their CNC Machining Program and partnerships

In 2016, Universal Technical Institute (UTI), the leading provider for post-secondary education for students seeking careers as automotive, diesel, collision repair, motorcycle and marine technicians, partnered with Roush Yates Engines to create and offer a Computerized Numerical Control (CNC) Machining program in Mooresville, North Carolina. Nicknamed "Race City USA," Mooresville is home to UTI's NASCAR Technical Institute (NASCAR Tech) and Roush Yates Engines, a leading manufacturer of performance engines in the motorsports industry. Their vision for a CNC program came to fruition and was launched the following year in 2017.

UTI has over 50 years of experience training professional technicians. UTI's NASCAR Tech is the exclusive educational partner of NASCAR and is the country's first technical training school to combine a complete automotive technology program and a NASCAR-specific motorsports program. The campus also offers automotive programs and manufacturer-specific advanced training programs for students seeking a career with NASCAR or with international automotive manufacturers such as Ford, MOPAR, and Nissan.

The Computer Numerical Control (CNC) Machining and Manufacturing Technology program offered at UTI's NASCAR Tech prepares students to succeed as entry-level CNC machinists while allowing UTI to meet a growing industry demand for skilled machinists and technicians. CNC machinists produce precision parts used in high-performance engines for a wide variety of trucks, motorcycles, cars, and boats, as well as in industrial applications, aerospace components, and medical and surgical equipment.

Over the years, Roush Yates Engines has hired over 120 of UTI's CNC and Automotive graduates. Shortly after the launch of the CNC Machining program, Mitsubishi Materials U.S.A Corporation announced a partnership with NASCAR Tech to provide cutting tools for students in the CNC Machining program. This partnership allows students the opportunity to gain hands-on experience working with professional cutting tools. Mitsubishi Materials has hired three graduates of the CNC Machining program so far. Additionally, both Roush Yates Manufacturing Solutions (a division of Roush Yates Engines) and Mitsubishi Materials offer internships for CNC Machining students, giving them an opportunity to gain hands-on, real-world experience while continuing their education.

"UTI has provided highly skilled graduates since 2003. We firmly believe that the education and training these students receive at UTI prepare them for a successful career at Roush Yates Engines or other employers. UTI has been a long-standing partner of Roush Yates Engines, providing elite technicians that drive our success on and off the track," said Todd English, VP of Strategic Partnerships and Marketing at Roush Yates Engines. "Mitsubishi Materials has provided training, technical assistance, and premier tooling to expedite our machining of race engine components and diversification of our manufacturing facility into the aerospace, defense, and medical industries."



To further educate the community about the automotive industry and the opportunities in the region, NASCAR Tech and Roush Yates Engines are working with Iredell County middle schools and high schools to provide education surrounding automotive and CNC Machining programs. This alliance exposes young students to the idea of a career in the automotive industry and the educational opportunities available in the region.

The growing demand for trained CNC Machinists and the launch of NASCAR Tech's CNC Machining program has sparked a pipeline of development and has inspired universities and colleges in the region to offer similar programs. There are 17 schools across the region that offer CNC Machining or automotive programs, allowing students an abundance of opportunities to enter the automotive industry or manufacturing industry. Colleges offering motorsports programs across North Carolina include Belmont Abbey College, NC State University, NC A&T University, Winston-Salem State University and UNC Charlotte. Community colleges offering motorsports courses include: Catawba Valley, Forsyth Technical, Mitchell, Rowan-Cabarrus, Surry, Western Piedmont, Central Piedmont, Cleveland, Gaston, Stanly, Northeastern Technical, and York Technical.

Currently, there are about 1500 employed CNC Tool Operators and Programmers in the region. Since the launch of the program in 2017, there have been a total of 220 graduates of NASCAR Tech's CNC Machining program. After graduating from a UTI program, 4 out of 5 graduates successfully move into full-time roles in the automotive industry or manufacturing industry. Students come from across the United States to study at NASCAR Tech and most graduates remain in the region due to the opportunities available to them. In fact, 37 graduates of NASCAR Tech's CNC Machining program have stayed in Iredell County thanks to the abundance of career opportunities.

Due to its location in Mooresville and proximity to NASCAR, NASCAR Tech is one of UTI's premier campuses and the biggest hub for fostering partnerships and business alliances. Over 40 companies in the region have hired graduates of NASCAR Tech and the CNC Machining program. UTI has quickly become the "go-to" educator for all motorsport companies in the region as well as many companies in the U.S. These regional companies include Carolina Precision Technologies, JTG Daugherty Motorsports, Structure Medical, Stewart-HAAS Racing, and Team Penske, to name a few.

CNC manufacturers can serve most industries that require precision manufacturing and machining, with some of the most common industries in the region being automotive, aerospace, and industrial. NASCAR Tech's CNC Machining program has been so successful in the region due in large part to many partnerships with various motorsports, automotive, aerospace, and industrial companies. Every year, UTI facilitates a Program Advisory Council meeting where employers are invited to review UTI's courses and facilities, which is extremely impactful to keep the programs up to date with latest trends and technologies. This also allows the employers to advise UTI on future needs and skills they are looking for in candidates, allowing UTI to provide the proper training and skillset needed to excel in these positions.

There are over 35 motorsports companies in Iredell County and the surrounding area, and over 90 companies in the region that use CNC machines. Some of the top motorsports companies in



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the area include NASCAR Research & Development Center, Roush Yates Engines, Hendrick Motorsports, Joe Gibbs Racing, Team Penske, and Chip Ganassi Racing. In North Carolina, more than 25,000 jobs are related to the motorsports industry and the industry has a \$6 billion economic impact to the state. Transportation is the fourth largest sector in the nation and today comprises over 16 million jobs in total, with the demand projected to increase as more vehicles hit the roads.

Iredell County continues to provide an abundance of opportunities for economic development, business recruitment and talent attraction for local, regional, and national businesses located in the area. The opportunities and possibilities for partnerships and collaborations with the local and regional community are endless.