



Fort Wayne ENGINEERS' Club

Engineers' News

April 2025

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www.FortWayneEngineersClub.org

April Tour



When: April 24, 2025 @ 6:30 P.M.

Where: 4100 North US 33, Churubusco IN 46723

Details: FWEC toured the Auburn facility back in November. This is another chance to see another side of their business at a different location, the Churubusco facility.

Today, C&A Tool offers the most-comprehensive combination of applied engineering expertise, advanced equipment and dedicated in-house production capabilities, ready to provide the most demanding specifications available. With on-site metal sintering, turning, grinding, milling and machining—including the industry's most advanced capabilities in large machining—provide the largest array of for-contract equipment in this hemisphere, on-site and ready to deliver.

*Must be at least 18 years old.

*Safety Glasses are Required

<https://www.catool.com/home>

Young Eagles



Experimental Aircraft Association Chapter 2 free flight experience for ages 8-17
scheduled 2025 for:

May 3 - DeKalb County Airport
May 17 - DeKalb County Airport
June 14 - Tri-State Steuben County Airport
June 21 - DeKalb County Airport
August 9 - Smith Field Airport
August 16 - DeKalb County Airport
September 13 - Smith Field Airport
September 20 - Kendallville Municipal Airport

https://www.eaa2.org/young_eagles.php

March Tour Summary



Guide Engineering Automation and Assembly Systems began in 1960 as a classic Fort Wayne area story of skill and growth. It is effectively an innovation center for continuous improvement at various levels of industrial scale manufacturing. Typical projects address worker injuries, fatigue, mistakes from monotony, fume exposure, worker shortages, and cost competitiveness. Design and fabrication occurs primarily at this location, followed by disassembly for relocation to

clients' facilities. Design includes efficient shipping, primarily in North America but sometimes Europe or South America. Guide Engineering appears to be a meaningful player in retaining manufacturing within the United States.

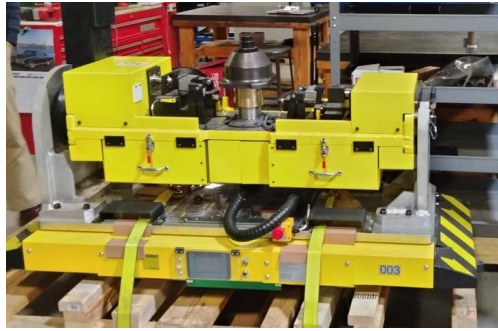


Projects tend to have custom-made underlying systems as a base, which then incorporate an array of components and options including from other sources. Detailed knowledge of fundamental design principles and then overlying outside source details are fundamental. Among the simplest we saw was a stout ergonomic work bench using overhead bowl feeders (from a choice of sizes and manufacturers) to dispense and properly position roller bearings into motor vehicle or tractor transmission parts, ready for a human to work with. The feeder bowls are tubs with typical capacities of a few cubic feet. They can be filled with identical parts (screws, bearings, etc.) and a spiral ledge (Archimedes screw) on the inner wall of the tub isolates and moves individual pieces into a hopper. Designed and debugged by Guide Engineering, the hopper system orients the piece on-end into a tube which, in our case, guides roller bearings into an array. The array is then inserted into the hub of a gear ready for a worker at that work bench.

Somewhat more complex projects might replace sections of an existing manufacturing process.

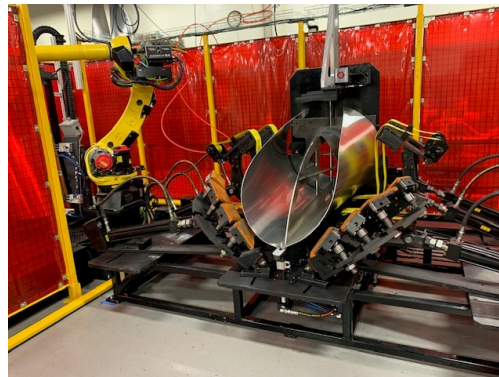
We viewed a very heavy-duty conveyor system that will position thick angle-iron bar(s) during assembly of steel trusses up to 140' long. The conveyor will become part of a larger jig already in use and replace a slow manual part of the truss-building process associated with injuries. The angle iron is routinely about an inch or more in thickness, in lengths seemingly to be over twenty feet long.

Projects often include entire medium-sized assembly lines (for forklifts, tractors, boats, etc.) with various levels of automation. A recently shipped line was 300' long, while another was condensed into a square configuration to fit a building space. Guide Engineering innovated a mobile floor robot

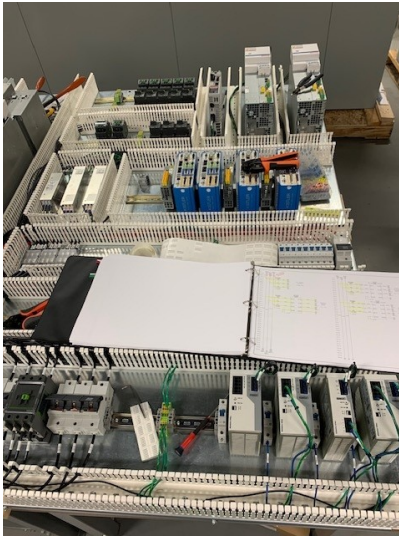


reminiscent of warehouse donkeys but far less vulnerable to disruptions on factory floors shared with humans. These E-Carts (electronic carts) can move assemblies along a line, rotate assemblies, with the intent to be robotically loaded and unloaded. The E-Carts and robotics combination allows a range of work at different stations along an assembly line.

Among other operations, Guide Engineering has extensive long-term experience with automated sheet metal work, also welding, including aluminum. We viewed two extensive projects shaping aluminum boat hulls. The extent of automation depends on unit volumes for particular end products.



Guide Engineering has significant internal machine shop abilities, electrical panel and controls fabrication, and extensive computerized design/layout investments. Design includes CAD and usually analyses to maximize labor efficiency and safety. A larger project exceeds 10,000 hours of labor. It is then disassembled for shipment and installation/proofing at the client's facility by some of the people who built the equipment.



This location averages 50 employees and 28,000-40,000 square feet, depending on sheer size of assemblies. As with some of our previous tour hosts, Guide Engineering tries to move employees through a range of tasks to avoid monotony, retain employees, continuously expand individual abilities, and reduce dependence on a particular employee. The primary difficulty, as with essentially all of our tour hosts, is finding applicants with potential.

This appeared a stimulating and adaptable environment for people with ability, broad interests, and long hours as needed. About half the staff is directly involved in engineering of various types, but not all have degrees. Others expanded into production or administrative management roles with or without expressly relevant degrees. About four people handle sales which presumably requires conceptual thinking and accurate cost estimations. Most business is repeat customers and word of mouth.

Uncertainty over international tariff and supply chain politics was discussed to a limited extent by our overall tour group. A change of Presidential administration normally causes slowdowns and changes in priority. Tariffs introduce further uncertainty but should entail basic growth in internal U.S. demand and wages, especially for states such as Indiana. The big question for years across our tour hosts has been availability of young people with sufficient ability and interest to be trained. Even before the current push to restore fundamental domestic industries and tax bases, suitable trainees and even retirees had been dwindling. Compensation levels and on-job training are usually "competitive" now-a-days.

Sincere thanks to Guide Engineering for hosting us on short notice. Tour hosts are the lifeblood of our Club.

FWEC Communications Coordinator Opening

FWEC has created a role of Communications Coordinator to be paid \$500/year. This would be to check the Club's e-mail once a week, assemble the newsletter 8-9 months per year using items provided by other people, and change the website to be current with the newsletter. No experience necessary. We have quickly trained each other as needed over the years, and the abilities could be useful for other associations or purposes. Please contact Ryan Stark at info@FortWayneEngineersClub.org.

Interested in Hosting a Tour?

Contact us today!

Host a Tour

Items of Note

FWEC member Rod Vargo is Chair of the 30 year-old and all-volunteer [Utility Advisory Group](#), which formally advises Fort Wayne City Utilities and often City Council. Your comments are welcome at rodvargo@comcast.net

General Club Info

Fort Wayne Engineers Club dues are \$0. Donations are welcome but strictly voluntary. In recent years, club funds have helped support Discover-E, the Regional Science and Engineering Fair, annual bridge building contests in schools, academic awards, networking events, mentoring, our website, and facilitating free tours.

Please see FortWayneEngineersClub.org for updates on current Club activities, other news, and past newsletters.

Those participating in activities or hosting tours through FWEC do so strictly at their own risk, including disease exposures. Participation in club events is voluntary, free, nonprofit, and solely for the benefit of participants and the community at large. Anyone with an interest may participate unless restrictions are specified for specific events, such as minimum age or minimum safety attire.

FWEC Roster for FY2024-2025

President: Nathaniel Wisel

Vice President: Mindy Robinson

Secretary: Rod Vargo

Treasurer: John Magsam

First-year Board Members: Marna Renteria, Mike Magsam

Second-year Board Member: Dave Gordon, Bert Spellman

Third-year Board Member: Ryan Stark, *Open*

Editor of Engineer News: Nathaniel Wisel

Membership and Contact Chair: *Open*

Northeast Indiana DiscoverE Chair: *Open*

Job Posting and Resumes Listed

The club accepts both job openings from around the area, as well as resumes from those seeking employment. Please submit these to the following email address:

Info@FortWayneEngineersClub.org

Advertise in the Engineers' News

The FWEC provides advertising space within the Engineers' News.
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