Fort Wayne ENGINEERS' Club

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www.FortWayneEngineersClub.org

November Tour

When: Thursday November 13th @ 6:00 p.m.
Where: 1313 Progress Road Fort Wayne, IN 46808
Details: The sonobuoy research facility for Raytheon was repurposed into a vibrant SCUBA shop, practice facility, and community. The mixture of technologies are continuously advancing. The store is interesting and a potential resource. The former sonobuoy pools are kept at 86 F and surprisingly affordable including gear to borrow for winter SCUBA practice and learning. There are dedicated outdoor locations in our region for seasonal diving.

The only tour limitation is a half-flight of stairs. We will be standing in heated indoor spaces and able to move around. A few chairs will be available. Overall, this will be a world that few of us are familiar with, which overlaps with space and military developments.

October Tour Summary

On Thursday October 23rd the club toured the Research and Development department at Trelleborg Sealing Solutions. Roughly 15 club members were in attendance and our hosts were John McGlaughlin – Director of R&D and Mike Magsam – Technology Engineer

The tour started with a brief look at the products Trelleborg produces. They make seals of all different shapes and sizes out of several different types of material. The also make bearings for hydraulic systems. They have a significant presence in the aerospace market and make items like window seals and door seals. Farm machinery, mining, automotive, and food service are also major sectors of their business. Our club toured the manufacturing facility at this site in January of 2023 and saw hundreds of different types of seals (mostly of PTFE at the Fort Wayne facility) being produced. Overall, they have over 35 different manufacturing sites and 15 different R&D facilities around the world, and employ roughly 8500 people.

Click here to read more

Volunteer Positions in the Club

Vice President

Club Vice President needed! It's time once again to ask club members to fill this vital spot in the club's leadership roster. The Vice President is generally in charge of arranging club tours, though this has traditionally been a team effort so it's not really all that much work. You would be expected to attend the monthly officers meeting (from the end of August until the end of May) and at the end of your one-year term, you would automatically become club president. The typical monthly time involved would be roughly 2 hours (including attending the officers meeting). If you enjoy the club and would like to see it continue to function, please consider volunteering for this spot.

Let us know if you're interested!

Volunteer

Interested in Hosting a Tour?

Contact us today!

Host a Tour

FY2025 FWEC Council (visit webpage)

Job Posting and Resumes Listed

The club accepts both job openings from around the area, as well as resumes from those seeking employment.

Advertise in the Engineers' News

The FWEC provides advertising space within the Engineers' News.
Advertisements are only $20 per issue and limited to ½ page of content.

October Tour Summary Continued

Our next stop was the testing lab upstairs. This lab is ISO 1725 accredited (a global standard that verifies their technical competence, impartiality, and consistent operation), and had an impressive line-up of equipment. Everything from a scanning electron microscope that allows them to identify metals and contaminants that might be present on their seals, to a Dynamic Mechanical Analyzers that measures how their seals stand up to the application of extremely high frequency, yet very small forces being applied. They are also capable of reverse engineering competitors seals. They run anywhere from 30 to 35 projects a month, with each project getting nine different tests on average. This lab is truly a chemist's dream and if you are a chemist looking for work, you are in luck because they are currently hiring (see link).

Afterwards, we went downstairs to the facility where they test the seals they produce. This area included test rigs that were developed to linear and rotary hydraulic testing, as well as special test rigs for customer-specific requirements. These machines were largely designed and built in-house, though they do contract with different tool and die makers around the city to supply custom machinery and tools. An example of the type of testing they do would be for the axle seal

on a farm tractor. On one side of the machine is a slurry of water and dirt meant to simulate whatever type of environment the tractor might operate in. In this situation, the seal was for a tractor that was operating in a wet condition like a rice paddy. On the other side of the machine was a reservoir of oil and a motor to turn the shaft. The only thing separating the two was the seal around the axle shaft. They run that a test like that until the seal fails and the water/dirt mixes with the oil. Some of their seals are flame-tested. Some are pressure tested up to 30,000 psi. They are capable of cryogenic testing as well, which is very important in the aerospace industry. We were also treated to a view of their hydrogen seal testing facility. We learned a little about what type of safety features a hydrogen testing facility has to have. Testing seals that will work in a hydrogen environment have their own special set of challenges, not the least of which is the fact that hydrogen is explosive, so all testing needs to be done in explosion-proof rooms, with special controls. Facilities like this are only going to be more important as hydrogen fueled vehicles become even more common in the future.

After touring this facility, it was obvious that Trelleborg is a company that looks to the future and will be ready to supply quality seals for many years to come. A big thank you for John and Mike for hosting the tour.

Contact FWEC
