

2019

Mfg & STEM Fair

Thank you to:

National Grid
Ralph Wilson Foundation
Appalachian Regional Commission
Portville Central School District
Napoleon Engineering Services
Dresser-Rand, A Siemens Business
Cutco Corporation
SolEpoxy
Eaton CPSD
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dream it.
DO IT.




MAST
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OF THE SOUTHERN TIER

Thank you to the following school districts:

Portville High School
Portville Middle School
Olean High School
Olean Intermediate Middle School
Allegany-Limestone High School
Allegany-Limestone Middle School
Salamanca City Schools
Hinsdale Middle School
Hinsdale High School
Bolivar-Richburg Middle School
Bolivar-Richburg High School
Cuba-Rushford Middle School
Cattaraugus-Little Valley High
Pioneer High School
Otto-Eldred High School
Homeschool
Whitesville High School
Wellsville High School
Oswayo Valley Middle School
Archbishop Walsh Academy



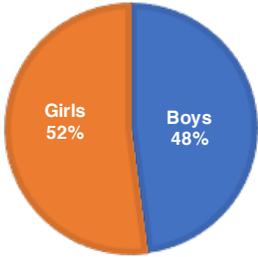
Thank you to the following companies and organizations:

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Boundless Connections, LLC
Jamestown Community College
Alfred State College
Dream It. Do It.
ARC Girls in Mfg Clubs
Wellsville Robotics



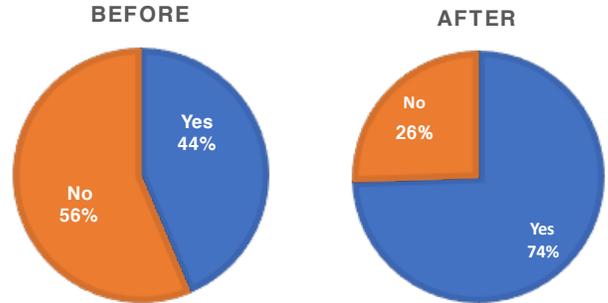
On Friday, May 10, approximately 1100 students attended the 7th annual Dream It. Do It. Mfg & STEM Fair at Portville Central school. Students visited with over 100 manufacturers, engineers, administrators, and educators. Students were asked the following questions in a survey about their knowledge and perception of manufacturing, before and after fair:

HIGH SCHOOL



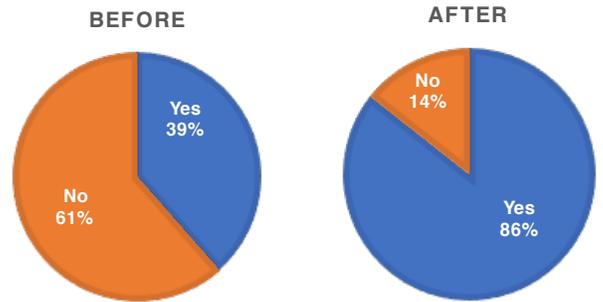
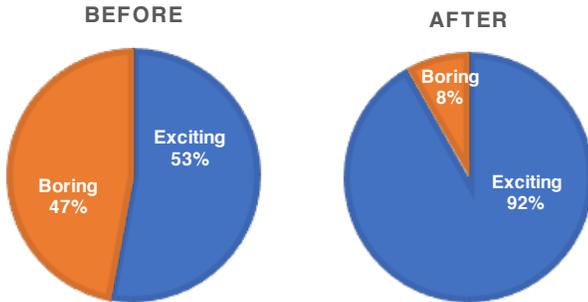
During the morning, over 400 high school students attended the fair. 376 students completed the survey.

Would you consider a career in manufacturing?

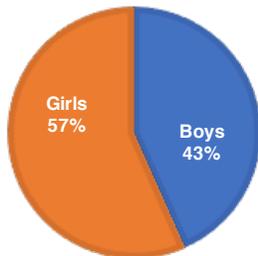


Do you think manufacturing is boring or exciting?

Do you know what training and education you need to begin a career in manufacturing?

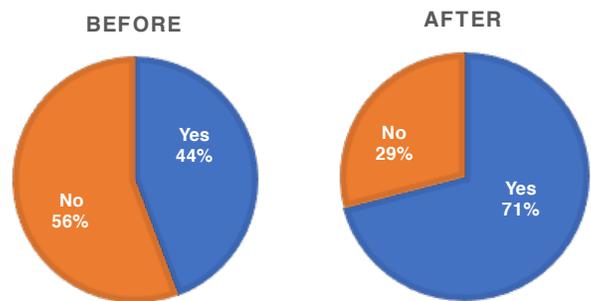


MIDDLE SCHOOL



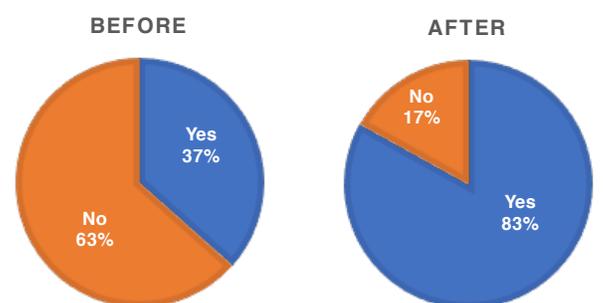
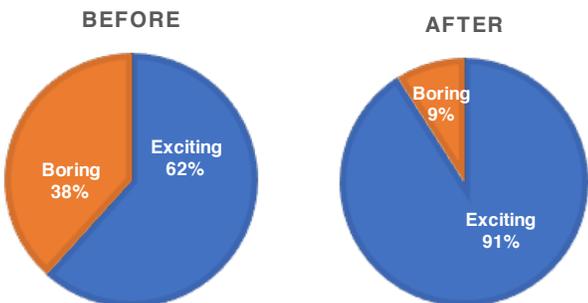
During the afternoon, over 600 middle school students attended the fair. 495 students completed the survey.

Would you consider a career in manufacturing?



Do you think manufacturing is boring or exciting?

Do you know what training and education you need to begin a career in manufacturing?



Another addition to this year's Mfg & STEM Fair was the participation of the Dream It. Do it. Mfg Clubs. The Girls in Mfg Clubs, through the Appalachian Regional Commission grant, have been meeting for the past 18 months and hope to continue in the fall. Club members from Cuba-Rushford, Allegany-Limestone, Olean, Hinsdale, and Portville attended the fair and were able to meet with some of their manufacturing mentors and Professor DIDI. Club members also participated in the First Mini Soapbox Derby Race, organized by the Portville DIDI Mfg Club, through the Ralph Wilson Foundation 2035 grant. Participants included the Portville DIDI Mfg Club, the Olean DIDI Mfg Club, the Portville Girls in Mfg Club and the OIMS Girls in Mfg Club. Fifty-seven cars entered the race! Thank you to Mr. Joe Pleakis of Portville and Mr. Bob Sherburne of Cutco for organizing this event as well as Christine Otto, Christine Gabler, Dave Suain, and Dan Brown. Looking forward to next year!



Mini Soapbox Derby Race

Using the Engineering Design Process, Olean High School's PLTW Intro to Engineering students designed, assembled, tested and modified their mini soap box cars used at the Mfg & Stem Fair in Portville. During the process each student added their own personal touches as they decorated the shell. Students made many adjustments to the weights inside the shell to enhance the weight distribution of the vehicle and how it performed on the track. Students also discovered that they needed to adjust the rubber stoppers keeping the wheels on the vehicle to reduce resistance and friction. Their adjustments and collaborative efforts earned them spots as the top finishers at the first Cattaraugus County Mini-Soapbox Derby Race. The Olean Mfg Club has also been working on the Super Stock Soapbox racing car with Soapbox Coordinator Bob Sherburne. They will be racing on June 8th in Jamestown, NY. Go Huskies!!

*Dan Brown
PLTW Instructor and DIDI Mfg Club Champion
Olean High School*



OIMS Girls in Mfg Club



This year, the Olean Girls In Mfg Club dove head first into the manufacturing process. The girls began with an idea to design a keychain representing Husky Pride. They struggled with errors in design layout and prototype glitches. When designs were finalized and a select few were agreed upon, the production piece began. Each girl took lead roles in the production of the Husky Pride keychains. As a team, they decided they would like to host a table highlighting their manufacturing experience. So began the preparation for the 2019 Mfg & STEM Fair in Portville.

Jobs were laid out and the girls distributed responsibility equally. They created a PP and developed a spreadsheet designating exact number of designs, sizes and colors. They also made a calendar with a daily schedule of who would man the 3D printer and rotate jobs so that the 3D printer ran continuously throughout the day. Each girl had to plan accordingly, so that they could come down and work on the printer during a lunch break or a study hall.

In all, the team made over 600 items, created questions about our local companies, created a hierarchy of difficulty in the level of questions and items so that all participants found success, created items using the basic designs that would appeal to a large population, and wrote out a supply /profit profile to help decide which items were the most popular.

Since the fair, the girls are now using the remaining items to create a plan to sell the items in Olean's Spirit Store. This will include a cost analysis and display designs. These are all works in progress but they are certainly up for any challenge!

The girls have learned numerous academic skills such as- engineering design, research and development, machining, problem solving, scaling, computer science, measurement, material manipulation and technology integration. They also learned "soft" skills which are actually success skills. These include perseverance, collaboration, cooperation, teamwork, leadership, flexibility, negotiation, public speaking, planning, time management, self-reliance, and trust! These girls far exceeded my expectation of designing a symbol of Olean Pride, creating it using the available technology, and work collaboratively throughout the process.

The future success of these young ladies has already become evident, in that they have been asked to design and create logo merchandise to sell benefiting a few of the local non-profit community projects.

I am so very proud of them!

*Christine Armstrong-Gabler
Fifth Grade Teacher
Olean Intermediate Middle School*

Full Circle Stories

Personally, it was cool for the entire event to come full circle. I graduated from Portville and I always looked forward to the STEM Fair. I even worked a few of the smaller displays and activities at the fair when I was in high school. When I would have a few minutes to explore, I always made it a point to speak with Chris Napoleon and NES. This year, I was able to go back to the fair to represent the company that I was so interested in. That's what the fair is all about; exposing young people to local manufacturers and opening the door to the engineering technology world. I credit this event for my desire to pursue a career in engineering. I'm just glad that I was able to experience it from both sides of the table so that I could explain to the kids first-hand how beneficial the fair can be.

*Lukas Zink
Associate Bearing Engineer
Napoleon Engineering Services*



Thank you for asking Siemens (Dresser) to be a part of this event again. I was glad Chris Scott had approached me as someone to go. During this event, it is amazing to see the amount of global reach that comes from the Engineering/Manufacturing facilities in our community. I think a majority of residents in the Olean area think of Siemens, Cutco and NES as the only manufacturing presences in the area, but events like these show the many others that are around.

As the OTH article had mentioned, I had been a student that attended the Mfg Fair, and other DIDI events (such as the DIDI 500 and the summer engineering camps that Jim Schifley used to do at BOCES) and it helped me confirm that Engineering was the route I wanted to take in my career. There is even a picture somewhere, where Chris Scott (my current boss) and myself are in the same area during one of the DIDI events when I was still a student. Now that I have graduated and been able to get a STEM job locally, it is nice to be able to give back and donate time to the DIDI program, and maybe get other kids involved in engineering. Even though this was my first event as an adult, the networking I made during my time as a student in this program have carried over to this day. It was a fun day and I am glad DIDI is able to continue putting it on. It is always nice to be able to get kids interested in STEM within local businesses as this gives them more of the option to stay around in our community that has begun growing again.

*Kyle Brook
Project Engineer
Dresser-Rand, A Siemens Business
Clean Operations*

It was so exciting to be able to see the kids, for all ages, take interest in planning their future. I think the fair gives them a great opportunity to explore the different fields of work that they would be interested in. For me, the fair provided an opportunity to get a job in my field. In the year of 2017, I was representing my college (Alfred State) for the fair when my professor introduced me to Jason Moses, the head of Drafting. That's when I was told that they were looking for a drafter and that I should hand in a resume. A few interviews later, I got the job! Now that I come back representing the Drafting department for Cutco, it is a privilege for me to attend this event and have the opportunity in reaching out about what I do. I hope that I can inspire young minds in seeing that if you put your heart into something you can accomplish a lot.

*Chantal Cook
Associate Draftsman
Cutco Corporation*



Every year I look forward to interacting with the students and answering their questions during the manufacturing fair. Over the past five years the increase in well informed questions from students seems directly related to the results of the outreach from programs like Dream It Do It. The manufacturing fair is the perfect opportunity to reinforce the message that manufacturing jobs are here in Cattaraugus and Allegany counties and that they can be exciting long-term careers with growth opportunities.”

*Jeremy Martin
Director of Engineering
Napoleon Engineering Services*

The STEM fair is a well-organized, valuable event that accomplishes the difficult task of actively engaging our next generation in conversation with local business leaders in manufacturing/STEM. This is how we build an engaged, committed, future workforce. Well done.

*Melissa Curran
Office Manager
Napoleon Engineering Services*



The Dream It. Do It Manufacturing & STEM Fair is a wonderful event. It gives us the opportunity to let students know that we are here and to teach them a little bit about what we do. Some of the students we talked to this year were able to identify different tree species, impressed us with pictures of the projects they made in their wood shop class, and asked really great questions about our industry.

*Brittany McDowell
Assistant Controller
Fitzpatrick & Weller, Inc.*

The students seemed more willing to participate in our activities than in the previous fairs. We were busy the entire time with equal interest from both groups (high school and 7th/8th). We need to up our game even more for next year. Great to see the students taking interest.

*Phil Farris
Product Development Scientist
SolEpoxy*

It was good to see students light up when they discover how easy it is to think in Binary numbers once they knew how it worked. The logic games challenged them to work in teams to solve the puzzles.

*Eric Swartwout
Controls Engineer
Eaton*

I overheard our chemist from ARG ask a student if he was interested in science. He replied ‘not really’. She responded with ‘Let me fix that!’ She proceeded to give him the one-minute crash course on petroleum refining. When she asked the student, “Wasn’t that interesting?“, he had a big smile on his face.

*Charlotte J. Layton
Director of Quality, CQMgr/OE
American Refining Group, Inc.*

The ARG team thoroughly enjoyed the event. We were amazed at how well organized it was, the number of students participating, and their genuine interest and enthusiasm (especially the middle school students). We definitely want to participate next year!

*David Krantz
Vice President of Research and Development
American Refining Group, Inc.*

It's awesome to see area companies taking time to interact with the next generation. Thanks Dream It. Do It. for the stellar event!

*Christina Lopez
CEO
Boundless Connections, LLC*



The Dream It. Do It. Program has provided Mazza Mechanical Services Inc. opportunities to share with students and teachers the types of skills needed and the range of career opportunities that are available in the diverse HVAC industry; ranging from Estimators, Fabricators, Installers, Project Managers, Dispatchers, Technicians, Controls, Designers and Engineers.

In speaking with students about the well-known but, surprisingly unknown HVAC field, you can frequently see their thoughts churning and an inner voice saying “huh, I never knew”. That moment may be the catalyst that points a student towards the skilled HVAC workforce pipeline. If that turns out to be the case, Dream It Do It has succeeded!

Scott Puller
Director of Development and Human Resources
Mazza Mechanical Services

I thought that the students were extremely engaged. I think the brain puzzles drew them to the table and the conversation kept them talking.

Jeff Teluk
Director of Engineering Science
Jamestown Community College



The STEM foundation that students are coming to the fair with now is a step change from when we started supporting 7 years ago. The questions and interactions we get from even the youngest students shows how much more exposure they are getting to manufacturing. I love it.

The diversity of the student interest is exciting. So many girls expressed interest in careers like welding and engineering.

The results of the fair are undeniable. Two of our Dresser-Rand representatives came to the fair as students 6 years ago and interned with us through college. We have such great talent and educational support right here in WNY – all it takes to grow our next generation of manufacturers is to show them the path.

Chris Scott
Director of Engineering / Olean Operations
Dresser-Rand, A Siemens Business

I was really surprised how many young ladies were at the STEM Fair. Really good turn-out. I would think we will out-grow the gym soon! Would not be bad!

Ron Krasnek
Export Sales and Marketing Manager
Koike Aronson

We had a student from Portville visit our booth again this year. Her dad, Eddy Zawalski, worked for ABC for years as a skid builder. Sadly, he was killed in an motorcycle accident. She knew we had a picture of him in our display from seeing it the previous year. She came back to see if it was still there (it was). She brought many of her friends over to show them her dad. Even if it was only a partial view of him, she took great pride in being able to share that moment with her friends.

Celine Penman
Human Resources Recruiter
Allegheny Bradford Corporation

Julie, Jeff, Xavier, and Gregg garnered many student contacts, and all of us strengthened our relationships with business and industry leaders. What a great day!

Keith Kranick
Workforce Readiness
Jamestown Community College

Our booth at the “Dream it. Do it.” Manufacturing and STEM Fair was a great success! This event was a wonderful opportunity and it connected me with so many people. Bringing the digitalization/technology piece on behalf of Siemens was a wonderful opportunity to round out an already great display.

Steffanie Bell
GP SDO TI DIG SD
Siemens



Our overall takeaway from the fair was the enthusiasm we saw from the kids. It was exciting to see two kids “out think” our Fidget Spinner Tachometer; an open source software experiment. They were to spin the fidget spinner and see how fast they could get it to measure. Instead of using just one fidget spinner they used two and produced the highest score. Thinking out of the box. Many other students asked how they could build the open source software items we had on display.

*Debra A. Bevans
Director of Human Resources
Prestolite Electric Incorporated*

We had a great time at the fair. The young woman with me was a student teacher from St. Bonaventure. Lindsey was amazed at how non-stop the fair was. She did have a grand time and was able to see integrated math at work. Students made and flew paper airplanes that modeled two and three-dimensional planes and vectors in space. It gave them a visual representation of locating a point in space which is part of the basics of coding manufacturing. A number of home school teachers who did stop by thought this representation was ingenious. Who knew that flying paper airplanes was so STEM oriented? I am looking forward to next year's Manufacturing and STEM fair. I am already entertaining some new ideas!

*Barbara Hewitt
Mathematics
Olean Career and Technical Education Center*



Thank you for inviting us to the Manufacturing & STEM Fair at Portville Central School. It is always a rewarding experience to talk with the kids who show a genuine interest in the displays at our booth and ask pertinent questions about manufacturing. It is reassuring to know that our schools are fostering excitement in the manufacturing sector as companies encounter an aging workforce that will need to be replaced in the very near future. Although I don't recall a particular interaction that stands out, I think it was beneficial to show the students a real-world application of how we use 3D printing technology to manufacture parts to meet our customers' demands. Thank you again for the invitation and I look forward to working with you again in the future.

*Steve Simons
Plant Manager
ASK Chemicals Hi-Tech LLC*

The Manufacturing Fair is a great place for our BOCES students to meet and talk to all the local manufacturers - much "networking" took place this year!

*Jim Hilyer
Product Design and Manufacturing
Olean Career and Technical Education Center*

We had a slow start, but once a few kids became engaged, the activity rose rapidly. Quite a few were interested to learn more, so I asked them if they had access to the internet. It was surprising how many did not. In either case, I wrote Adafruit.com on the back of a ticket and invited them to explore more on their own.

Another interesting thing happened with the fidget spinner tachometer in the afternoon. Once the gymnasium door to the outside was opened, the tachometer became intermittent. The kids were patient during the problem-solving effort and participated in turning the problem “off and on” again by blocking the light path to the Infrared sensor between the doorway and the table with their body, moving to the side, and back again.

Electronics have been a hobby since my first exposure back in high school, and I volunteered with the hope that we could contribute to making a positive difference in a young persons' life.

*Andy Czesak
Test Lab Engineering
Prestolite Electric Incorporated*



The students commented that they enjoyed themselves and were surprised that they were able to experience so many activities. They all seemed engaged which is wonderful.

The students interest was piqued with the interactive activities and then the questions and conversation came much easier. A few commented to me that they were not planning on talking to anyone and were surprised that they did! I feel the STEM Fair is well run and a great resource for our students.

*Rose Rufner
Guidance Counselor
Allegany-Limestone Central School*

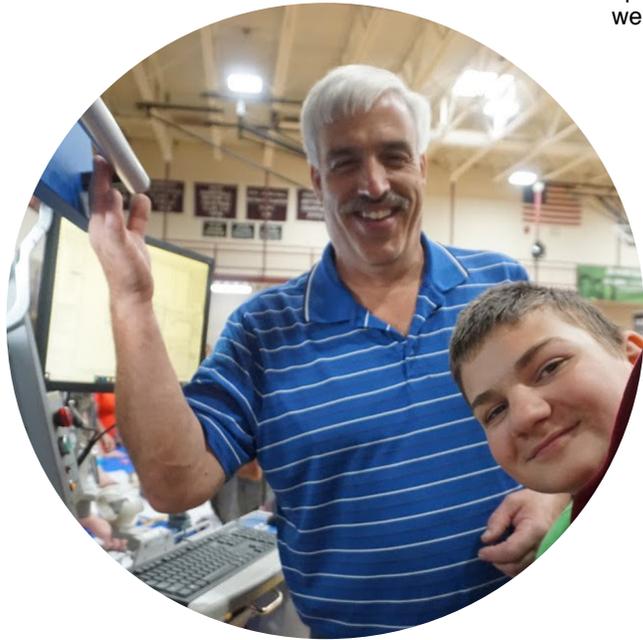
Thank you for sharing such great news about our students' participation. We are appreciative of the effort and attention to detail our teachers place on preparing our students. That combined with the determination and grit of our students is what makes it come to life. Pioneer values Dream It. Do It and the opportunities provided.

*Mark Schultz
Principal
Pioneer High School*



What an atmosphere at the fair. All of the various representatives from so many local industries were so excited to share what they do with the students. My students had a great experience and learning opportunity at the fair.

*Warren Schultze
7th Grade Science Teacher
Hinsdale*



You did it again! Another wonderful Manufacturing Fair--- my school loved their time with the various manufacturers! Thank you for all you do!

*Laurie Cuddy
Principal
Hinsdale Central School*

It ended up being a great day! The kids had a really good time. Thank you for putting it all together.

*Liz Potter
Guidance Counselor
Whitesville Central School*

Thank you! It is always such a worthwhile event.

*Martha Wolfe
Guidance Counselor
Otto-Eldred School*

Our students said the following:

- *They loved that it was so hands on
 - *It was a bit crowded at times
 - *The employees were very welcoming
 - *Some wished they had more time
 - *It was way more than what they expected
- Some students built up interest in engineering because they weren't aware of the "cool" jobs you could have in that field. I thought this year was the best by far!

*Carrie Peters
Math Teacher
Olean City Schools*







Thank you for being a part of the 2019 Dream It. Do It. Mfg & STEM Fair.

Looking forward to our upcoming events!

Eaton Young Manufacturers Academy - July 8 - 11

Summer Teacher STEM Experience - July 29 - August 2

National Manufacturing Month - October 2019

DIDI 500 - November 2019

Any questions, please visit didiwny.com/events or contact Evelyn Sabina at esabina1@gmail.com