



# Erick Ajax, EJ Ajax and Sons, and E.J. Daigle, Dunwoody College of Technology

## Wanted: Highly skilled workers for good manufacturing jobs

A Civic Caucus Focus on Competitiveness Interview

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### Present

Erick Ajax, Dave Broden, E.J. Daigle, Paul Gilje (coordinator), Sallie Kemper, Dan Loritz (chair), Paul Ostrow, Dana Schroeder, Clarence Shallbetter, Fred Zimmerman. By phone: Audrey Clay, Janis Clay.

### Summary

Erick Ajax, co-owner and vice president of EJ Ajax and Sons, and E.J. Daigle, dean of robotics and manufacturing at Dunwoody College of Technology, want people to know that there are many good job opportunities available in manufacturing that require very skilled workers. They lament the loss of shop classes in high schools, the over-emphasis on high-stakes testing and the thinking that everyone should attend a four-year college. Daigle recalls that a decade ago, Dunwoody almost closed its machine tool program due to low enrollment. Now the program is thriving and enrolls nearly 100 students. Ajax discusses his methods and those of other companies for ensuring that they have the "best-of-the-best" workers, even in this time of baby boomers retiring and a shortage of young, skilled workers. They describe the partnership between EJ Ajax and Dunwoody, through which the company awards scholarships and internships to the two best Dunwoody students halfway through their first year. Ajax calls on employers to be willing to "put skin in the game" and find a way to collaborate and leverage with other entities.

### Background

**Erick Ajax** is co-owner and vice president of EJ Ajax and Sons, founded in 1945 by his grandfather Erick. He became a third-generation metal-former when he joined his family's precision metal-stamping company in the early 1980s. His efforts in reshaping its human resources, employee safety,

education, professional development and sales and marketing have helped to transform EJ Ajax into one of the safest and most productive metal-stamping companies in the world.

EJ Ajax specializes in metal stamping, sheet-metal fabrication and laser cutting. The company is located in Fridley and has 55 colleagues (employees). More than a third of the company's production is exported to China, the Caribbean, Saudi Arabia and other parts of the globe.

Erick Ajax champions extensive investments in education and safety. Ajax invests more than 5.5 percent of its annual payroll in employee education. Employees average more than 100 hours of professional development and education every year. Tuition and expenses are paid upfront for any job-related course.

In addition, Erick Ajax has worked with manufacturing and educational organizations at both the state and national level to help develop the pipeline of skilled workers required for the ongoing vitality of the U.S. manufacturing sector. EJ Ajax was a founding sponsor of the M-Powered program that helps bring dislocated and disadvantaged workers into manufacturing careers. It also participates in the National Institute of Metal-Working Skills (NIMS) apprenticeship program.

Erick Ajax is past chair and current board member of the Minneapolis Public Schools Learning Center for Economics (1997-present); member of the Board of Advisors for Minnesota OSHA; current Advisory Board member for M-Powered program for training incumbent, dislocated and disadvantaged workers; trustee, Precision Metal Forming Education Foundation; and past president, Minneapolis Rotary Foundation. He attended the University of St. Thomas and has completed a number of Executive Education programs at the Opus College of Business.

**E.J. Daigle** is dean of robotics and manufacturing at Dunwoody College of Technology in Minneapolis, a position he has held for 11 years. He manages a department of 20 faculty members and over 300 students. Programs include: Automated Systems & Robotics, Electronics Engineering Technology, Engineering Drafting & Design, Machine Tool Technology, Welding & Metal Fabrications, and a 2+2 program, leading to a bachelor's degree in Industrial Engineering. Dunwoody has been teaching manufacturing programs since 1914.

Prior to coming to Dunwoody, Daigle served 11 years as a Missile Technician in the U.S. Navy. He worked at Electric Board (General Dynamics) on the new construction submarine USS Rhode Island SSBN740 and made the first six patrols after commissioning. He was also stationed at Trident Refit Facility in Kings Bay, Georgia, and served on USS Louisiana SSBN743.

Daigle has a B.S. degree in Applied Mathematics and is currently finishing his M.S. degree in Manufacturing Engineering at the University of Wisconsin-Stout.

## Discussion

### **Part I. Erick Ajax, co-owner and vice president of EJ Ajax and Sons.**

#### **Partnerships with higher education institutions have helped EJ Ajax develop a skilled workforce.**

Erick Ajax pointed to a number of partnerships his company has developed over the last decades.

- With Hennepin Technical College, EJ Ajax, along with some of its competitors have cooperated (which Ajax refers to as coopepetition) to develop a program called M-Powered, a fast-track training program for manufacturing that lasts nine to 10 months. The program also attracted a \$2 million grant from the U.S. Department of Labor. M-Powered has graduated about 500 people and Ajax has hired 14 of them. Through the program, people who'd never had any experience with manufacturing are ready to come into a facility like Ajax with some entry-level skills. Quite a few of these graduates have gone through Ajax's four-year, competency-based apprenticeship program and are now Class A Journey-Worker professional metal formers. "It's rewarding to see someone come in at an entry-level wage of \$13 an hour and double that within six to seven years," Ajax said. "They can live the American dream."
- EJ Ajax and other companies have also developed a program with Anoka Technical College, which fast tracks people in sheet metal fabrication. Industry has donated over \$1 million of state-of-the-art machines to the program, which has graduated over 300 students. EJ Ajax has hired 10 graduates, three of them military veterans. Ajax said the Anoka County Workforce Center has done an excellent job working to attract returning veterans into the program.
- Ajax has also been able to partner with the suppliers who sell them their capital equipment to get people trained for sophisticated machinery. "We need the best and the brightest," Ajax said. "We've had phenomenal cooperation with that."
- EJ Ajax and other companies have also partnered with the Minnesota Department of Economic Development, the workforce centers and a nonprofit called HIRED, which helps the companies recruit low-income people. "That's been a very successful relationship for us," Ajax said of HIRED. They've also tapped into a dozen foundations.
- EJ Ajax offers two \$10,000 scholarships to first-year students at Dunwoody College of Technology and provides them with \$15-an-hour internships. "This has been over-the-top successful for us," Ajax said. About 20 of Dunwoody's best students apply for the two scholarships. Ajax takes the two best students from Dunwoody midway through their first year, in the second semester. "He grabs the best ones early," E.J. Daigle said. EJ Ajax interns them over the summer and they get to learn about stamping, die making and tool making. Some of the companies' competitors run similar programs.

In response to a question, Ajax said his company decides which higher education institutions to work with by looking at the strength of their program, their dean and their faculty, whether they are modern and use skill credentials like NIMS and whether they take attendance. "Some MnSCU professors think they don't have to take attendance," he said. "Give me a break."

"We determine where to have a relationship by looking at their willingness to build up a program; continuous improvement; their willingness to invest in technology and high-quality instructors; their willingness to partner and bring other organizations into the partnership," he continued. "If you just have the college out there trying to develop programs, it's not going to be as successful. Some schools are open to that and some schools are not." In response to a question, he said even within MnSCU, there are big differences among schools.

**Talent helps EJ Ajax compete globally.**

Ajax mentioned Dunwoody's 2+2 program, which offers both an associate degree and a bachelor's degree. "It's really exciting for us to land this kind of talent," he said. "It helps us compete effectively in the global marketplace. We need to create 20 times more value than our competition in Mexico, China, Vietnam and India. We pay our people 20 times more. In order to be successful, we have to be able to create wealth and help our customers make more money."

**EJ Ajax is a learning organization.**

In response to a question, Ajax said his company considers itself to be a learning organization. "We insist that everyone complete a minimum of 100 hours of continuing education each year," he said. "They do that on their own time. We pay 100 percent of their tuition. We invest 5.5 percent of our payroll in education, training and professional development. Even if people have been on the job for one, two, three or four decades, we continue to expect that they keep their swords sharp."

**EJ Ajax has hired six military veterans in the past 18 months.**

"Our most exciting hires have been our veterans," Ajax said. "Talk about transferable skills." He mentioned three examples among the vets the company has hired: An E-9 Master Marine Gunnery Sergeant, with 24 years of service; an E-6 Staff Sergeant, active for 18 years in the Army Guard, who just returned from 29 tours of Special Operations active duty; and an E-6 Staff Sergeant, active for 12 years in the reserves, who is a Black Hawk helicopter mechanic.

**Part II. E. J. Daigle, dean of robotics and manufacturing at Dunwoody College of Technology.****More than a decade ago, Dunwoody strongly considered shutting down its machine tool program and several MnSCU campuses did so.**

Daigle said Dunwoody's machine-tool program had low enrollment at that time. He said the media was negative, saying that all manufacturing has moved offshore and that there are no jobs in manufacturing in the U.S. At the same time, Daigle pointed out, a lot of high schools shut down their shop programs.

"Fortunately, we have a strong contingency of alumni who own their own businesses and graciously donate back to the school," Daigle said. "Several of them said they couldn't support the school if it closed down the machine tool program. Based on this and the fact that our limited number of students were still finding work, we kept it running."

**Now Dunwoody's machine tool program is thriving.**

He said Dunwoody's machine tool program now has nearly 100 students. "We are thriving," he said. Last year, Daigle and Dunwoody's career service office received more than 400 requests to hire the school's 24 machine tool graduates.

**Dunwoody is using more competency measurements.**

In response to a question, Daigle said Dunwoody is starting to move more and more into competency measurements. "We work with the National Institute of Metal-Working Skills (NIMS)," he said. "We're starting to get all of our students NIMS credentials. When they get to Ajax, that's exactly what they're going to see. They'll do this with their apprenticeship programs, getting certificates showing their competencies. Eventually they'll get their Journey Worker's card. "

**Companies must get the best job candidates early.**

Daigle gave an example of a student with a bachelor's degree in theater design who has never worked in her field of study. Several engineering firms are now fighting over the opportunity to hire her. "As an employer, if I want the best candidates, I better grab them early," he said. "Companies are beginning to realize that if they help the students pay for school and give them a summer job, they'll stay. If the company treats them right, the employees will stay forever."

"We get 20 people-the best of the best-applying for our scholarship at Dunwoody and our internships," Ajax said. "We look at their GPA and their willingness to complete a four-year apprenticeship after getting their associate degree at Dunwoody. Attendance is huge. We look at that more than the GPA. Dunwoody keeps attendance down to the last hour. We give them an occupational aptitude assessment. This process helps us determine the best candidates."

**Character traits of employees are very important.**

An interviewer commented that we're often too focused on just the technical content and asked about the relative importance of character traits. "That's incredibly important," Ajax responded. "That's why we look at attendance and why we interview the candidates. We also do random testing at our company for drugs and alcohol."

He said in 2007, the company lost six people, 10 percent of its workforce, to methamphetamines. "We offered each of them the opportunity to use our short-term disability insurance and our medical insurance to rehabilitate," Ajax said. "Five of the six walked away from a \$50,000-a-year job and full benefits."

**The skills shortage is real.**

An interviewer asked about the emerging shortage of applicants for jobs. "The skills shortage is absolutely for real," Ajax responded. "We will lose one-third of our colleagues in the next five years to retirement. Because of our partnerships with Dunwoody and the various colleges and our apprenticeship programs, it's not an issue for us. We're building our bench right now for the future. We're leveraging across generations. Our master tool-and-die makers in their 60s are mentoring our Dunwoody interns right now. It's so exciting. It's a wonderful example of how these people can work across generations to solve the skills gap."

Responding to a question, Ajax said he is not comfortable with policies being promulgated at the state level to solve the skills shortage problem. "They don't get it," he said.

**Some countries do a better job of preparing students for skilled trades.**

Ajax was in Switzerland recently and said 70 percent of their 15-year-olds go into vocational training in 350 different skilled trades. The other 25 to 30 percent take a higher education track. "I think that model is incredibly powerful," he said. "They're making some good decisions with these young people when they're 15 years old. They can visit companies that offer apprenticeships. They'll spend a week or two shadowing people on jobs. Then they'll make a decision about what track they want to take and they'll go into a four-year paid apprenticeship program at 15 and they'll learn a trade."

"At age 25," Ajax said, "they have six years of experience beyond their apprenticeship and zero student debt. In many respects, the Swiss Journey Worker is 10 years ahead of some Americans of the same age. Check the unemployment rate for 25-year-old Americans vs. 25-year-old Swiss citizens."

In the United States, Ajax said, only half of all the kids who enroll in a four-year college program are going to graduate in six years. "They're going to run up all this student debt. They're going to end up living in their parents' basement, working in a coffee shop."

### **Student loan debt is unsustainable.**

Daigle pointed out that 15 percent of the students at Dunwoody's manufacturing department or orientations have four-year college degrees. "We now have more student loan debt in the U.S. than credit card debt," he said. "That's insane. A lot of that student debt will never have any return on investment, because the students will never work in the field in which they were trained. How crazy is that? It's an unsustainable model."

### **Not all students need to go to a four-year college.**

"We all want our kids to be grads of the University of Minnesota," Daigle said. "Is that more important than getting a job? They don't have to do that. Some of the best engineers at Ajax started out with a machine-tool degree. They worked in manufacturing first and understood manufacturability. Then they became mechanical engineers. Now how valuable are they to 3M? How valuable are they to Ajax or Medtronic or Boston Scientific or any of these companies?"

Ajax agreed. He said his company's best leadership comes from people who started at Dunwoody or Hennepin Technical College, went through the company's four-year apprenticeship program, have experience on the floor and continued to pursue their education and training.

"A four-year college degree right out of high school is not the only pathway to a successful career and the opportunity to live the American Dream," Ajax said.

### **High schools place too much emphasis on high-stakes testing, rather than preparing students for jobs.**

Daigle said high schools are one of the biggest problems. Patrick Henry High School in Minneapolis has no shop, while Chanhassen High School has a brand new computer numeric controlled (CNC) shop in its engineering and technology department, featuring both two- and three-dimensional machines controlled by computers for use on metal, a CNC router for wood and a three-dimensional printer. (See italicized remark below.)

"The people who need it most, we've taken it out of their high school and we're concentrating on high-stakes testing," Daigle said. "We need to concentrate on getting them a job. Who cares if they can do all that math if there's no practical application to it? A test score will not provide a paycheck. We need a way to turn these skills into a job. I feel strongly that students fail in math because of a lack of application. Many times the only application to much of our high school math is a whiteboard and marker. This is great only if you wind up working for the whiteboard and marker company."

Ajax agreed and stressed the importance of learning algebra in eighth and ninth grade. He added that if students had a wood or metal shop in their school and had to use math to complete projects, they would likely see the connection and study math a little harder. His company works with the Minneapolis public schools to bring his metal-forming Journey Workers into the classroom to show eighth grade students how much they use algebra, trigonometry and calculus in their jobs every day. "The bottom line is my company cannot hire someone if they do not have strong math skills and additional higher education beyond high school," he said.

*[According to Chanhassen High School teacher Mark Lacy, he and another faculty member each teach five different engineering and technology classes daily, with room for 320 students per semester. Since some students take more than one class at the same time, about 200 to 250 different students take at least one of the classes each year. About 90 percent of those students are planning to enroll in a four-year college engineering program. Chanhassen's total enrollment is about 1,700 students.]*

*"I wish parents would understand that not every student has to head off to a four-year college at \$20,000 to \$40,000 per year right out of high school," Lacy said. He said two of his former students have attended Dunwoody and one is using the 2+2 program there to finish an engineering degree at a four-year college.]*

### **High school counselors must learn of the opportunities in manufacturing.**

An interviewer suggested that it would help if there were an overt program for high school counselors to tell them about the opportunities that exist in manufacturing. "One of the weak links is the counseling system, which is very oriented to a four-year college education," he said. "If you had a high school shop class, you'd have shop teachers talking with the counselors."

### **There are now more high school robotics teams than high school hockey teams.**

Daigle said he gets a lot of high school First Robotics team alumni to come to Dunwoody. He said it'd be good to have manufacturers and educators who teach manufacturing work with kids on these teams to let them know about the job opportunities available.

### **Minnesota is a good place to do business for many reasons, but the tax rates are not competitive.**

In response to a question about Minnesota's business climate, Ajax said, "Minnesota is a great place to do business. We collaborate with the Department of Labor and Industry apprenticeship program, we're an OSHA-certified facility and we have good educational partners. We have the finest private technical college in the country, Dunwoody. The MnSCU system isn't perfect, but it does a great job. We have three to four colleges within 15 minutes of our facility. We're really fortunate to have our business in Minnesota."

"But the taxes in Minnesota are not so good," he continued. "It makes it difficult." A lot of companies he works with are not expanding in Minnesota. He said there has not been a major manufacturing plant built in Minnesota for decades. An interviewer pointed out that over the past year, Minnesota had only a 0.2 percent increase in manufacturing employment, while Nebraska had 3.8 percent.

"We need competitive tax rates," Ajax said. "All of the taxes here are crazy. I had to pay \$70,000 in state sales taxes on a million dollar machine and then apply for a rebate. The state holds onto my money for six months. I could have created a couple of new positions with that money."

He pointed out that there are only three ways to create wealth: manufacturing, agriculture and mining. "Every other job we're simply trading dollars; we're not creating one dime of wealth."

**Employers must pay a good wage and collaborate with other organizations.**

Daigle spoke of a company looking for qualified workers, but only offering to pay \$9.50 an hour for a punch press operator. "They just don't get it," he said. Ajax added that interns from Dunwoody start making his company money the moment they walk in. "Employers have to be willing to put skin in the game and find a way to collaborate and leverage with other entities," he said.

**More positive media is the biggest thing that helps people understand the opportunities available in manufacturing.**

"When the negative publicity was there, we were shutting down programs in high schools and colleges," Daigle said. "Now we get positive exposure, class sizes are increasing and high schools are getting back into the game."