

Precision Jobs for American Manufacturing

Precision Jobs for American Manufacturing (PJAM) is an out-of-the-box workforce development program designed and implemented by the National Tooling and Machining Association (NTMA). The NTMA is a non-profit trade association that represents all sectors of the precision tooling and metalworking industry, which employs over 440,000 skilled workers in over 20,000 companies across the United States. PJAM is a program America cannot live without. We need to bring back America to its past status as superpower of industrial manufacturing to secure our future.

Precision tooling and machining is fundamental to America's manufacturing economy. From aircraft, weapons systems, satellites, automobiles, medical, energy, green and infrastructure industries to every object used in daily living, all manufactured things have their roots in precision machining. The NTMA strongly agrees with President Obama's emphasis on green jobs and sustainability. NTMA believes that sustainable manufacturing is the key emerging paradigm for 21st century manufacturing and is the major one in which U.S. manufacturing must excel to retain and grow U.S. manufacturing competitiveness in the global economy. PJAM will provide programs for training that would be required to help support the growth of the green and infrastructure industries such as solar power, wind power, hybrid or electric or fuel cell vehicles. Our program will also provide training to local companies and their employees on green manufacturing, thereby improving their competitiveness in the local and global markets.

The goal of the PJAM program is to fill and retain the metalworking and manufacturing skilled workforce pipeline by upgrading and standardizing regional training sites into world-class centers of excellence. PJAM program materials, such as best practices and audits, will be available online for all training centers and companies in the U.S., including government and defense contractors. Our goal is to help all American manufacturing.

Most past workforce development programs omit one of the five elements, which are required to make a program successful. These elements are: an industry advisory committee, recruitment, training, placement / retention and funding. With any one of these five elements missing the program will not be effective.

This program was developed as a result of NTMA member companies reporting critical shortages of skilled metalworking workers as baby boomers retire and fewer education facilities are training students in the metalworking or manufacturing trades. The 2 most recent surveys of NTMA member companies showed a shortfall equal to 5 to 10% of current employment. Of even greater concern, there isn't a generation of skilled employees ready to replace them. Skill shortages impact the abilities of manufacturing firms to achieve desired production levels, increase productivity, and meet customer and program demands. PJAM recruitment starts with programs for elementary students and includes programs for those who have not completed college, Veterans, the unemployed, the under-employed and those who are looking for a new career.

With the successful implementation of the PJAM program, the NTMA hopes to elevate over 50 regional training centers to PJAM Centers of Excellence level within the next fifteen years, faster and with better funding, producing over 10,000 Precision Machinists, Tool and Die and Mold makers annually. Currently our industry is showing a shortage of over 40,000 metalworking employees. This program will help the metalworking industry to locate, train, place and retain the workforce required to support America's future national and defense needs.

Each site will undertake a site audit based on the PJAM requirements. This audit will highlight the site's strengths and weaknesses. Using the audit results, each site shall develop its own unique site plan. The site plans shall list implementation and funding schedules. The audit will be repeated each year to measure the effectiveness of the implementation and review the financial activities. This will allow the site to make real time adjustments to its plans.

A key outcome will be the transformation of existing metalworking training centers into PJAM Centers of Excellence. The NTMA PJAM Team has developed a set of requirements for a PJAM Center of Excellence, including standards to measure the site's performance relative to each of the five elements. The PJAM teams are gathering best practices from the most successful current programs in the metalworking sector. The teams are also documenting innovations originating in industry revolving around talent management and recruitment. The practices will be used to improve and strengthen the five elements in all related sites.

Implementation of the best practices is being performed starting with nine regional sites with plans to add five to six new sites every year or two. NTMA will be applying for and/or helping sites acquire federal, local and private funding for the program to support the site implementation process. The process will include the development of materials in the arenas of recruitment, screening and testing, retraining of instructors, onsite audits, National Institute for Metalworking Skills (NIMS) credentialing, and purchasing of up to date equipment and/or training aids. It is expected that the sites will eventually find local renewable funding sources to keep their programs current and active.

Why enter a career in the precision metalworking industry? A machinist with 6 to 12 months of training can start at \$12 to \$14 per hour, and with 10 hours/week overtime can make \$34K to \$40K per year, with a peak of about \$20 per hour, \$57K per year. 12 to 14 months of extra training could produce a CNC Machinist earning \$16 to \$18 per hour, making \$46K to \$51K, with a peak of about \$28 per hour, or \$77K per year. Still another 12 to 14 months of training could produce a Tool & Die maker earning \$20 per hour, making \$57K, peaking at \$30+ per hour, and making over \$86K per year. As you can see, with much less education, the industry pay is better than is achieved by the median university graduate. As a result, the return on investment (ROI) in education/training for the worker and for society is about 6 times higher than it is for a liberal arts four-year degree. The ROI for our society is enhanced by the multiplier effect that recognizes that an extra manufacturing worker creates more secondary jobs than does an extra worker in almost any other field. A strengthened manufacturing sector will also help to overcome the twin deficits, trade and budget, that the country faces.

Another benefit is that some students can be employed and earn up to \$40k after an average of 9 months of training. Many employers have programs to advance employee skills during employment. Turnover is low due to the high demand and skill require to master our industry, employers tend to spend a lot of time and money training workers, so they also tend to retain them as long as possible.

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Funds for PJAM will be administered through the NTMF, the National Tooling and Machining Foundation.

For more information contact:

The National Tooling and Machining Association
9300 Livingston Road
Fort Washington, MD 20744-4498
(301) 248-6200 (800) 248-NTMA
Fax: (301) 248-7104
www.ntma.org