

## Meeting the Skilled Workforce Challenge – Advanced Manufacturing



Surveys of U.S. manufacturing industry have consistently revealed that one of the biggest barriers preventing job growth and increasing productivity is the lack of skilled workers to fill needed shop jobs. The lack of skilled workers translates to lost opportunities for additional work and lost jobs to off shore.

In development of DoD sponsored technology for advanced precision fabrication of large curved steel structures, MAGLEV, Inc. determined that it too would face a critical problem of staffing future positions by also lacking a highly trained shop floor workforce. Work at MAGLEV, Inc. on advanced fabrication technology has shown the potential for reducing fabrication cost by 20 percent, but that potential would remain unfulfilled if a trained workforce were not available. That realization provided the impetus to work to fill the need when it was required, but also to fill the need that manufacturers and fabricators were already facing in American industry and was causing loss of manufacturing business and jobs.

Working together with the Community College of Allegheny County (CCAC) and Penn State University (PSU), in coordination with the U.S. Department of Labor and the Pennsylvania Department of Labor and Industry, MAGLEV, Inc. set out to fill the need the industry was facing. Offering its environmentally controlled manufacturing R&D facility to serve as a “teaching factory” and combining with the capabilities from CCAC and PSU, a curriculum was developed that will allow an Associate Degree in advanced manufacturing technology to be received. Three semesters of academic work will be conducted at CCAC and the final semester being conducted in the sophisticated MAGLEV, Inc. “teaching factory” utilizing qualified MAGLEV, Inc. staff as adjunct professors.

The basic shop floor curriculum has been adjusted so that it also fills the needs for incumbent workers and displaced workers to fill positions in current industry. The curriculum has also been adjusted to apply to a 4-year course of study at PSU for a Bachelor’s degree in advanced manufacturing.