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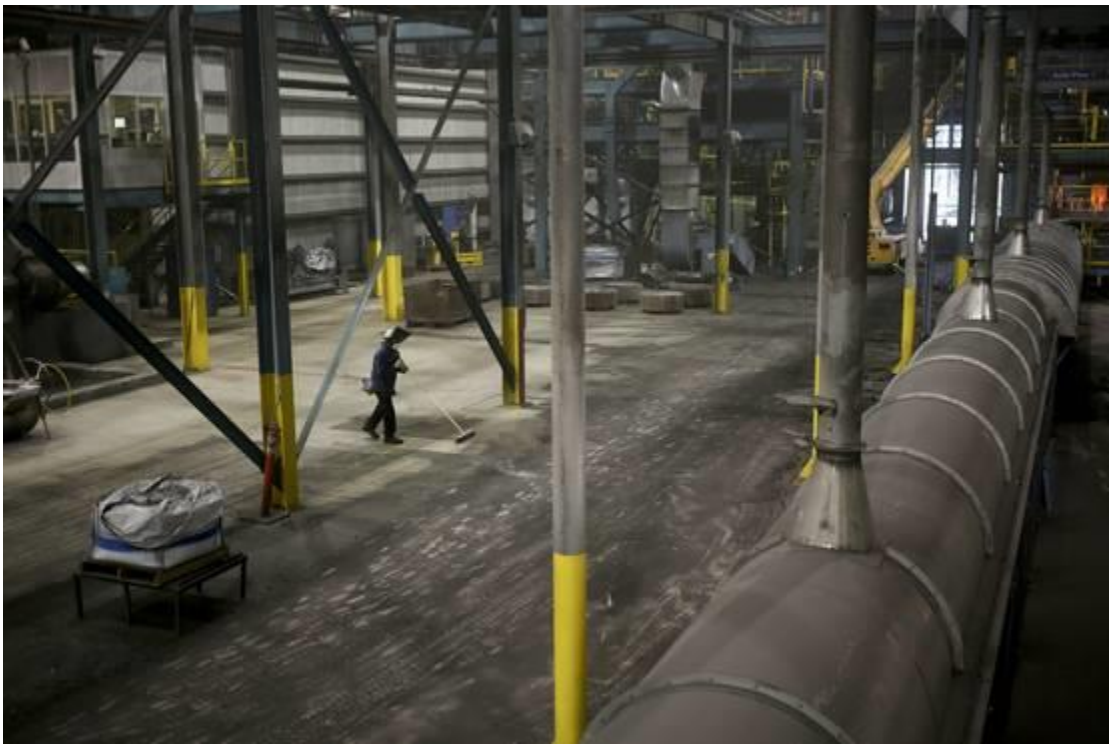
Why Manufacturers Can't Get the Skilled Workers They Need



A factory employee sweeps up dust leftover from the manufacturing process for cast iron cookware at the Lodge Manufacturing Co. factory in South Pittsburgh, Tennessee. LUKE SHARRETT / BLOOMBERG NEWS

TOM DAVENPORT: A new generation of manufacturing technologies and robots is good news for U.S. manufacturers, who have an opportunity to bring back work that went offshore for cheaper labor. But it won't happen without a radical upgrade of manufacturing technology skills.

Manufacturing technologies may have changed less dramatically than other forms of information technology, but there has been considerable evolution. Manufacturing and information technologies are converging, in that computers and microprocessors are increasingly being used to control, monitor and support decisions about manufacturing devices. Robots, once special-purpose devices that had to be programmed by experts and put in cages to prevent human injuries, have become more general purpose, more collaborative with humans and easier to train. All this means that the manufacturing technology worker will need to become increasingly like better-known IT workers, such as computer programmers, network technicians, and data center operators.

Overall, while manufacturing technologies are likely to become somewhat easier to implement and operate over the next several years, they are also likely to become much more widespread within manufacturing environments. The demand for manufacturing technology-capable employees will rise, and they will have to play a more hands-on role in installing, adjusting, and maintaining manufacturing-technology devices within their organizations.

In addition, the rise of cellular manufacturing—environments in which workers in relatively autonomous teams manufacture entire products or complex product components—suggest that there will be less of a distinction between factory-floor manufacturing workers and techs. If manufacturing-technology devices are more integrated with manufacturing processes, it is likely that cell workers will also begin to program and maintain them. This trend would mirror the rise of personal technologies in office environments, where every employee becomes an IT worker of sorts.

Today, however, manufacturing companies find it difficult to hire manufacturing technology workers. Not many technically capable workers aspire to manufacturing environments, imagining them to be the hot, dirty plants of yesterday. In addition, the educational resources for manufacturing technology—mostly community and junior colleges—is highly fragmented. Only a few schools offer up-to-date manufacturing-technology training, and they're difficult for many workers to find and get to.

Companies hoping for a resurgence of U.S.-based manufacturing had better start planning for necessary manufacturing-technology skills now. They should form partnerships with community colleges, establish internships, and expose high-school students to their factories. Otherwise the greatest opportunity to bring manufacturing back home will sputter.

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