From hearing aids to hyper-automation, AI is everywhere

by Dwain Hebda

Artificial intelligence, once strictly the stuff of science fiction, continues to make its presence felt in an ever-widening list of applications.

In manufacturing, AI has graduated from performing simple repetitive tasks to incredibly complex programs that dramatically change the pace and accuracy of workflow through a concept called hyperautomation.

“Hyperautomation is the next logical step for automating work,” said Ryan Schuetzler, assistant professor of information systems and quantitative analysis with University of Nebraska at Omaha. “As computers gain more abilities through natural language processing, computer vision and artificial intelligence, businesses are looking for ways to leverage that to improve decision-making.

“Current processes do not rely on computers to make decisions; hyperautomation is taking the next steps toward that.”

Schuetzler said as hyperautomation advances, human jobs will evolve accordingly.

“Employees will be used as the process experts to identify opportunities for automation,” he said. “They will also be needed to train and monitor the automations. Others will become experts in how this technology can be used to improve processes and will work to automate processes across the business.”

Mark Sumner, vice president of sales and marketing with Acieta, points to zero downtime technology in robotics as another recent application of AI.

“For each robot, we find the optimum level of performance and that becomes our baseline,” he said. “Once it starts dropping below that baseline it flags somebody who is evaluating the data to say there is a potential issue on this specific area of the robot.

“Is it analyzing itself? Sort of; it still relies on human intervention, both on the front end and the back end. But the robot is able to monitor its activity so we can basically prevent any downtime issues.”

Zero downtime technology has only recently been released for manufacturing applications outside the automotive industry, Sumner said, and the potential for the technology is substantial.

“For every hour of downtime an automotive company like General Motors faces, we’re talking millions of dollars in lost revenue,” he said. “Therefore, a lot of the programming of these preventative maintenance-type of applications is what is new. The hardware is there, the robots are there, but where the growth is really ramping up is on the software side of the business.”

Even something as seemingly mundane as hearing aids are benefiting from artificial intelligence, resulting in a device that does far more than amplify sound.

“Where there has been a leap forward with the AI technology is taking the concept of a general hearing aid where it’s going to do more than just help you hear and understand better,” said Gauthier Scherlizin, hearing instrument specialist with Nebraska Hearing Instruments.

“Some of the ways that the AI does that is by counting brain activity scores. As you wear the hearing aid it almost acts like your Fitbit or your smart watch. It has its own health tracker that’s going to identify how many conversations you’ve been in today, how many areas of noise were you in and rate those things. It guides and helps you figure if you were active enough today.”

The advancements don’t stop there — the latest models provide data to family members, alerts help if a senior falls and even offering advantages for the world traveler.

“One gentleman bought it because he actively goes to Europe,” Scherlizin said. “If I’m talking to my patient and we happen to be in France and I’m speaking French, I can speak into his cell phone and his cell phone will translate that and will speak in English via his hearing aids. With more and more seniors who are traveling, that’s a unique benefit.”