

Robot

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services, and transport and storage.

“The work environment has evolved, and it’s always going to evolve,” said TransAutomation Chief Executive **John Thompson**. “Lifting 30-, 40-pound boxes is going to become less and less acceptable in the workplace. Also, the client’s labor costs are going higher, and the cost of automation is dropping, so they reach that point where it only makes sense (to adopt the technology). When computers came out, they were very expensive.”

Industrial robots usually take jobs “that are very hard to fill with humans,” those that “are tedious, repetitive, dangerous, and have low retention,” Meilbeck said, adding that in some cases companies struggle to replace workers who are retiring, as the “new generation” prefers to “work at Google or be an Uber driver ... They don’t want to do hard manual labor.”

Mission Rubber Co. LLC in Corona hired TransAutomation to improve its manufacturing processes and help it stay competitive by eliminating one work shift.

“Through robotics automation, we were able to get them to operate one shift at a higher level of productivity,” Meilbeck said. “Some may say, ‘Wait a minute, if you’re cutting the second shift, you’re eliminating jobs.’ True, but if Mission Rubber leaves, everybody loses their job. So I didn’t eliminate the second shift, I kept the entire first shift.”

Local Effort

Meilbeck, a mechanical engineer by trade, co-founded the company in 2010 with Thompson—they saw the “coming of the robot age” and left their jobs to bootstrap it.

They started in a 1,500-square-foot space with two employees and now have a dozen workers and have recently expanded their digs to 10,000 square feet. They say they buy most of their parts in Orange County, including “gears, bearings and steel, right here in Santa Ana,” a town that has “good rent and a good workforce,” and is centrally located.

Companies like TransAutomation and **Inventek Engineering Inc.** in Santa Ana help adapt FANUC’s robots to various tasks—from sorting



Industrial robot: model manufactured by FANUC America moves packages

almonds and milking cows to welding and painting cars on an assembly line.

“There is a tremendous amount of engineering talent and knowledge that the integrators bring,” said **Scott Melton**, director of sales for FANUC’s Western Region. His team of 17 has been in Orange County since 1995 and handles sales and service for Louisiana, Texas, Oklahoma and all states west of the Rocky Mountains. “We want to be the best at our robots and CNC equipment, and the integrators to be the best at the process and designing systems for industries.”

Dutch company **Universal Robots**, a maker of collaborative models, recently established a West Coast base at a 3,000-square-foot sales office in Irvine.

Technology Advances

FANUC, whose Americas region posted \$1.2 billion in revenue over the past four quarters, has a roster of clients that includes **Tesla**, **Amazon.com Inc.**, **Boeing**, **Jelly Belly Candy Co.** and **Superior Industries International Inc.**, a manufacturer of cast aluminum wheels for automakers. It plans to increase robot production capacity, as “demand for robots is expected to expand in the future,” its latest financial statement said.

FANUC designs and manufactures about 200 models of industrial robots, some of which “have integrated vision and force sensing—they can see and feel and think,” Melton said. “We have the ability for the robot to learn its path, so it gets smarter and produces a more efficient (work) path.”

TransAutomation has also integrated collab-

orative robots that can safely work alongside human counterparts.

Most of the company’s business—about 85%—comes from automating manufacturing processes. But, thanks to robots’ expanding capabilities, it’s getting more work from the warehousing sector.

“Vision systems are helping robotics to break into distribution centers,” Thompson said.

Robots can be programmed to sort boxes or items like strawberries dropping randomly on the conveyor belt.

“The camera is taking a picture and telling the

robot where they are at, and it’s picking them up exactly where that camera told them they are at.”

Thompson said “machine vision” can also be used for quality control. “The camera can take a picture of a product, and the robot can pick it up or reject it if, for example, it does not have a tamper band or the label is wrong. Instead of putting it in the pack, the robot will put it in a reject box.”

“This is just developing,” Meilbeck said. “People are finding new applications for it all the time.” ■

It Computes Shopping

Humanoid Robot Tested for Irvine Co. Retail

By **MEDIHA DIMARTINO**

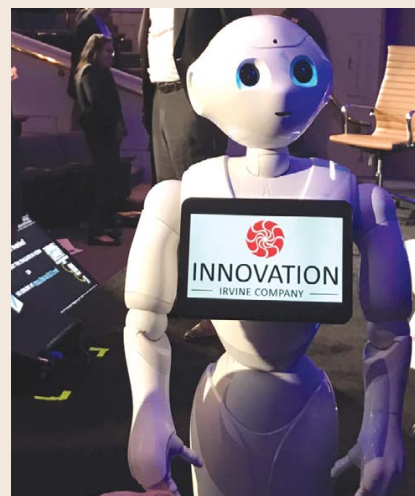
Irvine Company is spicing up its retail scene with Pepper, a humanoid robot capable of understanding and reacting to human emotions.

The 47-inch-tall robot can interact with shoppers when it senses their presence. It also dances and can take selfies with them, answer questions about local eateries and products to be available at planned retail locations.

Still in testing, Pepper is an extension of the **At Your Service** concierge chatbot **Fashion Island** introduced in December to help shoppers find specific brands, stores or services offered at the outdoor Newport Beach mall. The software, powered by IBM Watson’s cognitive computing and machine-learning technology, communicates with users via texts sent to 949-734-7364, and produces better answers as shoppers continue to use it.

Pepper debuted in 2014 in Tokyo and sells for about \$21,000, including a monthly service fee. **SoftBank Corp.** in Japan designed it with a human-like shape, six lasers, a 3-D camera, two 2-D cameras and a 10-inch touch-screen tablet. The technology enables it to analyze facial expressions, tone of voice, body movements and word choice to interpret shoppers’ emotions before offering appropriate content.

Several other companies already adopted retail-focused robots.



Pepper: can interpret people’s emotions

More than 140 SoftBank stores in Japan are using Pepper as “a new way of welcoming, informing and amusing their customers.” Home-improvement retail chain **Lowe’s Cos. Inc.** introduced its LoweBot last fall at 11 San Francisco Bay area stores. The autonomous robot can navigate a store to find products and respond to shoppers in multiple languages. It can also “assist with inventory monitoring in real-time.”

So can Tally, a robot **Target Corp.** uses to scan store shelves for low inventory or misplaced items. ■

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