Automatic for the People

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The world is full-on automated. From our factories to our vehicles to our leisurely activities, the future is now and it's nothing but algorithms, robotics and hands-free operation. It comes as no surprise that a 2016 Google search brings a fair amount of technology gone awry. The following examples don't scare us (they're actually quite fascinating) but they probably should worry us a little bit…

Pavement power

Former U.S. Army Captain Jeremy McCool finished his graduate degree in urban policy and sustainability at Columbia University and hasn't looked back. He formed his company Hybrid & Electric Vehicle Optimization (HEVO) Inc. in November 2011 to create a wireless charging network for electric vehicles (EVs). This charging method could potentially provide a safe, fast and cost effective method of charging EVs that eliminates the hazards and inconveniences associated with plug-in charging. The mission is to create a charging network embedded in the road that can power vehicles while they're driving.

Imagine a soft drink delivery truck making frequent stops to grocery stores in New York or San Francisco. What if every time the driver stopped to make a delivery, a sensor in the road could recharge the vehicle using a principle called resonant magnetic induction? HEVO is rumored to be working on these concepts with some of the higher profile EV manufacturers. If everything goes according to plan, we may someday live in a world where smaller, lighter batteries for EVs can be powered during a routine traffic stop (*www.hevo.com*)

Getting a grip

It's amazing enough the tasks that robots today can complete with simple programming. The four fingers of the LearningGripper from Festo Robotics are driven by 12 pneumatic bellows acutators. Based on a trial and error principle, the gripper assigns itself the task of gripping an object and carrying out a variety of complex tasks. The idea is that the system will be able to execute these tasks independently without time-consuming programming. It's a robot that essentially behaves like a newborn baby, gradually getting better and better in order to perform intricate motion sequences.

The factory of the future, for example, can incorporate self-learning systems into future production lines and optimize their own performance characteristics autonomously. Recent trade fair demonstrations as well as a Robotics Exhibition at the Museum of Science and Industry in Chicago highlighted the Festo LearningGripper demonstrating how the robot can learn a complicated mechanical motion strategy in less than an hour (*www.festo.com*).

But can you send it back if the order is wrong?

Is this the future of casual dining? Here at the Rollercoaster Restaurant in Vienna, Austria, (tentatively opening April 2016) patrons will witness two robots sending food and beverages along an intricate track system toward guests. These robots, located under the ceiling at a dispatch area, can mix and shake cocktails for patrons or perform a variety of other intricate programmable tasks. Is it fun? Is it necessary? Is it slightly gimmicky? Who cares when you're watching your alcoholic beverage of choice zip around a track system before being dropped off right at your table! Heinemack GmbH, creator of the rollercoaster system, has similar restaurants in Germany, Kuwait, Sochi, Abu Dhabi and more to come in the foreseeable future (*www.rollercoasterrestaurant.com*).

Have any stories or anecdotes about automation, motion control and robotics? It could potentially be featured in an upcoming issue, contact Matthew Jaster at *mjaster@powertransmission.com* with all the details. **PTE**