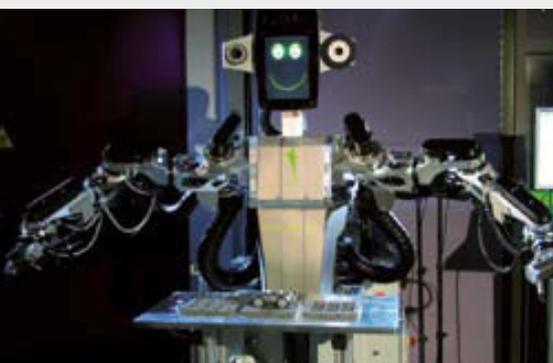


Innovation News

■ A robot a bit like you and me

A strange but familiar face might soon be appearing on factory floors in Germany and across the world. The pi4_workerbot, which can be used for product assembly and inspection tasks, has a number of human traits, such as size, eye-like cameras, a torso, hand-like “grippers” and two arms with the same “seven degrees of freedom” as human ones. It also has a face-like monitor that



pi4_workerbot

displays simple emotions. When it's unhappy with something it inspects, a frown appears and it shakes its head. Satisfaction brings a smile, a bored look appears when things get too slow, and the face glows red when it encounters problems.

The robot was designed by pi4_robotics, a Berlin high-tech company, and the Berlin-based Fraunhofer Institute for Production Systems and Design Technology (IPK). pi4_robotics' head Matthias Krinke told *Deutsche Welle* that these characteristics allow the robot to be flexibly integrated into spaces designed for humans and that the emotions make it easier to understand its current status. “You look at the face and see immediately the result of the inspection,” he said. “You don't need to read a manual.” Other advantages of the robot are that it works quickly, remains focused and functions 24/7.

www.pi4.de

■ Getting the most out of new biofuels

The same technique has been used to measure the cetane number of diesel fuels for some 80 years. But new biofuels – mixtures of classic fossil fuels with those derived from biomass (e.g. E10) – have different chemical and physical properties from pure fossil fuels. Thus, as more biofuels are developed and employed, it's becoming necessary – for both fuel and vehicle manufacturers – to have some way to determine this fuel property more precisely. With a three-year grant of over EUR 450,000, Germany's Agency for Renewable Resources (FNR) has given the task of devising a new measurement technique to the Institute for Applied Research (IAF) at Ingolstadt University of Applied Sciences, which has now launched the bioFIRE (biogenic Fuel Ignition Research) project. “With this research project,” says project head Professor Karl Huber, “we can help make the quality control of fuels more efficient.” The new technique will make it possible to determine the auto-ignition temperatures of fuels more exactly and allow auto manufacturers to make engines tailored to specific fuel types, thereby reducing fuel consumption and emissions of pollutants. The technique could also be a step in the gradual transition from drive systems using fossil fuels to ones using renewable resources. The project is financed by the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV).

■ The mothers of invention

They say that necessity is the mother of invention but, truth be told, sometimes it's actually frustration. Over a decade ago, Marijan Jordan and Gerhard Muthenthaler had an idea for a watch that could help people identify and connect others with similar tastes. But they not only had trouble finding someone to help them develop the idea, but also just a company to help them navigate the difficult path from idea to reality. So, instead of looking more, they started that



Work on the BioFIRE project

company themselves. *Erfinderhaus* (“inventors' house”) provides would-be inventors with a range of services, such as advice on how to file patent applications, where to get needed R&D capital, and how to land a contract with manufacturers. In 2009, the two took the business a step further by opening a store in Berlin, the *Erfinderladen* (“inventors' store”). The store showcases inventions and ideas in search of investors and helps them determine which ones merit further pitching. “We are like gold diggers,” Muthenthaler told *Deutsche Welle*. “We search for the nuggets.”

www.erfinderhaus.de
www.erfinderladen-berlin.de

Marijan Jordan and Gerhard Muthenthaler outside their “Erfinderladen”

