

PRESS RELEASE 03/2010

Laser Light Finds Recyclable Materials – Resources for our Future

## **UNISENSOR Team Nominated for the German Federal President's Award for Technology and Innovation**

Karlsruhe, September 21, 2010 – Professor Dr. Gunther Krieg, Dipl.-Ing. (FH) Dirk Fey and Dipl.-Ing. (FH) Jürgen Bohleber have been nominated for the Deutscher Zukunftspreis 2010 for the Powersort 200 high-speed laser spectroscopy-based plastics sorting system. The award is regarded as the most important national commendation for outstanding technical, engineering or scientific innovations that already enjoy market success. The Federal President of Germany will announce the winner and personally present the 14th Deutscher Zukunftspreis on December 1, 2010 at a gala event in Berlin. German TV broadcaster ZDF will televise the event live.

Plastic is everywhere nowadays – in PET bottles, housings for electronic equipment and other devices, in vehicle interiors and even as food packaging. It is made from valuable raw materials such as crude oil or natural gas, both of which are finite resources. By individually recycling plastics, these valuable resources can be utilized efficiently and mountains of waste avoided. Many contaminants in the plastic flow, however, prevent this resource from being used further. If too high a proportion of contaminant remains in the recycled material, it is classed as inferior and can only be reused to a limited extent. Conventional recycling methods are unable to identify many of the unwanted contaminants or are only able to identify a limited number.

### **Separation through High-Speed Laser Spectroscopy**

“Powersort 200 steps in where other established systems and detection methods fail,” explains Professor Dr. Gunther Krieg, “since the system uses a highly efficient and accurate detection method based on high-speed laser spectroscopy.” Powersort 200 identifies the “good material” in a plastic flake or pellet flow based on its specific opto-electronic spectrum, separating it from various contaminants in a single process step.

The detection system excites the plastic particles with a powerful laser light, analyzing the light spectrum that the individual parts then emit. Each material has its own spectrum, or its own special physical fingerprint. Powersort 200 separates out material whose spectrum differs from the reference spectrum of the “good material”. This means that the sorting system can evaluate up to a million spectra per second and can detect even tiniest particles with accuracy.

Professor Dr. Krieg and his team see their nomination as affirmation of the many years they have spent on development, inspired by the visionary idea of providing valuable, high-quality plastics for reuse and thereby making a contribution towards protecting the environment, improving the efficiency of resources and avoiding waste. “This technology still has a lot to offer,” confirms Professor Dr. Krieg. “The recovery of high-quality plastics from the automotive industry is our next goal.”

### **About the Deutscher Zukunftspreis**

The Deutscher Zukunftspreis is the German Federal President's Award for Technology and Innovation. The award honors researchers and developers for bringing impressive projects and products resulting from first-class research onto the market. The award differs from other scientific prizes by virtue of the fact that it not only recognizes scientific achievement, but also takes account of the marketability of the innovations and the associated creation of jobs. The award is one of the most prestigious scientific prizes in Germany and has been awarded annually since 1997. Further information and image material for the press can be found at [www.deutscher-zukunftspreis.de](http://www.deutscher-zukunftspreis.de).

### **About UNISENSOR**

UNISENSOR Sensorsysteme GmbH is a family-run, innovative high-tech company in the field of process analytics and control. UNISENSOR's product portfolio includes internationally patented systems for the recycling, beverage, gas, and printing industries as well as for the field of energy technology.

Twenty years ago, Professor Dr. Gunther Krieg paved the way for extraordinary innovations with the founding of the company and his many years of experience in the field of opto-electronics and sensor technology. Since then, a team of highly qualified staff working closely with industry and technical universities have been developing groundbreaking technical solutions and products which are used around the world and have set new standards in process technology. You can find more information at [www.unisensor.de](http://www.unisensor.de).

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