



Newsletter Mai 2007

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1. PMD[vision] Day - Automotive

On January the 24th 2007 the first symposium with actual PMD topics takes place at the Audi Forum Airport Munich. Thematic priority was the automotive application of the PMDTechnologie. Managers and Practicians, a.o. from Audi, DaimlerChrysler and Osram, presented actual developments and application possibilities. The lectures were completed by practical demonstrations in the form of cameras with different resolutions and a test car with the latest state of the art. The completely studded Audi Forum speaks for the success of the first PMD[vision] Day – Automotive and therefore for a continuation next year. We will give you due notice.

2. Innovation Award 2007

Winner in category hardware: the PMDTechnologie was selected from over 1200 candidacies. The Innovation award 2007 is advertised by the "Initiative Mittelstand of the Huber Verlag" for new media. Since 2004 they awarded this prize each year at one time with the Cebit. Prizes in total value of 150.000€ were waiting for the contestants. Products, services and solutions with a high benefit for the middle class were in the center of attention.



3. New: PMD[vision] evaboard

As from now, you are able to adapt your PMD camera to applications and needs of your sector. The PMD[vision]® evaboard is a digital frontend for a high performance 3D video image sensor designed for time-of-flight distance measurement applications. This module provides all PMD relevant functions, in order that no PMD specific Know-How is necessary for configuration of a camera. All current PMD sensors, including the PhotonICs® PMD 1k-S2, PhotonICs® PMD 3k-S, and PhotonICs® PMD 19k, are supported by this evaluation board. The timing operations for the PMD devices are carried out by a logic device, and provides the modulation signals for the PMD sensor chip and illumination sources. This modulation frequency can be chosen. The analog video outputs of the PMD chip are converted by a three channel 16-bit A/D converter.

4. PMD[vision] camera at the DARPA Grand Challenge

The DARPA Grand Challenge is a prize competition for driverless cars, sponsored by the Defense Advanced Research Projects Agency (DARPA), the central research organization of the United States Department of Defense. The award was advertised to further DARPA's mission to sponsor revolutionary of fully autonomous vehicles. The first Grand Challenge took place on March 13, 2004 on a desert course stretching from Barstow, California to Primm, Nevada. The DARPA offered a trophy money of 1 Million\$ for the vehicle which finished the course of 150 miles as winner in less than 10 hours. Although 100 teams were registered, none of the robot vehicles finished the 227.2 km (142-mile) desert route. Carnegie Mellon University's Red Team traveled the farthest distance, completing 11.78 km (7.36 miles) of the course, which was less than 5% of the whole course. At the second DARPA Grand Challenge, held on October 8 and 9, 2005, took also place at the Mojave desert in US state Nevada. The DARPA offered trophy money was doubled, 2 Million\$ for the winner. 195 teams from 36 US-states and 4 from other countries were registered. Five vehicles successfully completed the course of 132,2 miles, four teams in the maximum time of 10 hours. The winner of the 2005 DARPA Grand Challenge was Stanley, a modified VW Touareg, with a course time of 6 hours 53 minutes and 8 seconds (6:53:08) with average speed of 30.7 km/h (19.1 mph) For 2007, DARPA introduced a new challenge, named the "Urban Challenge". The Urban Challenge will take place on November 3, 2007. In contrast to the last years, the course will involve a 60-mile (96 km) urban area course, to be completed in less than 6 hours for winning the prize money of 2 Million \$. Rules will include obeying all traffic regulations while negotiating with other traffic and obstacles and merging into traffic. [Source: Wikipedia]

This year, a 3D-PMD camera with 64x16 pixels will be involved for the first time. The Sydney-Berkeley Driving Team put their trust for further support in the distance data delivered from the PMD camera. The team consists of a group of scientists of the university Sydney, the technical university Sydney and the Berkeley University in California. Worldwide experience in the sensor fusion for autonomous vehicles and varied experiences of the last two DARPA challenges speak for this team. The vehicle is a Toyota RAV4, full of most modern hard- and software. Of course, the PMDTec keep their fingers crossed especially for this team. More information under <http://www.acfr.usyd.edu.au/projects/development/dgc>



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