

## Testing Tool for a Hazard Detection Module in a Motorcycle

Relevance to the Automotive Industry:	Hence in recent years communication devices had become smaller and cheaper, high effort was put in research into systems based on vehicular communication. Even though the potential for avoiding motorcycle accidents is expected to be very high, just a few projects are considering powered-two-wheelers. To acquire the scientific basis for motorcycle considering systems more research in this area is necessary.	
Research Location:	TUD Fachgebiet Fachzeugtechnik (FZD) (Chair of Automotive Engineering)	
Homepage (Engl.):	www.fzd.tu-darmstadt.de	
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Project Description:	<p>Last year FZD started a new research project in cooperation with an automotive company. In this project an Integrated Communication and Warning System for Motorcycles (MoLife) is developed. This system will allow a server independent communication among two or more motorcyclists. It will generate hazard warnings, which are based on sensor data or manual entered data. It will transmit these warnings to other motorcycles.</p> <p>For validating the system several driving tests have to be conducted. For one driving test a suddenly on the road appearing obstacle is needed. Aim of this project is the development of such a testing tool.</p> <p>At the beginning several already existing tools will be studied. Based on these studies a new testing tool will be developed. Tasks like risk evaluation, making of simple drawings, construction, ordering of parts, and assembling have to be conducted. The assembling will be assisted by the mechanical workshop of FZD. Finally, the method will be tested on the FZD-test track.</p>	
Jun 1 - Jul 29, 2009; (8 weeks, 40h/week)		
Necessary Skills/ Knowledge:	<ul style="list-style-type: none"> <li>• high motivation to work independently</li> <li>• knowledge of methods for risk evaluation (e.g. FMEA)</li> <li>• knowledge of methods for product design</li> </ul>	
Desirable Skills/ Knowledge:	<ul style="list-style-type: none"> <li>• basic knowledge of electronic circuits</li> <li>• motorcycle driving experience</li> </ul>	
Additional Online Resource(s):		

NSF REU Students must have completed at least two semesters of engineering studies prior to the proposed summer research, and they must have at least one semester remaining before they can earn their BS in Engineering.