

# King of the road



PIARC International Experiment to Compare and Harmonise Skid Resistance and Texture Measurement, the Netherlands 1998.

All over the world there is more and more awareness of the importance of the quality of the road. The road network is put under severe pressure by the increasing traffic which is a major factor in road surface wear as is the effect of climate on the roads.

Roughness, cracking and rut depths are characteristics that are decisive factors in road safety and increasing road maintenance costs while also increasing costs for the motorist. Important also is the quality of the paving texture as it has a direct impact on the friction characteristics of the highway and is a primary determinant of the level of road noise generated by traffic. The Swedish company LMI Selcom developed, together with Dr Ulf Sandberg at the Swedish Road and Transport Research Institute, the first non-contact measurement system (Optocator) for surveying road conditions. Today LMI Selcom has two different families of sensors, the Optocator and SLS 5000/6000 which are available in several different versions to cover most measurement needs. All are non-contact laser probes based on the principle of triangulation.

Due to the high demands for sensitivity, precision and speed the Optocator and the SLS 5000/6000 are designed around the SiTek PSD. From 2 to 25 Optocator/SLS units can be mounted on one vehicle which makes it possible to measure the true condition

of the road. Normal measurement speed is 90 km/h and each sensor can make from 16,000 to 78,000 measurements a second depending on sensor type.

With modern data acquisition systems and computers it is possible to process and store large amounts of data. Further increasing and analysing the data will determine maintenance and repair priorities, to ascertain the efficiency of maintenance policy and to input to network evolution. This is also an important source of information when constructing new roads. The efficiency of profiling the road network has increased greatly through non-contact sensors and today more than 2,000 LMI Selcom laser sensors are used to survey the condition of roads in all parts of the world.

## Important international experiment PIARC

The objective of the PIARC experiment was to investigate how differences of approach - and of technology - reflect the measurements made with the different equipment included in the experiment. These issues are of fundamental importance when executing maintenance strategy and also valuable in planning the use of network maintenance resources. Virtually all measuring principles used for mobile measurements were utilised in the experiment. It was performed at 3 locations: the USA, Japan and Europe. In the European experiment 30 devices from different countries all over the world were tested. Of these, 200 non-contact laser probes from LMI Selcom were based on SiTek PSDs. The result of this experiment will give road administrations worldwide access to a primary tool to select the device which meets their specific requirements for monitoring the road network. The final report will be presented in May 2000 in France.

