STANLAY™	APPLICATION NOTE
ZEHNTNER RETRO REFLECTOMETER ZRM 6014RL & ZRS 6060	Centre for Research, Professional Training and Services (CRAPTS)

Application requirement :	**Solution :**
CRAPT required to utilize a high-performance instrument to monitor the performance of road marking & road signages for 1400 kms at various locations in Odisha as per the assigned contract, for ensuring road safety for drivers. In addition, Pre-commissioning tests of road after construction, for road safety.	CRAPTS opted for the highest quality retroreflectometers by Zehntner (A Proceq company) , made in Switzerland to ensure that they deliver the highest quality measurements and reporting for road marking & signages.

End User: Public Works Department, Odisha
Service Provider : CRAPTS(Centre for Research, Professional Training and Services)

Application Requirement: **CRAPT required to utilize a high-performance instrument to monitor the performance of road marking & road signages for 1400 kms at various locations in Odisha as per the assigned contract, for ensuring road safety for drivers. In addition, Pre-commissioning tests of road after construction, for road safety.** CRAPTS conducts testing for road signages and road markings for road safety and also provide training services to professionals. CRAPTS was awarded a contract for road safety testing, for 1400 kms of road markings and road signages for the state of Odisha across various locations.	**Solution:** **CRAPTS opted for retro reflectometers by Zehntner (A Proceq company) , made in Switzerland to ensure that they deliver the highest quality measurements and reporting.** 1. The advanced ZRM6014RL Retro reflectometer , manufactured by Zehntner by Proceq, for pavement markings with GPS. 2. Zehntner by Proceq, ZRS6060 Retro reflectometer for road signages with GPS.   Road Marking ensure road safety by directing & guiding drivers on the road . Road markings can be based on as example thermoplastic paints, water or solvent borne road marking paints, which have a life depending on a variety of factors. Reflective road markings are embedded with an optimal level of glass beads for ensuring retroreflection from the vehicles headlights. The reflectance from the road markings degrade over time.

The ability of a driver to view the markings, while driving at speed, from a distance, whether in day or night, dry or wet, can ensure avoidance of accidents.
A retroreflectometer is used to measure the retroreflection performance of the surface.

Visibility in the daylight of the road paint is referred to as“Qd” i.e luminance coefficient under diffused illumination.

Night time visibility is referred to as “RL” i.e Retro reflection

Retro reflectometers work in accordance with EN 1436 ,

- ASTM E 1710 (RL) ,
- ASTM E 2302 (Qd)
- and ASTM E 2177 (RL wet) .

and Measure of Day & Night Visibility of Road markings (or signages) with Retroreflectometry.

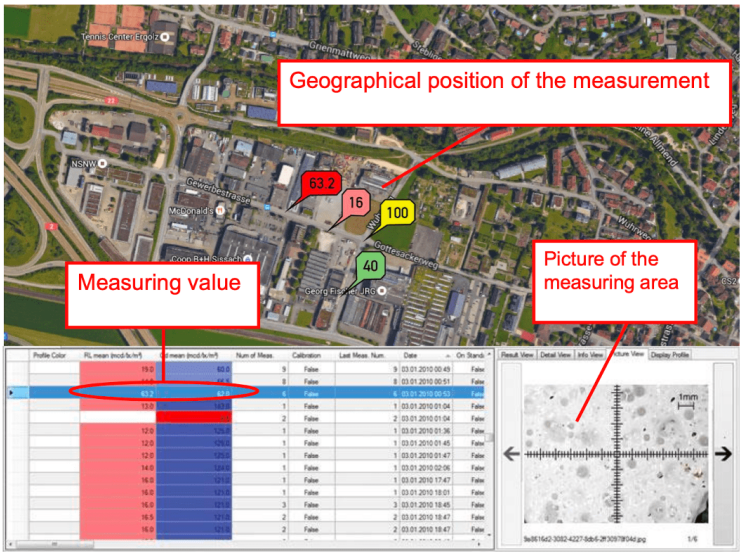
CRAPTS finds the Zhentner Retroreflectometer very handy to operate (1-person Job), provides ultrafast test measurements allow an operator to test long length road stretches in very less time.

Enabled with 5.7” high-resolution color touchscreen, The retroreflectometer offers excellent visibility under all light conditions. The retroreflectometer logs all measurements with precise geolocation & provides comprehensive reports quickly with the help of user-friendly reporting software at ease.

ZEHNTNER
TESTING INSTRUMENTS

Measuring example ZRM 6014 with optional camera

Clever “MappingTools” software for easy data display and analysis



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