



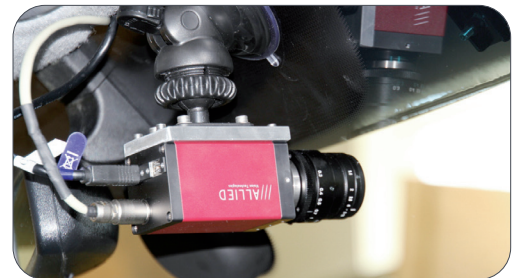
# ROW – Right-of-Way Imaging

## RIGHT-OF-WAY IMAGING

**ROW Imaging** is a system designed for collection of digital images from a vehicle. The images are taken at fixed distance intervals, regardless of the speed of the recording vehicle. By pointing the cameras forward, the roadside inventory can be documented. By pointing the camera down to the road, the system obtains pictures of features found with other road measuring systems.

ROW Imaging supports multiple cameras. An additional camera pointing to the rear allows all signs to be read without travelling the road twice. The cameras are user selectable, giving both flexibility and the ability to read small signs at great distances.

The images from ROW Imaging can easily be synchronized with other measurements. This includes other data from other instruments as well as coordinates from a GPS.



## Technical Description

- An odometer is mounted on one of the wheels of the vehicle, triggering the camera through control electronics at fixed intervals. The distance between pictures can be selected by the user, and typically is 5m or 10m. This allows the measuring vehicle to follow the speed of traffic.
- The images from the camera(s) are tagged with a time stamp and the distance travelled. The position of the images is easier to determine by including a GPS. The images are immediately available on a laptop, where they can be compressed.
- Post processing software synchronizes each image with other measurement made in the same vehicle based on the high precision odometer tags.
- The cameras can be mounted in a separate camera house on the top of the vehicle for flexibility, or inside the vehicle for maximum protection. The cameras are mounted with adjustable brackets, to let the operator adjust the angle of view.



## Roadside inventory

Signs and other roadside inventory disappear or become damaged in many ways. Manual recordings on the road have a number of disadvantages.

ROW Imaging provides permanent documentation in sufficient quality to prevent misidentification. By comparing the current images with images from the previous recording side-by-side, differences are easy to spot.

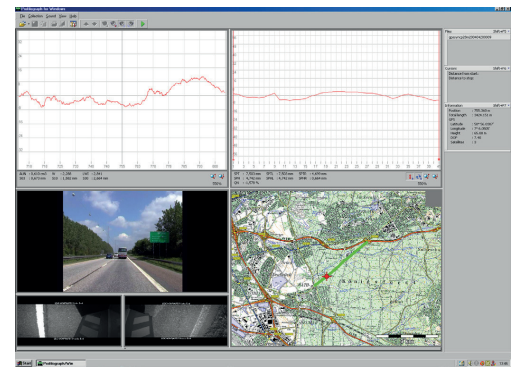


## Pavement management

By simply pointing the cameras towards the ground, road surface markings can be recorded. Markings that need to be renewed can be identified, and the annual wear can be estimated by comparing the markings with the previous year. Images of the pavement also serve as documentation for cracks and features found with other road measuring equipment.

## Post processing

The images can be synchronized with other measurement results, such as road profile and crack detection, as shown to the right. With coordinates, the images can be added to any GIS system. The images can be compressed from the original RAW format to the smaller JPEG format.

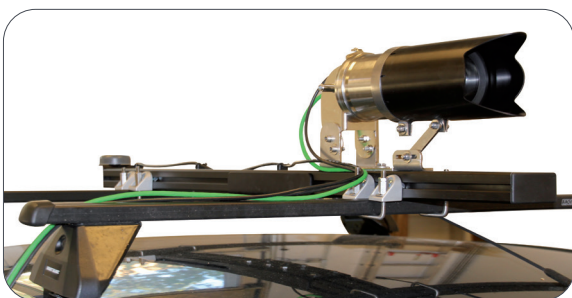


## Additional Hardware

It is possible to tailor the ROW Imaging system to any requirements. The number, type and placement of the cameras can be selected or changed after purchase. Greenwood Engineering can add an external GPS receiver and antenna. Any GPS (with 1PPS output) can be used with the system.

## Other Features

- Quickly and accurately record roadside inventory.
- Document features and cracks found with other road measurement equipment.
- Measuring speed following undisturbed traffic.
- Free choice of camera allows ROW Imaging to be adapted to many specific applications.
- Typical configuration provides images in 1936x1216 pixels with 24 bit colour with an image every 5 meter.



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