PROJECT PROFILE

Title	Automated assessment of delineation and signage systems	NRA An tÚdarás um Bóithre Náisiúnta National Roads Authority
Contractor	IT Blanchardstown	
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NRA Mentor	Conor Fitzgerald	
Start date	Dec-08	
End date	Nov-11	
Status	On-going	
Type of project	Research Fellowship: PhD (Simon Murrray), MEng (Seah Haughey)	
Cost	€183.3k	
Project reference	NR/250/04 PO 6902	

Description	Research as indicated that about 4% of road accidents can be attributed to poorly maintained road markings and signs. The current inspection method for road signs and lines is based on manual inspection by road engineers. This can be very subject, time-consuming and expensive, and has associated safety risks. The proposed research will investigate an assessment method which is inherently more objective and carried out more safely from the **Roof mounted equipment** inspector point of view. The project will assist in the development of vision-based systems for the assessment of road lines, studs, and signs, including the incorporation of GPS-based location. Currently all road signage and markings are installed and evaluated manually. While GPS exist to record and display spatial video data, the manual extraction of relevant features from such data is a time-consuming, costly process. This project proposes to address this shortfall in automated detection, location and evaluation of road lines by building on previous work on automated systems. The research will follow on from previous work in visual recognition systems in other fields.
Objectives	The objective of this project is to develop vision-based systems that can be used to evaluate road signing and lining that has become defective due to damage and/or wear-and-tear. Such a system could enable the automatic detection of defects and could provide objective performance parameters for these important road safety features. The system has the potential for reducing risk to contractors working on the road as well as increasing the safety for road users. It would also reduce the costs associated with maintaining the highway by eliminating time-consuming manual assessment.
Benefits	The benefits of this research are: - development of objective performance indicators for important road safety features - reduced H&S risk to contractors and employees, - increased safety for road users, - more effective road markings and signs, - increased efficiency in maintenance work, - reduced costs of maintenance.
Outputs	The main output would be the development of vision-based systems capable of automatically assessing the performance of road markings and signs.