



## TREADING NEW GROUND IN OCR

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*For many years bar code technology has been at the cornerstone of automation. At its most basic it provides a simple and inexpensive method of encoding text information that is captured by an electronic reader. The technology goes way beyond the simple 12-digit UPC code of course. Some 2D codes can hold nearly 3Mb of data in space not much bigger than the size of a postage stamp.*

### Why just read bar codes?

The scope of bar code-based automation is considerable but bar codes are no longer the only information that can be automatically read in order to automate a process. Thanks to the pioneering work of OCR specialist Prime Vision, any mark on a label or on the product can now be used. Machine printed text or numbers, symbols and other graphics, logos, embossed marks and hand written characters can all be recognised thanks to the capability of Prime Vision's newly developed software.

With industry's focus on fully automated production, warehousing and distribution in order to contain costs, this is a very important development. It means, for example, that any human-readable information applied to a label during the manufacturing phase can be re-used as the basis of automation anywhere along the supply chain. It eliminates the need for dedicated re-labelling.

Tyre manufacture provides a great example of how Prime Vision's OCRlite can play a significant role in optimising production. The technology breaks new ground in two areas. Firstly it allows human readable information that is an integral part of the moulded product to be used for identification. It also introduces the concept of image pre-processing to optimise data capture.

The Department of Transport requires every tyre to have its specification moulded into the tyre wall. This human readable information shows the type of construction e.g. 'R' for radial and gives the dimensions of the tyre and its load rating. The information is a unique identifier and Prime Vision's OCRlite has the ability to read it.



This black on black code can present a problem for cameras. Recognition tasks in the tyre manufacturing process are often linked to production control and naturally bar code technology features heavily in this regard. Accordingly cameras are typically optimised to read a black bar code on a white label that is cured into the tyre. They can of course be adjusted to read black on black but then their ability to read bar codes is compromised.

OCRlite provides the answer. After the camera captures the black on black image, the Prime Vision system pre-processes it to raise brightness and contrast so that the information can be recognised. It's all done in the software so that any camera reading bar codes can also read embossed, moulded or stencilled data too.

It is a legal requirement that the DoT code should be human readable and conform to the exact specifications of the tyre. So in addition to capturing this information within the framework of process control, Prime Vision's OCRlite can also be used to assure quality too.

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