



P R E S S R E L E A S E

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For Immediate Release

NEW DIGITAL LASER SCANNERS

Following an extensive R&D programme combining optics, electronics, firmware and mechanical sensor design, Meta Vision Systems has launched a new, 3D digital laser scanner for use in automated welding equipment. Designated DLS300, it can be in other manufacturing applications as well, such as profile measurement and scanning for reverse engineering.

Conventional laser vision systems based on the triangulation principle use a laser stripe projected onto the target. This is processed by a 2D area camera to produce a 3D profile of the target.

Use of a laser stripe has practical limitations, however, since constant laser power is used for the whole stripe. It is therefore not possible to vary the intensity to increase the light reflected from dark areas and decrease the light received from lighter areas. The camera images the complete scene including either side of the stripe, which can lead to further problems with dynamic range and unwanted reflections.

Meta's new sensor uses triangulation, but is based on a scanning spot rather than a stripe, solving the two main problems of stripe-based triangulation. First, it is easy to implement effective automatic gain control to compensate for reflectivity changes. Second, imaging is via a linear charge coupled device, which only looks at the region of interest and is not affected by reflections.

Additional benefits of the scanning technology include a programmable field of view and independence of the sensor's depth of field from the width of field.

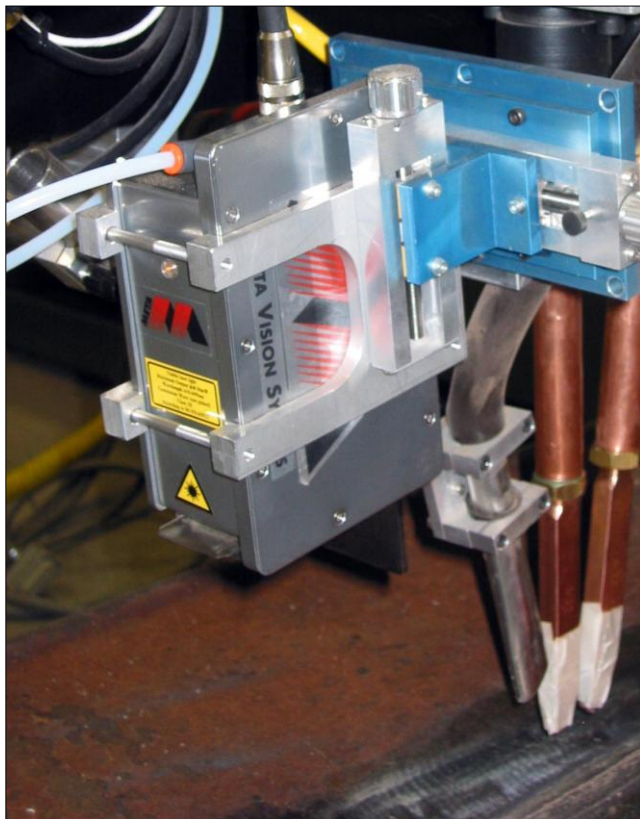
Jonathan Moore, Meta's technical director, commented, "By exploiting the latest developments in programmable electronics, we have been able to integrate a lot of intelligent signal processing inside the sensor head.

"The connection from the sensor to the outside world is by Ethernet, providing digital control of the sensor from any external device over a UDP link and enabling rapid digital reporting of the sensor data."

According to Bob Beattie, Meta's managing director, "We are very pleased with the performance of the DLS300, which has exceeded our expectations and the initial design specification.

"Trials in various welding applications, including adaptive submerged arc welding of nuclear vessels and wind tower production, have been extremely successful."

Photograph herewith:



The new DLS300 sensor from Meta being used in automated submerged arc welding.

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