Jerusalem, October 2009....Optimet introduces the ConoLine L.S, a non-contact 3D line sensor with up to 1200mm standoff and a 300mm line width for heavy duty profile and in-process 3-D measurements and inspection applications.

The ConoLine LS provides a 2D profile when stationary, and full 3D surface measurement when scanning an object on a moving belt. The ConoLine LS profiles deep grooves and sharp angles at high precision. It is designed to work in harsh environments and is able to perform surface inspection such as crack detection in objects at over 1,000°C, and in-process hot steel bar inspection.

The ConoLine L.S is used for in-process inspection of hot steel slabs and pipes in harsh environments

The ConoLine L.S is used for in-process inspection of hot steel slabs in the Metal & Steel industry and in the Seamless Tubes & Pipes industry

The ConoLine L.S is used in the Metal & Steel industry for on-line inspection and detection of longitudinal surface cracks and defects on hot steel slabs of up to 1000°C. The inspection system, which includes the ConoLine L.S sensor and machine vision, inspects the slab both from the top and bottom faces while it is still hot, eliminating the need for inspection after cooling and the necessity for re-heating of the slab for re-work if defects are found. The inspection is also done before solidification, which changes the characteristics of the surface.

An additional application for in-process inspection of hot laminated seamless tubes and pipes was developed in cooperation with DSI.Plus, Spain. The system includes several ConoLine-L.S sensors, protected by a thermal shield and folding mirror, covering the full hot tube surface from all sides, while moving at high speed. The system software automatically detects the start and end of each tube and generates a map of defects of the object, with resolutions better than 100µm on hot surfaces at 1000°C.
In-Process Inspection of Hot Steel Slabs

Over 200,000 steel slabs were inspected within one year until January 2008.

Optimet is a provider of sophisticated non-contact measurement sensors and solutions, based on smart technologies, which include non-contact 3D imaging and measurement, 3D and 2D surface analysis, and 3D metrology. Optimet is a company that provides sophisticated non-contact measurement solutions for a wide range of industries, including automotive, aerospace, and manufacturing. Their product line includes 3D imaging and measurement systems, 3D and 2D surface analysis tools, and 3D metrology solutions. Optimet is headquartered in Spain and has a global presence, with sales offices and distributors in various countries around the world. Their products are designed to provide accurate and reliable measurements, helping clients improve their processes and products.
In-process inspection of Seamless Tubes and Pipes

**System set-up**
- 6 sensor-sets at 60° from each other.
- Manual radial movement of each sensor for optimal stand off.
- Heat protection shield/compressed air/water cooling

**Sensor set-up**
- 45° cold folding mirror enables to hide sensor from direct radiation
- Sensor automatically detects start/end, processes data, and generates results in less than 10 sec.

**Measurement and analysis**
Profile and 3-D Measurement obtained during movement and the results
Comparative profile measurement - defect on a pipe segment at 1000°C
ConoLine-L.S (red line) vs. a triangulation sensor

Defect area
### ConoLine-L.S Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>770</th>
<th>1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lens focal length (mm)</td>
<td>770</td>
<td>1200</td>
</tr>
<tr>
<td>Minimum working range (mm)</td>
<td>50</td>
<td>100</td>
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<tr>
<td>Standoff (mm)</td>
<td>700</td>
<td>1200</td>
</tr>
<tr>
<td>Line length (in middle of range) (mm)</td>
<td>200</td>
<td>320</td>
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<tr>
<td>Line width (µm)</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>Resolution (µm)</td>
<td>&lt;100</td>
<td>&lt;150</td>
</tr>
<tr>
<td>Linearity over working range</td>
<td>0.2%</td>
<td>0.2%</td>
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<tr>
<td>No. of points per line</td>
<td></td>
<td>600</td>
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<tr>
<td>Maximum target temperature (°C)</td>
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<td>1050</td>
</tr>
</tbody>
</table>

### Data Handling
- Data rate: 60 lines/sec

### General
- Weight (g): 5Kg (including PC)
- Dimensions (mm): 151H X 224W X 272L
- Operating Temperature: 18 to 35°C
- Supply Voltage: 12V DC
- Light Source: Visible red laser Diode – Wavelength 655 nm
- Laser Class: IIIb
For additional information please contact:
Europe: mktg@optimet.com
USA: Sales@optimet.com
Japan: optimet@ophirjapan.co.jp

About Optimet: Optimet (Optical Metrology Ltd.) - a member of Ophir Optronics group - is a provider of sophisticated non-contact measurement sensors and solutions, with up to sub-micron precision, for distance 2-D & 3-D measurements. Optimet implements practical application of its unique and patented conoscopic holography technology. Established in 1995, Optimet is a member of the Ophir Optronics group, a world leader in Laser Measurement Instruments, Optical Infra-Red components and lens-assemblies. Sold worldwide, with several thousand installations, Optimet products offer measurement solutions for a wide range of markets and applications, among which are the Automotive, Aerospace, Dental CAD/CAM, Steel and LCD / PDP in-process inspection. Optimet solutions and sensors are used for in-process inspection, quality control and reverse engineering applications.
Optimet is ISO9001-2000 certified.