

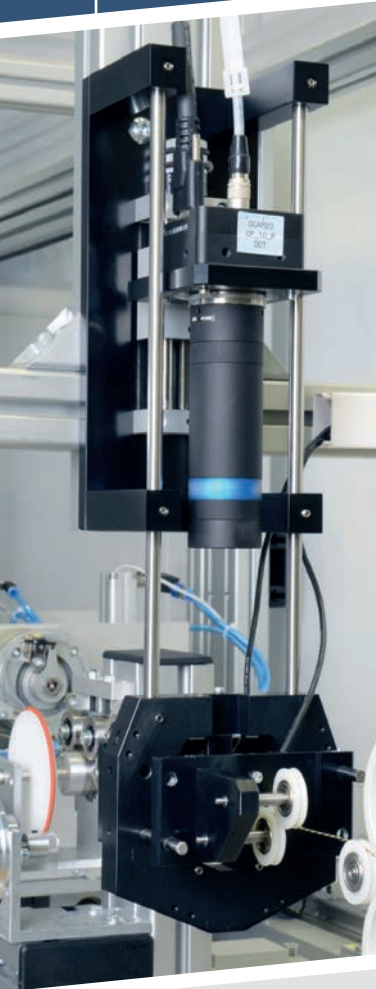
ZERO defect

ON-LINE AUTOMATIC SURFACE
INSPECTION & MEASUREMENTS

360
LINEAVISION³⁶⁰

IS
in-core
systèmes

High-Resolution Inspection & Traceability solutions



LINEAVISION 360®

Openmind

In-Core Systèmes extends its Lineavision inspection resolution range by offering inspection solutions for continuous production processes of products of cylindrical shape. Initial designs and system performance analysis have been performed in the framework of the OPENMIND project:



Horizon 2020

European Union funding for Research & Innovation
Grant Agreement number 680820
<http://www.openmind-project.eu/>

The OPENMIND (On-demand Production of ENTirely customized Minimally INvasive medical Devices) developed a flexible technology for manufacturing medical disposables. The project created a first generation of new minimally invasive medical devices (like guide wires, catheters, micro instruments) compatible with MRI (Magnetic Resonance Imaging) technology. The inspection technology implemented by ICS Lineavision 360 has been in the centre of this project by gathering quality parameters (measurements, surface quality) at each production step. The project consortium achieved a true Industry 4.0 production pilot line whereas the implemented inspection modules enabled a real time closed loop feedback by communicating via digital IOs with different process modules and inspection results via OPC to the overall control system for statistical process control and modelling.

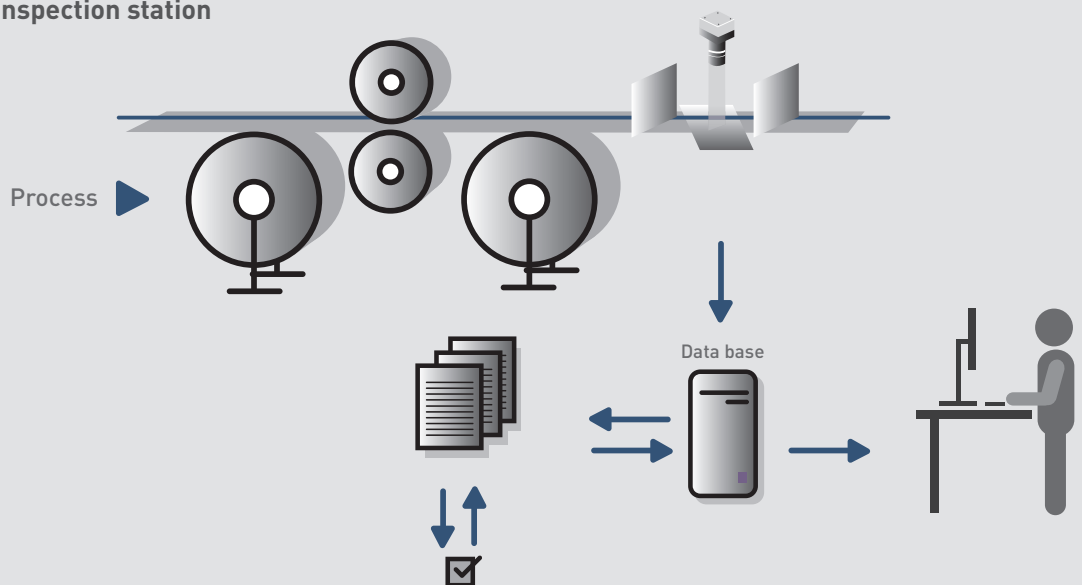
High-resolution inspection solution

Emanated of this research project and combined with 20 years of experience in high volume real time inspection, In-core Systèmes is now able to provide fully packaged, high resolution inspection solutions for endless cylindrical products.

The developed compact acquisition unit excels with its micromechanical-optical mirror based design permitting an inspection of endless cylindrical products with a single camera from four points of view. With the first developed solution being suitable for inspection resolutions down to 5µm and for products of 0.2mm to 2.5mm range, the system designed was kept sufficiently flexible to cover other diameter ranges, use resolutions adapted to measurement and defect specifications, and to process speed and product type by adapted light solutions ranging from UV to NIR.

The proposed turnkey vision system can either be implemented as sensor or as part of quality control concept centralising measurements of external sensing devices such a high resolution laser micrometres in existing or news lines.

LINEAVISION 360® Inspection station

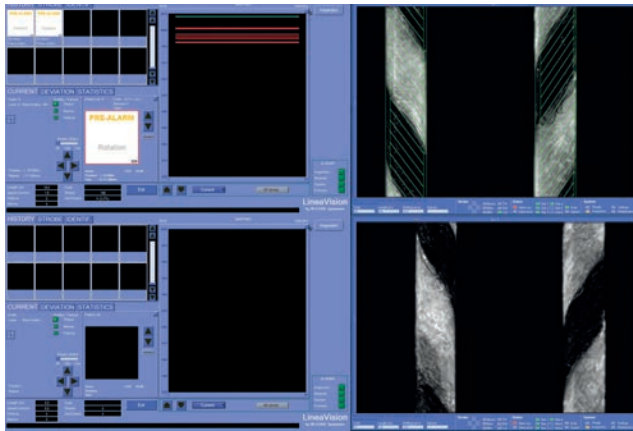




SOFTWARE AND REAL TIME INSPECTION

Lineavision 360®

High resolution image for defect identification, process synchronization & live display.



By continuously scanning the full surface, all defects are detected. A comprehensive and intuitive touch screen operator interface displays the inspection results and enables local configuration of the inspection station. The detected defects are registered on a moving graphic map displaying the inspected job length. Every single defect can be displayed with information on size, position, class, etc...

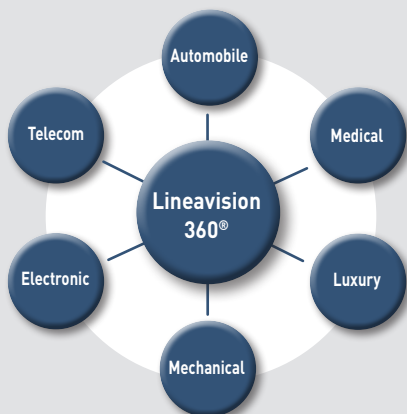
Advanced functionalities, determined by the detected defect class, activate output action: alarms, marking, yield calculation.

The operator always has full control of the manufacturing process and can intervene at any time.

The extensive analysis of trends and statistics provides information for process improvements and higher product quality.

Applications

The Lineavision-360 system combines the new image acquisition approach with the existing real time inspection technology. Originally designed for a rather complex inspection task given in pull-winding applications, the Lineavision-360 system is also able to perform on all other cylindrical products such as wires, cables, optical fibres and tubes used in various industries.



A new way to manage your quality

The Lineavision-360 controls the quality of plain products for **dimensional** (diameter, angles of present structures) and **surface defects** (lump, neck down, hole, fibre winding) on a full circumference image of a cylindrical product.

Furthermore, quality and position of all subsequent processing steps such as **laser structuring** or **printing** is controlled.

Your Production/Product	Without L360	With L360
Observe	✓	✓
Visualise in real time	✗	✓
Detect in real time	✗	✓
Analyse	✗	✓
Correct	✓	✓
Optimise	✗	✓



Who we are

IN-CORE Systèmes is a front-line player, whose expertise is concentrated around imaging systems and optical methods for 100% surface inspection of continuous processes.

The core activity of the company is to design and manufacture automatic surface inspection systems based on line scan cameras, high performance illumination and computer technology with our proprietary process software. IN-CORE Systèmes has been present in computer vision since the late 1980s. An experienced team will contribute to the success of your projects with their solid backgrounds in science and technology, and unique expertise and skills in video inspection acquired with the key players on the market.

What drives us

Our motivation is your satisfaction throughout the whole decision process. We want to establish long term customer relations flexibly fulfilling your individual requirements. We want to optimize your quality, productivity and production process by reducing waste, non-quality costs and rejects. Well known industrial companies all over the world, in various business segments have given us their trust to install our systems.



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