Neadvance develops intelligent computer vision systems applied to quality control and automation of industrial processes. The knowledge and experience gained in modernising various industrial sectors, medical imaging and smart cities, enable Neadvance to make is solutions available in nine countries and three continents.

Neadvance intelligent systems include 2D and 3D dimensional and position analysis; colour and texture identification, measurement and recognition; character and pattern reading; defect detection and classification and robot guidance in several industrial processes.

ACTIVITY SECTORS

INDUSTRY **AUTOMOTIVE** **AGRIBUSINESS** **SMART CITIES** **MEDICAL IMAGING**

THE ADDED VALUE OF NEADVANCE PRODUCTS

- Flexibility and robustness
- Durability. The products meet the customers' needs and evolve according to new challenges presented
- Possibility of acquiring more knowledge and control over the production processes, improving relevant actions
- Proprietary application library
- Constantly developing software with the latest innovations in the sector
- Strong connection with knowledge clusters
- Sound knowledge of production / shop floor processes
- Compatibility with multiple hardware of different technologies
- With a single Neadvance solution it is possible to integrate and coordinate several functions simultaneously, overcoming time and space constraints in the optimisation of production processes.

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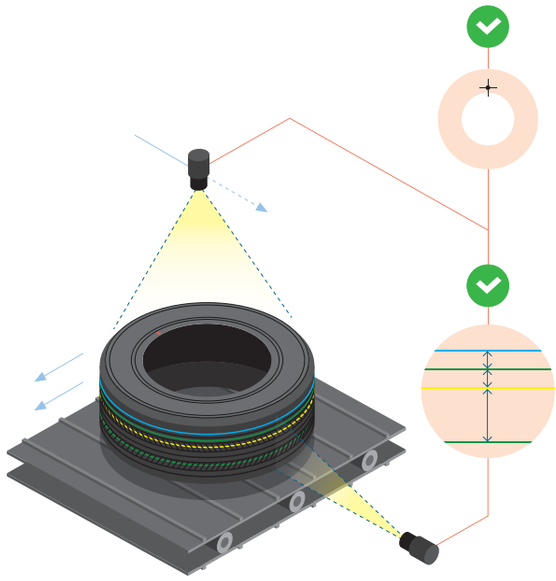
The importance of tyres in road safety is of great relevance. Car tyres are the only elements in direct contact with the road.

Car manufacturers select OE (Original Equipment) tyres to optimise performance based on the vehicle's characteristics. OE tyres must be marked according to radiuses and specific angular positions which can detect critical points. These markings ensure the best possible performance on the road as well as less wear and tear when the tyre is correctly fitted onto the rim. Manual inspection is highly subjective, time-consuming and lacks the precision required by this process.



DESCRIPTION

The inspection system captures images from both sidewalls of the tyre linearly (top and bottom) and from the tread areas where the markings are made, using the following hardware:

- 4 high-resolution linear colour cameras
- 4 linear lighting units
- 1 compact 3D camera
- 2 high-resolution matrix colour cameras and diffuse lighting panels

The capture of both sidewalls is done linearly, using the movement of the conveyor belt. Hence, it is possible to obtain high-resolution and high-quality images combined with 3D information.

The modular system can be easily integrated into an existing tyre production line and supports all standard industry marking types (dots, doughnut, NN, PP, etc.).
The new Warp-Compensator+ eliminates false negatives caused by warp of the tyre during conveying, reducing unjustified rejections.
The combination of state-of-the-art cameras, high-power LED illumination and Neadvance's deep learning algorithms allows better inspection results and swift cycle times.
The system can collect all defined data and automatically create the reports for process improvements or traceability that are needed for successful Industry 4.0.

FEATURES

- Cycle time: 9 s per tire in the flow
- System optical resolution: 135M Pixels
- Measurement resolution: 0.16 mm/pixel
- Inspection Area (LxW): 1100X1100 mm
- System dimension (LxWxH): 2400X1200x2500 mm
- Capture of moving images
- System integrated with the client's production line
- Fully calibrated system: colour calibration, metric calibration

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