Machine Vision Based Systems
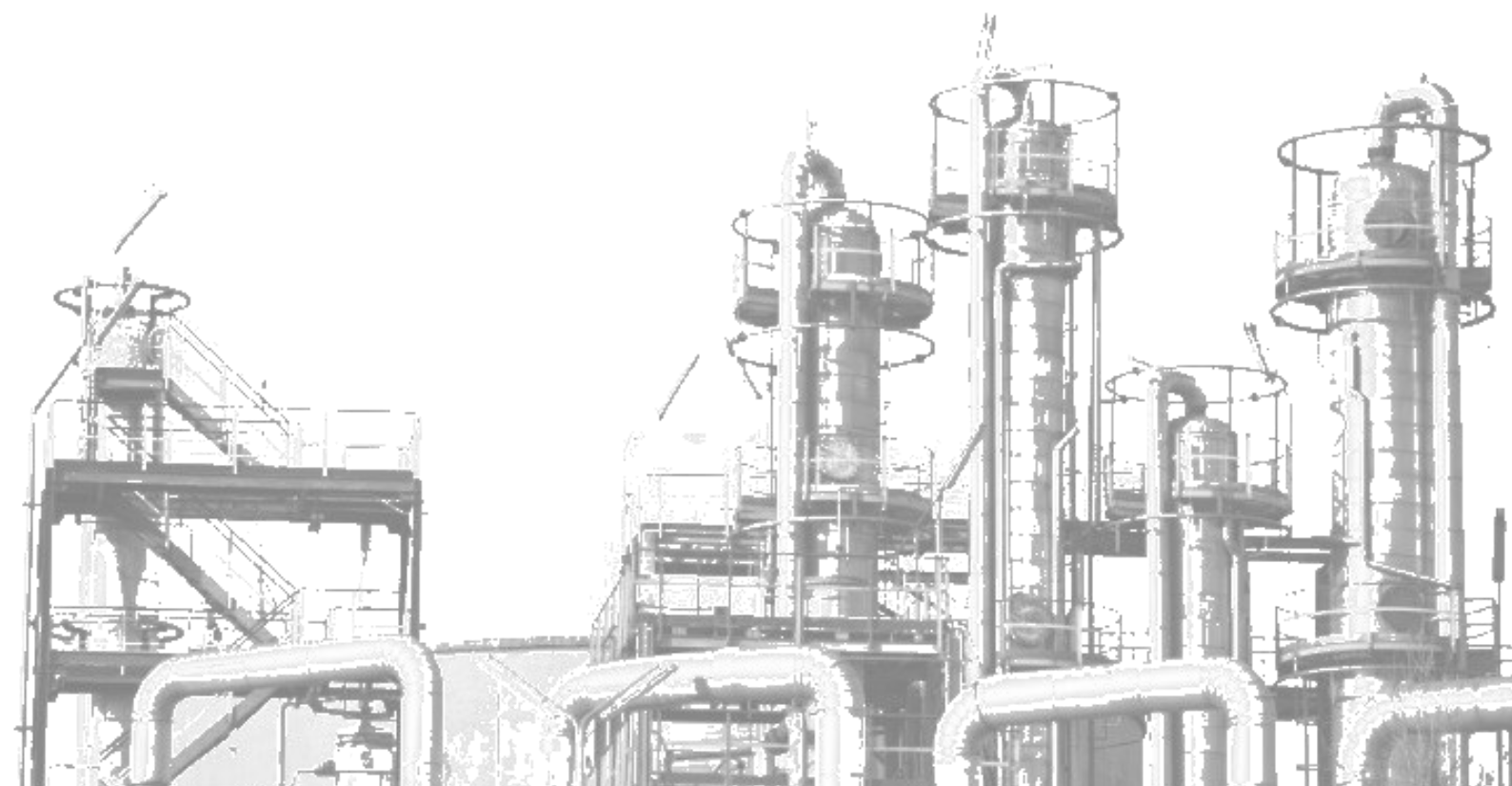
Industrial Process Monitoring & Quality Control

ProTIR - Infrared Thermal Imaging System

RKS300 – Rotary Kiln Monitoring System

FireTIR - Real Time Early Fire Detection

MCQC100 – Metal Coils Quality Control System

ProTIR
## Infrared Thermal Imaging System for Continuous Temperature Monitoring

Based on high resolution thermal cameras and a specific software, ProTIR provides real radiometric images that accurately measure temperature inside of furnaces, rotary kilns, coolers, incinerators and boilers in the steel, minerals, power generation and process industries.

In addition, ProTIR is also ideal for glass melt furnaces, steam reformer and cracker tube furnaces, enabling process control optimization, energy efficiency savings and prolonging the lifetime of the furnaces and reformer tubes.


With 86° viewing angle optic, our system provides accurate temperature information (from any of 367,000 live data points) of an extensive area with just a narrow opening in the wall.

Protected by a rugged protective housing and using a high-performance water-cooling system, ProTIR system resists up to 2.200 ^{0}C (3,992ºF). In addition, our thermal imaging solution provide a wide temperature measurement range of 450 – 1800 °C (842 – 3272 ºF).
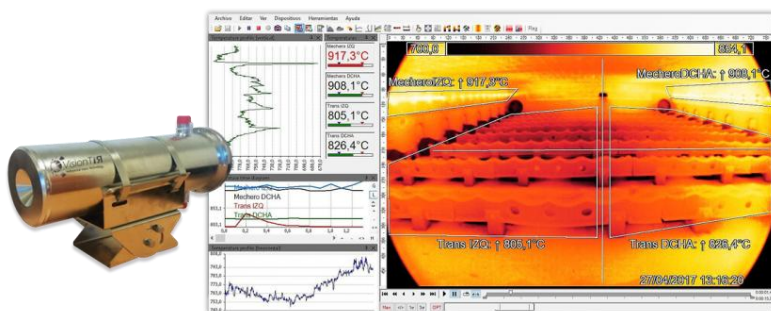
ProTIR Temperature monitoring
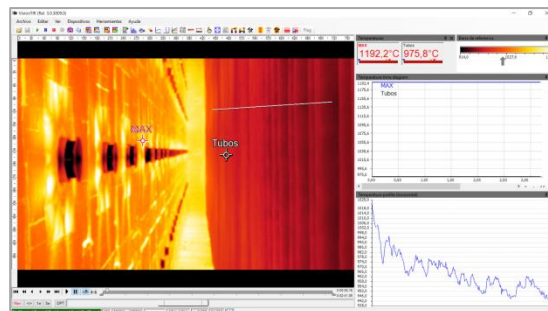
ProTIR software

ProTIR software provides accurate data analysis along with automated alarm outputs and control for 24/7 monitoring, to instantly alert the user of any problems from the control room.

Benefits

- High-definition thermal images
- Radiometric images with accurate temperature information
- Flame shape optimization
- Process control optimization
- Energy efficiency savings
- Long term reliability
- Minimal maintenance
- 2 years warranty
- Automated alarm outputs
- OPC connection

Aplications

- Rotary Kilns
- Vertical Kilns
- Sintering Furnaces
- Reheating Furnaces
- Reformer Furnaces
- Coolers
- Glass Melt Tanks
- Boilers

Industries

- Cement
- Lime
- Steel
- Glass
- Refining
- Petrochemical
- Biomass
- Power Generation

RKS300
Rotary Kiln Monitoring System

The thermal camera-based kiln shell monitoring system RKS300 monitors kiln shell and provides real-time inspection of the entire kiln length. It integrates hardware and software as a solution, allowing the detection and measurement of all hotspots on the kiln shell, even at an early stage.

With real time inspection at the highest resolution (up to 3.200 measuring points per line), the RKS300 purpose is to ensure proper kiln-shell safety and durability, optimize kiln efficiency and reduces the cost of maintenance due to damage and unscheduled downtime.

To withstand the aggressive environment that surrounds the system in a cement plant, the RKS300 is protected by a rugged protective housing that resists adverse conditions thanks to an air purge and an internal temperature control device. This keeps the thermal camera clean within a constant ambient temperature.
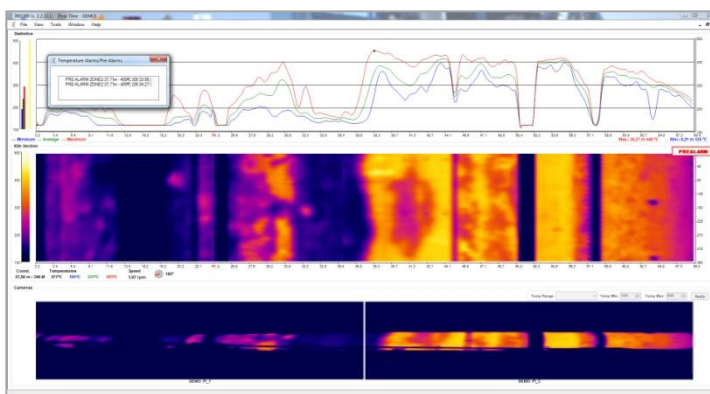
RKS300 software
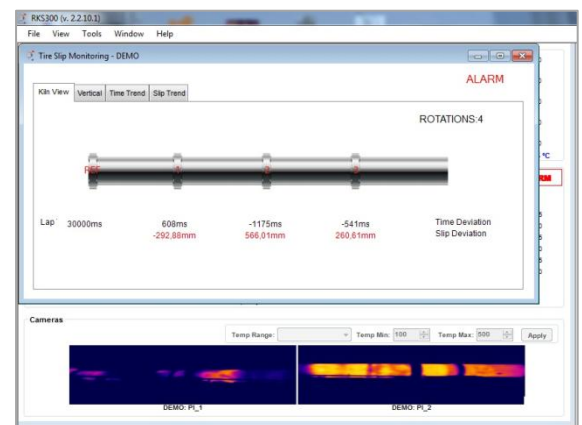
Tire Slip Monitoring – Kiln View

Benefits

- Higher field of view for new larger kilns (up to 4 thermal cameras with 110° view angle)

- Higher resolution (up to 3.200 measuring point per line) for refractory detail

- High sensitivity to identify even the smaller temperature changes and hot spots

- Easy integration and communication of all data to Plant Control System

- Pre-wired and pre-tested for an easy installation

- Calibration checks are not required

- Fiber optic communication

Industries

- Cement
- Lime
- Zinc

FireTIR
## Thermography System for Early Fire Detection

FireTIR System is a modular and flexible solution based in radiometric infrared cameras for early fire detection and temperature monitoring of industrial plants (indoor and on open-air grounds).

FireTIR is able to capture the temperature distribution of a surface in milliseconds, with automatic detection of hot spots.

FireTIR Software offers full remote control of all infrared cameras, different inspection zones configuration, recording functions and analysis of measured data.

FireTIR Thermography Camera
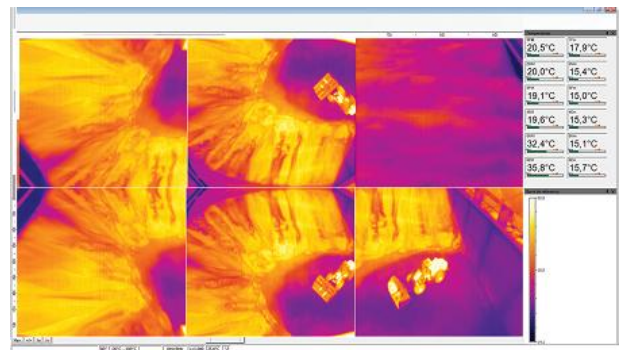
FireTIR software

FireTIR software allows full remote control of all infrared cameras as well as fast and precise temperature measurement.
It can capture the temperature distribution of a surface in milliseconds, including the automatic hot spot detection.
It allows thermal evaluation of objects with automatic detection of hot or cold spots.

Different inspection zones configuration facilitates the parameters processing of each zone: emissivity, measurement temperatures, prealarms and alarms events, dimensions, etc. FireTIR software offers recording functions and analysis of measured data. It includes email notification of alarms or alarms notification by digital outputs.

.

Benefits

- 24/7 monitoring of areas with a high risk of fire and explosions.
- Real time detection of fire hazards before a fire breaks out.
- Customized installation for temperature monitoring of large areas.
- Maintenance-free operation
- Recommended by leading insurers
- Modular expansion. The system can be expanded at any time with further cameras and workstations.

Aplications

- Biomass Warehouses and silos
- Coal storages
- Chemistry and Oil Production
- Waste/Recycling Facilities
- Hazardous environments: flammable substances, ATEX classified zones

- Wood Processing
- Fertilizer Storage
- Road Tunnels
- Conveyor Belts

MCQC100
Metal Coil Quality Control System

MCQC100 is an automated quality control system for surface defects detection, classification and visualization in cold-rolling mills.

MCQC100 inspection is performed on a random sampling of the material surface. It provides an objective assessment of the product`s surface quality and helps the operator in the fine adjustment of the production process.

The integration of the MCQC100 system in the architecture of the factory provides tools to assist Quality Personnel on making decisions and guide the optimization of the production process.

MCQC100 Software provides a reliable defect recognition and precise information on critical defects and their location. Furthermore, automated surface inspection with its defect classification helps to improve production quality and reduce quality costs.

Inspection in metal production line

Detection of defects in metal coil surface

Benefits

- Quality Control and inspection for all metals processed in continuous production lines: austenitic, ferrite and duplex stainless steels, aluminum, etc.
- Real time detection
- Defects classification by size and location on the inspected surface
- Reduction of claims and waste
- Process optimization

- Remote data access
- Easy maintenance
- Cost effective
- Automated quality grading
- Minimizes the need for manual inspection
- Objectivity, Flexibility, Scalability, Robust and Secure

Industries

- Stainless steel
- Aluminium
- Paper

Parque Tecnologico de Andalucia (PTA)
C/ Frederick Terman nº 3, Modulo 3,
29590 Malaga (Spain)

Tel: +34 951 769 884
E-mail: info@visiontir.com

www.visiontir.com