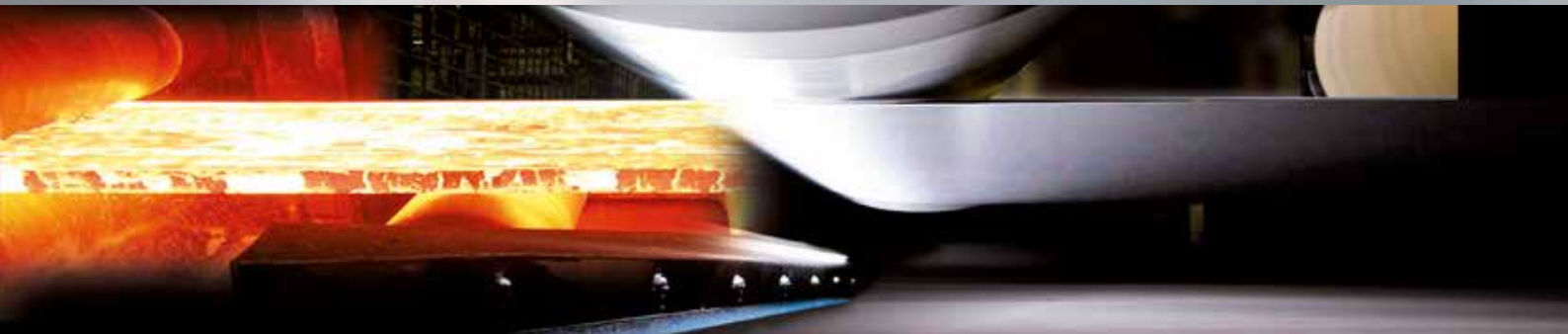




**SURFACE
MASTER**



Breaking the Limits
of Automatic Surface Inspection
The New Standard for Metals



Driven by Competence
Powered by Innovation

ISRA
VISION
parsytec

SURFACE MASTER

Next generation metals surface inspection

Discover the details of the new generation metals surface inspection – Unrivaled in scope

- for defect-free, flawless metal surfaces, improved quality inspection performance **> 95%**
- for reliable and fast defect classification, advanced, high-end **multi-stage classifier**
- for reliable production, highest system availability ... **24/7** ... up to **99.8%**
- for complete quality information at one view, new online reports and visualization
- for highest user acceptance, trusted and reliable quality audit capabilities and features
- for best efficiency: down to **ONE** month pay back period, simpler lower cost integration and faster implementation

NEW

... and much more... Ask for the details!

- Select to **YOUR** needs:

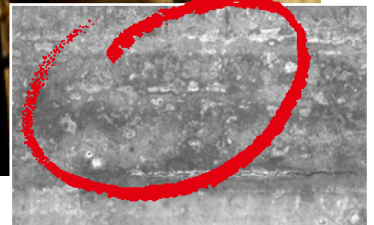
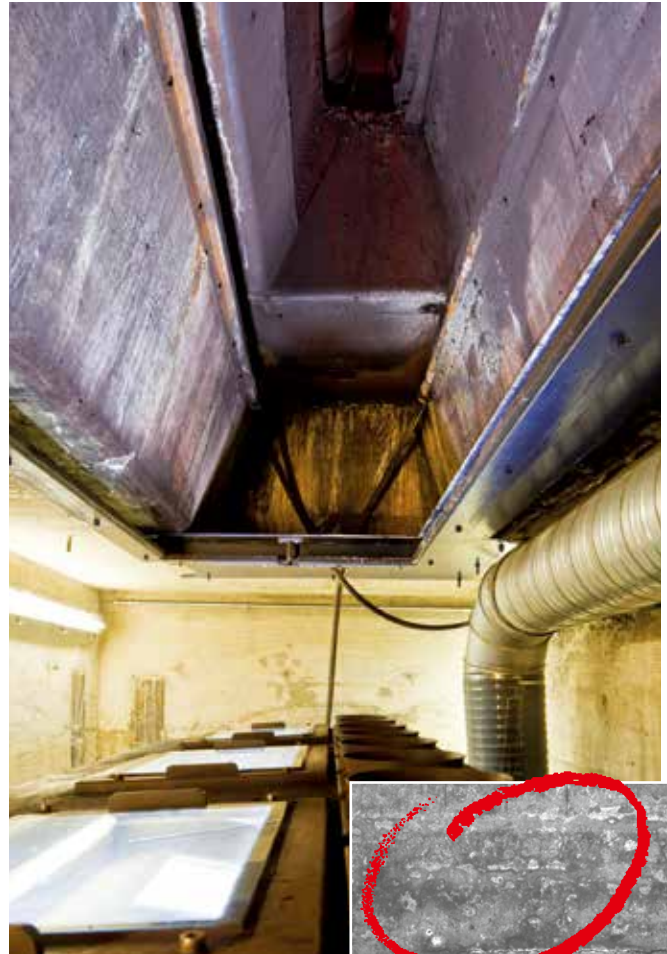
The new generation is available in three different product classes: turn-key systems creating value that pays back on your investment – even at the standard level!

- **SURFACE MASTER Standard**
High-performance entry level inspection system class, including all typically usual benefits.
- **SURFACE MASTER Advanced**
Upper inspection system class with advanced performance and ready for inspection networks.
- **SURFACE MASTER Premium**
Cutting edge ultimate high end inspection system class, with incredible performance – no option remains open.

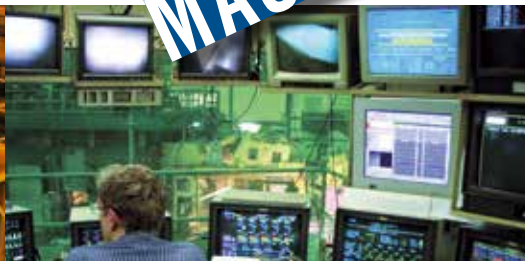
Get the key to the future- Inform **YOURSELF**.
Our expert team is available to support you!

Improve process reliability and productivity

One of the key objectives of our solutions, and especially **SURFACE MASTER** is to help make manufacturing both more



productive and more cost effective. By employing leading-edge surface inspection and the tools for both process monitoring and yield optimization, not only are the defects being recognized, but the solutions can also help pinpoint where and why the defects occurred.



SURFACE MASTER

Surface quality assessment at its best

Fast, reliable, and extremely efficient: Production and product optimization with SURFACE MASTER

SURFACE MASTER – the best tool to perform continuous process and production optimization along the complete production chain – for overall efficiency. SURFACE MASTER is based upon the experience of over 500 global installations for metal surface inspection. 15 of the top 20 global metals producers rely on ISRA VISION PARSYTEC inspection solutions.

SURFACE MASTER provides metals manufacturers with most important information enabling them to significantly improve their production and thereby achieve greater success.

SURFACE MASTER integrates seamlessly into any process environment, providing perfect inspection and yield monitoring at all stages of production, leading inevitably to unbeatable product quality.

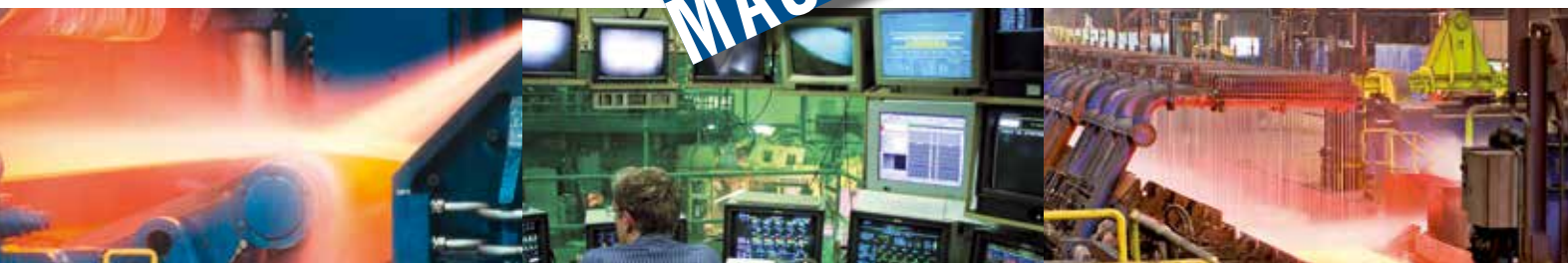
The new **SURFACE MASTER** product line increases your capabilities for metals processing:

- ✓ Most powerful image processing capabilities for most reliable defect detection
- ✓ Advanced, multi-stage classification technologies for highest classification accuracy
- ✓ Pre-set classification for fast and low cost implementation
- ✓ Real time quality view for process improvement
- ✓ Intuitive self learning classifier for line specific defects – tailored to your needs
- ✓ Certified quality auditing tools to ensure long term high performance
- ✓ Additional value:
 - width measurement
 - quality data archive and process analysis
 - texture and surface analysis
 - real time alarms to reduce scrap and improve production
 - defect tracking and marking for improved downstream processing



Most of leading metals producers rely on ISRA VISION PARSYTEC ...

+++ Acerinox +++ Anshan Iron & Steel Co. +++ ArcelorMittal +++ Baosteel +++ Benxi Iron & Steel (Group) Co. Ltd. +++ BlueScope New Zealand Steel +++ Buderus +++ COSIPA +++ CSC +++ Duferco +++ Erdenir +++ Handan +++ Heidtmann +++ ILVA +++ Ispat Industries Ltd. +++ Jindal +++ JFE +++ Hadeed +++ MMK +++ MaSteel +++ Mobarakeh Steel +++ Nippon Steel +++ Outokumpu +++ POSCO +++ Riva +++ Ruuki +++ Salzgitter +++ Severstal +++ SIDOR +++ Sharon Steel Corp. +++ Shougang Corp. +++ SSAB +++ Stalprodukt +++ Steel Warehouse +++ Taiyuan Steel +++ TATA-Corus +++ Thainox +++ ThyssenKrupp Steel Corp. +++ Vogten Staal +++ Voss Industries



SURFACE MASTER

Advanced classification – the key to success

Unique multi-stage classification of **SURFACE MASTER** reaches new dimensions in performance, classification rates, speed, and set-up time

Fastest tuning, **easiest intuitive** operating, highest, **most efficient** classification, ending up in **highest inspection performance** rates – we made it our business to create a classifier technology with these requirements. Save time and money, and avoid wasting time with other classification tools.

The advanced multi-stage classification technology as one of the core modules of **SURFACE MASTER** provides excellence in defect recognition which goes beyond inspection. This fast, accurate, flexible classifier innovation, is combined with a learning classifier for line specific defects and the Instant Classifier™ pre-set classification for standard applications resulting in classification performance better than 98%:

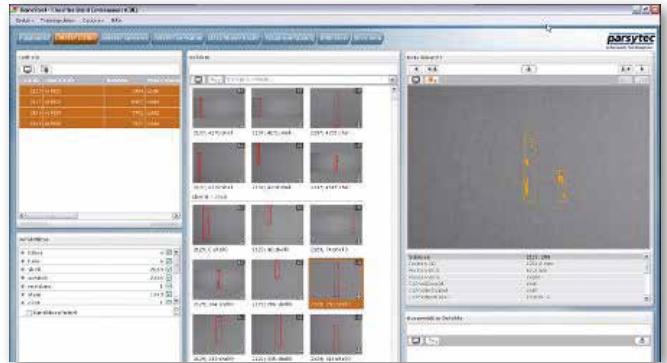
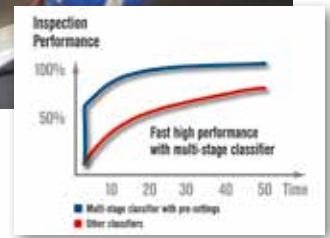
- Set-up, commissioning and tuning designed for operators not scientists – easy to understand and to operate
- Integrated, intelligent and intuitive tools to manage image defect collections and classifiers – simple to utilize, highly reliable
- Classifier tuning without influence on running production including extensive check of tuning results for risk free switch from test to active classifier

Facts you can rely on - technologically and valuable

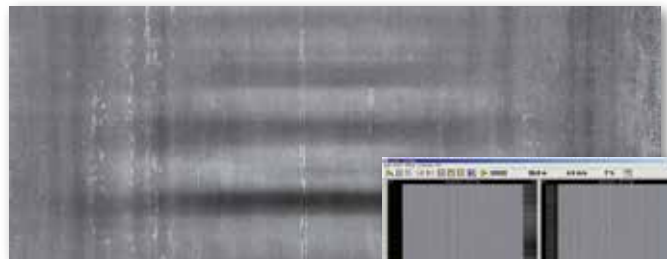
- **Best quality inspection performance**
 - ✓ Team of hierarchical, multi-stage classifiers
 - ✓ Efficient non-defect detection by pre-classification
 - ✓ Roll mark detection by focused LED illumination
 - ✓ Inspection immunity to pass-line deviations
 - ✓ Low contrast defect detection
 - ✓ Edge defect detection for high material saving
- **Highest system availability**
 - ✓ High-end, state-of-the-art standard components
 - ✓ Optimum components redundancy
 - ✓ Easy to exchange spare parts
 - ✓ Global support network 24/7



Save time and money:
Multi-stage classification provides best performance at shortest set-up time



The intelligent way to high inspection performance:
intuitive classifier tuning – easy to operate



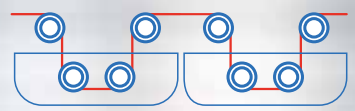
Live View: Full width imaging in high definition quality provides easy estimation of the process status



Slab



Hot Rolling Coils / Plate



Pickling

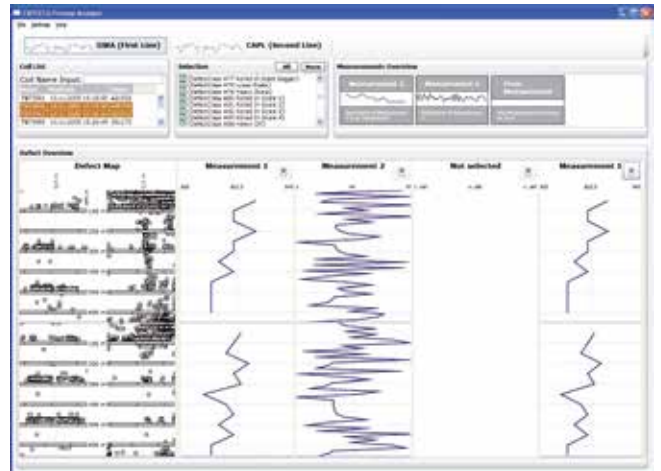
SURFACE MASTER

Empowers metals production

- **New reporting and analyzing tools**
 - ✓ New online live views showing specific defects, coils process data, and more
 - ✓ Advanced reporting: coil quality, shift quality, diagnosis, performance
 - ✓ For best decision making: Quality EXPERT software solutions to make decisions that reduce time and scrap
- **Extended quality audit capabilities:**
 - ✓ Certified calibration procedures
 - ✓ Long-term performance monitoring
 - ✓ Advanced self-diagnostics with reporting of component faults
- **Easy integration and fast start-up:**
 - ✓ SMARTFRAME technology
 - ✓ Standard interfaces: electrical and mechanical
 - ✓ Standard data bases
 - ✓ Predefined parameter set-up
 - ✓ Classification right from the start: Instant Classifier™
 - ✓ Semi-automatic defect tuning
 - ✓ Certified start up-approach
- **Additional functionalities**
 - ✓ Width measurement
 - ✓ Quality data archive
 - ✓ Texture and process analysis

... On-top innovations

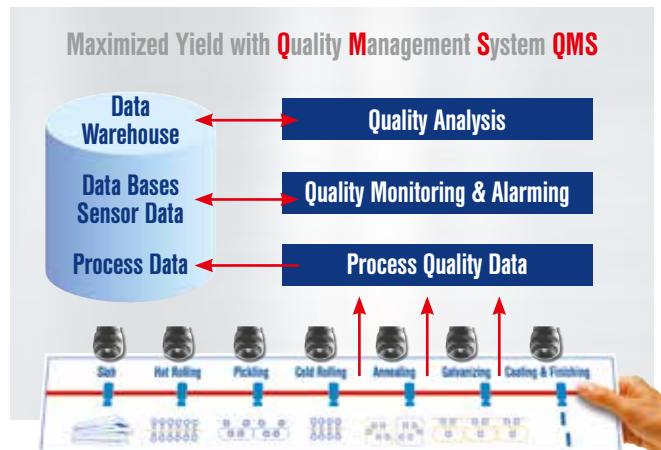
- **Optical 3D slab surface inspection**
 - ✓ Optimum defect recognition with multi-sensor view
 - ✓ Reliable crack detection & classification
 - ✓ Robust solution for high temperature environment
- **Quality and yield management system QMS**
 - ✓ REAL TIME production assistance and intelligent decision support
 - ✓ Automatic alarming
 - ✓ Quality bench marking



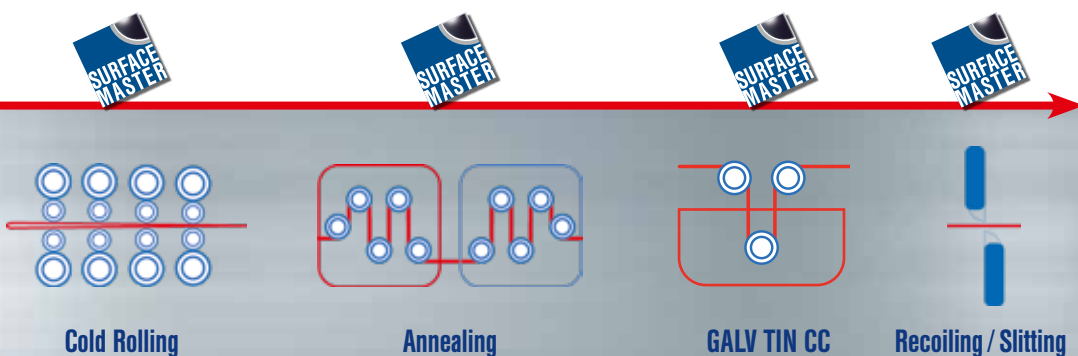
Easy process monitoring: overview of process and line status provides indications of defect root causes



Sophisticated 2D inspection & innovative 3D technology combined – reliable defect detection on the slab surface

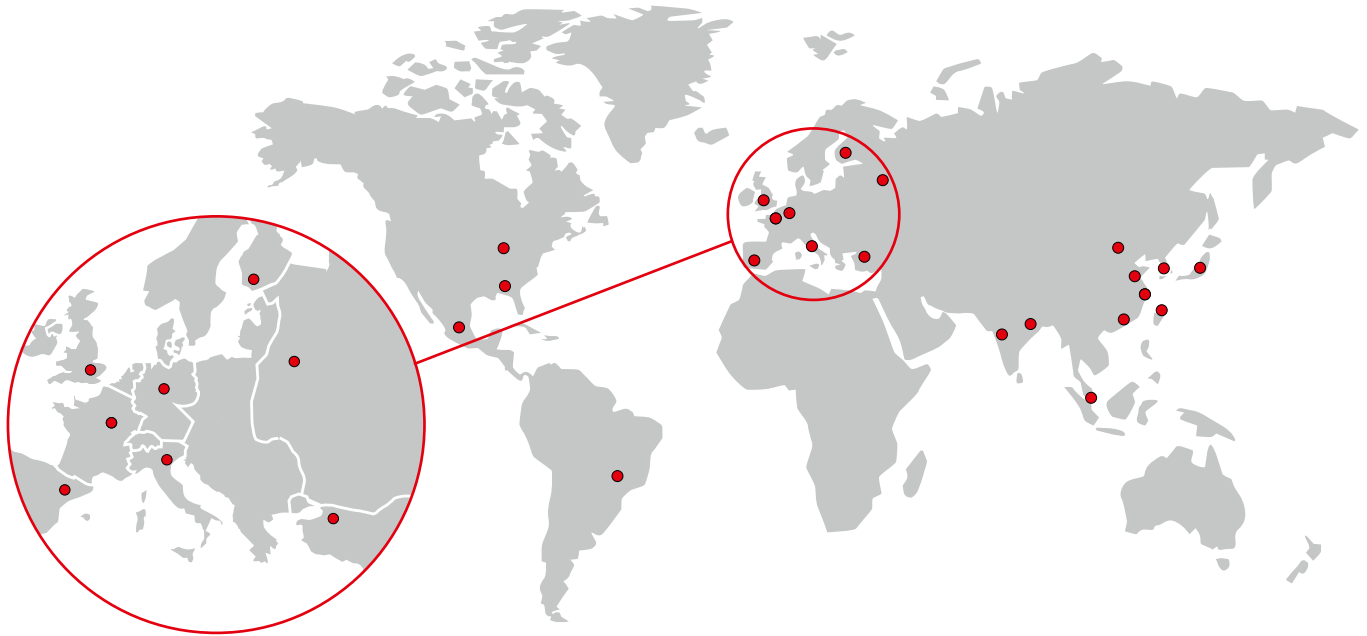


Quality Management System QMS enables highest productivity for steel mills



End Markets

Innovations for Automatic Surface Inspection



Your competent partner

A business relationship with the ISRA VISION group is the beginning of a long term partnership.

Our clients benefit from the experience of our highly qualified team of experts, who work with them to design and implement solutions for the quality inspection applications of the future.

The ISRA VISION group is a global enterprise that guarantees its customers excellence in every aspect: from consulting, service, and confidentiality, to complete solutions and worldwide support.

- We can make your business more competitive and productive
- We view ourselves as a partner and supplier of application oriented standard systems for selected industrial sectors

Challenge us.

24/7
Support & Service

On the safe side ... with ISRA **VISION** PARSYTEC

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