



ADVANCED TRACKING SYSTEM

RELIABLE TRACKING OF METALLURGICAL VESSELS THROUGHOUT THE PLANT

The most common method for identification of metallurgical vessels in a melt shop is visual recognition performed by the operating personnel. Due to the harsh environment in steel plants it can be difficult to distinguish vessel IDs because the identifying characters become unrecognizable or disappear during regular use. The failure to manually enter the vessel ID or incorrect data provided to the automation system can lead to incomplete lifecycle information for the vessels, or, even worse, to ladle breakout during treatment or transport due to thin lining. The selection of the wrong vessel may cause major delays in tight production schedules or result in faulty steel grades.

FUNCTION

Advanced Tracking System (ATS) is the missing link for fully automatic equipment-tracking in steel plants. It features automated identification and localization. Errors due to incorrect manual input are completely eliminated.

ATS provides complete status and information on all ladles and vessels at any time: Where they are, at what time, and which vessels are in use at any given time. The number of vessels that can be tracked is unlimited. Additional vessels or other equipment can be added at a later date.

All vessels are equipped with passive long-range UHF-RFID transponders that are detected with antennas. Reader stations are placed at locations where vessels need to be identified and tracked with the highest possible reliability. This unique hardware-based identification in combination

with a clearly defined software environment provides comprehensive vessel management with identification, visualization, tracking, and information exchange with the automation system.

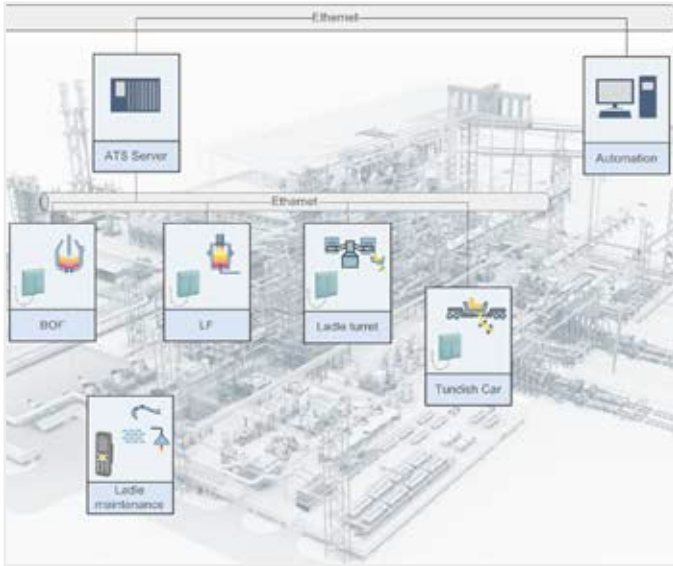
FIELD OF APPLICATION

ATS is able to include the entire mobile equipment in a steel plant:

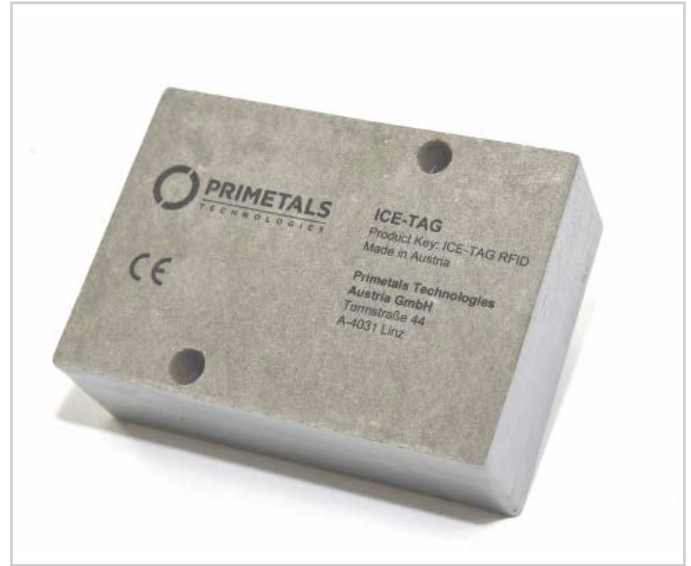
Torpedo ladles, hotmetal ladles, teeming ladles, slag pots, tundishes, sintering belts, scrap chutes, scrap baskets, etc.

MAIN BENEFITS

- Passive RFID technology
- Long-term availability of all components due to broad industrial standard
- Reliable and economical solution; also for upgrading existing systems
- High connectivity
- Self diagnosis of ICE-TAG for predictive maintenance



Advanced Tracking System topology



ICE tag

PRODUCT FEATURES

- Well-established industrial UHF long-range technology in heat-resistant ICE Tag design (Intelligent Contained Electronic Tags) for rough environments
- Robust housing to withstand slag and steel splashes
- Exchangeable tags with integrated damage detection
- Easy on-site teach-in for new tags with handheld device
- Heat-resistant housings for UHF antenna allows equipment tracking in charging and tapping area

PLANT DATA

Long-term operating temperature for ICE Tag	≤ 250°C
Read/write distance	≤ 3,5 m
Damage detection integrated in transponder (for RFID technology only)	✓
Different mechanical protective and heat-resistant housings for antenna available	✓

SERVICES

- Hardware and software engineering and equipment supply
- Integration engineering
- Interface coordination
- Advisory service for installation and commissioning
- On-site training for operation and maintenance personnel
- Spare parts

OTHER RELATED PRODUCTS

- BOF/AOD Optimization
- EAF Optimization
- Advanced Planning System (MES)
- Wiplant



Primetals Technologies Austria GmbH

A joint venture of Mitsubishi Heavy Industries and partners

Turmstrasse 44 | 4031 Linz | Austria
primetals.com

Order No. T10-1-N447-L2-P-V3-EN
 Printed in Linz | © 2020

The information (including, e.g., figures and numbers) provided in this document contains merely general descriptions or characteristics of performance based on estimates and assumptions which have not been verified. It is no representation, does not constitute and/or evidence a contract or an offer to enter into a contract to any extent and is not binding upon the parties. Any obligation to provide and/or demonstrate respective characteristics shall only exist if expressly agreed in the terms of the contract. These estimates and assumptions have to be analyzed on a case-to-case basis and might change as a result of further product development. Primetals Technologies excludes any liability whatsoever under or in connection with any provided information, estimates and assumptions. The provided information, estimates and assumptions shall be without prejudice to any possible future offer and/or contract. Any use of information provided by Primetals Technologies to the recipient shall be subject to applicable confidentiality obligations and for the own convenience of and of the sole risk of the recipient. Primetals is a trademark of Primetals Technologies Ltd.