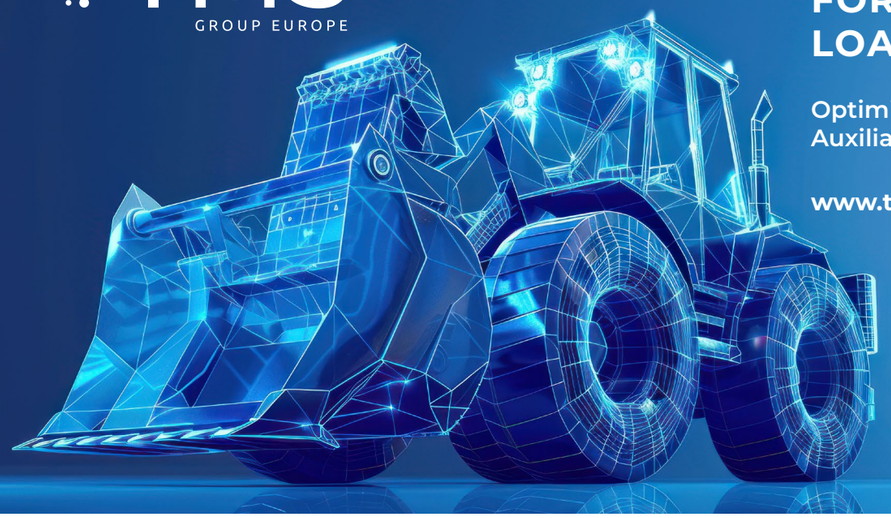
TMS
GROUP EUROPE



TMS PLATFORM FOR WHEEL LOADERS

Optimization of Production, Auxiliary, and Sales Processes.

www.tmsgroup.eu

BENEFITS AND SAVINGS WITH TMS IMPLEMENTATION

Idle time reduction: **20–40% depending on operation type.**

Lower fuel consumption: **10–15% less per ton of material loaded.**

Faster decisions: **real-time access to TMS data.**

Greater availability: **improved utilization of working time.**

Transforming data into knowledge.
Analyzing processes.
Automating reporting.
Supporting decisions.

The TMS Platform records wheel loader operating data in a way that goes beyond ordinary monitoring.
The system analyzes production, auxiliary, and sales processes, automatically calculates KPI, and supports optimization activities.

APPLICATIONS:

— TASK MANAGEMENT
Accurate calculation of working time, fuel, and KPI by task type.

— TRANSPARENT COST CONTROLLING
Fuel and working time data broken down by zones (MPK – Cost Centers), enabling allocation of operating costs according to the ABC (Activity-Based Costing) model.

— BETTER ORGANIZATION OF DAILY WORK
Automatic task settlement for production, auxiliary, and customer service operations for each shift.

— FUEL MANAGEMENT CONTROL
Balancing fuel consumption and refueling.

— HIGHER CYCLE EFFICIENCY
Identification of loading, travel, and idle-time cycles – eliminating unnecessary movements, excessive idle runs, and optimizing utilization.

— IMPROVED PRODUCTION EFFICIENCY
Better control of truck loading levels, transport efficiency, and material flow within the plant.

— AUTOMATED OPERATOR ACCOUNTING
Personalized identification including operator KPI and completed tasks.

— SALES SETTLEMENT
Automatic calculation of tonnage loaded onto individual customer trucks (subject to wheel loader scale integration).

ANALYSIS → REPORT → DECISION

MANAGEMENT BOARD
Analysis of resource utilization and optimization. Automated controlling analyses (ABC – Activity-Based Costing).

MANAGERS AND DIRECTORS
Trend and KPI analysis with automatic reporting by zones (MPK – Cost Centers).

SUPERVISORS AND MAINTENANCE TEAMS
Comparison of machines and operators, shift reports, and task performance tracking.

OPERATORS
Automatic accounting of working time, number of loads, and idle runs relative to KPI.

TMS
GROUP EUROPE

TMS Group Europe Sp. z o. o.
Metalowcow 13 Str., 41-500 Chorzow, Poland
+48 32 736 65 95 biuro@tmsgroup.eu

Transforming data into knowledge.
Analyzing processes.
Automating reporting.
Supporting decisions.

The TMS Platform records excavator and dumpers work data in a way that goes far beyond standard monitoring. The system analyzes loading and internal transport processes, automatically settles KPI and supports optimization of efficiency, loading costs and transport costs.

APPLICATIONS:

— **REPORTING AND ANALYSIS**
Identification of loading and unloading points allows precise settlement of material delivered to the plant, comparison with actual feed and removed overburden, and accurate calculation of losses and waste..

— **PLANNING SUPPORT**
Detailed analysis of cycles and travel times enables setting realistic internal transport and production targets, and monitoring their fulfillment..

— **TRANSPORT SETTLEMENT**
Automatic calculation of transported material based on dumpers capacity or onboard weighing systems, on defined internal routes.

— **FUEL AND ENERGY INTENSITY CONTROL**
Balancing consumed and refueled fuel, identifying excessive idling and analyzing fuel burn per ton of transported material.

— **MACHINE UTILIZATION CONTROL**
Registration of working time and stoppages, number of loading–transport cycles, distances, speeds and efficiency.

— **EFFICIENCY AND COSTS OF INTERNAL TRANSPORT**
Automatic calculation of KPIs and transport costs broken down by vehicles, operators, routes and subcontractors..

— **QUALITY CONTROL SUPPORT**
Identification of loading points enables better control of correct feed proportions between quality categories..

— **COST AND KPI MANAGEMENT**
Automatic calculation of KPIs and transport costs broken down by vehicles, machines, operators, routes and subcontractors..

BENEFITS AND SAVINGS WITH TMS IMPLEMENTATION

Idle time reduction: **20–40% depending on operation type.**

Lower fuel consumption: **10–15% less per ton of material loaded.**

Faster decisions: **real-time access to TMS data.**

Greater availability: **improved utilization of working time.**

ANALYSIS → REPORT → DECISION

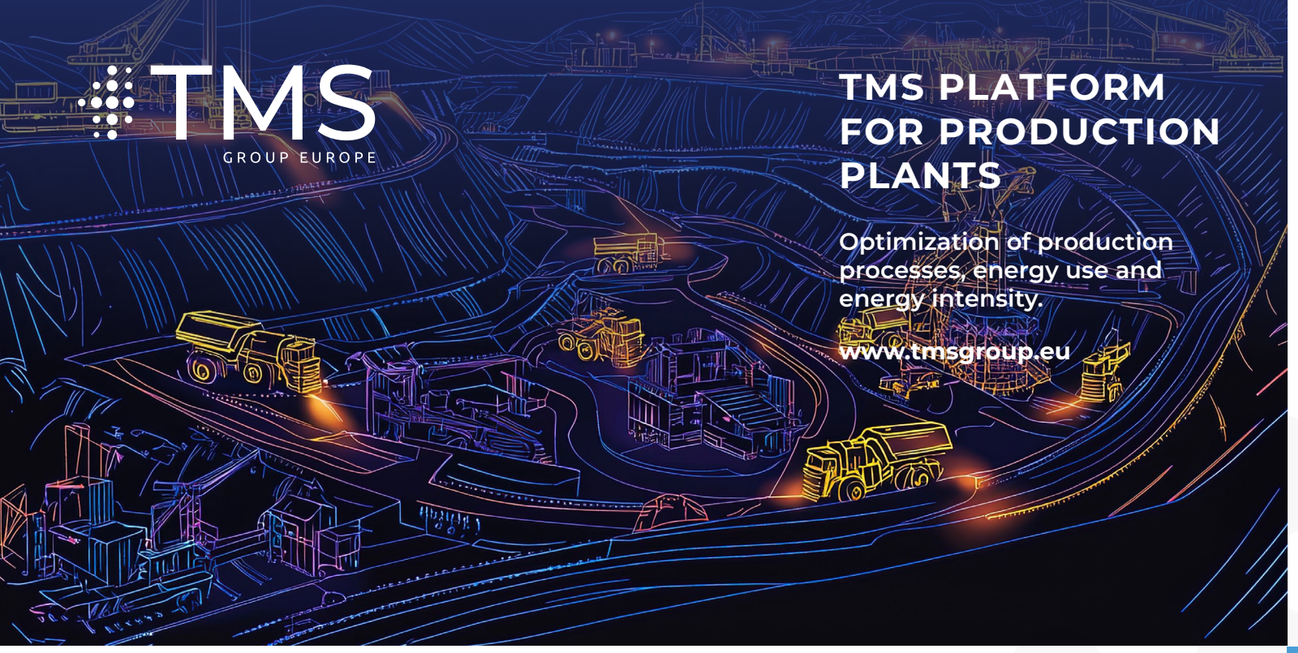
MANAGEMENT BOARD
Analysis of resource utilization and optimization. Automated controlling analyses (ABC – Activity-Based Costing).

MANAGERS AND DIRECTORS
Trend and KPI analysis with automatic reporting by zones (MPK – Cost Centers).

SUPERVISORS AND MAINTENANCE TEAMS
Comparison of machines and operators, shift reports, and task performance tracking.

OPERATORS
Automatic accounting of working time, number of loads, and idle runs relative to KPI.

TMS GROUP EUROPE
TMS Group Europe Sp. z o. o.
Metalowcow 13 Str., 41-500 Chorzow, Poland
+48 32 736 65 95 biuro@tmsgroup.eu



BENEFITS AND SAVINGS WITH TMS IMPLEMENTATION

Idle time reduction: **20–40% depending on operation type.**

Lower fuel consumption: **10–15% less per ton of material loaded.**

Faster decisions: **real-time access to TMS data.**

Greater availability: **improved utilization of working time.**

Transforming data into knowledge.
Analyzing processes.
Automating reporting.
Supporting decisions.

The TMS Platform transforms data from technological lines into operational knowledge. The system analyzes production in real time, automatically settles KPI, identifies sources of losses and supports preventive maintenance.

APPLICATIONS:

— **PRODUCTION SETTLEMENT**
Automatic calculation of production volumes, working time, stoppages and efficiency of key machines, ensuring full transparency of shift performance.

— **ENERGY INTENSITY CONTROL**
Analysis of electricity and gas consumption relative to achieved production.

— **OEE / OOE / REE**
Automatic calculation of efficiency indicators and comparison of lines, equipment and shifts in any time horizon.

— **MAINTENANCE SUPPORT**
Identification of causes of stoppages - Breakdowns, Stoppages, component issues, supporting preventive maintenance actions.

— **FULL-PROCESS ANALYSIS**
Comparison of internal transport with production results and analysis of energy intensity (fuel per ton).

— **CONTROL OF PRODUCTION TARGETS**
Real-time comparison of actual production versus targets in various time horizons.

— **CROSS-SECTION ANALYSIS**
Identification of utilization levels of production infrastructure and improvement areas, visible in heatmap reports and KPI metrics.
Cause–effect analysis across different time horizons in the KPI Trends report.

ANALYSIS → REPORT → DECISION

MANAGEMENT BOARD
Analysis of resource utilization and optimization. Automated controlling analyses (ABC – Activity-Based Costing).

MANAGERS AND DIRECTORS
Trend and KPI analysis with automatic reporting by zones (MPK – Cost Centers).

SUPERVISORS AND MAINTENANCE TEAMS
Comparison of machines and operators, shift reports, and task performance tracking.

OPERATORS
Automatic accounting of working time, number of loads, and idle runs relative to KPI.

TMS GROUP EUROPE
TMS Group Europe Sp. z o. o.
Metalowcow 13 Str., 41-500 Chorzow, Poland
+48 32 736 65 95 biuro@tmsgroup.eu