

TMS MES for asphalt works

Description

TMS MES has been implemented in all compactors and asphalt spreaders used by the contractor of asphalt works.

TMS delivered: reporting software, system personalization, integration of the system with the plant fuel station, e-mail alarms system about exceeding the key parameters, dedicated reports individually configured and automatically sent by e-mail to the team responsible for the current project management.

Knowing that:

1. Asphalt works are contractor's principal area of activity.
2. In tender procedure the Investor often demands the contractor to grant 5 years of guarantee for the works done.
3. Allowing free of charge repairs of asphalt surface during the guarantee period is a basic risk in asphalt works.
4. Most frequent reasons of asphalt surface failures are technological errors due to wrong managing of the asphalt spreading process or the process of compacting it.

Main Contractor used TMS MES to monitor and reporting about:

1. Current progress of works related to asphalt spreading
2. Potential incorrectness during works realization.

Benefits

- **Reduction of complaints**
- **Current control of technological process parameters**
- Current control of task performance costs through the KPIs (*Key Performance Indicators*)
- **Automatic archiving the parameters – documentation for claims**
- Efficient working time extension
- Shortening the task performance time
- Optimal machines allocation
- Performance control and tasks performance costs reduction by:
 - ✓ calculating working time per task
 - ✓ calculating standstills per task
 - ✓ calculating idle running per task
 - ✓ comparing the performance of cooperating machines
 - ✓ replacing idle running with efficient running

Key characteristics of the TMS MES for asphalt works:

1. Automatic one-minute registration and reporting on the bulk temperature
 - a. on the spreader
 - b. under compactors
2. Work time registration and reporting:
 - a. compactors with or without vibrator on
 - b. spreaders with or without perpetual screw on
3. Identification of the vibration amplitude in compactor (high or low)
4. Automatic counting the number of compactors' drives on each section of the spread surface
5. Precise measurement of covered distance and speed of the:
 - a. spreader
 - b. compactors
6. Reporting about failures such as:
 - a. Temperature of the spread/ densified bulk is too low
 - b. Compactor's speed during densification is too high
 - c. Vibrator is not engaged or engaged for too long time
 - d. Number of densification cycles is too little
 - e. Compactors work in a wrong order
7. Reporting on output capacity and efficiency indicators:
 - a. Fuel consumption in l/h
 - b. Fuel consumption in l/m²
8. Confirming the average thickness of the spread asphalt surface.