

Improving Mining Fleet Efficiency in Harsh Operating Conditions with TPMS

INTRODUCTION

In mining industry, heavy equipment such as haul trucks and loaders are used to transport materials over rough terrain. The tires on these vehicles are subject to extreme conditions, such as sharp rocks, uneven terrain, and heavy loads. Ensuring that these tires are properly inflated is essential for maintaining vehicle performance, reducing downtime, and preventing accidents.

CHALLENGES

One of the main challenges the mining company faced was the harsh operating conditions that damaged tires, causing them to lose pressure. When tires are underinflated, they are more prone to punctures, overheating, and other types of damage, which can lead to costly downtime for repairs and replacements.

In addition, monitoring tire pressure in a large fleet of vehicles was time-consuming and costly, as it typically involved manual inspections. This was especially challenging in remote mining sites where access to vehicles was limited.



SOLUTIONS

To address these challenges, the mining company turned to tire pressure monitoring systems (TPMS) to automatically track tire pressure in real time.

The company installed TPMS sensors on each tire of the mining fleet to continuously monitor tire pressure and temperature in real-time. They also implemented a central monitoring system that receives instant alerts and notifications if any tire deviates from the optimal pressure or temperature range.

The software collected data from the sensors and provided detailed reports to the fleet owners.

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By using TPMS, mining companies reduced the risk of tire-related accidents and downtime, extended tire life, and reduce fuel consumption. These benefits translate to cost savings and improved operational efficiency.



Object Tire Pressure						
Object	Total Tires	TPMS sensors	Low Pressure	High Pressure	High Temperature	Low battery voltage
GJ15 AA 9022	6	6	1	0	0	0
MH02 RR 5689	4	4	0	0	0	0
KA10 PO 3482	4	4	0	1	1	0
MH04 PO 3482	8	8	1	1	0	0
DL12 DD 5553	10	10	1	3	3	3
GA01 LL 2020	4	4	0	0	0	0
KL01 LL 2020	4	4	0	0	0	1
DL06 MN 8021	6	6	1	0	1	0

Hyundai-PL3

DUE

Tire Rotation Due in 5 days

Last: 47,608
Next: 55,156

RESULTS

Maintain Optimal Pressure – By using TPMS, mining companies were able to maintain optimal tire pressure and reduce the risk of accidents and downtime.

Quick Actions - The real-time monitoring provided by our software was used by operators to identify potential problems, allowing them to take corrective action before a serious issue occurs.



RELATED USE CASES



Safe Transportation of Hazardous Chemicals with TPMS



Safety and Efficiency in Long-Distance Goods Transportation with TPMS