# ANALYSIS OF THE INFLUENCE OF FARM MACHINERY FLEET MONITORING SYSTEMS ON FARM PERFORMANCE

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**Abstract**

The progress of agriculture is strongly influenced by the shortage of labor and land resources, leading to the transformation of modern agriculture into a highly mechanized and automated form. It has been observed that in recent years the use of intelligent agricultural machinery and agricultural robots has increased significantly in agricultural work. The research carried out aims to highlight the impact of farm equipment fleet monitoring systems on operational management on a farm. By analyzing the various monitoring systems available and evaluating them in terms of efficiency, productivity, and profitability, we can derive an appropriate strategy for the farm. Observation and analysis were the research methods applied to assess the impact of using monitoring systems. Thus, a series of data were monitored and interpreted concerning: agricultural work carried out by a machine, working time, area worked, fuel consumption, how the machine was operated by the mechaniser, etc. The results of the work showed that the implementation of a monitoring system can bring important benefits in cost and resource management, making this investment an efficient and sustainable solution for farmers.

**Keywords**: monitoring, GPS, IoT, big data, cost control, machine fleet, farm performance, economic efficiency