

## **An Application of a Machine Monitoring by Using the Internet of Things to Improve a Preventive Maintenance: Case Study of an Automated Plastic Granule-Packing Machine**

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**Abstract :** Preventive maintenance is a standardized procedure to control and prevent risky problems affecting production in order to increase work efficiency. Machine monitoring also routinely works to collect data for a scheduling maintenance period. This paper is to present the application of machine monitoring by using the internet of things (IOTs) and a lean technique in order to manage with complex maintenance tasks of an automated plastic granule packing machine. To organize the preventive maintenance, there are several processes that the machine monitoring was applied, starting with defining a clear scope of the machine, establishing standards in maintenance work, applying a just-in-time (JIT) technique for timely delivery in the maintenance work, solving problems on the floor, and also improving the inspection process. The result has shown that wasted time was reduced, and machines have been operated as scheduled. Furthermore, the efficiency of the scheduled maintenance period was increased by 95%.

**Keywords :** internet of things, preventive maintenance, machine monitoring, lean technique

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