

**TMEIC Develops and Launches Integrated System
Connecting the Smart Motor Sensor “TMASMS” and Monitoring and Control
System “TMASCA”**
**– Contributes to reduced downtime and labor savings in maintenance operations in the
pulp and paper process –**

TMEIC Corporation (President & CEO: Akira Kawaguchi; hereinafter, “TMEIC” or “the Company”) has developed an integrated system connecting the TMASMS Smart Motor Sensor with the TMASCA monitoring and control system for paper mills, and began sales in November 2024. This system enables centralized management of predictive and preventive maintenance, as well as condition monitoring of motors used in paper mills*1, thereby contributing to reduced downtime and labor savings in maintenance operations.

At paper mills, where a large number of motors are in use, there has been a trend of fewer technicians available to monitor equipment conditions. As a result, an intensive amount of labor is being dedicated to motor condition monitoring and maintenance, driving an increasing need for systems to support these tasks.

By integrating the data from the TMASMS Smart Motor Sensor with the TMASCA monitoring and control system for the paper-making process, TMEIC has created a monitoring environment that enables centralized management of motor conditions within the system for monitoring the paper manufacturing process.

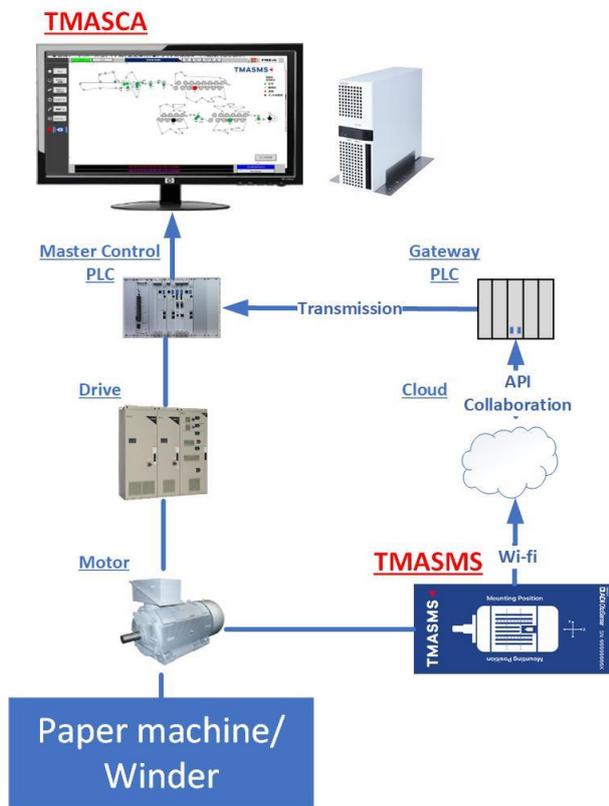
1. Contributes to reduced downtime through predictive and preventive maintenance of motors

Integrating anomaly detection from TMASMS with TMASCA enables the centralized management of the operational status and motor health. This facilitates the early detection of signs of machine failure and allows for maintenance recommendations for irregular areas before failures occur, contributing to predictive and preventive maintenance while reducing downtime. Even if a failure occurs, the system provides the predictive cause of the failure, leading to early root cause analysis and the formulation of measures to prevent recurrence.

2. Contributes to labor savings in maintenance operations through centralized maintenance management

By installing TMSMS on motors and transmitting the acquired data to Analog Devices, Inc. (hereinafter, “ADI”) cloud servers via Wi-Fi, it is possible to centrally manage AI analysis results through TMASCA (see Figure 1).

In addition, TMASCA is designed for electrical equipment and maintenance personnel, enabling them to perform checks that were previously conducted onsite directly through the TMASCA interface, thereby contributing to labor savings in maintenance operations.



- TMASCA

As TMEIC’s proprietary control and monitoring system, TMASCA monitors and controls the operating conditions (speed feedback, speed setpoints, torque, control settings, etc.) of papermaking machines and finishing equipment like winders. It also tracks alarms/events from the main control system, machine parameters (gear ratios and roll diameters, etc.) and drive fault codes.

- TMSMS

This smart motor sensor, developed by ADI, a partner of TMEIC, uses a pre-trained AI model that automatically learns the motor’s condition and monitors the health of internal components in detail based on data such as vibration, temperature and magnetic fields, among others. It serves as an AI-driven solution for predictive and preventive maintenance.

Figure 1: System configuration diagram of the integrated system between TMSMS and TMASCA

Comments by Kazuhiro Nishitani, Deputy Vice President, Industrial & Energy Systems Division 2:

“Prior to its official launch, we demonstrated the system at the 67th Annual Meeting of JAPAN TAPPI, where its effectiveness and practicality were proven, drawing significant interest from many users. The introduction of this system will enhance productivity in paper mills, reduce labor in maintenance operations and deliver substantial value to our customers’ businesses.”

Reference (ADI Press Release): [TMEIC Asia Launches AI-Based Smart Motor Sensor - TMSMS](#)



*1 Monitored motors: Low-voltage motors up to 1000V, frame sizes up to 450 and outputs ranging from 0.37KW to 500KW.

Media inquiries:

For further information, please contact the Corporate Branding Group at TMEiC.

Tokyo Square Garden, 1-1, Kyobashi 3-chome, Chuo-ku, Tokyo 104-0031, Japan

Tel: +81-3-3277-4319; Fax: +81-3-3277-4578

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