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TMEIC Newly Develops HMI System TMASCA™ for Plant Monitoring and Control

– Realize High-Speed Response and High Operational Performance on Web Technology –

Toshiba Mitsubishi-Electric Industrial Systems Corporation (hereinafter, "TMEIC"; President & CEO Masahiko Yamawaki) newly developed **TMASCA™** *1, which is a new Human Machine Interface (HMI) system for plant monitoring and control that combines the Company's know-how accumulated over many years in industrial fields and highly advanced web technology.

The digitalization of plant operations, including the introduction of information and communications technology (ICT) is progressing at manufacturing plants in order to further increase efficiency and optimize production processes.

In terms of monitoring and control systems that centrally control various automation equipment and production facilities of plants, demand is also increasing toward high operational performance with elevated ubiquitousness and a web-based HMI that does not need dedicated software and that is easily customizable by users.

The highly advanced web-based HMI system **TMASCA™** developed at this time not only responds to these requirements but also offers a solution to the issue of response speed when applying web technology to conventional HMI.

(1) Web-based HMI realizes high-speed response

At facilities such as rolling mills at steel-making plants and paper-making plants that require real-time automation and control, HMI display of the monitoring and control system generally requires a high-speed response of less than several hundred milliseconds. However, a slowdown in screen display and data refresh was an issue when applying web technology to conventional HMI.

By combining TMEIC's experience and know-how in the field of plant real-time automation and control technology, as well as the most advanced web technology that enables high-speed data synchronization between web server and browser, **TMASCA™** realizes a high-speed response on a web basis.

(2) Improved operational performance of plant monitoring and maneuverability

TMASCA™, the cutting-age web-based HMI along with high speed response, does not require dedicated software on client devices and made it possible to use mobile devices such as tablets. As a result, for example, customers are able to monitor the operation of facilities via tablet devices located off site from the operation room, and in turn, by using **TMASCA™** customers are able to improve the performance of total plant monitoring and control.

(3) Engineering tool that enables HMI display to be easily edited

While conventional web-based HMI required web programming skills to edit the HMI display, **TMASCA™** provides an engineering tool based on a generic screen editor that allows customers to easily edit design of the HMI display such as changing colors and adding animations like movements, rotations, among others.

The choice of **TMASCA™** has been growing at steel and paper mills, basically, since it was initially installed at Nippon Steel & Sumitomo Metal Corporation in October 2018. TMEIC develops and provides various products and services supporting customers' digitalization of plant operations, including the currently developed **TMASCA™** system. Going forward, the Company will improve functions and expandability of **TMASCA™** and further reinforce the range of its products and services, thereby meeting customer expectations in order to contribute the improvement of efficiency and optimization of customers' plants through digitalization.

【Features of TMASCA™】

・High-speed: Realized high-speed response that is on par with a conventional HMI system for plant monitoring and control.

・Operational performance: Realized plant maneuverability and monitoring on web browser. In addition to wired-connected desktop computers, TMASCA™ will allow displaying web browsers on mobile devices such as tablets via a wireless LAN.

・Expandability: HMI display can be easily edited using generic screen editor (VISIO*2).

OS maneuverability confirmed: Windows10 IoT Enterprise

Notes:

*1 TMASCA：TMEIC Advanced SCADA (Supervisory Control And Data Acquisition)

*2 VISIO is a registered trademark of Microsoft.

Media inquiries:

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In order to respond to the needs of manufacturing sites that serve as a foundation for supporting society, TMEIC always sets its eyes on the future of industry, society and the environment as an industrial systems integrator striking a balance between the development of society and a beautiful global environment. TMEIC will contribute to manufacturing and environmental management through leading-edge technologies based on its core technologies of rotating machinery, power electronics and engineering.