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**TMEIC to Provide a Digital Solutions Package for HBIS  
Chengsteel's Smart Factory Project in China**  
—Helping to Optimize Production of a Hot Strip Mill by Integrating the Knowledge of  
Automation of Metals Plants with Digital Technologies—

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Toshiba Mitsubishi-Electric Industrial Systems Corporation (hereinafter, "TMEIC"; President & CEO Masahiko Yamawaki) has announced that it will provide the latest digital technology application solutions to the HBIS\*1 Group's Chengde Iron & Steel Co., Ltd. (hereinafter, "HBIS Chengsteel") in Chengde, Hebei Province, China. The solutions delivered at this time will help realize the concept of a smart factory promoted by HBIS Chengsteel.

HBIS Chengsteel, one of the most important production bases of the HBIS Group, and the second largest producer\*2 of crude steel in China, is promoting the realization of a smart factory by using digital technology to improve productivity, enhance operating efficiency, boost product quality and promote energy conservation of production equipment including hot strip mill equipment. TMEIC will contribute to the realization of a smart factory by applying solutions that integrate cutting-edge digital technologies with TMEIC's extensive knowledge related to the automation of metals plants.

The solutions that TMEIC will deliver entail a large-capacity data management solution for industrial use (TMEIC Plant Data Management Solution (TMPDS™)) that is equipped in the upper layer of HBIS Chengsteel's existing automation system of the hot strip mill and collects digital data of the entire equipment, as well as multiple digital solution packages that make use of leading AI application technologies, including those listed below. By organically combining the data management solution and these AI applied solution packages, TMEIC aims to contribute to the optimization of production including improved productivity and operational efficiency.

- (1) Equipment & Quality Diagnosis System (EQDS)
- (2) Energy Prediction and Optimization System (EPOS)
- (3) Statistical Process Control (SPC)
- (4) Energy Consumption Monitoring (TM-ECOi)

TMPDS™ aims to realize "Connected Industries"\*2 by enabling the connection of diverse electrical devices and systems making up the production line regardless of whether they are manufactured by TMEIC or by other companies. Beyond the above solutions, TMEIC's digital solution framework including TMPDS™ offers great expandability to meet the needs of the future and can provide ongoing support to customers in their quest to achieve the optimum smart factory.



Signing ceremony for the agreement regarding the smart factory project between HBIS Chengsteel and TMEIC

**Comments from Vice President Kazuhiko Uekusa, Industrial Automation & Drive Systems Division:**

"The HBIS Group and TMEIC have launched various projects together over the years. Collaboration in the smart factory project at HBIS Chengsteel is a new step in the relationship between the two enterprises and success in the endeavor is expected to result in HBIS Chengsteel's hot strip mill being one of the most advanced model smart

factories for hot strip rolling mills. TMEIC, by integrating its extensive knowledge in the automation of metals plants with the latest digital technologies, will create solutions that lead to customer benefits, including improvements in productivity and product quality, streamlined maintenance, the transfer of production know-how and enhanced environmental and energy performance. In achieving this, we ultimately aim to help optimize production to lead our customers operations into the future."

\*1. HBIS: Hebei Iron & Steel Group

\*2. Based on "WORLD STEEL IN FIGURES 2019" released by World Steel Association

\*3. A new concept framework advocated by the Ministry of Economy, Trade and Industry of Japan in which industries will create new added value and the solutions to various problems in society through connectedness of various facets of modern life, including humans, machines, systems and companies.

Reference: [https://www.meti.go.jp/english/policy/mono\\_info\\_service/connected\\_industries/index.html](https://www.meti.go.jp/english/policy/mono_info_service/connected_industries/index.html)

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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.