

News Release

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Begins Joint Demonstrative Testing of Service Platform Utilizing AI to Automatically Propose Optimal Repairs for Industrial Machinery with US Subsidiary Sullair

Contributes to Improving Efficiency of Repair Work and More Stable Operation

Tokyo, June 4, 2018 --- Hitachi, Ltd. (TSE: 6501, “Hitachi”) today announced its development of a service platform (“the service platform”) that utilizes AI and other advanced digital technologies to automatically propose optimal repair work for various types of industrial machinery, and Hitachi will be commencing joint demonstrative testing in collaboration with its US subsidiary Sullair, LLC (“Sullair”), which manufactures and sells air compressors, towards the commercial productization of the service platform. Specifically, Hitachi will verify its performance and advance the development of related applications through applying the service platform to air compressors at Sullair’s own factories and those in use by Sullair customers.

Moving forward, Hitachi will carry out joint demonstrative testing together with other partner companies in addition to Sullair in order to achieve the practical commercialization of the service platform as soon as possible; and launch a Maintenance & Repair Service with the service platform at its core, offering total support for the repair service businesses of a wide range of industrial machinery manufacturers.

Furthermore, by integrating real-time operational data (gathered via the remote monitoring service for air compressors provided by Sullair) with the service platform, Hitachi also plans to develop technologies that will recognize early warning signs and predict breakdowns, and provide services offering preventive maintenance support to manufactures as an additional function.

In recent years, with the increasing complexity and globalization of supply chains and the advancement of workplace automation, there are increasing needs for minimizing downtime (i.e. stoppage of operation) with regard to industrial machinery at plants, logistics facilities and construction sites. The number of skilled engineers is also declining, and there are demands for optimization and greater sophistication of repair services for products utilizing digital technologies. Until now, repair services for industrial machinery have typically involved manufacturers’ service personnel travelling to the site in person (after being contacted by users upon the occurrence of

a breakdown), considering and judging which parts of the machinery to repair and what repair methods to use after examining the state of the machinery themselves. Because of this, there has been an issue in that it takes certain amount of time before recovery can be achieved.

The Hitachi Group has developed the service platform in response to this problem, through a combination of advanced digital technology and its extensive track record and expertise accumulated through many years of performing maintenance on a wide range of industrial machinery including air compressors. Based on data of breakdowns and the current state of the machinery, operational history, repair history (details of maintenance work performed including exchanges of parts and consumables, etc. and the results of such work) and the asset data, the service platform automatically suggest optimal repairs including which parts of the machinery to repair and which repair methods to use by utilizing AI technology and proprietary analytical models which combined some algorithms, in order to achieve a high complete recovery rate. For example, in the event of an air compressor stopping operation due to an increase in temperature, by having users input data (such as the state displayed on the control panel at the time of the breakdown, and how long the machine has been running for) into the service platform, it can display which part of the machine is most likely to be the cause of the breakdown, and automatically suggest optimal repair and response procedures, both to users and to the manufacturer. Furthermore, because the service platform utilizes AI technology, it is capable of learning continuously, which increases the accuracy of its proposals based on interrelationships between accumulated data, including data on machinery breakdowns, details of repairs and the results of work performed.

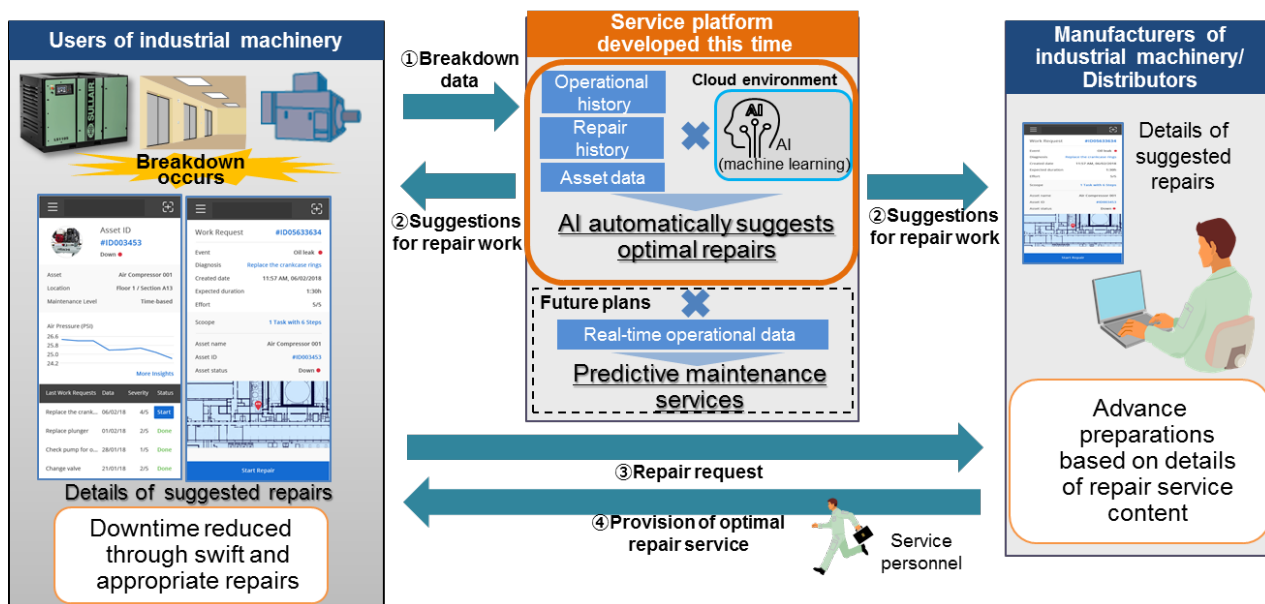
By introducing the service platform, manufacturers of industrial machinery will be able to make advance preparations for repair work based on the content of suggestions made by the service platform before their service personnel head to the actual site of the breakdown, thereby minimizing the need for backtracking, even in the case of already-installed machinery not equipped with IoT devices (which cannot be monitored remotely). As a result, manufacturers will be able to simultaneously increase operational efficiency and improve the quality of their repair services, enabling them to enhance their maintenance service business operations. This will also enable users to reduce downtime due to the occurrence of machinery breakdowns and minimize lost business opportunities.

Moving forward, Hitachi will commence to achieve the practical commercialization of

the service platform as soon as possible; and launch a Maintenance & Repair Service with the service platform at its core, offering total support for the repair service businesses of industrial machinery manufacturers. Furthermore, by integrating real-time operational data collected from industrial machinery with the service platform developed this time, Hitachi also plans to provide support for manufacturers' preventive maintenance services as an additional function, by developing the service platform into a sophisticated predictive maintenance system.

Hitachi regards this Maintenance & Repair Service as one of the solution cores of its IoT platform Lumada, and will continue to offer digital solutions covering the entire value chain—including after-sales services—to customers in the Industrial & Distribution business domain; in addition to the management support, manufacturing workplace and logistics solutions it has provided up until now.

Image of Services Utilizing the Service Platform



About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges, combining its operational technology, information technology, and products/systems. The company's consolidated revenues for fiscal 2017 (ended March 31, 2018) totaled 9,368.6 billion yen (\$88.4 billion). The Hitachi Group is an innovation partner for the IoT era, and it has approximately 307,000 employees worldwide. Through collaborative creation with customers, Hitachi is deploying Social Innovation Business using digital technologies in a broad range of sectors, including Power/Energy, Industry/Distribution/Water, Urban Development, and Finance/Social Infrastructure/Healthcare. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

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