

# News Release

FOR IMMEDIATE RELEASE

## Workstyle advice from AI helping to raise workplace happiness

*Correlation between happiness and business performance confirmed  
in a field test at a Hitachi Group sales & marketing division*



Smartphone screen display example  
(Advice & Behavior log)



Image of employees with wearable sensors

**Tokyo, June 26, 2017** --- Hitachi, Ltd. (TSE: 6501, Hitachi) today announced that an internal field test was conducted with the cooperation of approximately 600 people from 26 sales & marketing departments from June to October 2016<sup>(1)</sup>, to measure organizational activation level (organizational happiness level) using artificial intelligence (AI) and wearable technology. Result from the field test confirmed that workstyle advice provided by AI, contributed to raising organizational activation level. Further, a correlation was confirmed between the change in organizational activation level and purchase order achievement rate. More precisely, the order volume of departments in which the organizational activation level rose during the field test compared to those that fell, was an average of 27% higher in the following quarter (October-December).

Hitachi will use the results of this field test, to further analyze organizational activation level, and by applying this knowledge, contribute to performance prediction and work style reform in companies and other organizations.

In Japan, work style reform is a currently a major issue in society, and along with measures already implemented to reduce working hours, there is a strong need to improve labor productivity. Hitachi focused on the activation level of individuals and organizations, the relationship between a sense of happiness and productivity, and developed technology in 2015 to measure and analyze organizational activation level using Hitachi AI Technology/H (hereafter referred to as "H") and a name tag type

wearable sensor. While this service has already been provided to over 20 companies, Hitachi has continued further research and verification field tests .

In June 2016, Hitachi developed technology to create and deliver individually customized effective advice<sup>(2)</sup> on a daily basis to raise the organizational happiness by segmenting the data collected through wearable sensors, such as time period and counterpart in communication, and inputting the data to H, and initiated a field trial with the sales & marketing departments within the Hitachi Group. The results obtained from this field test are as listed below:

**(1) Improved work style and organizational activation level based on work style advice**

An application to deliver advice on improving work style was developed, and it was found that the more time a department used this application, the greater the increase in organizational activation level the following month. The application provides individually-tailored advice such as “time to arrive/leave office,” “length and number of participants for a meeting,” and “deskwork time.” Providing advice on work style, prompts the employee to take a proactive approach to their own work style, which then contributes to improving the overall activation level of the organization.

**(2) Confirmed correlation between organizational activation level and purchase order achievement rate**

In this field trial with sales & marketing departments, a meaningful correlation was found between the amount of change in organizational activation level and the purchase order achievement rate in the following business quarter. Specifically, in this field test with internal sales and marketing departments conducted between June and October 2017, the order volume of departments which showed an increase in organizational activation level achieved an average of 11% above target in the following business quarter (October to December), while those that showed a decrease in organizational activation level showed an average decrease of 16%. The performance gap of these two departments was found to be 27%. Hitachi has previously shown that a relationship exists between organizational activation level and productivity in sectors where employee behavior is immediately reflected in organizational performance, such as in call centers<sup>(3)</sup>. Confirming these results in this current study with sales & marketing departments, further validates and enables the wider use of organizational activation level as a leading performance indicator.

**(3) Verified a data correlation between organizational activation level and employment satisfaction level**

The data obtained from this field test was combined and analyzed with the results of an internal Hitachi employee survey on work satisfaction, resulting in the identification of key elements in creating a more satisfying workplace. Among the 26 departments that participated in the field test, the employees from the departments with higher organizational activation level, answered positively on questions regarding “individual decision making or being delegated authority” and “motivation to take on challenges.” Further, employees who measured higher in face-to-face two-way communication using the wearable sensors, answered that they felt “support from their supervisors,” “motivation” and that they were “engaged in meaningful work.” These results suggest that designing human resource training and assessment focusing on “decision making or delegation of authority” and “motivation to take on challenges”, or fostering an organizational culture valuing two-way communication, is effective in raising organizational activation level and improving business performance in the sales and marketing departments that participated in this field test. By combining and analyzing the organizational activation level and employee satisfaction from multiple departments in a similar way, it is expected that further insights will be gained on how to design organizations to improve performance.

Hitachi will continue research and verification field tests on feedback technology to support employees in reflecting on their workstyles. Further, these technologies will be utilized with Lumada, the IoT platform provided by Hitachi, to promote work style reform and support productivity enhancement.

- (1) June 27, 2016 News release: Hitachi develops technology to automatically create effective advice to increase worker happiness using artificial intelligence  
<http://www.hitachi.com/New/cnews/month/2016/06/160627.html>
- (2) This technology measures the “average happiness level” of the individual and nearby team members and automatically provides individualized advice to raise the “average happiness level.” It does not measure the “happiness level” of the individual per se.
- (3) July 17, 2012 News release: Business Microscope identifies key factors affecting call center performance <http://www.hitachi.com/New/cnews/120717a.html>

### **On happiness (organizational activation level)**

The data digitizes the organizational activation level by calculating the statistical distribution from the congregated data of employees' body movement during working hours. The average happiness of employees that form the organization is expressed as a chart that allows the calculation for each day. Workstyle advice which has been effective in increasing activation level can be extracted by analyzing the data with other recorded behaviors such as chatting-while-standing, meeting time & members, time to arrive/leave office, and business trip length.

### **About Hitachi, Ltd.**

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges. The company's consolidated revenues for fiscal 2016 (ended March 31, 2017) totaled 9,162.2 billion yen (\$81.8 billion). The Hitachi Group is a global leader in the Social Innovation Business, and it has approximately 304,000 employees worldwide. Through collaborative creation, Hitachi is providing solutions to customers in a broad range of sectors, including Power / Energy, Industry / Distribution / Water, Urban Development, and Finance / Government & Public / Healthcare. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

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Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.

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