

# News Release

FOR IMMEDIATE RELEASE

## **Hitachi High-Technologies Launches New Tabletop Microscope “TM4000” Series**

—Simple, efficient operation to support a wide range of industrial and research applications—

Tokyo, Japan, July 25, 2017 – Hitachi High-Technologies Corporation (TSE: 8036, Hitachi High-Tech) announced the development of the TM4000 and TM4000Plus tabletop microscopes which, as of today, are released to markets worldwide. The TM4000 Series supports advancements in R&D, medical, academia, and manufacturing settings by making routine operations simpler and more efficient through newly integrated technologies.

In April 2005, Hitachi introduced the first Tabletop SEM (TM) and the world embraced this powerful and very compact instrument class. These instruments are used in a wide range of fields including life science, material science, industry, and academia. The widespread use of tabletop microscopes in manufacturing for various production and quality control aspects has generated a requirement for high throughput and ease of use with minimal EM experience. This situation fueled demand and Hitachi's dedication to improve instrumentation that makes routine operations simpler and more efficient.

The TM4000 and TM4000Plus streamline the entire process of sample observation to image analysis and report generation. Format settings to export SEM images now include Microsoft Word®, Excel®, and PowerPoint® to make smoother report production. There is also a functional enhancement to assist navigation of a sample during visual field search<sup>\*1</sup> by utilizing an optical camera installed inside the chamber (optional). Another feature is the motor-driven stage<sup>\*2</sup>, which enables an operator to select regions of interest via digital navigation, rather than adjusting the stage manually (optional). Checking SEM images after capture has also been simplified. For high-magnification images it is sometimes difficult to establish an observation reference point of each image due to FOV; however, in the TM4000 Series, software automatically sorts the observation points of both low- and high-magnification images before displaying them on the monitor so that the observation point for each image is easily interpreted.

The TM4000 Series will be showcased at the Microscopy & Microanalysis 2017 Meeting, which will take place in St. Louis, Missouri, USA from August 6 (Sun) to August 10 (Thu), at the Microscopy Conference 2017, which will take place in Lausanne, Switzerland from August 21 (Mon) to August 25 (Fri), and at the JASIS 2017 exposition, due to be held from September 6 (Wed) to September 8 (Fri) at Makuhari Messe (Chiba-shi, Chiba Prefecture, Japan).

In its scientific systems business, Hitachi High-Tech aims to become a global leader in electron microscopes by 2020. Under its medium-term management strategy, Hitachi High-Tech aims to quickly achieve high cumulative sales and contribute to global manufacturing as well as STEM outreach education. Hitachi High-Tech maintains its leadership in the high-tech solutions business while responding quickly to customer and market needs to further advance the field of science.

\*1: Visual field search is performed to more easily navigate samples. High magnification observation with electron microscopes limits the FOV and therefore requires an understanding the overall sample / reference image.

\*2: The motor-driven stage enables point-and-click navigation to automatically investigate a specific ROI.



## 【Product Features】

### 1. Simple report creator

The interface enables output of the imaging reports in Microsoft® Word®, Excel®, or PowerPoint® formats, simplifying the report generation process.

### 2. Selectable hardware settings for various observation conditions

Multiple settings for vacuum level and acceleration voltage are provided to efficiently address diverse situations / samples.

### 3. Intuitive and simplified workflow: FOV navigation, image capture, report generation, and everything in between

Installation of an optical camera inside the sample chamber enables a visual field search while viewing the sample on a monitor. An image of the ROI on the monitor can then be taken with a simple mouse click. In addition, the exact positional relationship between high- and low-magnification images are automatically calculated within the software and displayed to easily visualize an observation reference point for each image.

## 【Main Specifications】

Item	TM4000	TM4000Plus
Magnification	x10-x100,000	
Maximum sample size	80 mm in diameter and 50 mm in thickness	
Detection system	High-sensitivity 4-segment BSE detector	High-sensitivity 4-segment BSE detector High-sensitivity low vacuum SE detector
Report function	Report creator	

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### ◆ Product website

[http://www.hitachi-hightech.com/global/product\\_detail/?pn=em-tm4000](http://www.hitachi-hightech.com/global/product_detail/?pn=em-tm4000)

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