

## TOPPAN Develops World's First Digital POP Sign Using Full-Color EPD

Field test of digital POP for store decoration to be held at Isetan Mitsukoshi's "HANABANASAI"

Toppan Printing Co., Ltd. (hereafter Toppan Printing; head office: Chiyoda Ward, Tokyo; President & Representative Director: Shingo Kaneko) has developed the world's first digital POP sign using full-color Electronic Paper Display, or EPD. A field test using such prototype will be held in conjunction with Isetan Mitsukoshi Ltd's "HANBANASAI" campaign that launches on February 20, 2019.

The EPD in the prototype features Advanced Color ePaper (ACeP™) \* produced by E Ink Holdings of Taiwan (hereafter E Ink; head office Hsinchu, Taiwan; Chairman Frank Ko), which can display over 32,000 colors. Toppan has developed a digital POP sign using this full-color EPD, aiming to increase efficiency and to reduce waste in POP operations for in-store decoration, which have been issues for retailers.



World's First Prototype Digital POP Sign Using Full-Color Electronic Paper Display

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### ■ Background

POP signs for in-store decoration require cutting out of printed matter, pasting onto panels, mounting into sign cases, and physical layout of the sign cases when deploying, and signs are disposed as waste once the event has finished or the campaign has changed. Thus, increasing the efficiency and reducing the waste for POP sign operation have been a large challenge to the retail industry.

Also, previous color EPD technology lacked bright white state reflectance and showed 4,096 colors, which was not appealing enough for digital POP applications for in-store decoration.

Aiming to provide a solution to these challenges, Toppan Printing has developed the world's first full-color digital POP sign. Isetan Mitsukoshi Ltd., which has been promoting initiatives for the reform of working practices and from ESG, or Environment, Social, and Governance, perspectives, will install a prototype in the Isetan Shinjuku store as a field test to verify its effectiveness.

## ■ Features of Prototype

### **Simple updating of content enables reform of working practices**

The prototype digital POP, using E Ink's full-color EPD capable of showing over 32,000 colors, can update the content to display via simple steps on a PC or smartphone etc., promising great improvement in operating efficiency.

### **No power required at location of installation**

Since EPD does not require power to maintain the image once displayed, the digital POP does not require access to an AC power outlet or a cord to supply power to be used as in-store decoration. This lack of a power cord reduces the risk of tripping over and enables the digital POP to be easily moved around the shop floor to accommodate layout changes, much like existing paper-based POP.

### **Reduces environmental load**

In contrast to existing POP signs, which are disposed as waste after one-time use, this digital POP enables continued use by updating the POP content to display. This results in the reduction of waste, greatly reducing the environmental load in POP sign operation.

### **Display quality capable of in-store decoration**

The full-color EPD features Advanced Color ePaper, ACeP™ from E Ink. By using charged particles of cyan, magenta, yellow, and white, ACeP has a white state that is 1.5 times brighter and a color gamut multiple times larger than previous color EPD, showing more than 32,000 colors. This appealing display quality has made digital POP suited toward in-store decoration possible by EPD for the first time.

## ■ Field test of digital POP using full-color EPD, in conjunction with HANABANASAI

Dates: Wednesday, February 20 to Tuesday, March 26

Hours: 10:30 AM to 8:30 PM

Stores: Isetan Shinjuku, Main Building 1F, Front Entrance

Objectives: Confirmation of appearance, usability, and safeness etc., and verification of effectiveness in increasing efficiency and reducing waste etc., through the installation of a digital POP using full-color EPD for in-store decoration.

## ■ Future goals

Toppan Printing and E Ink will jointly advance the commercialization and market development of POP applications for full-color EPD. Toppan Printing will apply its expertise in providing retail solutions and in color management to execute product planning and development in fiscal 2019, including specifications such as the desired features for communication and power, with goals to maximize operation efficiency and waste reduction for in-store decoration. Both companies will continue the collaboration to increase EPD adoption in the sectors of retail, manufacturing & logistics, disaster preparedness, and public transportation.

\* Advanced Color ePaper (ACeP™)

E Ink's full-color EPD technology first announced at an academic conference in 2016, using 4 types of charged particles: cyan, magenta, yellow, and white. Features white state reflectance of 70L\*, 1.5x brighter and a color gamut multiple times larger compared to previous color EPD, and the ability to show more than 32,000 colors. First shown in Japan at the CEATEC tradeshow in 2018.

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