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## **SCREEN Develops Ultra Precision Printing Equipment for Printed Electronics**

*– Total Solution Supporting Large-scale Production of Electronic Devices –*

Kyoto, Japan – December 10, 2015 – SCREEN Holdings Co., Ltd. (SCREEN HD) has finalized development of the UP-5000S ultra precision gravure offset flatbed printing system. The UP-5000S enables simplified batch production of the complex circuits required for printed electronics (PtE). Following its launch in January 2016, the system is expected to facilitate large-scale production of highly detailed circuits that have become increasingly difficult to create with existing PtE technologies.

In November 2015, SCREEN HD also announced the development of its HA-3000 ultra precision gravure offset flat plate. This world first technology likewise supports batch production of the complex circuits required for PtE. Used in combination, the UP-5000S, HA-3000 and other SCREEN processing technologies optimized for circuit patterns represent a comprehensive total solution for PtE production.

### **UP-5000S**

Please download the photo from  
[www.screen.co.jp/eng/press/nr-photo\\_2014-2015.html](http://www.screen.co.jp/eng/press/nr-photo_2014-2015.html)

Expected start date for sales January 5, 2016



PtE has been attracting attention in recent years as a printing technology that supports relatively simple and low-cost mass production of a wide range of devices such as wearable electronics and OLED lighting. Among current applications, a particularly large increase in demand is anticipated for precision electronic devices. In this case, gravure offset is the preferred production method due to its ability to form extremely complex and detailed circuitry.

Unfortunately, during batch production of circuits with differing line widths, gravure offset can lead to transfer errors and resulting line disconnection as well as uneven film thicknesses. These and other such problems have so far prevented the approach from becoming mainstream. In addition, as the existing gravure offset method is mainly used for trial production, there are also various other issues to consider, including the difficulty of quality control and time required to prepare for printing.

After analyzing these factors, in November 2015, SCREEN HD announced its creation of a world first technology for the batch production of complex electronic circuits. Its ultra precision HA-3000 gravure offset printing plate is specifically designed to enable large-scale manufacturing of circuits containing a mixture of different line widths. The company had also concurrently been moving

forward with the development of the UP-5000S, an ultra precision single sheet gravure offset printing system targeting PtE.

The UP-5000S combines the printing and platemaking knowhow SCREEN has acquired over its many years in the printing industry with the transport and control technologies that have made its semiconductor and LCD production equipment so highly regarded by manufacturers. The new system will effectively automate the various prepress processes for which operators have until now relied on their experience and judgment. This will significantly reduce the equipment downtime required for operations such as position adjustment during substrate setting and control of blanket pressure. In essence, the UP-5000S will enable the introduction of a manufacturing system that supports the mass production of PtE.

Both the UP-5000S and HA-3000 printing plate will be available from January 2016. In conjunction with their release, SCREEN HD also plans to continue developing peripheral equipment and improving support for production processes in different operating environments. This will enable it to offer a comprehensive total solution for PtE. SCREEN HD is committed to the continuing, long-term growth of the electronic device industry and is closely focused on becoming a leading company in the PtE field.

Note: SCREEN HD will introduce these new technologies at Printable Electronics 2016, to be held from January 27 (Wed.) to 29 (Fri.) at Tokyo Big Sight in Ariake, Tokyo.