Automated Print & Apply:

Choosing the Right Print Engine

BY SATO America

Selecting an automated print and apply system can be a daunting task, especially when it's a company's first foray into automated labeling. One of the key components of any print and apply system is the print engine itself. As the name implies, the print engine is the component that performs the printing function. However, it also does much more. The print engine also receives and processes the data, pulls the labels off the main label roll, senses the label length, peels the label from the liner and feeds the label to the application device. The print engine is a complex piece of machinery in itself and selection of the print engine brand and model should not be taken lightly. There are numerous specifications to consider, such as print speed, thermal transfer vs. direct thermal printing and print resolution just to name a few. There are also other factors, often overlooked, that should be seriously considered during the print engine selection process.

SERVICEABILITY

Whether a company will perform printer service in-house or depend upon a local service provider, the overall serviceability of the print engine is an important consideration. Just like a vehicle engine, there are many elements of the print engine that require scheduled cleaning, maintenance and, in some cases, replacement of key components such as the thermal printhead or the platen roller. If these items are difficult to replace, or if areas of the printer are not readily accessible for cleaning, the result can be poor print quality, frustrated users and production line downtime. Print quality is dependant upon a number of factors, not the least of which is a clean printhead and acceptable platen roller. These items should be easily accessible for cleaning, and replacement should be relatively quick and simple. Many newer print engines offer tool-less printhead replacement and quick-change platen rollers; features that make servicing these critical parts easy and help minimize maintenance downtime.

When more in-depth service work is required, it's important the print engine can be easily removed from the applicator. This type of removable print engine is often referred to as an "OEM print engine". Easy removal of the print engine provides two important benefits. First, the printer can be easily bench serviced with access to all critical areas. Second, if necessary, a spare print engine can be quickly installed into the applicator to keep production running while the original print engine is serviced. Then, to ensure service can be done in a timely manner, it's important that access to key internal components is relatively simple and that most components can be accessed without the need to disassemble other areas of the printer. Ask your vendor's service personnel for their experience with different print engine models and have a look inside the printer's main housing to see if the component layout is conducive to service.

CONNECTIVITY

What does this mean? Simply put, does the printer offer the data communication interface option required by the application? Nearly every printer will have a rich list of available interface options. However, the vast majority of applications will utilize a single communication interface, so be sure to only pay for what is needed. A very handy feature is easily removable communication interface cards, often called "plug-in" style interface ports.

This allows for quick interface board changes in the event of a communication style change or from damage to the interface from static, for example. If the interface port is an integral part of the printer's main logic board, considerable downtime would be required to replace the main board if the interface port is damaged for any reason. With replaceable or "plug-in" style interface boards, the replacement is quick and easy.

COMMITMENT

Print engines used in automated print apply applications are vastly different "animals" when compared to traditional desktop label printers. Desktop printers generally see either relatively low volume label production or they see bursts of heavy volume followed by long periods of idle time. Also, they are generally in an office or other protected environment. Print and apply print engines, on the other hand, see long periods of continuous production - up to 24 hours a day, seven days a week – directly in the production environment.

With this level of rigorous use, it's critically important for the selected print engine to have a fully committed design, development and support team in place as well as a long standing history of success and reliability in the market. Is your selected printer manufacturer's print engine business a primary line of business for the company, or is it merely an ancillary product line that receives little attention and lackluster support? While this may not seem like an important question today, the importance will be seen the first time manufacturer assistance is required.

USABILITY

A printer's usability for the people operating the printer is probably the most overlooked aspect during print engine selection. However, it's probably one of the most important. The printer doesn't just sit there once purchased. It gets used by people; people that need to interact with the printer on a regular basis. Labels need to be fed into the printer, ribbon needs to be changed and settings may need to be adjusted from time-to-time for various conditions.

The greatest downtime for a printer applicator is the normal changing of labels and ribbon. Therefore, this process should be as quick and intuitive as possible for the operator. If done quickly and correctly, system uptime can be maximized. During the print engine selection process, try loading ribbons and labels to determine the ease with which this process can be done, paying particular attention to ways in which it might be done incorrectly. The process should be extremely intuitive with little or no learning curve.

The human-machine interface (HMI) should also be relatively intuitive. Ensure operation buttons are large and LCD screens are clear and easy to read. User menus should be structured into hierarchies and divided by function. For example, a user menu should contain only the necessary functions that an operator may need to access on a daily basis. One-time settings should be in a separate menu, as should service related items. If an operator has to scroll through large menu listings of unrelated items, the chances for operational setting errors and associated downtime are increased.

DATA COMPATIBILITY

Many corporate IT departments are deeply involved in printer brand selection. Although a print and apply system is production equipment, the printer component may be connected to the corporate data network and therefore under the responsibility of the IT department. Each thermal printer manufacturer has its own printer language. For example, brand "A" will use "A Printer Language (APL) while brand "B" will use "B printer language" (BPL). If a company is utilizing brand "A" printers to print labels in the office, it is very easy to follow the logic of "I have brand "A" in there, so let's use brand "A" in production as well". Easy? Yes. Logical? Yes. The right thing to do? Maybe not.

The applications and usage environments are likely to be completely different. A print engine must be designed to handle more throughput, in a harsher environment, with each label printed as needed without negatively impacting production. A print engine not up to the task may result in significant downtime and lost production.

While data compatibility is important, it should not be the guiding force in print engine selection. Many printers today are capable of handling, or emulating, competitive printer languages. Meaning brand "B" can handle both "APL" and "BPL". This gives companies the best of both worlds…the ability to select the best print engine for the particular job and maintain data compatibility.

During the print and apply selection process, companies need to carefully consider the brand and model of print engine to specify, paying particular attention to the factors listed above. While these factors will not likely be found as part of any sales literature or specification sheet, they are critically important in the decision process. Adding the above criteria to the print engine selection process will ensure companies specify a print engine that meets not only the technical requirements of the application but also meets the operational needs of the organization.

Scan this QR Code for more info >>>
***or* visit www.satoamerica.com/printengines**

SATO AMERICA
CORPORATE
10350-A Nations Ford Rd
Charlotte, NC 28273
Phone: (704) 644-1650
Fax: (704) 644-1662
sales-sallc@sato-global.com

LABEL MANUFACTURING, SERVICE & SALES
UNITED STATES MEXICO CENTRAL AMERICA
CANADA CARIBBEAN