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HP+: The Smartest Printing System

Objective

In April 2021, Keypoint Intelligence was contracted by HP Inc. to conduct an independent study to determine if the HP+ Printing System could be considered the Smartest Printing System¹ based on three criteria and their associated features:

- Smart Printer^{1,4,6}
- Smart App^{1,3,7}
- Smart Ink^{1,5,8}

The analysts at Keypoint Intelligence completed desk research and lab testing to evaluate in-class device features, OEM print apps, and ink subscription programs to determine which system could fulfill the criteria. Based on publicly available information and lab results, Keypoint Intelligence analysts found HP+ to be the Smartest Printing System¹ due to the Smart Printer (including Smart Driver), Smart App, and Smart Ink capabilities.

Background of HP+

HP+ is a new, cloud-based ecosystem that delivers a more secure, productive, and sustainable printing experience². HP+ inkjet and LaserJet printers, combined with the use of original HP ink and toner cartridges, maintenance of an HP account, and an ongoing connection to the internet, give you these exclusive benefits:

- Six months of HP Instant Ink, a subscription service that ensures new Original HP ink or toner cartridges are delivered to your door before you ever run out. After 6 months, a monthly fee applies unless cancelled⁸.
- An additional year of HP hardware warranty for more peace of mind
- Cloud resiliency that automatically detects and fixes connectivity issues⁶
- Smart Security monitoring to help detect and prevent malware attacks⁷
- Native in-OS printing from virtually anywhere on any device⁷
- A new Private Pickup feature that prints documents only when user releases them at the printer⁴
- A new Smart Dashboard to help users manage their printer in one convenient place
- HP Smart Advance features such as advanced multi-item scanning, book scanning with auto-heal, and mobile fax for 2 years⁷
- Forest First prints—for every page you print, HP invests in the protection or management of forests⁹

To engage with HP+, a customer simply buys an HP+ printer or activates HP+ during printer setup. Users are also given the option to sign up for 6 months of Instant Ink within 7 days of setting up the printer. HP+ is not a subscription; it is a cloud-based printing solution embedded in select HP printers. There are no costs specifically associated with HP+ beyond the initial purchase of the printer⁸.

Combining these special class of devices with the HP Smart Driver, HP Smart App and the HP Instant Ink program, customer can interact with their printers in a more convenient, transparent way.

Smart Printer

HP+ printers feature several benefits for the consumer. Each device prints via the Smart Driver, which enables the user to print from virtually anywhere, on all the most used operating systems such as Windows, Android, iOS, macOS, and Chrome OS, with the same user experience⁷. Smart Driver can detect whether the user is on the same local network as the printer, and if not will route the print job through to the cloud automatically⁶. Print jobs arrive without issue, simplifying the process so the user does not need to intervene. Users can print documents with nearly any device and from virtually anywhere.

The HP+ devices also feature robust and unique security features⁴, offering protective enhancements often only seen in enterprise-class devices or with the purchase of additional software. The HP+ devices are built with cloud-based smart security management influenced by HP's JetAdvantage Security Manager solution¹¹. HP+ printers with Smart Security detect and protect by helping to prevent potential malware attacks, keeping your information private and offering peace of mind. In addition, HP+ devices create a digital fingerprint between the device and the cloud, creating a true zero-trust environment. This means your connections are monitored and verified, significantly reducing the chance of security risks being left unchecked^{6,7}.

The security elements of HP+ devices are enhanced by features of the HP Smart App. HP+ devices can benefit from Private Pickup, a security feature that allows a printer to release a print job only when the user is physically next to the printer (as verified by the proximity of their mobile device). Users submit jobs to an HP+ smart printer, at which point the job is securely stored in the HP+ cloud until release. With Bluetooth functionality enabled on the chosen device (desktop or mobile), users will be able to release the job as they approach the printer. Private Pickup is not only beneficial to keep print jobs secure, but also helps reduce touchpoints on shared machines which is more relevant than ever⁴.

Smart App

HP Smart App is a feature-rich and easy-to-use app that allows users to print and scan from their phones, tablets, laptops, and desktops. The user interface is intuitively organized with a convenient tile format, allowing users to customize the app so that their most used features appear within seconds. Even more customization is made possible through HP Shortcuts, a feature which allows users to save unique workflows as one-touch buttons so they can automate tasks like scanning an expense report, printing a copy for their records, or emailing a copy to finance with one-touch. Shortcuts also work with Google Drive, Dropbox, and more to make it quick and easy to get your documents to the right place or person.

The scanning features of the HP Smart App are exceptional, offering no limit on scanned images. The camera scanning automatically smooths, crops, and flattens scans so they are clean and professional before being saved or shared. The HP Smart App is free, and HP+ program participants receive 2 years of upgraded features in the app—HP Smart Advance. HP Smart Advance includes advanced scanning features such as multi-item scan, book scan with auto-heal and save as text file scanning. Mobile Fax is also included which allows documents to be sent securely to a fax number from a user's phone.

HP Smart also offers insightful feedback to the user about the print device's status, not only providing at-a-glance consumable status levels on the home screen but also quick and accurate feedback on paper levels, offline status, open printer doors, and more^{3,7}.

Smart Ink

HP Instant Ink is a subscription ink and toner service which ensures users are not caught off guard by empty cartridges. Users can enroll in Instant Ink plans based on the number of pages they print, not the amount of ink or toner used. Replacement cartridges are sent only when your printer tells HP you need more ink or toner, so your cartridges are delivered before you need them, not monthly⁸. Plans can be changed at any time to accommodate your printing needs. HP Instant Ink offers a variety of plan options, so users can find the right plan level for them. Plus, there is no contract or annual fee.

In addition, HP Instant Ink offers a very generous rollover plan. For ink subscribers, users can roll up to three times the number of pages in a user's monthly plan. For example, on the 50-page plan, users can roll up to a

total of 150 pages. For toner subscribers, users can roll up to two times the number of pages in a monthly plan. If a user ever goes over their allotted print volume, they automatically purchase sets for \$1.00 USD (pages per set vary by plan and by supply). The Instant Ink program is available for a wide range of HP and HP+ devices in 35 countries.

Instant Ink also reinforces HP's ongoing commitment to sustainability by offering prepaid postage of empty cartridges. (Note that used cartridges must be returned as stipulated in the program.) Returned cartridges will be recycled by HP Planet Partners program¹⁰.

With HP+ printers, Instant Ink is included for 6 months upon enrollment⁸. After 6 months, monthly fee applies unless cancelled.

Methodology & Findings

Smart Printer

For the Smart Printer criteria, Keypoint Intelligence examined publicly available materials, such as OEM device landing pages, OEM marketing collateral, brochures, and datasheets, and conducted web searches for mentions of terms that imply a resilient print path to overcome local network print failures like "failover", "fail safe", or "self-healing" printing. The same sources were searched for unique security features that could compare to HP's robust security features like "zero trust", "digital fingerprint", "whitelisting", "secure BIOS", "BIOS check", and "secure boot". For comparative in-class devices, analysts were unable to find non-HP devices that mentioned these terms. Note that some competitive devices do claim to support Microsoft Universal Print, a Microsoft Office 365 feature compatible with Microsoft Windows 10 environments, but none indicated that the printers were compatible with a zero-trust network environment.

To support the unique proposition of Private Pickup, technicians conducted hands-on testing in the lab to ascertain what sort of secure release options may be available and comparable to Private Pickup in competing OEMs' consumer-level free mobile print apps. Keypoint Intelligence technicians could not find any secure print release features akin to HP Private Pickup in those publicly available apps⁴.

Smart App

To support the claim that the HP Smart App contributes to HP+ being the Smartest Printing System, analysts referenced an April 2021 lab test in which Keypoint Intelligence was commissioned by HP to conduct an evaluation of the HP Smart App versus the top OEM print apps for the majority of inkjet/laser printers and all-in ones for home environments and office use³. The competitive set for this study included Brother iPrint&Scan, Canon PRINT, Epson iPrint from Android and iOS platforms, and Windows and macOS. Keypoint Intelligence

technicians downloaded the most recent versions of each OEM print app available for iOS, Android, Windows, and macOS desktop platforms to be tested across their respective devices. Though HP and Brother are the only vendors to provide their apps for Windows and Mac desktops, both platforms were also tested. HP Smart, Brother iPrint&Scan, Canon PRINT, and Epson iPrint were tested using the HP LaserJet Pro M428fdw, Brother MFCL3770CDW, Canon imageCLASS MF445dw, and Epson WorkForce Pro WF-4740, respectively.

Analysts noted each available step, function, and option the apps offered during installation and key processes like print, scan, fax, copy, and even photo editing, paying special attention to the usability of each app and how intuitively the workflows progressed. The ability to customize was detailed as analysts explored each workflow, as were any errors or hindrances experienced. Prompts or shortcuts to access connectors to file sync-and-share sites like Dropbox, or social media sites such as Facebook, were recorded. Lastly, analysts examined the ability of the apps to provide users with remote feedback and device status alerts for supply levels and misfeeds, among others.

Keypoint Intelligence analysts found the HP Smart App an intuitive and flexible choice for workflows like printing and scanning. While all the apps offer a good feature set and are relatively easy to use, the HP Smart App was found to offer a stronger feature set and even better usability. The result was that HP Smart App was the best in-class print app versus the competitors in this test³.

Smart Ink

To compare OEM subscription ink services, the analysts at KPI completed reviews of publicly available information on HP Instant Ink, Epson Readyprint Flex and the Canon Pixma Print Plan. The only programs in scope were supplies-based, thus programs like Epson ReadyPrint EcoTank and Brother EcoPro were not included in the analysis. The programs were evaluated on three criteria: potential savings claims, number of devices in scope, and number of countries in scope.

HP Instant Ink is a subscription ink and/or toner service that offers seven different tiered plans, starting at 15 pages a month and scaling up to 1,500 pages a month. HP Instant Ink has several associated savings claims, with third party verification. HP Instant Ink can save users up to 50% on Original HP Ink in Australia, Canada, New Zealand, and the United States⁵ and up to 70% in the following 31 countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Spain, Slovakia, Slovenia, Sweden, Switzerland, and the United Kingdom⁵.

HP Instant Ink, which is the name of the HP supplies replenishment program for both Original HP Ink and Toner, can save users up to 50% on HP Toner in Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, UK, and the United States⁵. To make this claim, Keypoint Intelligence used country-specific

market share provided by IDC and sourced local pricing for cartridges in each region with frequent updates to ensure pricing stays consistent with current trends⁵. HP Instant Ink is available for a wide range of HP and HP+ printers worldwide, including over 80 in North America and over 80 in the UK as well.

Epson ReadyPrint Flex is a subscription ink service that offers five different tiered plans, starting at 30 pages a month and scaling up to 500 pages a month. Users can modify and change between the print plans at any time. Users are permitted to roll over unused pages for 2 months. If additional print is needed beyond the users print plan, each additional page is priced at £0.10. There is a savings claim that ReadyPrint Flex can save up to 70% on ink costs. Per Epson, this claim is calculated on subscription cost of printing the maximum pages within the relevant plan, compared to the average cost to print the same number of pages (A4 prints of ISO/IEC 24711) with the genuine consumables used in the 50 best-selling consumer printers (according to GfK Inkjet Printing Devices and Inkjet Printing Cartridges Point of Sale panel market data for Germany, France, UK, Spain, and Italy April 19-March 2020¹²). Cost per page calculated with reference to the average printing costs for these top 50 models, calculated by dividing the relevant cartridge sales revenue and total yield by unit sales (according to GfK Inkjet Printing Cartridges Point of Sale panel market data for Germany, France, UK, Spain, and Italy April 19-March 2020¹³). ReadyPrint Flex is available in 10 countries: Austria, Belgium, France, Germany, Ireland, Italy, Netherlands, Spain, Switzerland, and the UK. ReadyPrint Flex works with Expression Home or WorkForce printers, a total of 15 devices¹².

Canon's PIXMA Print Plan is a relatively new service available only for select PIXMA printers. Billing is based on the plan customers choose. Customers decide which plan is right based on the number of pages they print, starting at a 30 page per month plan and scaling up to 200 pages per month, as well as a "pay as you print" plan. Each plan includes 100 free pages after enrollment. There are four PIXMA Print Plans. This plan is currently available exclusively in the US and for two devices, the PIXMA TS6420 and the PIXMA TR7020¹³.

OUR TAKE

HP+ printers can be considered Smart Printers as they are the only printers in class that promise each of the following according to Keypoint Intelligence's research: self-healing printing to ensure print jobs arrive, support for zero-trust environments, the most security features, and support for a robust consumables subscription service. HP+ printers and HP Smart App also enable Private Pickup, a feature that enable secure pull printing for free with the HP+ system. The HP Smart App was thoroughly tested in KPI's lab and was found to have the easiest user interface, great customizable features, and robust scan and print options that set it apart from the competition and contribute to HP+ being the Smartest Printing System. Lastly, HP Instant Ink has the most robust savings claim, as well as the greatest scope in both country availability and device eligibility. Considering the wins across all three criteria: Smart Printer, Smart App, and Smart Ink, Keypoint Intelligence finds that HP can claim that HP+ is the Smartest Printing System available in its class.

Footnotes

¹Compared to the majority of competing in-class, A4 cartridge-based networked inkjet MFPs <\$488USD and <€300 and monochrome laser printers <\$149 USD and <€150 and MFPs <\$199 USD and <€210. Print system defined as OEM printer used with only same-brand OEM cartridges. Criteria for the smartest printing system includes specific Wi-Fi connection resiliency features and security features, cloud-connected capabilities, features and scale of supplies subscription services and OEM print app functionality. Keypoint Intelligence April 2021 study commissioned by HP, based on research of OEM published information publicly available as of 3/24/2021. Market share as reported by IDC Q4 2020 Quarterly Hardcopy Peripherals Tracker - Final Historical for North America and EMEA. For details, see www.keypointintelligence.com/HPPlusSmartest

²HP+ smarter printing system: Utilizing technology in the HP+ system and compared to HP standard consumer printers without HP+. HP+ printers are ready when you are with improved connectivity utilizing Smart Driver and Print/Scan Doctor technology, more secure with Smart Security technology, more productive through HP Smart Advance features included for 2 years, and more sustainable by enabling Forest First printing and net-zero deforestation prints.

³For details, see www.keypointintelligence.com/HPSmartApp

⁴The HP Deskjet 2700/4100 printers do not offer cloud redundancy for print and all security features. Private Pickup uses geofencing instead of Bluetooth technology.

⁵For details, see www.keypointintelligence.com/HPInstantInk, www.keypointintelligence.com/HPInstantInkROW, www.keypointintelligence.com/HPTonerService, www.keypointintelligence.com/HPTonerServiceROW

⁶Smart Printer: Improved printer connectivity utilizing Smart Driver and Print/Scan Doctor technology in the HP+ system, versus HP consumer printers without HP+.

⁷HP Smart App: Requires the HP Smart App download. For details on local printing requirements see www.hp.com/go/mobileprinting. Certain features/software are available in English language only and differ between desktop and mobile applications. Subscription may be required. Subscription may not be available in all countries. See details at www.hpinstantink.com. Internet access required and must be purchased separately. HP account required for full functionality. List of supported operating systems available in app stores. Fax capabilities are for sending a fax only. After 24 months, monthly fee applies to continue advanced features with HP Smart Advance. HP Smart Advance is not available in all countries. For more information, see www.hpsmart.com

⁸Six months of Instant Ink: Instant Ink sign up required. Instant Ink not available in all countries. Subject to monthly page limit of plan selected. Must complete Instant Ink signup within 7 days of setting up the printer with the HP-recommended setup process as indicated in the instructions that came with your printer. Unless service is cancelled within the promotional period online at www.hpinstantink.com, a monthly service fee, based on the plan chosen, plus tax and overage fees will be charged to your credit/debit card. Customer will be charged for any overage fees and applicable taxes at the end of each month in the promotional period. Use of in-box ink or toner cartridge is included in period of offer. One offer redeemable per printer. Included months offer with Instant Ink subject to change after 10/31/2021. Offer cannot be redeemed for cash. Setup Offer may be combined with other offers; see terms and conditions of the other offer for more details. Requires a valid credit/debit card, an email address, and Internet connection to printer. See additional offer information available during online signup process. For service details, see www.hpinstantink.com

⁹Forest First printing: With HP+, every print - regardless of paper brand - is addressed through HP's Forest Positive Framework to counteract risks of deforestation. HP brand paper is sourced only from certified responsibly managed forests or from recycled content. For other brands of paper, HP invests in restoration, protection, or in working forests recovery projects in key regions, for instance Brazil, sufficient to balance any paper used by HP+ customers that may not have been responsibly sourced. Read more about projects and our partners at www.hp.com/forestfirst

¹⁰Cartridge recycling: Through the HP Planet Partners program (where available), recycled plastics are used as raw material and combined with other materials to help make new Original HP cartridges and other everyday products. For details, see www.hp.com/hprecycle

¹¹HP JetAdvantage Security Manager must be purchased separately. For details, see www.hp.com/go/securitymanager

¹²For more details, see www.epson.eu/readyprint

¹³For more details, see www.usa.canon.com/internet/portal/us/home/explore/product-showcases/printer-technology/printer-ink-subscription-plans/pixma-print-plan

About Keypoint Intelligence

For 60 years, clients in the digital imaging industry have relied on [Keypoint Intelligence](http://www.keypointintelligence.com) for independent hands-on testing, lab data, and extensive market research to drive their product and sales success. Keypoint Intelligence has been recognized as the industry's most trusted resource for unbiased information, analysis, and awards due to decades of analyst experience. Customers have harnessed this mission-critical knowledge for strategic decision-making, daily sales enablement, and operational excellence to improve business goals and increase bottom lines. With a central focus on clients, Keypoint Intelligence continues to evolve as the industry changes by expanding offerings and updating methods, while intimately understanding and serving manufacturers', channels', and their customers' transformation in the digital printing and imaging sector.

For more information on Keypoint Intelligence, please call (973) 797-2100, visit www.keypointintelligence.com, or email info@keypointintelligence.com.