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Issue 109 (US$10.00)
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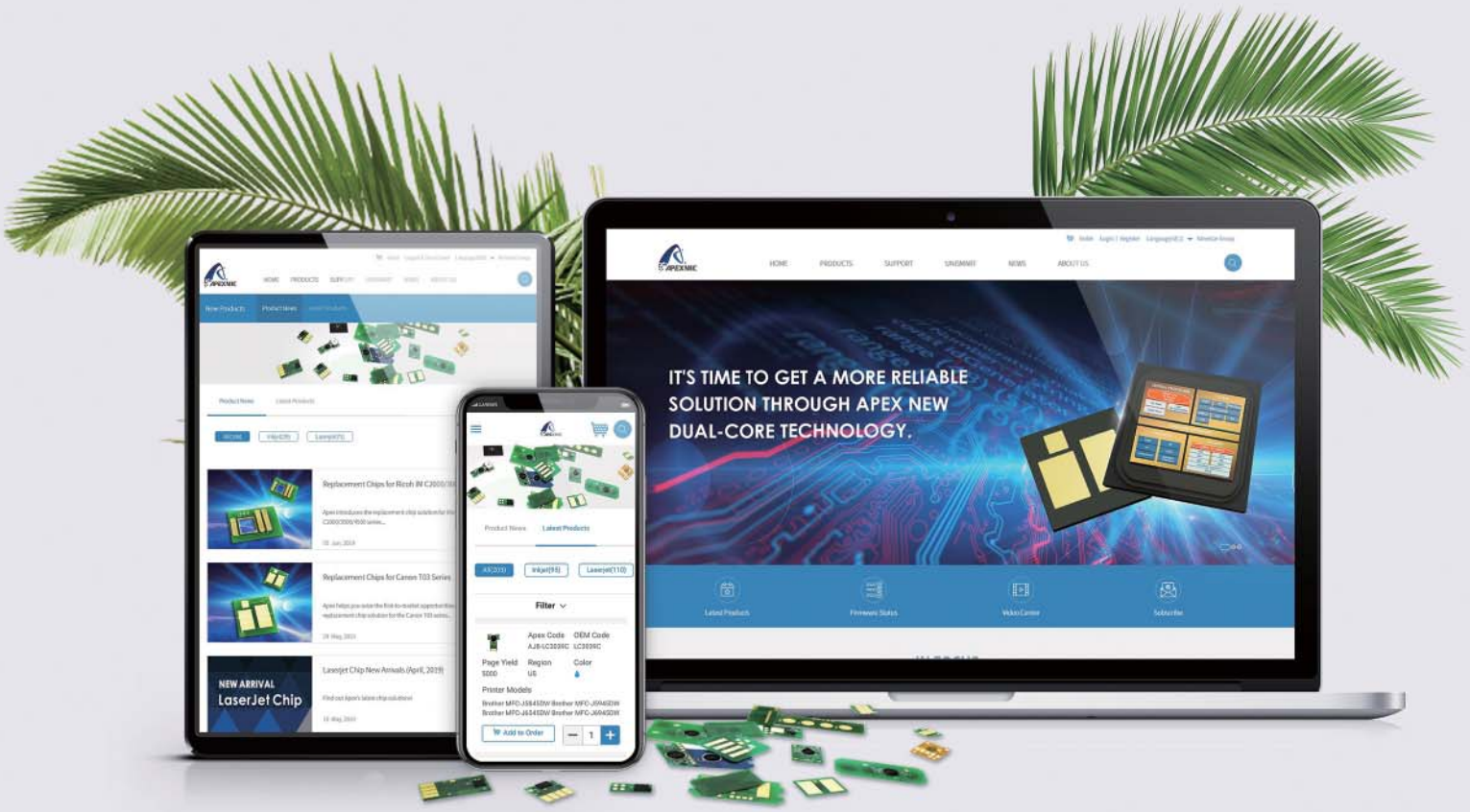

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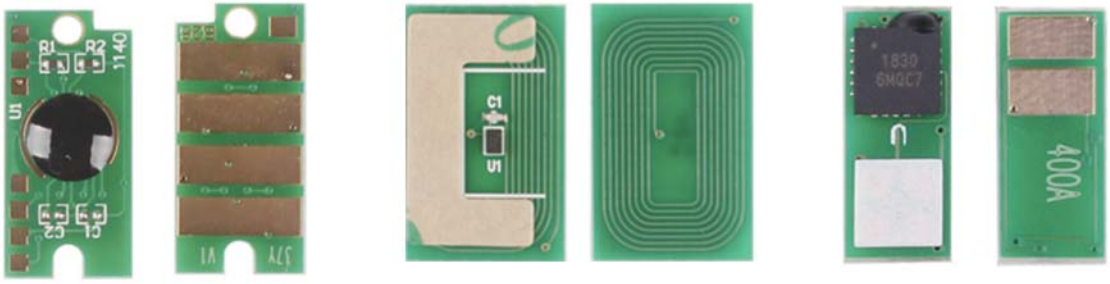

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UNLIMITED INNOVATION: KILIDER NEW PATENT ISSUED

KILIDER 凯利德

PATENT-FREE TONER CARTRIDGE KLD-B600
INNOVATION PATENT NO.: 201910050955.0

KILIDER TECHNOLOGY CO., LTD recently got feedback from China State Intellectual Property Office that the patent application over our independent-design toner cartridge KLD-B600 was approved. The patent right is granted by Innovation Patent NO. 201910050955.0, which has been listed up to our technology patent pool.

KLD-B600

OEM-B600

ABOUT US

JIANGXI KILIDER TECHNOLOGY CO.,LTD. is a technology-based company specializing in recovery and sales of generic consumables for printers and copiers. We started with the toner business in 2002, have grown up to be a well-known company in the generic consumables industry . Most of our products are using the "KILIDER" brand, including monochrome and color toners, monochrome and color cartridges, drums, other consumables and accessories for copiers and printers. They are widely used for most of the current types of machines available on the market, such as KYOCERA、RICOH、MINOLTA、XEROX、CANON、SAMSUNG、SHARP、TOSHIBA、HP、LEXMARK、DELL、EPSON、UTAX etc.

KLD-SP C352/C360/361
Innovation Patent No.:
201910022355.3

KLD-NPG-73/GPR-57/C-EXV53
KLD-NPG-71/GPR-55/C-EXV51
Innovation Patent No.:
201910029472.2

KLD-TK1200/1150/1160/1170
Innovation Patent No.:
201811374841.3

KLD-TN-321/512/323/514
Innovation Patent No.:
ZL201530297297.8

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IMAGING WORLD

No. 109 | 2019

Photo credit: Jeff Green

Photo credit: David Gibbons

Key buyers and leading exhibitors are embracing a new business model that sees only VIPs attending expo events tailor-made for them. One-day VIP expos, including a gala summit have been held in Cairo, Mexico City and Bogota (Colombia) so far this year.

FEATURES

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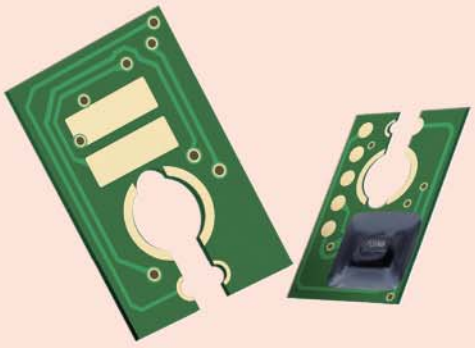
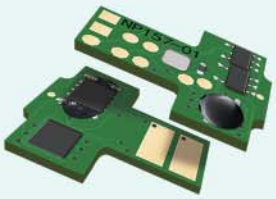


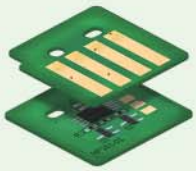
Compatible Chips For **Ricoh Series** | New Chips **Ricoh IM C2500 Series**

Compatible Chips For Use in

Ricoh IM C2000/2500 | Ricoh IM C4500/6000 | Ricoh IM C3000/3500



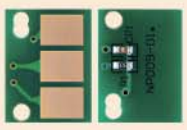
Compatible Chips For **HP CF217 Series** | New Firmware CF500/510/530/540/244/247/248



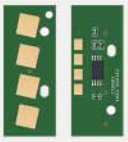
Compatible Chips For **Xerox 7025 Series**

One click identifies or resets

Compatible Chips For **Kyocera Series**



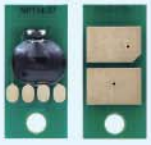
Compatible Chips For **Konica Minolta Series**



Compatible Chips For **Toshiba 2309 Series**

Compatible Chips For **Sharp Series**

Compatible Chips For **Xerox 315 Series**



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Tequila Yan

Technology changes people's lives.

Thirty years ago you could not take photos on a cell phone. All you could do was make phone calls and send text messages, if you were wealthy enough to own such a device. Even 12 years ago, when smartphones first opened up our world to photography and sharing documents, you would still not consider printing a photo without first connecting it to a computer. I don't think anyone today can imagine the first laser printers being as large as a car. How things have changed. Printers have become compact and possess many helpful functions. RT Media's Director David Gibbons shares more about the development of printers on page 61.

What is the current tally of printer OEMs in our industry? Graham Galliford points out the Japanese continue to dominate this industry with 11 toner-based printer, MFP and copier manufacturers. Turn to page 46 to read more.

As many know, Pantum was the first printer OEM in China, but today there are many more Chinese-branded printers. Many will be on display at RemaxWorld Expo in October. In this edition, we introduce some Chinese branded printers from laser desktop printers to popular label printers. See page 50.

Firmware is the hot issue for 2019. Therefore, we have prepared a special series of articles for this issue, to deal with the issue from a technical, historical and legal aspect. Tricia Judge, Lynton Burchett and Christian Pepper share important information in the lead up to a special panel session on the topic at the RemaxWorld Summit 2019 on October 16, 2019.

This year at RemaxWorld, visitors will have an improved experience at the expo and summit, particularly if they are looking to add printers and copiers to their business model. From all of us at RT Media and RT ImagingWorld magazine, we hope to see you there this year.

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Firmware Threat Grows More Bold and Vicious

— *Tricia Judge*

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Modern chip technology is a miracle that allows consumers to enjoy a host of features from their machines. Manufacturers use it to monitor their products' performance and make improvement in subsequent generations.

However, chip technology can also be abused. When chips are used to monitor supply usage in printers, for example, they can become an impediment to product performance. In 1999, the first "killer" chip was introduced. Chips in Lexmark printers shut off the printer when they detected that a remanufactured printer cartridge is in use.

Until the threat is halted, stickers for customers' machines are available from www.I-itc.org.

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Print

copy

Scan

CPU525MHZ Memory 256M First Time9s print speed 22ppm

print speed	22ppm(A4)
First page time	<=9s
Monthly Print Quantity	30000 （page）
Print DPI	1200*600(MAX)
Print language	GDI
Input Paper Tray	150 page
Output Paper Tray	150 page
Copy speed	22ppm(A4)
Copy DPI	600*600(MAX)
Scale	15%-600%
Scan mode：color/mono	
Scan DPI	1200*1200(MAX)
Scan Compatibility	TWAIN WIA
Paper weight	60-200g/㎡
Paper size	A4/A5/A6/B5/B6
CPU	525[MHz(MAX)]
Memory	256M
Best temperature range:10~32℃	10~32℃
（Temperature range 0~45℃）	0~45℃
Best relative humidity:20%~ 80%	20 ～80%
Humidity range:5%～ 95%	5～95%
noise	55 Db
Power supply	AC200-260V，50/60Hz，6.3A
Windows XP/Windows Server 2003/2008/2012 Windows Vista/ Windows7/8/10 Linux	
nterface type：USB2	
Ethernet IEEE802.11/WIFI	
Toner cartridge type：	all in one
Toner cartridge Lifetime	12000~15000（page）
standard configuration	3000（page）

Joe Zhou General manager
E-mail:joezhou@sealand100.com
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E-mail:bright.li@sealand100.com
ShangHai Sealand Science and Technology Limited
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Cumtenn Intelligent information science and technology(Zhejiang)co.,LTD
Factory:819 Nanxing road, jiashan (Cumtenn science park)

The bundling of beneficial security technology in chips with printing functions appears initially to be a plus for consumers, but it sometimes ends up having a sinister, convoluted impact. The chips have long been the target of aftermarket ire, and the "dark side" of similar technology bundling was at the core of legal battles between Microsoft and U.S. antitrust officials decades ago.

Consumers were unhappy when their devices limited their choices for supplies. It didn't take long for class action lawsuits against Lexmark and other OEMs to be brought by disgruntled printer users. These helped keep chip abuse in check, or at least, made it expensive for the OEMs. Legally, these chips had to have a legitimate business purpose in order to survive legal scrutiny. Therefore chips that monitored toner levels, for example, were considered justified, however chips designed to merely lock out competition were not.

HP employed chips also, but their earlier models didn't lock out competition. They provided a variety of information to the consumer that was appreciated, gauges for toner levels, information on page count, etc. Aftermarket replacement chips didn't provide this information, and the cartridges they were affixed to were seen as less valuable because of the dimunition in function. This gave HP a competitive edge, but did not keep aftermarket cartridges from functioning.

These early chips were overcome when smart aftermarket companies, like Static Control, developed replacement chips that disabled the "kill" feature and allowed for reuse. The market for aftermarket chips became robust.

Then the OEMs added a new tool to its competitive arsenal: firmware. By downloading from the OEM what is supposed to be an "upgrade," consumers became complicit in changing legitimate chips into killer chips.

In May 1999, Lexmark changed the encryption code on its in its firmware that communicated with an iButton chip in the printer and cartridge. With this simple remote change, any aftermarket chip solution in use failed.

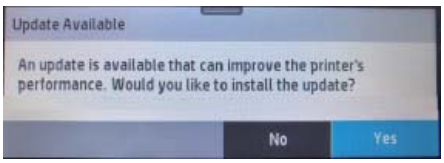
Remanufacturers scrambled to download the new firmware, but the damage was already done. Thousands of cartridges around the globe failed, leaving consumers infuriated (and locked into buying new ones.) And rendering entire inventories of aftermarket chips and products worthless.

As it had with the chips before it, the aftermarket found ways around some firmware. And again, class action lawyers summoned OEMs into court for the aggravation its firmware caused consumers. These battled have waged for decades.

However, consumers and the aftermarket are now confronting a very blatant attack from HP with a new round of firmware that is as inscrutable as it is destructive. It is either a time bomb, waiting until the the printer is in service for a time. Or it automatically changes the firmware so it disables all aftermarket chips. Either way, it is insidious, as the aftermarket cartridge works for a while, but then is disabled. And the firmware affects a host of popular printers.

HP955 (Print Model 8720) Firmware Upgrade

Since April 9, 2019, a HP 8720 printer using an HP955 cartridge will display the upgrade message on the screen when connected to WIFI.

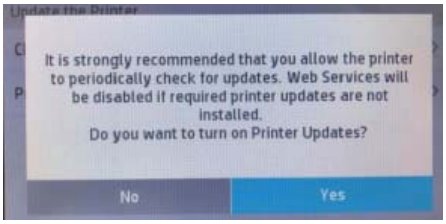


If "Yes" is chosen, the printer will display the following warning information when a cartridge with an unused non-original chip is installed. If a cartridge where a non-original chip is used is already installed and an end user chooses "Yes," the similar warning message will display sometime after the upgrade.

HP printer update options

A HP printer normally provides three options to the update as shown below.

If the end user chooses "do not check", the printer will pop up a message strongly recommending the update checking.



Aftermarket chip companies are hard at work finding a solution, but this quest is vexing as the source is elusive. Until the solutions are found, dealers are having to service unhappy customers.

Time to take (Class) Action?

HP's own internal documents (and packaging) alert the consumer that this scenario could happen. "Dynamic security enabled printer. Only intended to be used with cartridges using an HP original chip. Cartridges using a non-HP chip may not work, and those that work today may not work in the future. More at: www.hp.com/go/learnaboutsupplies," reads a HP Partner letter, as well as a small three-inch box on the printer packaging in many languages.

These blatant anti-competitive statements could serve as notice to the consumer, as in "buyer beware." HP could argue this information gave the consumer the heads up that aftermarket cartridges might not work, and therefore any subsequent failures are to be expected, or perhaps not even actionable if the consumer becomes inconvenienced. Whether this tiny notice on the box is sufficient to lock a consumer into using only OEM cartridges is highly debatable.

This "dynamic security" program was the subject of a many class action lawsuits that were consolidated into one, which HP settled for millions. However, it might have been worth it. How many aftermarket cartridge users returned to using OEM ones to avoid a shut down?

The future is reasonably certain. There wil be more litigation, and more movement by OEMs into the use of firmware as a competitive weapon.

Actionable Intelligence is the leading industry analyst for information on the imaging industry, and on firmware matters in particular. They have many articles on their website regarding firmware and its related litigation (www.action-intell.com)

"Chips and firmware updates have become THE essential battleground between OEMs and the aftermarket. It is easy to see why." said Actionable Intelligence Executive Editor Christina Bonadio. "Without aftermarket chips, you can't have fully functional aftermarket cartridges. And while OEMs can and do roll out new chips to frustrate the aftermarket, the aftermarket has gotten a lot better at cracking them—and quickly. Remember when years ago Canon's CLI-8 chip locked out the aftermarket for a significant period of time? We just don't see that happening as much anymore.

"Now, you see firms like Apex, Static, and others announcing chips hard

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Affected Printers

HP217 Series	
Cartridge Series	**Printers**
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	HP® Color LaserJet® Pro MFP M181
	HP® Color LaserJet® Pro M154
HP CF500/501/502/503 HP CF540/541/542/543	HP® Color LaserJet® Pro M254
	HP® Color LaserJet® Pro MFP M281
	HP® Color LaserJet® Pro MFP M280
HP CF244/CF248	HP® LaserJet® Pro M15
	HP® LaserJet® Pro MFP M28

HP902/952/972/913/981 Series	
Cartridge Series	**Printers**
HP902-HP905	HP® Officejet® Pro 6960 AIO
	HP® Officejet® Pro 6978 AIO
	HP® OfficeJet® Pro 6975 AIO
	HP® Officejet® Pro 6968 AIO
HP952-959	HP® OfficeJet® Pro 8710 AIO
	HP® OfficeJet® Pro 8740 AIO
	HP® OfficeJet® Pro 8720 AIO
	HP® OfficeJet® Pro 8720 AIO
	HP® OfficeJet® Pro 8730 AIO
	HP® OfficeJet® Pro 8730 AIO
	HP® OfficeJet® Pro 8715 AIO
	HP® OfficeJet® Pro 8725 AIO
	HP® OfficeJet® Pro 8210 AIO
	HP® OfficeJet® Pro 7720 Wide Format AIO
	HP® OfficeJet® Pro 7730 Wide Format AIO
	HP® OfficeJet® Pro 7740 Wide Format AIO
HP913, 972-975	HP® PageWide® Pro 477
	HP® PageWide® Pro 452
	HP® PageWide® 352
	HP® PageWide® 377
	HP® PageWide Pro 577dw
	HP® PageWide® Pro 552
	HP® PageWide Pro® Managed P55250dw
HP981	HP® Pagewide® Enterprise Color MFP 586
	HP® PageWide Enterprise Color 556

on the heels of OEMs' new cartridge announcements. In some instances, we have seen aftermarket chipmakers announce chips even before we have seen the OEM announce the new hardware/supplies. That is how closely third-party chipmakers are following what OEMs are launching.

"So with OEMs losing the advantage of an initial period of little aftermarket competition following a new cartridge rollout, you've got to figure they are going to do something—and that something time and again has been firmware updates that potentially lock out aftermarket solutions using aftermarket chips. And while we have seen some class-action litigation over this, we haven't seen any kind of court order that would halt this practice. But, as discussed above, because of the litigation, we've seen OEMs become a lot more upfront. Now they will say something like 'Yep. This firmware update could lock out third-party supplies.' Or 'Third-party supplies may not work in this printer either now or in the future.' And that in itself is an interesting change.

"Need more evidence that firmware/chips is the essential battlefield between OEM and the aftermarket? Take a look at Brother," Bonadio said. "Brother's two-piece toner consumables have long been relatively easy for the aftermarket to work around without infringing. So there is a ton of aftermarket solutions widely available for Brother. So what did Brother do last year? It launched its first-ever color and mono laser devices to use toner cartridges with chips. And while the aftermarket soon launched replacement chipsets, there were almost immediate reports about firmware updates from Brother that could lock out aftermarket cartridges featuring aftermarket chips."

One Solution: Keep consumers away from Firmware updates altogether. Educate them as to the insidious nature of the firmware's purpose. And leave them a reminder on their printer. Download these stickers from the Int'l ITC's website (www.i-itc.org).

Another solution: Let's get that court order that would halt the practice. The International Imaging Technology Council (Int'l ITC) intends to work with aftermarket litigators to monitor, and perhaps act, on this. Have a firmware horror story? The International Imaging Technology Council wants to hear it. Please email me at tricia@i-itc.org or go to our website at www.i-itc.org. ■

Cartridge Chips and Printer Firmware the Backbone of Our Aftermarket

— *Lynton R Burchette*

Burchette is an industry veteran of 25+ years and is President of RBI LLC. He previously worked with Static Control Components for 21 years and served 15 years as VP & director of Electronics Development. Is inventor/co-inventor of over 30 patents.

There seems to be no end to the variations of chip technology and firmware changes these days. The aftermarket has been in a reactive position to create solutions due to this since the late 1990s. Companies like Canon, HP, Lexmark, Samsung and Epson are a few of the largest to pioneer and perpetuate the use of chips on cartridges, with apparent success. Today, most toner, inkjet cartridges are chipped. This continues to greatly challenge the aftermarket to deliver suitable solutions in a timely manner. The release of printer firmware updates for an installed base of printers has far reaching implications on our aftermarket. Optimistically, this brings much opportunity for those that can endure it.

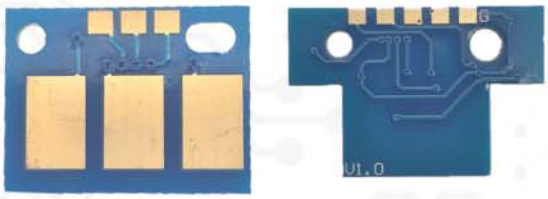
Why Cartridge Chips?

Cartridge chip functionality is often misunderstood because it is complex. A cartridge chip is a member of the printer system including the printer firmware, electro mechanical functions and the cartridge. The different members of this system interact in ways that are invisible

CNAPPRO

Compatible for Lexmark

- MX/MS910/911/912;
- CS921/923/CX920/921/922/923/924;
- XC9235/9245/9255/9265;
- MX/MS310/410/510/610/317/417 Universal Chip;
- MX/MS710/711/810/811/812 Universal Chip;
- CS/CX 310/410/510;
- XC2132;
- C/X925;
- C920



More Compatible Chips use in:

- For use in Sharp Chip
- For use in Xerox Chip
- For use in Konica Minolta Chip
- For use in Ricoh Chip
- For use in Lexmark Chip
- For use in Toshiba Chip
- For use in Kyocera chip
- For use in Okidata Chip
- For use in Olivetti Chip
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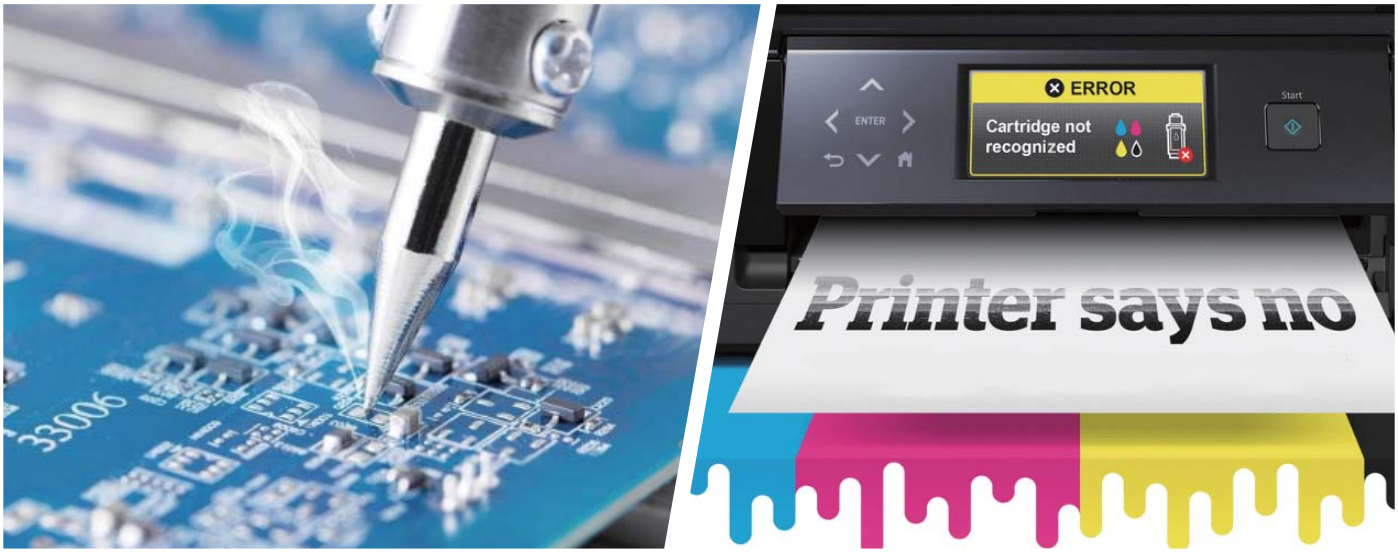

to the user except for the intended feedback through the LCD screen or LED lights on the printer and printed pages or reports. When a cartridge chip is designed into this system, it plays a critical role in printer functionality due to the data it contains. Cartridge chips are fundamentally information storage devices having EEPROM memory and do not make decisions about the data they store; printer firmware is responsible for decisions. Chips have electrical circuitry, are powered by the printer and contain a communications language that enables a response to printer commands. This allows the printer firmware to read stored data or write data to the chip as required. If the printer doesn't power up the chip and issues a command the chip remains silent.

For cartridges having a chip, the OEMs factory load (write) it with data representing some form of identification (ID) to work in a specific printer or group of printers. Sometimes, the same chip may work in a sub-brand, as predetermined by the OEM in printer firmware. The chip typically contains a unique ID like a serial number and a wide range of other data correlating to cartridge/printer function for the printer firmware to use. For encrypted chip cartridges, encryption keys are created using groups of data in memory and are factory loaded in the chip to secure data transfer between the printer and chip.

There are many other types of factory loaded data on cartridge chips such as type, color, yield and region, capacity, toner manufacturer, manufactured date, production line information and many more. Chips may have data that relates to imaging parameters for the cartridge like electrical voltages t the firmware can use for the developer roller, PCR and transfer roller. When the cartridge is installed in the printer this chip data can be read in by the printer firmware. Over the life of the cartridge, the chip stores data written by firmware as required by system design. This may correlate to OPC and developer roller rotations or pages printed. The practical (good) use of this data is that when a cartridge is switched to a second printer mid-life, cartridge wear can be considered so imaging adjustments can be made automatically made by the firmware. Fundamentally the use of data on a chip to steer printer functions can be helpful. The aftermarket has utilized chip data to create universal chips, extended yield cartridges or custom print parameters for given cartridge components. This represents opportunities.

OEMs factory load (write) the chip with data representing some form of identification (ID) to work in a specific printer or group of printers

Chips come in a variety of sizes and shapes. This is usually based on the communication technology which is either direct contact or radio frequency (RFID) based chips. However, the greatest technology shifts occur with advancements in semiconductor technology. A smaller geometry silicon wafer equates to increase functionality built into a chip of the same size for example. This enables the use of smart card technology as a cartridge chip, supporting public key encryption such as AES or DES. These chips have memory plus encryption to protect it, requiring much more complexity in the design.

Why Printer Firmware?

Printer firmware is the brain of the printer system controlling the electro mechanical and cartridge members. Firmware is the program code that makes decisions about printer operation and enforces them through error conditions or function changes. The code is stored in non-volatile memory and is executed by a Central Processing Unit (CPU) to interface with sub-system controllers to manage printer functionality. The result is control of printer functions step-by-step, user interaction of buttons, lights and LCD screens and data between external devices. It also manages the imaging engine controller that drives the laser, electrical signals and mechanics for the toner cartridge and communications with the chip on the toner cartridge.

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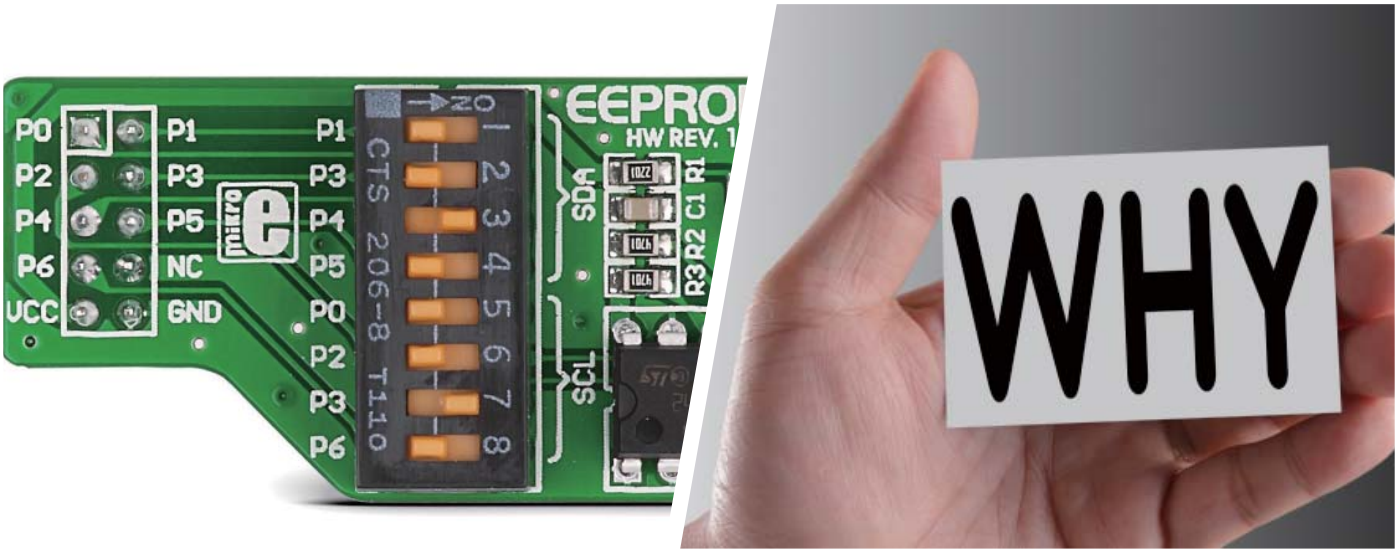

Firmware is factory loaded in the printer memory by the OEM and has the provisions to be changed by "upgrades." The control of the code is limited by design to the capabilities of the subsystems that it communicates with and the consumer replaceable modules like the toner cartridge and drum or fuser unit for example.

Firmware is identified by its version number and is typically displayed on the printer LCD screen at start up or on a printed page such as a "Printer Configuration Page." Firmware versions are typically different between printer types but there can be many versions for the same printer type because of updates by the OEM.

Firmware is upgraded in order to alter a function of the printer and the result may not be obvious. For example, a change made to alter the text on the LCD screen indicating that a cartridge is "Non OEM" is certainly more obvious than a change to alter the data tables for improved images under certain environmental conditions for example. Firmware upgrades are useful to fix known problems like inaccurate cartridge yield reporting for example. However, not all upgrades are aftermarket friendly and could cause some cartridges to fail in the printer. These days it is typical for upgrades to occur automatically by the OEM. Settings for automatic upgrades are sometimes set as default during the installation of the printer driver and are overlooked during quick installations.

Firmware and its specific interaction with the toner cartridge acceptance and performance are tightly coupled together with the data loaded in the cartridge chip. In printers utilizing cartridge chips, firmware has flexibility to control printer electrical voltages or laser adjustments within the range of printer design. This allows for compensation due to variances of components during the manufacturing process, wear properties of components by the data stored on the cartridge chip from the factory or written by the printer during use. This is done to maintain desired print density or control the number of capable prints, considering the components in the cartridge.

Printer firmware is the brain of the printer system, controlling the electro mechanical and cartridge members

Firmware verifies the cartridge ID upon the initial read of the chip. Most printers today use encrypted communications. This has been the most challenging aspect of aftermarket chips since 2008 because encryption keys must be harvested from used chips to make replacement chips. This is the basis for one of the most deliberate firmware upgrades by the OEMs, to lock out cartridge chips having known duplicate keys.

In general, chip use on cartridges started as basic EEPROM memory chips used by Xerox and Canon for example. These were primarily to store the brand identification and cartridge type information. This replaced plastic keying features on the cartridge that engaged with the printer indicating cartridge ID and type information. As memory technology has evolved by silicon chip manufacturers through the years, the OEMs such as HP, Lexmark, Samsung, Epson and others have demonstrated consistent use of the leading-edge semiconductor technology to maintain to their brand protection. The introduction of highly encrypted smartcard technology continues to be a barrier for the aftermarket in terms of technical and legal aspects and its interference with business functions.

Aftermarket cartridges with chips must conform to the OEM functionality and maintain form and fit, while respecting intellectual property. Anything less than this is a risk of inferior printer performance or "lockout" by firmware updates and both result in a bad end user experience.

IP related issues for chips are among the most challenging that we face. Understanding IP in the OEM chip comes with a huge engineering expense. Anything less than this may result in a manufacturer's inability to defend against the OEMs. Be proactive and get a good understanding of your supplier's capabilities to avoid surprises. ■

Firmware Updates: Putting the OEMs on Notice Going Too Far in the Battle With the Aftermarket

—Christian Pepper

"Those who fail to learn from history are condemned to repeat it." -*Winston Churchill*

There are many battles taking place right now in the desktop printing industry.

The OEMs have multiple weapons, or tools, at their disposal to hold onto, or recover their market share. One such strategy, familiar to most, is the innovative designing and heavily patenting of components inside the printer cartridge. The OEMs will tell you and the patent office they must redesign things like the wheel, albeit gears, in order to add some specific, unique purpose or value to the cartridge. However, most know it is a thinly-veiled strategy to design components that will make it difficult, and sometimes nearly impossible for the aftermarket to design around. That's business and all competitors respect this "above the table" strategy. The aftermarket is often tainted with being called 'bad guys' and 'infringers' when it doesn't manage to find a legitimate way around every one of the hundreds of patents inside every cartridge. The OEM sues.

Printer firmware updates are being used to lock out existing aftermarket cartridges inside their customers' printers

However, now the OEMs have gone too far. In their haste to try and beat their aftermarket competition, they have adopted a strategy which will, and already has, backfired:

the use of printer firmware updates to lock out existing aftermarket cartridges inside their customers' printers.

Many OEMs reading this may think they're pretty clever because some firmware upgrades affect the customer's choice of printer cartridge. The code in certain updates also "just happens" to lock out the aftermarket cartridge and the printer stops working. The customer becomes upset with the aftermarket provider because of the "faulty" cartridge and they go back to buying an OEM cartridge. Right?

WRONG.

Here's what happens with most end users:

The frustrated customer calls the aftermarket provider somewhat angry or at least upset thinking the cartridge failed. Let's say the provider is LD Products—the company where I work—but many other aftermarket providers across the globe are following the same strategy. We do the unexpected: we replace the cartridge for free. Now, you may claim that this action only increased our costs. Yes, it did but it

Pepper, President of Channel Partner Division at LD Products in California, has more than 20 years executive and management experience in the European and American markets. He has held leadership, sales and marketing positions with printer OEMs, hardware and consumables remanufacturers. He is a regular contributor and speaker within the imaging and managed print services industry.

also gave us the opportunity to educate the customer as to how OEMs are using firmware updates to take away their choice and force them to buy OEM again. We show them how to turn off the firmware updates on their printer and we become the "good guys." The OEMs become the "bad guys." Perception is reality after all. The OEMs lose that customer for life—we win them for life.

And it gets worse…

Not all aftermarket companies will, or can replace the cartridge for free. In some markets it's not possible due to the length of the supply chain and someone else has to pick up most of the tab.

Take, for example, the dealer channel. Dealers often use multiple manufacturers and suppliers and purchase through distributors. A lot of work is required in having a "locked out faulty" cartridge returned. Sometimes it's impossible to get these cartridges back to a provider for credit. However, that's not even the biggest problem. Their help desk gets swamped with customer complaint calls in the days after these firmware updates roll out and their tech staff must spend time figuring out what is going on. They may have to put techs into vehicles and send them on site to troubleshoot the "faulty" devices. Costs rise quickly, productivity is lost, everyone becomes upset. Guess what happens next?

Dealers start turning off the firmware update functions on customer devices which is not a good thing for customers. In fact, it could become a bad thing because of hacking!

One of the top issues confronting dealers today is network security. Many are waking up to the fact that printers are one of the weakest gateways or links on the network vulnerable to malicious penetration.

If firmware updates are not installed, then the required patch needed to protect a known weakness in a printer's security could make the printer vulnerable. It will increase the possibility of that device being hacked causing disruption and misery for end users and business customers.

Over recent years, some OEMs have settled, or lost class action lawsuits related to automatic firmware updates in Europe and America

In addition, the firmware upgrades can also enhance the customer experience with improved quality.

Over recent years, some OEMs have settled, or lost, class action lawsuits related to automatic firmware updates in Europe and America. Some have cleaned up their act, just enough, to find ways to still include

Aftermarket cartridge lock outs in their firmware updates, by including the very minimum language required by law, usually buried in terms and conditions that most end users fail to read or understand.

Printer OEMs, this is your wake up call. You have an ongoing responsibility to make sure your hardware is not at risk of network intrusion. You cannot hold a customer hostage by effectively making them choose between purchasing OEM consumables or network security. It's morally wrong and it might even fall foul of the Magnuson-Moss Warranty Act of 1975.

It is time to stop the practice of using firmware updates as a tool to stop Aftermarket cartridges from working. ■


Making It Easy
to be an OEM
Pantum releas
busi

Distributor:
es its innovative printer
ness model

by RT Staff

The global printer and cartridge supplies market is worth more than US$80 billion. An analysis undertaken by financial company Sinolink Securities reveals the office and desktop supplies industry alone continues to be a huge market at US$30 billion in 2018.

Following a period of mergers and acquisitions in recent years, the industry is entering its maturing phase which is common with all emerging industries. The process of reaching maturity is painful, particularly when an industry is experiencing serious problems like market shrinkage, price wars and customer turn over (the percentage of customers that drop out).

Ian Elliott, a veteran industry analyst warns printer cartridge distributors and resellers that they could face a revenue decline over the next four years of 40 percent, thanks to the shrinking market and the increase in turn over. He provides an absolutely devastating outlook. How can a traditional aftermarket company maintain or increase revenue in such a tough market?

In order to obtain more market share, some companies are increasing the number of product categories they can

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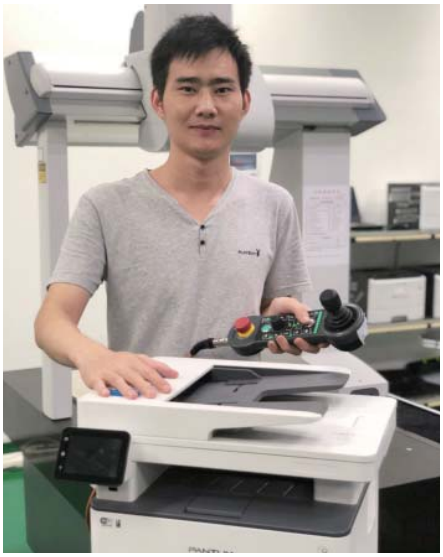

offer to their customers while others are trying online sales channels. However, they face many challenges including time-consuming product development, counterfeit products and fierce price wars. Confronted by such problems, many business owners find they cannot improve their business bottom line in the short term. They frustratingly look around for other new opportunities to get out of the dilemma in which they find themselves. In this uncertain business environment, Pantum, as an original equipment manufacturer, is expanding its market share by providing an innovative idea for the aftermarket. It is a combination sales model of "printer + open consumables."

At the core of this new business model is the complete opening up of the control of cartridge chips. Pantum believes the strategy will make its products the most competitive in the market by providing a customized printing consumable service. Any aftermarket companies that choose to cooperate with Pantum can combine OEM products with compatible printing consumables and in addition, can also be provided with an exclusive supply deal for their particular market. Pantum believes this provides the best guarantee for sustainable supplies in the world. Further, for those companies which reach a certain distribution size, Pantum will also provide customized services for their aftermarket partners' own consumable brand to help them enhance market influence and achieve better results. Then OEM expects this to be a very valuable strategy for aftermarket channels. Pantum is already promoting the cost of its single-page printing as being very low, when compared with other printer OEMs which will help distributors of the product to expand their sales channels, to provide one-stop solutions and increase "user stickiness."

Initially, Pantum will roll out its innovative business model with its P3305 printer. Designed for international business users, the P3305 is the first large-volume printer promising more than 10,000 pages. Together with the "printer + open consumables" model, Pantum is promising to provide a competitive, low-cost printing solution for the market. It is also assuring distributors and resellers that they can maintain their sales profits using such a business model. "This is a boat which can help drive the aftermarket out from the red ocean to the blue ocean, which is full of opportunities."

In order for a business model to be successful, it must always cooperate and complement the products. A good product promotion relies on a good business model. In turn the quality of the product is key to having successful business model. For this reason, Pantum has initially applied its new "printer + open consumables" strategy with its P3305 model. The machine was developed primarily for the small and medium businesses as well as self-service terminal industries and large

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STMC stands for the Standardized Test Methods Committee. This global committee formed to find and promote standardized test methods for the printer cartridge industry.

For twenty years, the International Imaging Technology Council has evaluated and monitored the STMC program, fighting for those who use it proudly and against those who misuse it.

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leasing companies that require a large page yield and high efficiency.

The drum and toner have been designed to be separated within the cartridge. According to Pantum, the printing lifespan of the drum unit is up to 25,000 pages while the toner cartridge capacity is up to 11,000 pages. Furthermore, it is quite user-friendly with convenient functions including "one-button driver installation" and an "automatic paper jam solution."

Users do not need to worry about the operation knowing the reduced cost of consumables and the maintenance of the machine itself are factored into the full extent. The cost to print a single page using original consumables can be as low as US$0.003 (RMB¥2 cents) for the P3305. The business printer can also print at 33 pages per minute and supports automatic duplexing (double-sided) printing output with a monthly printing load of up to 80,000 pages. It also will cooperate with MPS software.

Pantum has developed a perfect industry chain including the consumables, integrated circuits, and the printers themselves. A full coverage from low-end to high-end, monochrome to color, A4 to A3 is available. While the P3305 is the first in the Pantum product line to offer the "printer + open consumables" model, other printer formats and full speed segments are being considered as well. In the near future, the company will provide users with a better experience and more cost-effective products, helping channel partners to improve their product range and to increase their operating profits with diversified resources, improved branding and market competitiveness.

It is true the global market is shrinking and there will be other challenges ahead. Industry players are already asking themselves how they can not only survive but also thrive in such an environment. Negatively-minded people will always opt to stay in the red ocean but positively-thinking people will always find a way to reach the blue ocean opportunities. Pantum has become a confident, mature company that has the ability to create a full closed-loop business model with its “printer + open consumables + customized chips” for users and distributors at all levels. It will also continue to improve the cost advantages of printing and guarantee the benefits for all its channel partners. As an OEM, Pantum has always adhered to the needs of users and cooperated with global partners to create a win-win situation. Pantum’s vision is to have more partners join it to create new value and further develop the imaging industry. ■

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Getting OEM-Level Respect with Remanufactured Printers

— *Tricia Judge*

Remanufactured cartridges have been the subject of multistate legislation, trade investigations and even a U.S. Supreme Court patent case. Their benefits have been heralded and celebrated.

Remanufactured printers, on the other hand, have quietly gained a stronghold in the marketplace. All of the OEMs have their certified reused printer programs, notably among them is Hewlett Packard's certified printers.

Printers enjoying a second life are so popular, you can find them on all the major internet sales platforms. Amazon sells them in the "renewed" program. Walmart sells refurbished printers, as does Best Buy.

Managed print services further enhances the value of well-made refurbished printers. A high-quality, low-cost printer can be added to a printer fleet to lower cost per page, and then continue to keep that price low the longer it's in service.

Printers enjoying a second life are so popular, you can find them on all the major internet sales platforms.

Aftermarket companies were bound to follow suit. Over two decades, smaller, regional imaging supplies company augmented their offerings with printer repair and replacement. Larger international companies also took steps into the market. Copier channel aftermarket leader Katun offers certified refurbished printers and multifunction devices.

US-based Clover Technologies (Clover) also entered the printer marketplace in February 2011 with the purchase of one of the largest, best-established printer parts remanufacturers in the country, Depot International in Farmingdale, New Jersey.

In addition to her 22-year service as the executive director of the International Imaging Technology Council, Judge is Senior Consulting Editor for *RT ImagingWorld* magazine.

Depot International is an authorized HP, Lexmark Elite, Dell and Samsung parts distributor. It stocks an extensive selection of parts from leading brands including HP, Lexmark, Xerox, Dell, Brother and more, along with selling OEM, OEM Recertified and remanufactured printers. Depot International has been the largest and top performing authorized parts reseller for HP since 2010 and is an elite authorized parts distributor for Lexmark.

We've been around for 30 years," said Chris Sinibaldi, senior vice president and general manager (pictured on page 30.) "In the printer space we offer options to our customers with the choice between HP and Lexmark OEM, OEM recertified and remanufactured printers. We've succeeded because we are determined to find the choice that fits the customer's business model.

Depot International produces 30,000 subassemblies per month and has 2,000 printers in stock at any time. So we have product available to ship where and when customers need it. We strategically produce products that are the right fit."

Depot International produces 30,000 subassemblies per month and has 2,000 printers in stock at any time

In order to meet that goal, Depot International undertakes several ongoing balancing acts. First, they have to maintain their strong partnership with HP as one of its premier sellers of OEM parts and printers, while filling out an offering that includes remanufactured printers as well. To meet the demands of an ever-changing market where quality and choice are key drivers. They also must maintain a fresh selection of printers.

Models that are too old are harder and more costly to maintain and have fewer features that customers want. Sinibaldi makes it sound easy. "We sell OEM and OEM recertified printers so we have the current models our customers are looking for," he said. "We are typically offering remanufactured printers that are one generation behind HP and Lexmark's new models, the goal is to offer customer choice and the best fit for the environments they manage. "

Remanufactured printer cartridges often are criticized for quality concerns, whether the criticism is warranted or not. According to Sinibaldi, remanufactured printers do not suffer the same fate. "HP

considers their certified printers as new, and offer the same warranty as new," he said. "We do too."

He explains this is because, "We do a full tear down, pulling the printer down to its frame." He added, "Then we thoroughly restore it, clean it, and package it for resale. We offer a product that will provide performance customers expect consistently.

Any complaints? "We offer choice, so the customer gets to select the product the fits their model and criteria. We don't get pushbacks because a printer is remanufactured, we provide the product selection, the quality and confidence in our products so the customer will have peace of mind in whatever product they choose," he said. "We do a rigorous, lifecycle testing. We have confidence in our printers."

Depot International in the printer parts industry. Its in-house R&D and engineering teams make certain that the products meet or exceed OEM performance through the design and implementation of proprietary product development practices, manufacturing standards, process automation, and performance testing protocols. It is ISO 9001 certified and has spent years and millions of dollars in the development of the most sophisticated manufacturing environment. The company documents both life testing and destructive testing to ensure its products meet the highest quality standards.

Sinibaldi has been at the forefront of most of Depot International's success stories. Starting as director of engineering and quality 20 years ago, he has championed the quality-driven philosophy instilled in the organization from the start. He's also held a host of other positions in the company. "I've touched or worked in every piece of the business through my career, It gives me a unique perspective," he said. This same mindset has long been held by Clover's management team, "to make the best product in the market at the best value."

We sell OEM and OEM recertified printers so we have the current models our customers seek

"Like our parent company, we cut no corners on our products," Sinibaldi said. "We're not the cheapest and we strive to put out the best product in the market."

Also like its parent company, Depot International takes environmental stewardship seriously. "Through our closed-loop processes and empties collection programs, we collect and remanufacture maintenance kits, fusers and small electronics," Sinibaldi said. "Keeping thousands of pounds of waste out of landfills every year."

Depot International is dedicated to continual improvement in all of its environmental activities and sustainability initiatives that include:

- Minimizing its carbon impact;
- Prioritizing remanufacturing, reclaiming as much reusable material as possible;
    - Maximizing the recapture of raw materials in collections;
    - Measuring the impact of water and energy consumption and minimizing waste;
- Promoting waste reduction throughout its operations;
- End-of-life processing for all collected assets that cannot be remanufactured;
- Recycling all cardboard, mixed paper and metals where possible;
- Exceeding global industry practices for responsible materials recycling.

Another OEM characteristic? A one-year warranty and never-ending support

Every Depot International printer part or printer carries a full one-year warranty. It is the longest warranty in the industry. Other remanufacturers offer six-month warranties or less and a review of those offered by Walmart, Amazon and others

confirms that. “The warranty is the same as the warranty offered by the OEMs,” Sinibaldi confirmed. “We offer one year on everything we do.”

With seven warehouses in the U.S. and five in Canada, Depot International also has unique abilities to swiftly deliver to its dealers and customers in North America. “We are renowned in the industry for our worldwide distribution capabilities,” Sinibaldi said. “Our comprehensive coverage and flexible distribution options provide the highest level of availability and efficiency.”

With more than 200 employees, comprised of technically-rich support and customer service associates, Depot International can deliver on its promises. “We offer unparalleled customer service and support. Each and every Depot International customer has a personal sales and support representative,” Sinibaldi said. “Rest assured that from sales and implementation to training, roll out and maintenance, we will be there to support your business and ensure your success.”

That includes technical service and support, when and wherever it is needed. “We know how critical it is to have a part. When a printer is down, speed is important,” Sinibaldi said. “It’s even better if the customer can repair the device in the field, so someone has to be here to answer the technician’s questions.”

With customers from various sectors, including the BTA channel, MPS service providers and imaging supplies dealers, Depot International chose to provide support to these varied customers.

Again they seek the perfect fit for the customer. “The dealers can provide support for their customers, or they have access to our full-time technical support team of 16 people,” Sinibaldi said. “For 22 customers, we are their call center. We provide triage, technical support, and any other information needed. We also offer a full training program.”

Customers are loyal to responsible technicians that get the job done quickly, professionally and requiring fewer callbacks

“If your technicians are not trained and up-to-date on the latest methods for addressing printer issues, you may be missing out on important benefits,” Sinibaldi explained. “You can't assume your technical staff has uniformly deep, extensive knowledge of your line of printers and multi-function devices. They may be familiar enough to service them on most routine calls, but they may quickly find themselves trapped in a corner when asked to diagnose and resolve more complex issues.

“Those complex issues, however, are often deal-breakers for your customers. This is why our effective, standardized technical training program is key to making sure your employees are qualified to repair the broad variety of issues that can come up in the field.” Customers trust trained technicians more and Depot International’s training includes:

- Diagnosing issues quickly and accurately;
- Handling more service calls per day;
- Being smarter about ordering parts.

Customers are loyal to responsible technicians that get the job done quickly, professionally and requiring fewer callbacks—a huge benefit for customer retention and a powerful argument against lower-priced competitors.

Adding remanufactured printers to a dealer’s inventory makes good financial sense, and is clearly accepted by the business customer and consumer alike. Adding technical support for those printers, with the help of Depot International, will help retain those customers for longer after that printer has been used and reused. ■

What e

doing to

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...every business should be protect their data ...om the printer gateway

— Bart Barcewicz

Barcewicz, a cyber security expert, is the founder and CEO of B Suite Cyber Security, an information security services provider that keeps business data secure and hackers out.
Bart can translate complicated cyber threats and technical issues into everyday language to easily communicate with business owners and executives and prides himself on being a cutting-edge provider minimizing cyber-crime, simplifying business continuity management, finding and closing security gaps, and engineering secure networks for businesses his company serves.

With the onset of much of our data becoming digital, many organizations are working around the clock, focusing upon protecting their assets. Businesses are starting to put cybersecurity at the forefront of their technology. We do so much to protect, detect and respond to new threats that arise many times each day—yet we forget about printer and copier data.

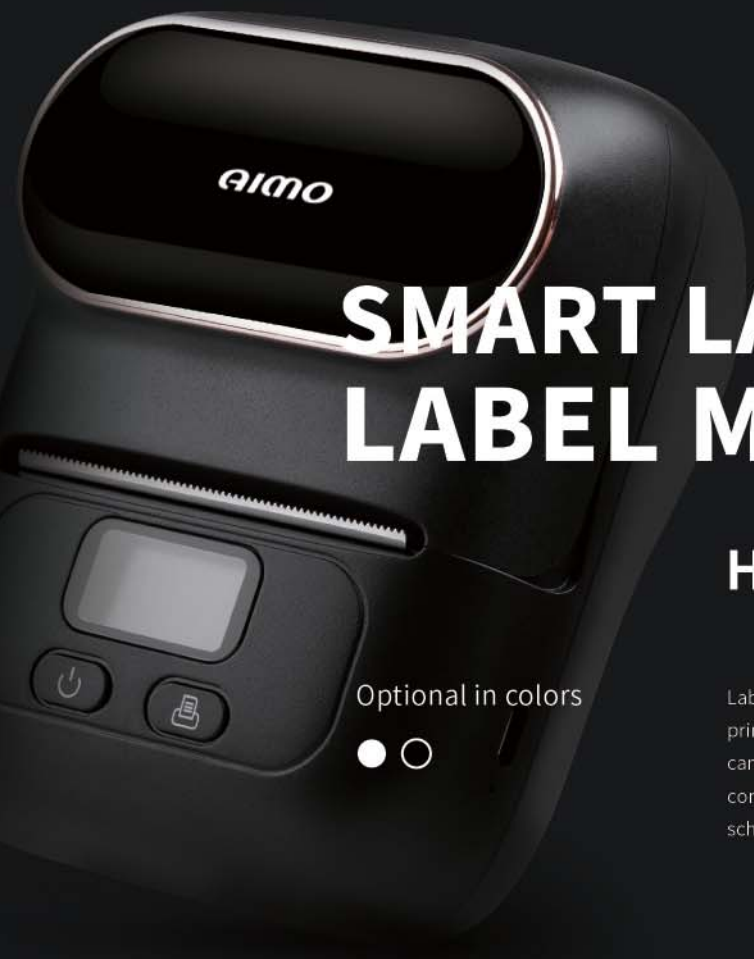
You have just installed a new shiny printer/copier in your office. It can do so much for you. You print sensitive documents to it. You can just as easily scan to file. You probably scan very important contracts that you just signed then emailed them straight away to the other party. Now what?

Some of that information may stay on the device for a while… Did you think about how to keep your business safe from possible data leaks? Can someone see what you just printed if they gained control of your device? What happens to the leftover information once your MFP devices are taken back at the end of the lease? These are the questions many should be asking and considering throughout the process of procuring and selling their devices. Many don't realize that a printer could be a major risk to their business.

By now you are probably thinking, why does this matter? Or my devices do not store any data. Well, that is not true. Copiers and printers have evolved drastically just like everything else in technology. Most modern printers and copiers are like little computers nowadays. This allows them to temporarily or even permanently store data on them. In addition, simple printers commonly used in most homes and small offices come with a web interface which allows system administrators to easily manage them

AIMO

AIMO Graphics Co., Ltd. concentrates on R&D, manufacture and sales of printing consumables, and also develop a series of rich-functional printers. AIMO attend the RemaxWorld Expo every year, where the latest products would be presented.



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remotely. At the same time, it possibly enables the risk where malicious insiders and hackers could gain access to those devices. All of those could be a disaster for many businesses. On that note, let's talk about better protecting printers and copiers in the modern office.

Change Default Passwords

The number one thing that almost everyone omits in a printer/copier deployment is changing the default password. This is one of the simplest protections when it comes to securing your device from a hacker or other third parties.

Strategically locate your printers

Did you ever think about the proper location for your printers? It is very important to separate printers based upon departments. You need to train your staff that printing sensitive information to printers located in general areas could end up in the hands of someone else. Some users should have personal printers if they regularly deal with ultra-sensitive data.

Physical security is another very important aspect of location. Every business needs to make sure that outsiders and visitors don't have easy access to the device. Just think of what might happen if your printer was stolen with the possibility of it having protected information still on it. It would be a nightmare.

Proper Maintenance

Anyone that cares about their data should be doing this on a regular basis: set a schedule and stick to it. There are a few items you should be really concerned about. Technology evolves, vulnerabilities are discovered, and security upgrades are released on a regular basis. Make sure you have a maintenance plan to run those security and important updates. Sometimes there are other benefits to it like new features. It is not always just about security. If you update your computers and servers, you should do the same with your printers as well.

Data scrubbing should be a feature you are asking your reseller and dealer as well. I found that "better" printers and copiers will allow you to set a schedule on which all data is wiped from the internal hard drive. This will help make it harder for anyone that is trying to infiltrate your organization through the most commonly missed security measures in printers. On the other hand, it may help extend the life of your devices and make them a little faster.

Most modern printers and copiers are like little computers nowadays. This allows them to temporarily or even permanently store data on them

Disposal

This is one of the major concerns in today's business. It is not only tied to printers and scanners. It affects servers, desktops, laptops and many other devices. As a security expert, I find that many organizations do not have proper lifecycle management practices in place. There could be various reasons why many will not take proper security precautions when disposing or re-issuing their technology. Trust me, I have seen it many times. Laptops and desktops being re-used with new employees, servers sold to a sister company—all with the old data still on there. It is important that all devices are securely wiped or disposed of. Not only the easily done ones, but ALL.

Today's security threat landscape is not a matter of IF, but WHEN you will be compromised

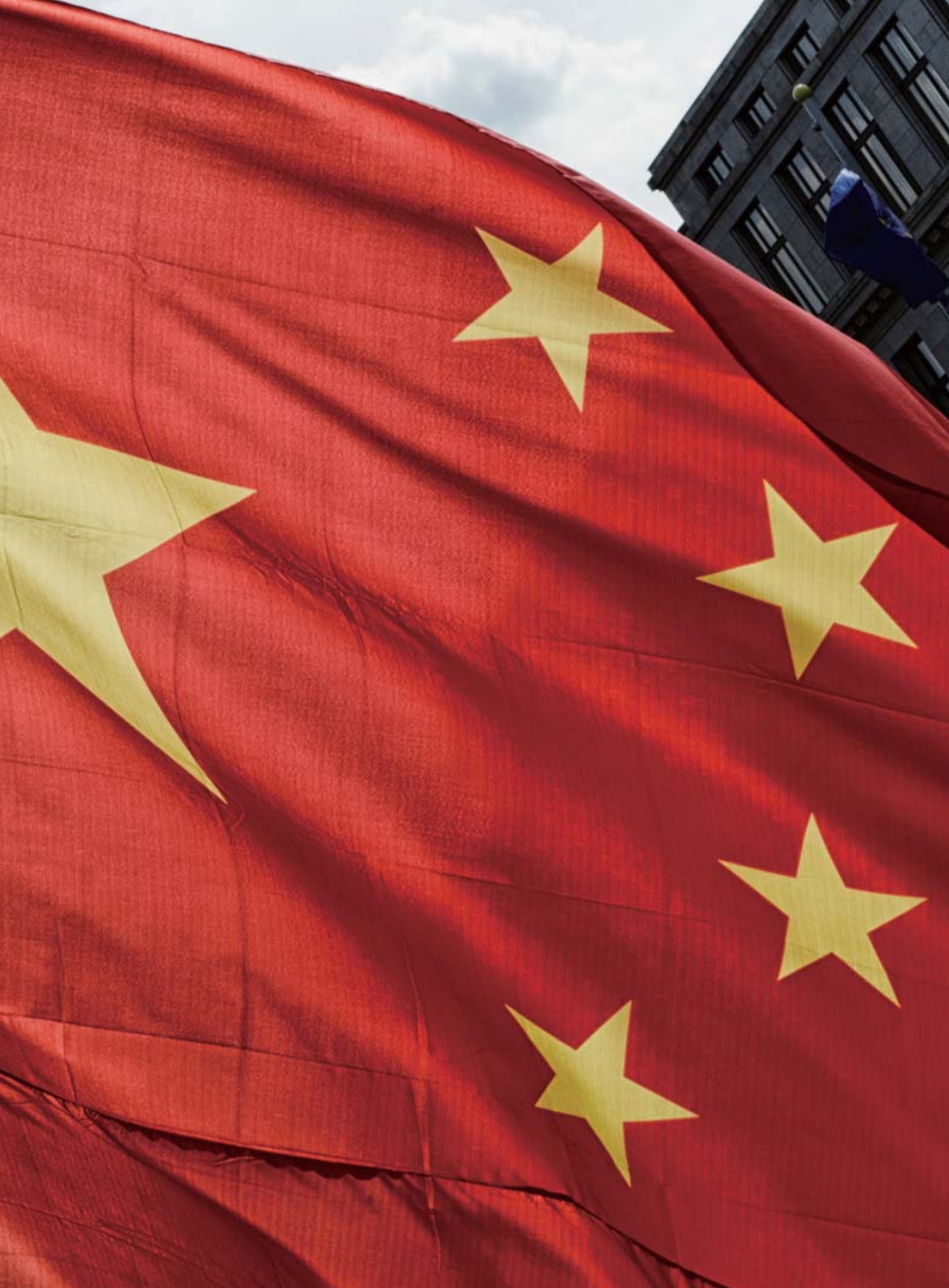
So how do we manage that with printers and scanners? There is one thing I always tell my clients when they are buying or leasing printers and scanners: negotiate, in the initial terms, for an internal hard drive replacement. Then, when you are ready to turn in the lease or sell your old devices, it is super easy to make sure it is done in a secure manner. You already negotiated an additional drive that is imaged for the device. Then either your print vendor or internal staff just swaps it out. You get it back and make sure it is securely destroyed. That way your data will not leave the building together with the device. Who knows where it could have ended up?

Public printers

There are security implications you should be aware of with the onset of co-working spaces, printing services and other public services that allow printing and scan-to-email. Think of it like public Wi-Fi at times. Was it tampered with? Is it secure? From my experience, I can say you can turn a bit of a blind eye to security if your need to print or scan does not carry sensitive information. When it comes to contracts, personal or financial information, however, I strongly recommend finding out first what is done with the data before you copy or scan. Ask the question, "Is it scrubbed on a regular basis? Are proper disposal policies in place?" If you are not sure, then don't do it. Have a personal device either in your home office or a trusted location where you can be confident your data will not end up in the wrong hands.

Today's security threat landscape is not a matter of IF, but WHEN you will be compromised

To fully protect your organization, you need to incorporate risk management with every device you have. It is not just the servers, computers and other in-sight devices. It is critical to have a design of an enterprise that incorporates security on everything that touches the network and may have direct or indirect access to sensitive information. Printers and Internet of Things (IoT) devices, among others, all need to be assessed for risk that may pose a problem to the company and be properly managed through their respective lifecycles. ■



Americans Reflect on Chinese Printer Security Issues

— *Art Post*

Post entered the industry in 1980 via a state-sponsored copier tech training program. After four months of training, that program enabled him to have employment as a copy machine technician. Soon after, he took a position with the same company in sales. Six years later, he opened his own dealership, selling it in 1998. In 2002, he created the first online web resource that would allow imaging professional (sales and owners) to collaborate with others in a secure format. To date, he is still involved with the day-to-day job of selling printers, MFPs and wide format devices.

I spoke about issues of Chinese printer security with eight attendees at ITEX 2019 in Las Vegas. Two had no opinion on the matter, three more really didn't believe it could happen and brushed it off. The thought of foreign powers using advanced chip technology embedded in print devices to capture and retrieve data did strike a nerve with the other three. Today we live in a connected world where many devices are capturing data on almost everything we do.

I kept pressing with the reminder of a spying incident in the United States with copy machines back in the early sixties. I believe it was 1962 at the height of the Cold War. The CIA was looking for ways to infiltrate the Soviet embassy in Washington, DC. It was noted there was one person that could come and go with ease at the Soviet embassy. That person was the copy machine repairman. The CIA then worked with Xerox to develop a camera that would be placed

inside the copier and take pictures of every document that was copied. Thus, the Xerox copier repairman was trained to install the camera, the film and also its removal. I believe this was the first time a print device was used to spy on a foreign country.

I submitted this issue to members of our Print4Pay Hotel forum web site and gained the following reactions to the question: What would be your top concerns for printers and copiers manufactured in The Peoples Republic of China?

"The Chinese government is attempting to hack the U.S. daily. I would have a legitimate concern about what is built into the chips within the device. Not being paranoid, just thinking of real concerns." ***Florida User.***

"Let us not forget one of the largest A4 players out there is Lexmark. Lexmark is a 100 percent Chinese-owned company called NineStar based in Guangdong, China. If you cheer MAGA, you cannot cheer Lexmark. God knows what those Chinese chips can do within a corporate LAN (echoes from Chinese telecom giant Huawei scandals). It goes way beyond phones with Huawei. Huawei is attempting to dominate the global telecom market for the next generation, super high speed, 5G networks. The reason why the Chinese government is flipping out over the extradition issues with Meng, CFO of Huawei, is because she is considered to be a key technology princess in China with deep family ties to the Chinese government. The Meng extradition issue is exposing China's "Made in China 2025" plan to replace the U.S. and other countries in select dominant technology issues of today and the near future. ***Nova Scotia User.***

"After watching various YouTube videos about a westerner's daily life in China, I realized it is ingrained into their culture that it is OK to steal intellectual property for personal gain without fear of consequences. Chinese people steal from Chinese people but it is preferable to steal from Western sources. Lexmark is NineStar, which is partially owned by the Chinese government. If NineStar officials do not comply with the Chinese government's wishes, they could quickly be made to disappear. President Trump is correct about levying tariffs against China to try and change their behavior and stop the government-directed theft of intellectual property. The Chinese only understand economic pain. The Chinese government is easily capable of waiting out this President for the next one. As far as what is in a Lexmark chipset, who knows? Almost all current Lexmark print devices are all capable of automatic firmware updates. Who knows what code could be buried in there." ***Anonymous User.***

"In 2016, Apex Technologies (now NineStar Corporation) purchased Lexmark at a 17 percent premium above its share price. In the background, the Chinese government had purchased a 5 percent stake in Apex (at that time a relatively small and unknown maker of third party toner and inkjet cartridges). In fact, Lexmark sued Apex for at least 15 patent violations. Via what is known as the IC Fund, the Chinese government is supporting its technology companies with the goal of advancing China's "Made in China 2025" plan to displace the U.S.'s various long-held technological advantages. How Apex was able to fund the $3.6B all cash purchase of Lexmark is unknown given its market size at the same. What is

known is that the IC Fund cooperated with Apex not only as its financial advisor but also in the expectation that Apex would carry out China's national strategy. The IC Fund no longer publishes any information with regards to investor relations. It is a four-hour flight from Guangdong Province, China where NineStar is located to Beijing. NineStar is considered the fourth most influential technology company in China.

An examination of Lexmark's current market strategy prices it MFPs and printers with steep discounts and quarterly rebates plus unusually high sales spiffs. All of its accessories, parts and consumables are priced high with no discount. The strategy is working because NineStar's profits are way up.

Taking all of this into consideration, I would far prefer if Xerox gave HP the opportunity to become a major shareholder, HP should take the deal. If NineStar was to get the chance to buy Xerox, with Xerox's deep entrenchment in all levels of the U.S. goverment and major corporations, unlimited 'dark pools' of money from the Chinese goverment would become available." ***Arizona User.***

"The Chinese government via military intelligence retains the unchallengeable right to demand of any Chinese corporation whatever information it desires. These new state security laws came into effect in 2018. It is unknown what would happen if the Chinese military demanded the same of a multi-national corporation manufacturing in China. Chinese culture is such that if the Chinese military could not get the information that it wanted via the front door of a multi-national, it would simply pressure the Chinese employees of the corporation to provide the information." ***Nova Scotia User.***

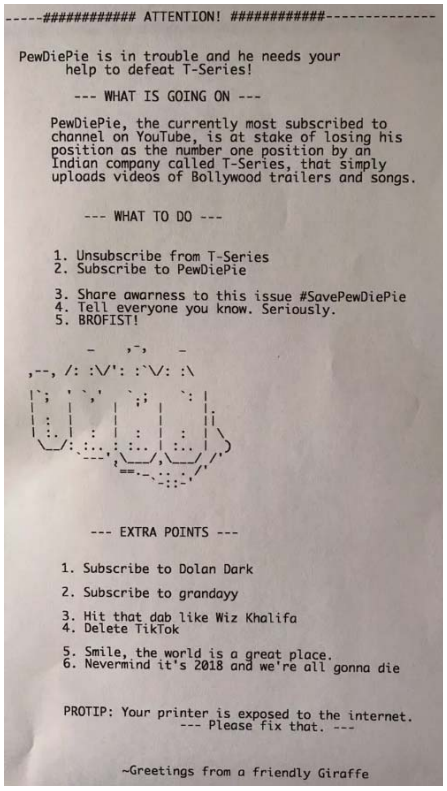
Those were some pretty interesting threads. As someone who comes from the copier industry and is currently selling A3 multi-functional copiers (devices that print, scan, fax and copy), I'm also selling print devices that are manufactured in China. In the U.S., the government will only buy Ricoh MFP's that are manufactured in Japan. Those models are designated as a "G" series devices. It does make you wonder why the U.S. government will not buy MFP's that are manufactured in China. Over the years I've been told it is because of security issues with the manufacturing taking place China.

This also brings up another question. If the U.S. government is so concerned over the security of MFP devices then why can DOD contractors purchase non "G" series MFP's? In addition, why are companies like Google, Facebook, and Boeing not concerned with having devices manufactured in China hanging on their network?

The Print4Pay HOTEL was envisioned as a means to satisfy our "Need for Knowledge." This site has been developed as a forum for imaging specialists to share information and to find answers quickly on global issues. It is a place to store and search our collective knowledge and to share inspirations, ideas and our passion for the imaging industry. If you accept our challenge to become a member, you will find that Print4Pay HOTEL members are some of the brightest and talented imaging professionals in the industry. Register for the forums and with the help of the Print4Pay Hotel, you too will be among the elite in the imaging industry. ■

A Brief Study on Printing Security and Apex's Printer Controller SoC Chip Solution

By the Marketing Staff at Apex Microelectronics



-----########## ATTENTION! ##########----------

PewDiePie is in trouble and he needs your help to defeat T-Series!

--- WHAT IS GOING ON ---

PewDiePie, the currently most subscribed to channel on YouTube, is at stake of losing his position as the number one position by an Indian company called T-Series, that simply uploads videos of Bollywood trailers and songs.

--- WHAT TO DO ---

1. Unsubscribe from T-Series
2. Subscribe to PewDiePie
3. Share awarness to this issue #SavePewDiePie
4. Tell everyone you know. Seriously.
5. BROFIST!

--- EXTRA POINTS ---

1. Subscribe to Dolan Dark
2. Subscribe to grandayy
3. Hit that dab like Wiz Khalifa
4. Delete TikTok
5. Smile, the world is a great place.
6. Nevermind it's 2018 and we're all gonna die

PROTIP: Your printer is exposed to the internet.
--- Please fix that. ---

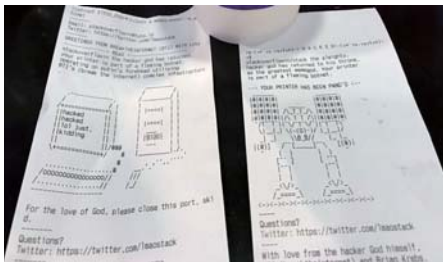
~Greetings from a friendly Giraffe

The text and image sent to a printer

The concept of the "paperless and digitized office" has been proposed for more than 30 years, yet the printer is still the most important piece of office equipment.

With the popularity of the Internet, mobile accessibility and the development of IoT technology, printers have become more able to access a company's network.

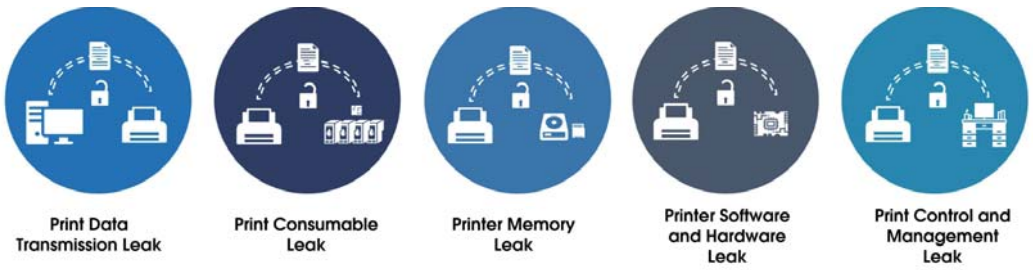
Printers have become a target for hackers because printed materials may contain a certain amount of important, confidential information. In February 2017, the hacker "Stackoverflowin"



ASCII code printed by the hacked printer

hacked more than 150,000 networked printers that were publicly exposed to the Internet and warned people to pay attention to printer security issues by printing ASCII code[1]. In December 2018, an anonymous hacker hijacked 50,000 printers around the world and instructed them to print subscription flyers for a YouTube channel named PewDiePie, an advertisement for his favorite YouTube channel[2]. Printers do face an information leaking risk, which can threaten the information security for individuals, businesses, hospitals, the military, banks, governments and other organizations.

There are many ways to attack a printer, such as DoS attack, access to print jobs and even access to the company's network. From the printer itself, there are five major gateways that can cause information leakage including print data transmission leak, print consumable leak, printer memory leak, printer software and hardware leak, as



well as print control and management leak. Print data transmission leak refers to the data sent to the printer through the transmission medium after the user initiates the print job.

There are three risk points of communication interface, network access and data transmission. And if a printer uses consumables with chips, there is a risk of illegally storing and transmitting information under the condition of storage and wireless communication module—this is what we call print consumable leak.

Printer memory leak means information can be leaked from the printer's memorizer such as internal storage, memory card and files from the hard disk. All of this can cause memory data leakage and permanent memory leakage. It is easy to implant malicious code into the main control and management system because of its uncontrollable security. Firmware upgrades can also cause leakage as a result of malicious code. Print control and management leak refers to potential information leakage caused by untimely control and unpredictable permissions on the printing device.

In the face of an increasingly complex situation internationally, it is especially important for printer manufacturers and consumable manufacturers to provide safe and reliable products to ensure the information security for users. The core component of a printer is the main control chip which is a special ASIC control chip.

In order to break the technical bottleneck of the printer's main control chip, Apex has been cooperating with Pantum Electronics, Zhejiang University and Hangzhou Zhongtian Microsystems to carry out a collaborative innovation of production, education and research since 2012. In 2017, Apex successfully developed

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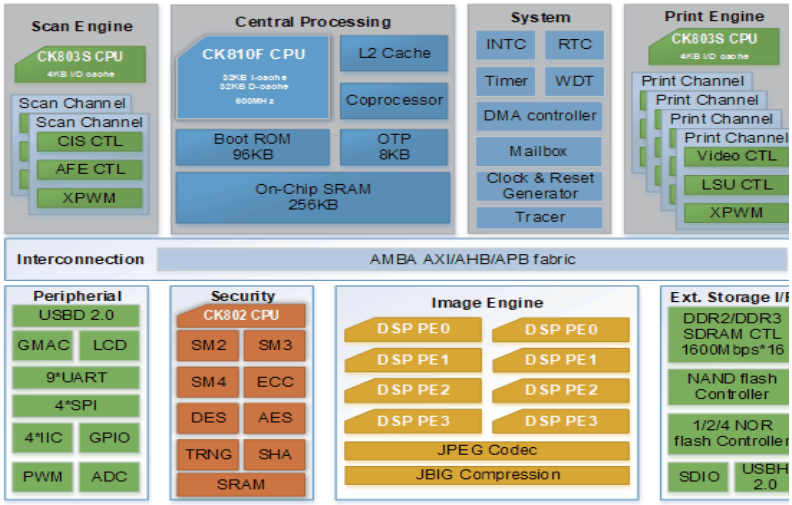
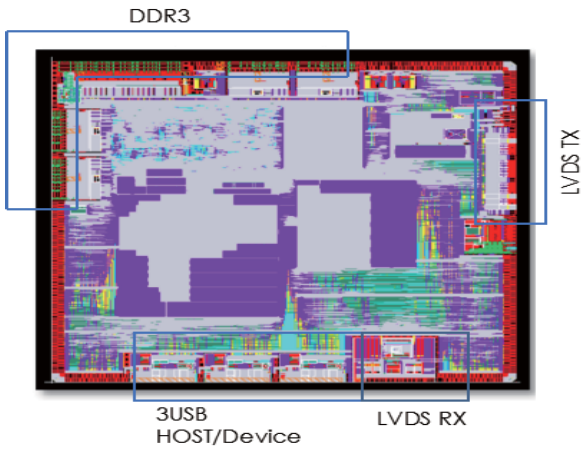
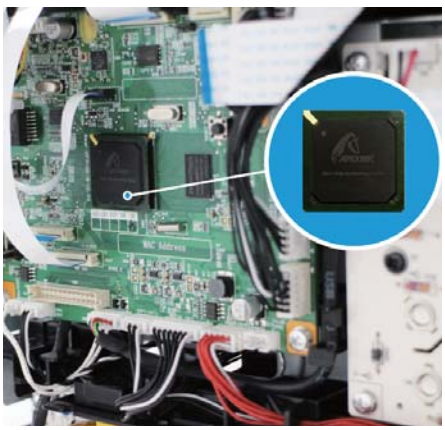
AFFIRMATION BY SOME AGENCIES





a four cores main control SoC chip HSP2220 for use in multifunction laser printers based on UMC 40 nanome technology. The HSP2220 is equipped with a high-performance CK810F CPU that supports processing system downloads and Linux operating system. It is equipped with a low-power consumption CK803S CPU that supports real-time response from printers and scanning interfaces. The chip has a complete system IP and peripheral IP, with a flexible image processing engine.

In addition, the chip comes with the self-developed security kernel CK802, which is a digital security concept based on secure SoC applications, with rich encryption modules (AES, DES, SHA, SM2/4, etc.). It supports anti-fuse OTP for key storage and CPU restricted access and has the ability to protect program execution and data operations from external attacks.



From the print consumables perspective, Apex's own patented SoC chips use CPU core of 32-bit RSIC instruction set. The SoC chips are safe and not easy to be cracked or counterfeited by using the AES encryption algorithm. What's more, Apex can also customize a dedicated chip for users to provide zero-confidence risk consumable chips for confidential units.

In our current world, the Internet can intelligently connect everything to everything. There may be information security risks in the transmission and connection process between data/information and smart devices. Especially in the era of Internet of Things and Internet of Vehicles, every node can become a node for information leakage. Apex has 15 years' experience in integrated circuit design, and has comprehensive, mature and stable independent R&D design capabilities in SoC chips. With its strong resources and rich practical experience in chip security and encryption technology, Apex is launching important strategic deployment in the field of security chips.

In 2018, Apex released the first 32-bit secure high-speed network security chip with a dual-CPU core. One core is for security, and the other is for application. Application and security are physically isolated and cannot be cloned. The 256-bit SRAM-PUF chip supports two-way identity authentication with system integrity detection and self-recovery technology. It also supports multiple network security protocols (IPSec, SSL, MACSec, etc.) and international standard cryptographic algorithms (AES, DES, ECC, RSA, SHA, etc.), as well as a rich user interface to prevent information from being tampered, forged and leaked, which ensures the security and reliability of information. Apex has successfully bid for the China Southern Power Grid's power distribution security chip project using its first dual-core network security chip which is now under the demonstration phase of operations.

In the future, Apex will continue to develop printer master SoC security chips for printing consumables and multi-core network security chips. It will invest more in these fields in order to intensify and go deeper on product structure and to improve product performance. Apex's vision is to create a healthy, orderly and secure IoT information world, and to promote the rapid growth and development of the independent, controllable and safe printer industry chain in China. ■

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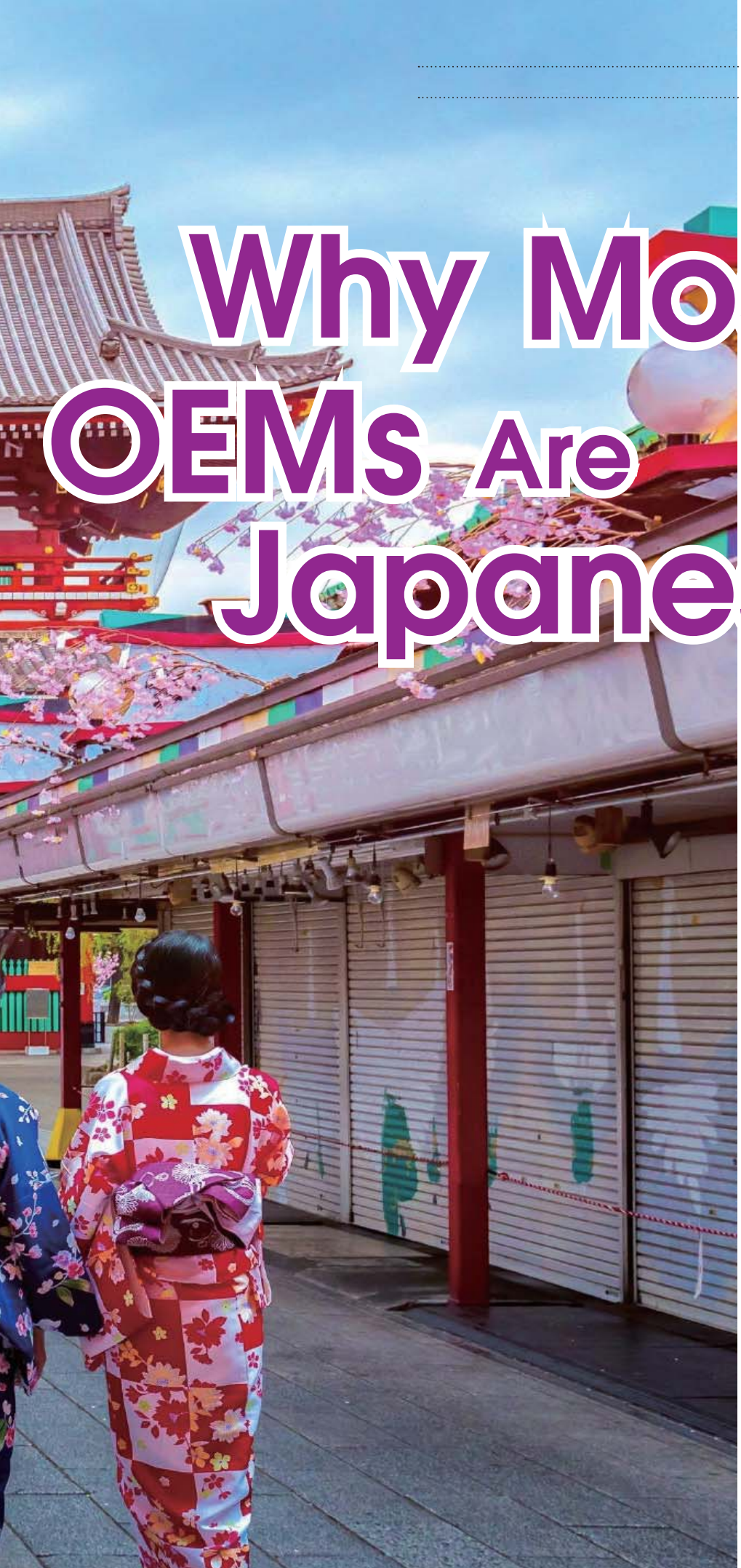
Galliford is a world-renowned consultant, researcher, writer and speaker for the global imaging industry. His work has encompassed technologies in a variety of printing components and products but has worked primarily in the field of toner-based printing technology since 1974. He can be contacted at graham@gallifordconsulting.com.



Why Most OEMs Are Japanese

— *Graham Galliford*

What is the current tally of OEMs in our industry? Regarding those that major in toner-based printers, MFPs and copiers for the office, there are 11 Japanese and four non-Japanese OEMs.

Today if you consider other toner-based printer types, i.e. high-speed production printers, wide format printers and other specialized types, there are two Japanese and three non-Japanese. Japanese dominance has been a factor for almost 30 years.

The ink jet industry breakdown is similar. Of those that are producing printers and MFPs for the office, there are 12 Japanese and six non-Japanese OEMs. In addition to these, there are many companies building specialized niche market ink jet devices most of which are non-Japanese. The development of inkjet products has been an event subsequent to that of the toner-based types. The reason for the predominance of Japanese OEMs is to a great extent a result of their success in the toner-based copier field.

There you have it. The industry is dominated by Japanese OEMs. To learn why it has persisted for almost 30 years you have to go back in time.

The Perfect Storm

From the early 1950's to the mid 1970's there developed a "perfect storm" in Japan that has impacted this industry. This was

the result of no major single factor, but out of the convergence of market, industrial and societal forces. After WWII, Japan's economy, industry and infrastructure were devastated. The U.S. for geopolitical reasons made significant investments in rehabilitating Japan. This led in the early 1950s to the start of the dramatic and successful growth of all Japanese industry. Another factor was because of Japanese governmental industrial policies. The government's goal was to promote industrial recovery and development by cooperation with private firms. There were three phases in this policy. The first phase, from 1946 to 1949, was for economic recovery with the Japanese economy under government control. Next, there was the transition to a market economy from 1949 to 1973 and thereafter a period of stable economic growth from 1974 to 1990 at a rate exceeding that of the U.S. During this period Japan almost achieved its goal of catching up with the advanced Western countries.

Highly Cost-Effective Quality-Oriented Manufacturing

Another element was the development of highly cost-effective quality-oriented manufacturing. The government recognized that in the national economic system, the foundation was manufacturing. Innovation for the future enhancement of manufacturing is derived from investment in education and financial investment. Education is fostered by government and combined with liberal availability of government and banking financial investment and there is the recipe for advancement and success. During these times Japan became the world's low-cost manufacturing base just as China has been in the recent past. Japan became a technology innovator and leader, just as China is aspiring to become in the future.

Industrialization with a Japanese Twist

This need for innovation was recognized by the Ministry of International Trade and Industry (MITI) in the late 1970s. In 1979, MITI proposed the concept of Japan as a "technology-intensive nation" as a part of its "Vision for Industrial Policy in the 1980s." The vision claimed that "a turning point was coming, a move away from an industrial pattern of 'reaping' technologies developed in the seedbeds of the West, to a pattern of 'sowing and cultivating' that displays greater creativity."

A further "perfect storm" element was the important strategy and consequence of the formation of what is known as the Keiretsu in Japanese industry. A keiretsu is a set of companies with interlocking business relationships and shareholdings and is typically grouped around a major bank. Major Keiretsu in existence today are Mitsubishi (MUFG), Mitsui/Sumitomo (SMFG) and Mizuho. Within these Keiretsu exist member companies in diverse fields - insurance, real estate, construction, food, beverages, electronics, trading and commerce, vehicles, petroleum, precision machinery, optical industry, chemicals, paper, iron and steel and shipping. Such conglomeration makes each Keiretsu relatively self-sufficient and strong. It is also one of the reasons that it is very difficult for non-Japanese companies to enter business with Japanese companies as preference is given to Keiretsu member companies. The Keiretsu has existed since the late '40s but was not then a totally new concept. Historically the Japanese industry was organized in the form of groupings known as Zaibatsu. These were groupings of companies made on the basis of familial ties. For a variety of reasons, the Zaibatsu were virtually eliminated in the 1930s. The development of industrial strength by strict adherence to the Keiretsu enabled efficient, cost-effective production and innovation and maintained dominance over the Japanese economy for the second half of the 20th century.

In Pursuit of Quality

Another "perfect storm" element is quality. During this period in Japan, there was a relentless focus and quest for quality. William Edwards Deming, an American engineer, statistician, professor, author, lecturer, and management consultant made a significant contribution to Japan's reputation for innovative, high-quality products, and for its economic power. He worked with the leaders of Japanese industry and is regarded as having had more impact on Japanese manufacturing and business than any other individual not of Japanese heritage. Many in Japan credit Deming as one of the inspirations for what has become known as the Japanese post-war economic miracle. In Japan in 1951, he established the Deming Prize, an award given to a company for achievements in quality. Fuji Xerox has been an award recipient.

Japanese Companies Start to Make Copiers

Yet another "perfect storm" element was that in the early 50's there developed globally the demand from business and society for increased cost-efficient productivity in industry, including not only the means of production but also in the efficiency in administration. The demand for the innovative instant copier burgeoned to improve the latter goal. A factor and driver to Japanese industry additionally was that, at that time, fountain and ballpoint pens with bluish ink were mainly used to create documents in Japan. Even though

Japanese character typewriters were in use, writers needed specialized skills to operate typewriters having a writing speed much slower than that of handwriting and carbon paper copies were of poor quality. The Japanese had already begun to make copiers to overcome these problems using the wet diazo-process which was less than convenient.

In the '60s and early '70s, outside Japan, Xerox, plain-paper copying process was taking the market by storm. Xerox patents and their extensive sales and service network sustained its virtual monopoly at that time. However, starting in about 1970 new competitors started eroding the Xerox empire. There were some American and European producers competing for the same market - IBM, Kodak, American Photocopy Equipment Co. (APECO), 3M, Olivetti and Smith-Corona Marchant (SCM). Other than IBM and Kodak, these companies used RCA Corporation's Electrofax process with light-sensitive zinc oxide coated paper or 3Ms Thermofax thermally sensitive paper process. Of these non-Japanese OEMs, only Kodak continues with its Nexpress production printers.

Japanese engineers had always aimed to develop indigenous expertise in xerography. The Japanese copier OEM was created when it was clear that the growing demand for office automation in the form of instant copies was a market with a great future. The developing copier OEM was focused at that time in other areas of business. For example, at that time, Minolta was an optical company making, cameras and binoculars. In their work to develop and manufacture copiers, they were able to rely on sister companies in their Keiretsu for supply of for example chemical products like toner from Mitsubishi Chemical, electrical components like motors and switches from a number of member companies, finance from Mitsubishi Bank, glass from Asahi Glass, lenses from Nikon, and the list goes on. Favorable business terms were able to be afforded to them which enabled them to be cost-effective and price-competitive. That Minolta was narrowly focused in products was overcome by cooperative work and the diversity of the Keiretsu.

Another Perfect Storm element was that Xerox' monopolistic market position engendered U.S. antitrust pressure that led Xerox to be forced to license its key technologies. At that time David Kearns, who was Xerox's chief executive said the crisis his company faced was that the Japanese were selling products in the United States for what it cost Xerox to make similar products and Xerox couldn't be cost-competitive.

Competitors from Japan producing high-quality, low-cost machines used new technologies that circumvented Xerox patents. As an example, Ricoh developed the highly successful LTT process using liquid toner for plain paper copying and marketed through Savin and Nashua. New technologies, Japanese domestic demand and rivalry among Japanese producers generated a unique environment for product innovation and Ricoh, Canon, Fuji Xerox and Minolta benefited from this. Fuji Xerox had the additional advantage of direct access to Xerox technology.

Japanese OEMs Today

Industrial strength depends on continuous innovation and improvement which requires investment. Investment is enabled by good profitability which, in turn, is enabled by efficiency. This Perfect Storm Element continues. The rate of innovation by Japanese companies in our industry has steadily and progressively increased. This has led to the filing of large numbers of patents by OEMs, protecting their IP, particularly from non-Japanese competitors. There is significant cross-licensing among Japanese OEMs which provides the Japanese industry as a whole with a very strong technological position.

The Elements of the Perfect Storm That has led to the Dominance of Japanese OEMs

The development of the global industry with the dominance of Japanese OEMs has its origins quite a long way in the past. In summary, the congruence and convergence of the elements of the perfect storm that led to this have been:

1.The rebuilding of the Japanese industrial base after WWII using the U.S. as well as Japanese domestic investment

2.The early development of highly cost-effective quality-oriented manufacturing

3.The development of industrial strength in strict adherence to the Keiretsu.

4.The relentless focus and quest for quality in design and manufacturing.

5.The global burgeoning of demand for distributed instant copying.

6.Focus on innovation and new technology development.

7.Xerox' monopolistic market position engendered U.S. antitrust pressure.

8.Protection of Japanese technology by pervasive patent creation.

It seems that this position is unlikely to change at any time in the future. The instant print industry is in a mature phase now with all of the implications that that has for attracting new investment. ■

How many Chinese printers and copiers do you know about?

How many Chinese printers are there? You may have heard of brands like Pantum and Lenovo but there are many other brands you may not be aware of. Here is a listing of some of them:

CUMTENN Touch-screen Multifunction Laser Printer CTP-2218 series

Established in 1993, CUMTENN was one of the earliest manufacturers to develop bill printers, barcode printers, thermal printers and laser printers.

Targeted at office and domestic consumers in China's "One Belt One Road" markets, the CTP-2218 series has some unique features:

- Five-inch touch screen control panel;
- Low cost, no-chip, high yield cartridge design, permitting the user to add toner many times;
- Solves the interference of ID card copying with a clear copying indication zone;
- Adjusts its speed and temperature accordingly to maximize the fusing of the toner when different kinds of paper are used in the printer;
- Special process for invoice copying.

Avision Copier X2030

Avision Suzhou develops and manufactures office equipment like scanners, printers and copiers.

In response to the growing, high demand for copying and printing in China, Avision has launched the X2030—a very compact A4 copier which is convenient for family, small shops and endusers. The copier uses Avision's self-developed chips, and also has applied a cloud management system with Wi-Fi and 4G networks all builtin. Customers can do self-service printing and copying and can pay via cellphones while the owner can check and manage the operation easily.

Further, Avision provides its partners with free original consumables and maintenance warranties. The cloud management system can automatically detect the remaining amount of toner and send free original toner to the partners in advance. Avision claims it will provide full back-up services and can lower costs for business.

Elean AM3093

Elean completely owns its independent intellectual property on its laser printers and copiers. With its headquarters located in Yichun, Jiangxi, Elean has large manufacturing bases in Shenzhen and Suzhou, and R&D centers in Beijing, Wuhan, Shenzhen and Hongkong.

The AM3093 is a monochrome, A4 multifunction laser printer with 600 × 600 dpi resolution. Its output speed is 30ppm. The printer includes automated double-sided duplex printing, a no-waste toner cartridge as well as saving energy functions.

Pujun Huang, President of Elean told RT Media, "We are the new force in the domestic printer market but we have a complete printer development system and independent hardware production capacity. We are positioned not only as a printer manufacturer but also a printing service supplier."

Yinxiansen M02

Label Master M110

Quyin (Aimo)

Zhuhai Quyin is the wholly-owned subsidiary of AIMO Graphics Co., Ltd, a famous label and ribbon manufacturer in China. Quyin focuses on the development and manufacture of professional label printers.

Two of its main products are the M02 and M110.

Yinxiansen M02 is a mini pocket printer designed for students to improve efficiency. The printer applies thermal printing technology and enables a Bluetooth connection so that printing can be done via mobile phone Apps.

Designed for the supermarket and accessory industries, **Label Master M110** is a smart Portable thermal label printer with a 1500mAh large capacity lithium battery builtin. The exclusive App for M110 provides up to 330 templates for 15 industries. Users can search for the preferred label templates in the APP and print them out with a Bluetooth connection.

Puty label printer P1-200dk

PUTY began as a printing consumable company based in Shenzhen, China. The company now focuses upon label printers. “Modern life needs high efficiency and quality” is the mission statement they apply to their designs. PUTY claims several features are built into this newly released label maker that help users create labels for personal or business applications.

DASCOM DP-330L portable label printer

Headquartered in Hong Kong, Dascom has acquired the historic, German printer company Tally and is now a global professional printer company holding its own intellectual property rights. The company develops and manufactures high-speed printers, micro-printers, self-service printing equipment, label printers, bar code printers, portable printers, smart card printers, etc.

The DP-330L is an industrial level label printer which is rated IP54 anti-drop, meaning it is waterproof, dustproof and can fall 1.2 meters without damage. With an easy mobile connection and a high printing speed of up to 100 pages per minute, the DP-330L employs the company’s own MCU chips to ensure information safety.

Biaotop

Shenzhen Masung Technology Co., Ltd targets the market with receipt printers, embedded printing units, thermal transfer printers, micro printer cores and printing control panels. Masung’s printers are designed for business, finance, medical, taxation, telecommunications, railway, automobile, lottery, cinema, catering and other industries.

The MS-GD80H is a thermal receipt printer which can print on different kinds of heat-sensitive layer folding paper such as coated paper, hangtag and synthetic paper. It is widely used in scenic spots using folding tickets.

Gainscha GP-4120M

Gainscha is a printer company based in Zhuhai. Its products cover a wide range of thermal, barcode, portable, smart cloud, handheld label and industrial printers.

In April 2019, the company launched the GP-4120M, an industrial label printer with a thermal transfer and thermal sensing dual mode. According to Gainscha, the GP-4120M is equipped with a unique and efficient print head, with pressure that can be adjusted. The printing speed is up to six inches per second. The printer provides printing accuracy of 203 dpi and 300dpi and is suitable for all kinds of labels like price tags, fixed asset tags and electronic fact sheets.

Label printer TT-820B

Biaotop

Biaotop is a young office equipment company which was established in Changsha, Hunan in 2015. Their printer products include dot-matrix and thermal printers for different use.

They claim their latest generation of printers are more portable, more intelligent in cloud printing and secure. Biaotop claims it can provide stable and customized products to meet the various needs fo the end user.

Their printers include: Dot-matrix printer BP-900K, for deposit books and cards, Label printer TT-820B, AR-880K Wide format A3 printer for forms, and AR-790K receipt printer, A3 high yield, suitable for the finance, tax and legal industries.

Dot-matrix printer BP-900K

AR-880K Wide format A3 printer for forms

AR-790K receipt printer

A number of Chinese OEM printers will be on display at RemaxWorld Expo in Zhuhai China on October 17-19 2019

IN MY VIEW

Which function or feature of your office printer do you value the most?

USA

Jim Rennie
CEO at Child Impact International

Being involved in the running of an international charity, I have become somewhat reliant on my printer which is an integral tool in my day-to-day office work. My two favorite functions are wireless printing and double-sided printing.

USA

Diana Furr
Founder & CEO,
Champions of Destiny, LLC

In my view, the fax function is now virtually obsolete with "All-in-One" printers and, if I could, I'd convert that capability into greater, consistent performance in the other functions, such as scanning and reliability which are essential for me.

USA

Victor Peinado
Senior IT Operations

That's such a hard question... Reliability has to be number one. If the printer is unreliable, you have to go into troubleshooting mode and that can be "oh, so frustrating!" When you cannot depend upon your printer, none of the other functions matter. Color, speed and wireless functions are also important to me, and depending upon the circumstances, the order of importance could easily switch position.

Changing th Perception

By Christine Dunne, Consultant, Keypoint

In the movie "Office Space," disgruntled office workers bring their error-prone printer into a nearby field and start smashing it. This helps them feel better about their work and printer challenges. While the scene is funny to watch, it certainly does not portray printers in a positive light. It reinforces the common perception that they are difficult to use.

Fortunately, printers are increasingly incorporating new features to improve their ease of use. This article will discuss ways in which these devices have become simpler to operate, as well as provide statistics on the importance of ease of use for companies.

Importance of ease of use

U.S. and Western European companies with fewer than 50 employees say ease of use is a top criterion for selecting a product or vendor for their organization (54 percent); it is only second in importance to price (64 percent). Factors like service and support, software compatibility and integration, security capabilities, professional services capabilities, reputation of the supplier, sales knowledge, and brand are significantly less top-of-mind for these small companies.

While larger companies rank ease of use quite a bit lower (about 36 percent consider it a top criterion for product/vendor selection), it still tends to fall ahead of security capabilities, professional services capabilities, reputation of the supplier, sales knowledge, and brand. While larger organizations are more likely to have in-house IT staff that can help them navigate through usability issues, encountering these problems in the first place can harm productivity.

e Negative of Printers

Intelligence

User-friendly printer features

User-friendly printers often have an easy-to-use control panel and/or touchscreen, productivity apps, software utilities, maintenance capabilities, and interactive help. And a new usability feature being integrated into an increasing number of print devices is voice control.

Control panel: Much day-to-day interaction with a printer or multifunction printer (MFP) happens at a PC workstation, and is accomplished through the print driver and software utilities. But a fair amount of operations beyond straight printing, such as scanning, copying, and faxing, take place through the device's control panel and/or touchscreen.

The most user-friendly print devices have touchscreens that are large enough to easily read and navigate. Icons are clearly marked, and workers have the ability to place the most commonly used functions at the top levels of the menu system. Offices can also improve the control panel experience by having multiple printers from the same manufacturer. This helps workers become comfortable with the manufacturer's particular user interface.

Productivity apps: Many print devices now support apps. They either come pre-installed on the device or can be downloaded by the customer or a third party. These apps, which are initiated by a simple touch on the control panel screen, are designed to perform complex operations with a single or minimal number of key presses.

While the number and types of apps available vary from vendor to vendor, some of the more commonly found apps are focused on areas like page and cost

IN MY VIEW

Which function or feature of your office printer do you value the most?

Canada

Miao Sui
Sales Manager,
Green Terra Enterprises Ltd

Wireless connectivity is most important for me which also allows my parents to share my printer and allows me to assist them because I know more printing related techniques than they do.

Papua New Guinea

David Tasker
Former Dean, School of Theology,
Pacific Adventist University

As a professor currently engaged at an Australian university, I am having to deal with documents all day long. It has become impossible to have everything in hardcopy and certainly not practical to have to take volumes of hardcopy documents with you when you travel, or just to walk to the lecture theatre. Scanning, in order to convert hard copies into PDFs, is the most important function for me.

Australia

Damien Rice
Founding Managing Director,
Forbes Strategic

Duplexing, where both sides of a sheet of paper can be printed automatically by the printer, is very important to me. It not only saves me some paper costs but is good for the environment too. More importantly, my presentations look much more professional. Not all printers can do that. Some can do it manually, but I prefer the printer to be able to do it as a key function.

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accounting, document management and scanned file routing, and information access. When apps are designed and implemented correctly, they can greatly enhance the ease of using the device as well as the particular application or function they are designed to access.

Software utilities: Another important area of ease of use is the software utilities that accompany the device, including the print driver, fax driver, and any scan and/or optical character recognition (OCR) software. Many print drivers and associated utilities allow users to define the common settings that apply to their specific use of the device—helping improve their experience.

Maintenance capabilities: The ease of maintaining the printer is also important. For example, are the supplies easy to install/add? How difficult is it to fix a paper jam? Users should not have to struggle to perform these tasks. Some vendors place maintenance directions right in the area where the particular maintenance operation takes place, while others will detail the maintenance/replacement process on the control panel with a series of instruction screens (or a video may be available).

Detailed error and update messages also improve ease of use. For instance, a message that states, "The fuser needs to be replaced" is much more helpful than one that states "Error E331." Furthermore, a troubleshooting utility can be beneficial.

Interactive help: Interactive help lets workers access context-sensitive help on how to use a specific feature or function through the touch of a button or icon. MFPs with Internet connectivity can potentially direct users to online help, while other devices have more limited help built in.

Voice control: Increasingly, printers can be controlled by human speech—through the use of voice assistants like Amazon Alexa, Google Assistant, and Microsoft Cortana. Canon, Epson, HP, Sharp, and Xerox are just a few examples of printer manufacturers building this capability into their devices.

The benefit of this feature for users is interaction with the printer can be simpler and quicker. Instead of needing to type and navigate menu systems, they simply tell the printer what they want. Voice commands can also enable people with certain physical disabilities to use or better use the device.

One potential concern with this technology, however, is privacy and security. Indeed, while 49 percent of business users are considering investment in voice automation solutions (according to Keypoint Intelligence's recent Smart Workplace study), the number one reason for an unfavorable view of smart technology is a lack of security.

Businesses may fear that the Internet-connected nature of voice assistants could lead to company information getting into the wrong hands. Another potential drawback of this technology is disruption to nearby office workers.

3 takeaways

- Printers don't have to be difficult to use, especially with modern features and capabilities that simplify operation and maintenance.
- Small businesses view a printer's ease of use as very important, possibly because they are less likely to have dedicated IT staff in place.
- Today's printers incorporate usability features like easy-to-use control panels/touchscreens, productivity apps, software utilities, maintenance capabilities, interactive help, and voice control capability. ■

航天日新

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5 QUESTIONS

Developing Printers for Convenience
Print-Rite's Handheld Label Printer targets busy organizers

Who is the target demographic audience for this printer?

Your traditional inkjet or laser printer is not always well suited to the needs of consumers wanting to organize the daily routines of life at home or in the office. So Print-Rite has developed a handheld device that can provide a better user experience than others like the "Dymo" and "Brother" handheld devices. Our target customers are household, office, retail, library, education, manufacturing and logistics consumers who have a need for label applications. This small gadget will deliver with a lot of convenience.

What are the specifications and unique functions of this printer?

Apart from the regular handheld, label printing functions, its unique feature is being able to print barcodes. It has a range of font sizes, prints at 180 DPI at one cm per second using thermal transfer printing technology. It weighs 320g (0.7 pounds).

Why is Print-Rite developing such niche printer devices?

Print-Rite was the first company in Asia to enter the aftermarket some 38 years ago, and it was also one of the first Chinese companies to become a printer OEM with the development of 3D printers in the last five years. In this sense, innovation is at the core of the company's DNA. Having a strong domestic and international presence helps to keep the company focused on the development of new products and the exploration of new markets for sustainable growth and increasing competence.
We continue to choose the markets and industries that are similar with our core business practices. The handheld label printer is also quite similar with our core business because it involves the use of consumables. Further, just as with the Amazon Kindle or with 3D printers, using a device to push the consumables market is a smart business model.

What other printing devices is Print-Rite developing?

We will continue to develop various printing devices to meet the demand and user experiences of consumers. With regards to label printing, we are researching more user-friendly devices that can be controlled through use of one Bluetooth technologies and app control.

How can resellers get hold of this product and consumables to sell to their customers?

We expect Print-Rite's existing printer customers will be able to add this handheld printer to their current range of printers and consumables businesses. Our reseller customers are always looking for new products they can sell to their existing customers. ■

Meet the two Christinas: Christina Qiu (left) and Christina Chen—two of Print-Rite's handheld printer customer service team.

Other resellers are also welcome, to contact Charlie Huang, product manager at charliehuang@print- rite.com

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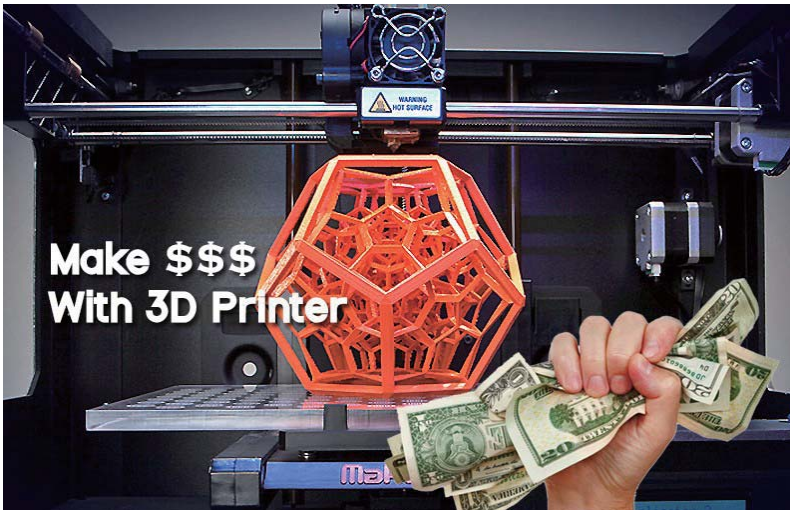
Mark Dawson

The 3D Printer Opportunity for Independent Resellers

IDC reports global spending on 3D printing will be $13.8 billion in 2019 representing an increase of 21 percent over 2018.

IDC is one of the leading companies that compiles and analyzes data for our industry. Here a few recent headlines:



21-Feb-2019: In the fourth quarter of 2018, worldwide shipments of printers, copiers and MFPs totalled approximately 26.7 million units. That is down 4.8 percent compared with the Q4 2017.

08-Feb-2019: Shipments in Western Europe continued to decline during the fourth quarter of 2018, continuing a downward trend.

06-Dec-2018: The worldwide hardcopy peripherals market declined 1.2 percent year over year in the third quarter of 2018.

We are experiencing "text book" challenges in mature markets. Revenues are down (flat at best), margins are shrinking, there is over capacity and major players are focussed on fierce cost cutting.

The channel must look for new opportunities to deliver sustainable growth. Related diversification makes more sense than unrelated, because the assets, skills, and capabilities should already be in place to drive change. Evolving current 2D printer activities to 3D is one such opportunity. Both involve hardware, software, service and supplies. The key difference being that 2D is in decline and 3D is growing fast. The following headlines are much more pleasing than those above.

09-Jan-2019: IDC reports global spending on 3D printing will be $13.8 billion in 2019 representing an increase of 21 percent over 2018.

04-Apr-2019: Research & Markets says that the global 3D printing filament market is projected to grow at a CAGR of 27 percent between 2018 and 2023.

Resellers should focus on the desktop models rather than the industrial 3D market. It is an easier transformation. Applications for desktop 3D printers overlap most of the verticals in which they are already active. These include but are not limited to: Education; Manufacturing; Architecture; Engineering; Health Care and Consumer.

The technology is FFF – Fused Filament Fabrications. We call the devices 3D printers. Most are no bigger than the average workgroup laser printer or page wide ink jet MFP. However, we need to think of these devices as micro manufacturing platforms, not printers.

Many 2D resellers don't realize that their regular toner and ink customers all have existing or potential requirements for desktop 3D printers and supplies. MPS providers have the existing business models to place, install and manage 3D devices.

Schools and universities either already have 3D devices in place (representing an opportunity to sell filaments) or need to source them (representing a total solution opportunity), to drive their STEM (Science, Technology, Engineering and Mathematics) related curricula.

Engineering and manufacturing businesses are embracing 3D for prototyping far more quickly and cost-effectively than was ever possible before. Fine tuning can be completed in a matter of hours rather than weeks. Costs are extremely low by comparison. 3D makes it possible to produce jigs and fixtures on the fly.

For those resellers in the B2C e-commerce space, 3D printers and filaments will deliver incremental revenues and margins. Consumers, hobbyists, DIY enthusiasts and students like to design and print that little stand to hold their phone so they can read it while multi-tasking. Or design and print the missing piece of the Lego model for their younger family member. In fact, the customisation opportunities are infinite.

Firms of architects can convey complex concepts to clients more quickly and cost-effectively than was previously possible. Model-making times are significantly shortened, and creative scope is expanded.

In medicine and dentistry, 3D models allow doctors to bring patient scans to life and identify exactly what is required before starting a procedure.

Applications are endless and this fast-growing installed base of devices needs supplies! Don't leave it until it's too late to get involved. ■

Dawson joined the imaging supplies industry in 1987, as a graduate mechanical engineer, and began his career in quality assurance and then production management before moving into sales & marketing. He has held senior positions with both American and European Corporations, including MSE and Clover. He is currently a Director with IOP (Internet of Printing BV) whose mission is to help independent resellers find new revenue streams and optimize margins. Anyone with questions about how to educate and train both the channel and the SME users as to the relative benefits of NBC and REM, can reach him at mark@iopbv.com

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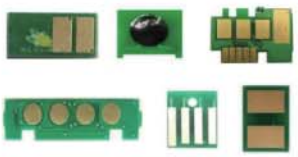

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David Gibbons

How Things Have Changed in Just 30 Years!

I can remember getting my first laser printer. It was an Apple LaserWriter and cost me about US$4,500 back in 1990—half the price of buying a brand new car at the time.

For eight years before that, I used a noisy, dot matrix printer. Prior to 1983, I used a "clackety-clack" IBM, "golf ball" typewriter with no word processing capability. If you made a mistake you had to "white it out" and start again. I have never been a proficient typist and my "search and destroy" method of striking the keys became much more efficient with word processing software. The printouts were clean and absent of White-out. I loved it.

Back in 1969, a graduate named Gary Starkweather (pictured) had a visionary idea while working in the copier department at Xerox in the U.S. He wanted to utilize new laser technology to create a radically different type of printer that would scan an image and electrostatically "draw" it onto a piece of paper using tiny specs of baked toner dust. Starkweather's bosses at Xerox labelled his laser printer "hogwash" and told him to get back to something useful. But Starkweather persisted and a decade later the first commercial laser printers went on sale. The only drawback was that they were the size of a small car—and equally expensive. Many at Xerox only expected to see limited number of large corporate sales for these devices.

In 1979, inspired by Xerox, Japanese camera and optics company, Canon, developed a low-cost, desktop laser printer. Having no experience in selling to computer users, Canon sought partnerships with three Silicon Valley companies: Diablo Data Systems (who rejected the offer), Hewlett-Packard (HP), and Apple Computer.

The HP LaserJet was the first laser printer intended for mass-market sales and it was released in 1984. It used the Canon CX engine, controlled by HP software.

Apple introduced the LaserWriter (also based on the Canon CX engine) but its newly released PostScript language allowed for the use of fonts, graphics and images as well as text. I remember it weighed in at 35kgs (77 pounds) and could print eight pages per minute (ppm) in monochrome only, at 300dpi. No other commonly available printer during this era could also offer this combination of features.

Today, you no longer have to lug a 35kg desktop printer around the office. Nor do you have to pay US$4,500. For just US$399 you can buy Canon's latest offering, a Color imageClass MF634 all-in-one (AIO) printer. At 21.9kgs (48.4 pounds) it is still not a desktop printer and requires its own printer stand. Of course, you can get a much lighter and cheaper printer but this one comes with a duplexing, automatic document feeder (ADF), scanning, mobile connectivity and security ID features. It can also print in color rivalling the quality of most inkjet printers. It can print 11 ppm in its two-sided, default mode and 19ppm for one-sided pages.

Security has become a hot issue for consumers, business and government, because printers attached to your network and the internet are a gateway to hackers having access to you your company systems and data.

Office professionals have also demanded an automatic duplexing function to provide for more professional, double-sided page presentations. While you aren't going to save any money on your cartridges from utilising duplex printing, you can save some money on your paper costs. There can also be a significant environmental impact with one study revealing Arizona State University saved 725 trees since switching to duplex printing.

Have you ever wondered why the OEMs charge you for printer cartridges, but allow you to use the scanning function for free? I don't know about you, but I scan more documents these days than I print. How things have changed since I first started laser printing in 1990. ■

David Gibbons is the publisher of this magazine and is a Director of RT Media Ltd. You can watch Gibbons share this message on InTouch TV.

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Gustavo Molinatti

Will the IoT in Latin America expand with ink or with laser?

Mexico, Colombia and Chile will be the three countries with the highest global growth in spending on Internet of Things during 2019

We may have many doubts about the future of the industry, but if there is one thing that is certain, the use of the Internet of Things (IoT) will continue to rise. By incorporating the functions and services of printers, the IoT promises to change the way in which we use them and through the incorporation of the technologies, will help to create a new generation of intelligent printers.

The adoption of IoT technology is occuring in all industries. It is helping companies to operate in a more integrated and efficient way, to better understand business processes and to make decisions in real time. The next IoT stage is just beginning and we are seeing a shift from the physical to the digital to automate and increase the human experience within a connected world.

According to a recent IDC report, global spending on the Internet of Things is expected to reach $745 billion in 2019, an increase of 15.4% over 2018. It is also expected to maintain double-digit annual growth rate each year during the forecast period between 2017-2022, to exceed $1 billion in 2022.

The key spenders of IoT for this year are expected to be the United States and China, with allocated investments for $194 billion and $182 billion respectively. Although our Latin region will be further down the spend list, the three countries that will see the fastest growth in IoT spending during the forecast period will be Mexico (28.3% CAGR), Colombia (24.9% CAGR) and Chile (23.3% CAGR).

Inkjet wins the arm wrestle—for now

Having resolved the historical stigmas over speed, quality and performance, ink-based printing devices have become an effective solution for companies, especially in the SMB segment. Its lower total cost of ownership (TCO) gives inkjet devices a competitive advantage over lasers.

This trend is reflected in the continuous increase in the number of devices with ink tanks worldwide, being one of the few segments that shows growth in value in almost all regions. Latin America is one of the markets where these devices have had a greater penetration, even surpassing in the second semester of 2018 the sales of printers relying upon a cartridge.

OEMs attentive to change

All OEMs have registered an annual growth in the LATAM region. HP Inc. claims to understand that the value of printing has been changing in recent years and focuses its strategy on knowing what the users' needs are in the region, and has been generating solutions to meet both professional and personal demands. Within the SMB segment, it will boost its line of HP Ink Tank continuous systems, multifunction printers without cartridges with a performance of more than 8,000 pages in color or 6,000 pages in black and white on average. The devices are designed for high consumption and present total print connectivity and integration with various operating systems.

Epson, a historic manufacturer of ink-based devices, continues to bet on its successful line of EcoTank printers. The products it is presenting promise an increase in performance, incorporating the Ecofit filling system, which facilitates the loading of inks with coded bottles to avoid errors at the time of loading.

Brother claims to be developing an innovative platform in the region to optimize its way of communicating with customers. Among its most important launches is the new line of InkBenefitTank multifunctional, for home use and the SMB segment. According to the OEM, the most significant benefits are speed and print quality.

The future beyond the hardware

For now inkjet-based devices seem to be chosen to accompany this first stage of adoption of IoT into the office sector, although it is difficult to anticipate how new generations of printers will relate to this in the future. Manufacturers face the difficult challenge of interpreting these technologies, developing devices and services that are at the forefront, protecting them from an increasingly complex cyber attacks.

While there is some well founded skepticism about the future of these technologies, the growth of products and printing solutions enabled by the Internet of Things is not far away. In fact, it's already started. ■

Molinatti holds a degree in architecture from the University of Buenos Aires, Argentina. As publisher of Guía del Reciclador—a Spanish language trade magazine first published in 2002 for the Latin American printer cartridge aftermarket—he has organized more the 20 technical and MPS training events in several countries including Brazil, Argentina, Colombia, Venezuela, Chile & Perú. For more information please contact info@guiadelreciclador.com or visit www.blogdeldelreciclador.com

You Could Hear

Cartridge World shares n

Judge—I-ITC's Executive Officer, and RT Media's Senior Consulting Editor—travelled to Chicago to learn more about the news-breaking strategy first hand.

More than 150 Cartridge World store owners, staff and territory masters met in Chicago on the weekend of April 26 to the 28th to discuss best practices. The store owners were also introduced to new sales prospecting methods, customer retention strategies and social media awareness that Cartridge World North America (CWNA) has initiated.

Many of the Cartridge World faces are the same, but the atmosphere has definitely changed. "The owners were so happy to meet, put a face to a name, and see firsthand that the team members at CWNA are putting the franchisee first," said Greg Carafello, Cartridge World Territory Master. "That alone would have been a tremendous success, but the tools put forth and every presentation were well organized and professional. You could hear a pin drop for eight hours on Saturday and six hours on Sunday."

The meeting was uplifting in both content and tone, causing one store owner to be overheard saying, "Starting Monday, I have a new business to run." It has been a few years since I have been invited to a Cartridge World National Convention, so when I was invited to speak with the franchise owners by the CWNA CEO Mark Pinner, I accepted enthusiastically. I was keen to see how the Cartridge World franchises were faring in today's massively changing business and consumer markets.

Pinner launched the event with a discussion on the current status of Cartridge World, and more importantly, what it needed to be in the future, introducing some of its new business-to-business programs.

The new programs are a fundamental change to Cartridge World's business philosophy. The early iterations of Cartridge World were a network of B2C retail stores with coffee machines, leather couches and newspapers, comfortably arranged in the front of the store where clients would patiently wait for their empty cartridge to be magically refilled and restored.

When Cartridge World entered the North American market in 2002, they were selling a franchise every 17 minutes, according to the Wall Street Journal, making it one of the fastest-selling franchises in franchise history. However, the ever-evolving imaging marketplace changed that.

The growing demand for consumer convenience, price pressure from Chinese imports and online selling platforms like Amazon all quickly supplanted the in-store refilling experience with a quick and cheap click to buy.

At its peak, CWNA serviced a network of more than 800 retail stores in North America alone. Industry pressures, as well as inadequate leadership, caused attrition that left only 280 Cartridge World remaining in 2017. Cartridge World needed to shift gears and shift them fast across before they became the new ToysRus or Blockbuster.

At a time when it needed hands-on leadership the most, CWNA was hiring its leadership from other industries or from far and wide. These folks had shiny resumes but were often unable to come out of ivory towers to get down and dirty with toner and ink. There was a palpable dissension between CWNA and franchisees.

Then came Pinner, whose technical background is the high point on his resume.

a Pin Drop:

ew business model for North America

—Tricia Judge

There is toner under his nails. And fierce determination in his heart.

CWNA was at a crisis point and needed to reinvent itself. That reinvention began with the CartridgeWorld@YourService business model that shifted Cartridge World's target market from consumers to becoming a B2B print service provider.

In 2016, They introduced a fresh brand change, in 2017 added new products & services, provided an eight-day business-to-business (B2B) training program for new and existing owners to retrain and restock with products and services that are designed to add customer retention and increase toner product sales through contractual services like their Why Buy A Printer Program where B2B customers agree to purchase Cartridge World branded supplies for a two-year period, and for this Cartridge World will provide a printing device chosen by the customer, free service, free delivery, no upfront costs and no termination fees.

After Store Manager, Sid Norowtz's passionate Why Buy A Printer Program best practice session at the convention, fellow double store owner Karrie Powers said "It wasn't until your presentation on Saturday that it finally dawned on me that the Why Buy a Printer is as much about retention as it is about new sales," "Maybe I can't sell 20 Why Buy a Printer/month to stem the tide, but I can certainly sign up my top accounts and stop losing as many customers."

"We are having huge success with this program, businesses nowadays do not need the huge 'aircraft carrier' copier with all the whistles and bells that are underutilized and anchored to the business for five years," Pinner said. "Cartridge World is now your locally-owned and operated B2B print solutions provider that specializes in reducing printing costs of businesses from SOHO to enterprise. Our agreements give the customer the right to opt out at any time, instead of being legally bound for five long years, "I mean who wants an unhappy customer for 5 years?" Said Pinner. We are everything that the copier dealer is not and wishes it could be. I can tell you the copier dealers are worried."

Cartridge World owners today have a fully developed supply chain of branded finished goods, and a "unique selling proposition" (USP) with the Why Buy A Printer Program. "We've gone from being a blue-collar retail shop to a white-collar business showroom," said Rod Young, CEO, Cartridge World Global.

Armed with all these new programs for growth, CWNA was anxious to share its plans with its franchisees at this forum, where the attendees where brought up to speed on the brands direction. It was also an interactive opportunity, as franchise owners and territory masters shared their best practices as well as market trends. Other highlights included updates from industry professionals, like Ian Elliot and me. Sunday's highlight was a presentation from sales dynamo Rick Lambert of In2 Communications. He had the crowd on its feet. "Rick Lambert was just out of control," Carafello said. "You could see the pressure melt away from store owners when they realized how easy it's to sell."

"We got really good tips, even with the programs we're already using," said Enrique Yunis, from Store 221 "We look forward to implementing the new ones!

"I cannot say enough about the convention," said Bill Burch from Store 128. "All the speakers were right on target.

On display during every presentation was the new CWNA team's commitment to its franchisees. One of the questions from a franchise owner during the closing open Q&A session was to Pinner "come join me in my store for a week" Pinner jumped at the chance and will be spending 5 days with franchise owner Tom Triplett "The store is where the action is" Pinner said "and their willingness to share the good and bad is a gift that cannot be turned down". The franchisees responded in kind. People were excited and you could feel the energy," said Jake Sinclair, Operations Delaware and Pennsylvania Territory.

There was no dissension, only enthusiasm. Cartridge World is back and bold, and worth watching. Cartridge World has global opportunities for both Unit Franchise and Territory Master, for more information visit CartridgeWorld.com. ■

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Tricia Judge

Spring Events 2019

Second Annual Reman Day™ Sees Growth Worldwide; ITEX Partners to Prosper

The second annual global Reman Day, held on April 11, was a celebration which included companies, communities, and professionals participating in a wide-range of valuable networking events showcasing the exciting opportunities happening in remanufacturing today.

Reman Day is a global event executed at the local level. Remanufacturers host students, teachers, parents, job seekers and other local community members at open houses, plant tours and presentations designed to demonstrate the benefits of remanufacturing and inspire the next generation of remanufacturers.

This year's events encompassed nearly 200 locations spanning 21 countries on all six inhabited continents. Celebrations were not only global but included participation from the entirety of the remanufacturing industry -- all 12 of the recognized sectors of remanufacturing were involved. A Resolution from the U.S. House of Representatives and Proclamations from State and Local government officials were signed, formally establishing April 11, 2019 as Reman Day.

Reman Day is a critical component in raising public awareness and perception about remanufacturing. It's also a great opportunity to celebrate the many benefits of remanufactured products.

Among cartridge remanufacturers, both big and small companies took place. Clover Imaging Group celebrated at all of its offices, while Static Control in North Carolina and Unitone Imaging Supply in California hosted internal events. In China, RT Media touted that country's remanufacturing commitment.

Long-time industry supporter Joe Morelle, U.S. Congressman from Rochester took time out to wave the reman flag. Other government officials and purchasing agents demonstrated their penchant for cartridge remanufacturers and remanufacturing in general.

Remanufacturing is a $160 billion industry worldwide providing well over 450,000 jobs. It is a key part of the circular economy keeping valuable products in use and out of the waste stream giving them multiple lives. On average, it saves 85% of energy, water and material use compared to a newly manufactured product and can reduce greenhouse gas emissions between 79 percent and 99 percent.[]

Reman Day was created in 2018 by the Remanufacturing Industries Council, a strategic alliance of remanufacturing leaders focused on advancing the entire industry. Additional organizations, part of RIC's Remanufacturing Association Alliance that played a vital role in the success of Reman Day are Aircraft Fleet Recycling Association (AFRA), Automotive Parts Remanufacturers Association (APRA), Aeronautical Repair Station Association (ARSA), International Imaging Technology Council (Int'l ITC), Professional Electrical Apparatus Recyclers League (PEARL), and Reman World, the leading international cross-industry remanufacturing publication.

To learn more about Reman Day, go to RemanDay.org. Mark your calendars for April 9, 2020."

ITEX 2019 Education & Exposition in Las Vegas

ITEX 2019 drew almost 1,200 office technology industry professionals convened at the MGM Grand in Las Vegas on April 24th and 25th. Other collateral industry events were held simultaneously that made the educational offerings, and the attendance, more robust. These events were sponsored by MSP Expo, Visual Edge, Collabrance, IBPI and Evolved Office.

ITEX marked the 19th year as the largest, most extensive office technology show covering Managed Print, document management, security, Managed IT, Unified Communications, and Smart Office. With the themse "Own the Office Piece by Piece," ITEX' management brought together these disparate areas of office technology.

This year's ITEX saw a greater presence of Managed IT and Unified Communication exhibitors. The show attracted vendors such as Barracuda MSP, Bicom Systems, Dell, Concertium, IT-Glue, OpenText, Preform IT, Pulsar360, SentryFile, Stellar Cyber, Tigerpaw Software, Tools4ever, TouchTone Communications, Unitrends MSP, Untangle, Webroot, and 1stPoint Communications. "Dealers are diversifying their services to stay competitive in a shifting market. Our exhibitors did a great job of presenting the tools needed to expand their brands to form new sources of revenue and gain a firm grasp on the latest industry trends," said Marc Spring, ITEX CEO and founder.

The keynote presentation, sponsored by HP, was delivered by Google's Christopher Johnson. Johnson expanded on how Google perceives security in the Cloud and how the components of improving a company's security posture is through layers of defense, thought processes, and concentrating on the characteristics of a well-functioning security team.

The breakout sessions covered topics such as MPS Strategies, Cloud solutions, data analytics, cybersecurity, and the "Workplace of the Future." Jerry Allen, managing member of Metro Business Systems, said, "I had the pleasure of interacting with my peers and learning the industry concepts and ideas that have helped them to be successful. The breakout sessions were extremely beneficial."

The presence of the imaging industry was notably reduced. Although some imaging industry members were ITEX sponsors, such as Static Control, Epson, HP, and Surplus Ink, many large aftermarket members were not exhibiting, albeit some did take part in edicational offerings.

The ITEX team is already planning their 2020 event, which will be held April 14 – 15, 2020 in Orlando, Florida at the Gaylord Palms Resort & Conference Center. For detailed information about the 2019 show, and information about the 2020 conference, visit www.itexshow.com. ■

Judge has served as the executive director of the International Imaging Technology Council, a not-for-profit trade association serving imaging supplies remanufacturers and dealers, for 17 years. Judge was the executive editor of Recharger magazine. A lawyer for 30 years, Judge also has litigation experience. Judge's work has been published in Recharger magazine, and several other industry magazines, and has won critical acclaim for her writing and industry advocacy. She has assisted in the preparation of six friend of-the-court briefs. Judge has presented the position of the industry to the International Trade Commission. She can be contacted by email at tricia@i-itc.org

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Tequila Yan

Longevity and Innovation in the Industry

—Katun's President and CEO Robert Moore talks about passion and consistency

At the beginning of 2019, one aftermarket company, Katun, made history for providing the first legitimate alternatives to high-cost OEM products in Brazil.

Founded in 1979, Katun began as a small entrepreneurial company selling aftermarket products within the U.S. market, but quickly expanded its business into Europe and other parts of the world. "Our business has been built on quality and reliability," said Robert Moore, president and CEO. "Today we sell 8,000 SKUs to approximately 10,000 customers in 116 countries."

The quality and consistency of the product offering have been the backbone of the company for 40 years. Moore claims Katun "continues to offer IP friendly products with OEM-equivalent performance, as well as a one-stop shopping experience and maximum convenience to customers with an unmatched product portfolio." This includes copier, print, toner, parts, machines and accessories.

Behind the scenes, the team of product specialists, engineers, lab staff and legal department create and develop their products to deliver on the company's quality and reliability promise. In the meantime, Katun's experienced sales and customer service staff are out meeting and serving their customers.

"It's a partnership approach," Moore explained to RT Media. "We are not simply selling a customer a single part for a one-time sale. Instead, we work with customers to drive overall profitability to the bottom line through our broad portfolio of products, creative purchasing programs, and support. Katun's overall goal is to improve dealer profitability, working in tandem as a team, or partnership, to achieve this objective for our customers."

According to Moore, Katun is currently active in 116 countries and has just moved offices to a new location in Brazil. It is not a big surprise because Katun has a long history in Brazil and therefore understands that political and economic fluctuations can be disruptive to business. Katun has learned to be nimble and to refocus to the overriding market conditions. The beautiful, modern office also represents the company's strong commitment to the industry, its customers, and its employees in the Brazilian market.

The Brazilian market is extremely complex and sees new companies flood in with less expensive products. There are some momentary advantages for the local companies in relation to the price, but Moore says many of these companies close within a year of operations due to poor quality offerings and lack of strategic positioning. "Katun is different because we have offered value and quality as a first priority along with a business partnership for the past 21 years in this continent," Moore added.

Brazil possesses all the challenges that a large country presents, especially related to logistics and taxes. Moore said Katun has responded by providing a strong distribution and retail channel which the company calls a "central strategy with a local market-specific action." By understanding local requirements and the needs of each customer, the company has a presence in all 27 states and almost all 5,500 cities within the country. Moore noted more brands continue to arrive in the market offering less expensive products, but he said only those that can provide value and have stability in the long term will remain viable. "This is the way Katun has done it for more than 40 years."

Talking about laser printer and copier, Moore said Latin America is moving from big equipment to smaller A4 MFP devices. The popularity of Ricoh, Brother, Lexmark, Kyocera and HP/Samsung proves customers are now searching for a faster and easier way to repair smaller equipment. Color, of course, is a category growing everywhere in Latin America, especially based on remanufactured equipment imported from the U.S. Ricoh has the largest market share, but in 2018, Kyocera and Konica Minolta took some space in larger machine segments. OKI is growing, offering smaller and robust machines. Xerox, Konica, Canon, Toshiba and Sharp have not been able to follow this less expensive A4 machine movement.

A move is always an opportunity to reconsider and refocus your business strategy, not only for the Latin America market but also for the company itself. Being active in 116 countries provides Katun with leverage with large sales organizations and authorized distributors. The new "open space" office in Brazil reflects Katun's ability to be a "traditionally modern" company.

Moore believed it is easier to make things happen in a young, fresh environment and said it's committed to being quality and service driven with a passion. Katun's focus is to continue to increase the number of customers around the world no matter the channel, industry group, or geographic location. Moore is confident they will continue to expand its reach and further demonstrate the incredible value we bring to the marketplace. "We are always exploring other countries in which to expand!" ■

Katun's Milestones:

1979 - 2004: Founded, established Research and Development Laboratory to ensure high-quality product, became the first supplier of OPC drum and a positive charge OPC drum. Katun is also the first aftermarket company to introduce PxP chemical toner to the market.

2005: received the Minnesota Governor's International Trade award.

2007: "cracked the color code" —introduced its first toner set for a major multifunctional device—the Canon 3200-series—that told the industry an aftermarket company could produce OEM-equivalent color.

2010:acquired Media Sciences International, achieved growth in color printer supplies and office supply channel

2013: an estimated one trillion pages, including 25 billion color pages, had been produced globally using Katun imaging supplies.

2018: acquisition by GPI (General Plastic International) finalized, Katun enhanced its value proposition with GPI's technical and manufacturing capabilities.

More recently: Katun's comprehensive offerings in the MPS arena and entry into the business inkjet market have everyone in the company very excited.

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TECH·ZONE

Remanufacturing the Samsung ProXpress SL-M4530 Series Toner Cartridge MLT-D304

RT's Cartridge Library

IMAGING SHARE PRICES

(As at 5, March, 2019)

OEM	Prices		Aftermarket	Prices	
	Last Month	This Month		Last Month	This Month
Brother Industry (Yen) (6448:Tokyo)	2072	1809	Ninestar (RMB) (002180:Shenzhen)	26.53	24.12
Canon Inc. (US$) (7751:NY)	28.38	28.02	Hubei Dinglong (RMB) (300054:Shenzhen)	9.39	8.58
Seiko Epson (Yen) (6724: TYO)	1641	1587	Suzhou SGT (RMB) (002808:Shenzhen)	14.38	12.99
HP Inc. (US$) (NYSE: HPQ)	19.53	18.69	(Sources: Google Finance and bloomberg.com)		

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Cumtenn	10
ECTEC	71
Elean	68
Future Graphics	OBC
Hunan Biaotop Electronic Technology Co., Ltd	44
I-ITC	26
ITP	71
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NanJing Teshine Imaging Technologies Co., Ltd	7
Ninestar Tech Imaging Limited	1
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Zhono	6
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Oct.16, 2019, Zhuhai, China
www.RTMworld.com

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www.RTMworld.com

USPS ID STATEMENT

RT Imaging World, ISSN 2632-6728, is published monthly by Recycling Times Media Corporation (Seameadow House, Blackburne Highway, PO Box 116, Road Town Tortola, British Virgin Islands).

The annual subscription price for hardcopy is US$55.

The US annual subscription price is US$55. Airfreight and mailing in the USA by agent named WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA.

Periodicals postage paid at Jamaica NY 11431. US Postmaster: Send address changes to RT Media Co., Ltd, WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA

Subscription records are maintained at Recycling Times Media Corporation (Seameadow House, Blackburne Highway, PO Box 116, Road Town Tortola, British Virgin Islands).

Air Business Ltd is acting as our mailing agent.

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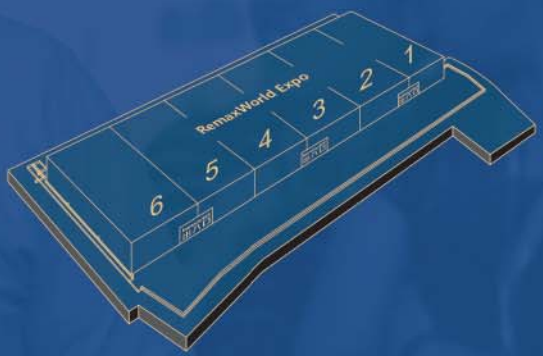

*RemaxWorld Expo is 30,000㎡, which is 5 times as large as a football field.

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